European Commission

Study on Cross-Border Cooperation

Capitalising on existing initiatives for cooperation in cross-border regions

Cross-border.Care

Final report

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Consumers, Health, Agriculture and Food Executive Agency
Health Programme

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Abstract – English

The study investigates past achievements and potential future developments in the field of cross-border healthcare collaboration. The findings are based on a mapping of EU-funded cross-border healthcare initiatives, foresight modelling for cross-border healthcare in 2030, a systematic literature review on fraud and fraud mitigation in cross-border healthcare and an evaluation of take-up of the Joint Action on Patient Safety and Quality of Care (PaSQ). The study also provides practical tools to assist stakeholders, including local and regional authorities, who intend to start a cross-border healthcare collaboration project.

The study enhances an in-depth understanding of cross-border healthcare collaborations and provides new knowledge to the field on different aspects of cross-border healthcare research. Seven lessons are summarised in the following:

1. Cross-border healthcare initiatives are more effective in regions where ease of cooperation is already established, e.g. due to similar welfare traditions or close historical ties.

2. Support should be given to key players such as regional policy-makers or hospital managers to reduce transaction costs of cross-border healthcare. The toolbox developed in this study can provide help[1].

3. There are several scenarios for future cross-border healthcare, one of the most realistic ones being one which builds regional networks oriented towards addressing local and regional needs.

4. Regional networks are likely to represent a low-cost option, but the downsides are that they are likely to remain small-scale and they may create inequities by not benefiting all regions equally.

5. Top categories of cross-border healthcare initiatives to receive EU-funding over the past 10 years are 1) knowledge sharing and management, and 2) shared treatment & diagnosis of patients.

6. Collaborations such as high-cost capital investments and emergency care tend to have more discernible economic and social benefits, but require more formalised terms of cooperation.

7. Although information on the effectiveness and sustainability of current cross-border healthcare initiatives is scarce, funding of CBHC projects could help achieve these aims.

[1] https://goeg.at/study_on_cross-border_cooperation

Abstract – Français

Cette étude examine les réalisations passées et les développements futurs potentiels dans le domaine de la collaboration en matière de soins de santé transfrontaliers. Les résultats sont basés sur un recensement des initiatives de soins de santé transfrontaliers (SST) financées par l'UE, une modélisation prospective pour les SST en 2030, une analyse documentaire systématique portant sur la fraude et la lutte contre la fraude dans les SST, ainsi qu'une évaluation de l'adoption de l'Action commune sur la sécurité des patients et la qualité des soins (PaSQ). L'étude fournit également des outils afin d'aider les parties prenantes, y compris les autorités locales et régionales, qui ont l'intention de lancer un projet de collaboration en matière de SST.

L'étude apporte une compréhension approfondie des collaborations en matière de SST et fournit de nouvelles connaissances dans ce domaine sur différents aspects de la recherche sur les SST. Sept enseignements sont résumés ci-dessous :

1. Les initiatives de SST sont plus efficaces dans les régions disposant déjà de facilité de coopération en raison, par exemple, de traditions d'aide sociale similaires ou de liens historiques étroits.
2. Un soutien devrait être accordé aux acteurs clés tels que les décideurs politiques régionaux ou les directeurs d'hôpitaux afin de réduire les coûts de transaction des SST. La boîte à outils développée dans cette étude peut s'avérer utile en ce sens.
3. Il existe plusieurs scénarios pour les futurs SST, l'un des plus réalistes étant celui qui construit des réseaux régionaux orientés vers le traitement des besoins locaux et régionaux.[2]
4. Les réseaux régionaux sont susceptibles d'être associés à une option peu coûteuse, mais les inconvénients sont qu'ils sont susceptibles de rester limités et peuvent créer des inégalités en ne profitant pas de manière égale à toutes les régions.
5. Les principales catégories d'initiatives de SST bénéficiant d'un financement de l'UE au cours des dix dernières années sont 1) le partage et la gestion des connaissances, et 2) le partage des traitements et diagnostics des patients.
6. Les collaborations telles que les investissements élevés de capitaux et les soins d'urgence ont généralement des avantages économiques et sociaux plus visibles, mais nécessitent des conditions de collaboration plus formelles.
7. Bien que les informations sur l'efficacité et la pérennité des initiatives actuelles de SST soient rares, le financement des projets de SST pourrait aider à atteindre ces objectifs.

[2] https://goeg.at/study_on_cross-border_cooperation

Abstract – Deutsch

Die Studie untersucht die bisherigen Erfolge und mögliche zukünftige Entwicklungen grenzüberschreitender Kooperationen im Bereich der Gesundheitsversorgung. Die Ergebnisse basieren auf einem Mapping von EU-finanzierten CBHC-Initiativen, einem Foresight-Modell zur potenziellen Entwicklung von CBHC bis zum Jahr 2030, einer systematischen Literaturrecherche zur Betrugs- und Betrugsbekämpfung in CBHC und einer Evaluierung der Annahme und Verwendung der EU Joint Action zu Patientensicherheit und Qualität in der Gesundheitsversorgung (PaSQ). Die Studie bietet auch Tools zur Unterstützung von Stakeholdern, die beabsichtigen ein CBHC-Kooperationsprojekt zu starten.

Die Studienergebnisse bieten einen vertiefenden Einblick in Kooperationen grenzüberschreitender Gesundheitsversorgung mit unterschiedlichen Zielsetzungen und neue Erkenntnisse hinsichtlich verschiedenster Forschungsaspekte im Bereich grenzüberschreitender Gesundheitsversorgung. Zusammenfassend können folgende sieben Erkenntnisse aus der Studie gewonnen werden:

1. Kooperationen bzw. Initiativen im Bereich grenzüberschreitender Gesundheitsversorgung sind in jenen Regionen wirksamer, in denen entsprechende Kooperationen bereits etabliert sind, beispielsweise aufgrund ähnlicher Wohlfahrtstraditionen oder geschichtlicher Verbundenheit.

2. Schlüsselakteuren, wie regionale Entscheidungsträger oder Krankenhausmanager, sollte Unterstützung in ihren Aktivitäten grenzüberschreitender Gesundheitsversorgung geboten werden um Trankaktionskosten zu verringern. Die Tools des *Cross-border.Care Manual & Tools* sollen dafür Hilfestellung bieten[3].

3. Von den zahlreichen potentiellen Zukunftsszenarien zur Gestaltung grenzüberschreitender Gesundheitsversorgung wird das Szenario regionaler Netzwerke mit Berücksichtigung lokaler und regionaler Gegebenheiten und Bedürfnisse als am wahrscheinlichsten erachtet.

4. Regionale Netzwerke sind potentiell die kostenwirksamste Variante grenzüberschreitende Gesundheitsversorgung zu gestalten, obwohl sie tendenziell von kleinem Umfang sind und Regionen ungleich profitieren.

5. Kooperationen grenzüberschreitender Gesundheitsversorgung in den Bereichen *Knowledge sharing and management* und *Treatment & Diagnostics* erhielten in den letzten zehn Jahren große Anteile öffentlicher Förderungen.

6. Kooperationen in den Bereichen *High-cost capital investment* und *Emergency care* scheinen größere soziale und ökonomische Vorteile aufzuweisen, setzen jedoch auch einen höheren Formalisierungsgrad der Kooperation voraus.

7. Informationen über Effektivität und Nachhaltigkeit aktueller Kooperationen grenzüberschreitender Gesundheitsversorgung sind spärlich und könnten durch öffentliche Förderungen verbessert werden.

[3] https://goeg.at/study_on_cross-border_cooperation

Table of Contents

1 Introduction 1
1.1 Objectives of the study 1
1.2 Overview of the study 2
2 Background of the study 4
2.1 Legal basis for cross-border healthcare 4
2.2 Room for improvement for cross-border healthcare 5
2.3 Fraud in (cross-border) healthcare 6
2.4 Patient safety and quality of care 9
3 Methodology 11
3.1 Mapping of healthcare related cross-border projects 11
3.1.1 Selection criteria 11
3.1.2 Strategy for identifying cross-border care initiatives 12
3.1.3 Stakeholder/expert involvement 17
3.2 Forecasting exercise 17
3.2.1 Horizon scanning 18
3.2.2 Foresight model 20
3.2.3 Stakeholder/expert involvement 21
3.3 Cross-border.Care Manual & Tools 22
3.3.1 Needs assessment 23
3.3.2 (Grey) literature review 24
3.3.3 Expert consultation and peer review 27
3.3.4 Conceptualization of the Cross-border.Care Manual & Tools 27
3.4 Fraud and fraud mitigation 29
3.4.1 Overall concept of the review 29
3.4.2 Online consultation of stakeholders on the topic 30
3.4.3 Systematic literature search and hand search 30
3.4.4 Analysis, quality assessment and validation of the review 33
3.5 Evaluation of PaSQ take-up 33
3.5.1 Desk-based literature review 34
3.5.2 Online Survey 35
3.5.3 Desk-based web-content review 36
3.5.4 Stakeholder/expert involvement and peer review 37
4 Mapping of healthcare related cross-border projects 39
4.1 Previous efforts to map cross-border care collaboration 39
4.2 General results of the search 39
4.3 Geographical aspects 41
4.3.1 Geographical location of lead partners 42
4.3.2 Country pairs identified in the scope of bilateral or multilateral collaboration initiatives 43
4.3.3 Joint Actions/Networks funded under the EU Health Programme 46

4.3.4 Collaboration initiatives within and across Euroregions....46
4.4 Thematic focuses of cross-border care projects....47
4.5 Financial set-up and duration....49
5 Results of the foresight exercise 51
5.1 Horizon scanning....51
5.1.1 Driving factors (literature review)....51
5.1.2 Identification of key driving factors and indicators....60
5.2 Foresight model - scenarios....63
5.2.1 Scenario 1: Status quo....67
5.2.2 Scenario 2: Regional collaboration....67
5.2.3 Scenario 3: Empowered patients....68
5.2.4 Scenario 4: Strategic networks....70
5.2.5 Scenario 5: Member States' payer network....71
6 Cross-border.Care Manual & Tools 73
6.1 Module 1: Project preparation....74
6.2 Module 2: Project development....95
6.3 Module 3: Contracting....122
6.4 Module 4: Project monitoring....129
6.5 Module 5: Successful business cases for cross-border collaboration....146
6.5.1 Economic and social added value of cross border care....146
6.5.2 High-Cost Capital Investment – Business Case....147
6.5.3 Emergency Care – Business case....152
6.5.4 Health and Care Workforce and Training – Business case....158
6.5.5 Knowledge Sharing and Management – Business Case....162
6.5.6 Treatment and Diagnostics – Business case....167
7 Fraud and fraud mitigation in cross-border healthcare 174
7.1 Online consultation of stakeholders on the topic....175
7.1.1 Existence and magnitude of cross-border healthcare fraud....175
7.1.2 Link between fraud in cross-border healthcare and fraud in the national healthcare systems....176
7.1.3 Types of cross-border healthcare fraud....179
7.1.4 Mitigation of cross-border healthcare fraud....182
7.2 Systematic literature review and 'grey' literature....184
7.2.1 Types of fraud in cross-border healthcare in the EU....185
7.2.2 Patterns of fraud in cross-border healthcare and their scale....186
7.2.3 Fraud by patients and the public....187
7.2.4 Fraud by healthcare professionals/providers....189
7.2.5 Fraud by third-party intermediaries....190
7.2.6 Mitigation of cross-border healthcare fraud....192
8 PaSQ take-up evaluation 195
8.1 Exchange Events....196

8.1.1 Summary of project-related reporting 196
8.1.2 Survey results 197
8.2 PaSQ Wiki and PaSQ website 198
8.2.1 Summary of project-related reporting 198
8.2.2 Survey results 200
8.3 Patient Safety Good Clinical Practices and Good Organisational Practices 201
8.3.1 Summary of project-related reporting 201
8.3.2 Survey results 202
8.4 PaSQ network 206
8.4.1 Summary of project-related reporting 206
8.4.2 Survey results 209
8.5 PaSQ implementation projects 211
8.5.1 Summary of project-related reporting 211
8.5.2 WHO Surgical Safety Checklist (WHO SSC) 212
8.5.3 Medication reconciliation 213
8.5.4 Multimodal intervention to increase hand hygiene compliance 214
8.5.5 Paediatric Early Warning Scores 216
8.6 General survey results 217
8.6.1 Patient safety topics 217
8.6.2 Obstacles encountered during the transfer of international best practices 218
8.6.3 Tools that could assist in transferring international best practices 219
8.7 Good practices for preventing healthcare-associated infections and antimicrobial resistance (AMR) 220
9 Main findings and discussion 222
9.1 Mapping of healthcare-related cross-border initiatives 222
9.2 Foresight exercise 222
9.3 Cross-border.Care Manual & Tools 224
9.4 Fraud and fraud mitigation in cross-border healthcare 224
9.5 PaSQ take-up evaluation 228
10 Limitations of the study 233
10.1 Mapping of healthcare-related cross-border initiatives 233
10.2 Foresight exercise 233
10.3 Business cases 233
10.4 Fraud and fraud mitigation in cross-border healthcare 234
10.5 PaSQ take-up evaluation 234
11 Conclusions 236
11.1 Ease of cross-border healthcare collaboration 236
11.2 Fraud and fraud mitigation in cross-border healthcare 237
11.3 Future options for patient safety 238
12 Conflict of interest 245
13 References 246

List of Tables

Table 1: Outline Regulation (EC) 883/2004 4
Table 2: Overview of Directive 2011/24/EU 5
Table 3: Fraud dimensions including potential topics for further investigation 8
Table 4: Overview of categories for data collection 13
Table 5: Search strategies for ESIF project databases 14
Table 6: Definition of six thematic categories used for classifying cross-border care initiatives 16
Table 7: List of consulted stakeholders 17
Table 8: Search terms for horizon scanning 19
Table 9: Literature and data review – inclusion and exclusion criteria 19
Table 10: List of workshop participants 22
Table 11: Overview of stakeholders and experts involved in the needs assessment 23
Table 12: Search terms used for the literature search in PubMed 31
Table 13: Search terms used for PaSQ evaluation 34
Table 14: Response rate as a % 36
Table 15: Responses at the Member State level 36
Table 16: Overview of geographical allocation of PSP, GOP and Exchange Events 37
Table 17: Institutions represented on the stakeholder panel 38
Table 18: Definition of Euroregions used in the Cross-border.Care project 42
Table 19: Driving factors for cross-border collaboration in healthcare 52
Table 20: Driving factors from the patient perspective (cross-dimensional) 53
Table 21: Six most important driving factors and suggested indicators according to expert and stakeholder consultation (n=10) 60
Table 22: Five most certain driving factors and suggested indicators according to expert and stakeholder consultation (n=10) 61
Table 23: Potential scenarios for cross-border collaboration in health care and linkage to dimensions of driving factors 64
Table 24: Types of cross-border collaboration in health care being fostered[1] 66
Table 25: Scenario 2 – preliminary results of the SWOT analysis 68
Table 26: Scenario 3 – preliminary results of the SWOT analysis 69
Table 27: Scenario 4 – preliminary results of the SWOT analysis – continued 71
Table 28: Scenario 5 – preliminary results of the SWOT analysis 72
Table 29: Overview of financial planning activities 134
Table 30: Cross-border collaboration in the field of *High-Cost Capital Investment* 148
Table 31: What to keep in mind when starting a collaboration project in the field of H*igh-Cost Capital investments* 149
Table 32: Estimate of staff in initial phase 150
Table 33: Distribution of investment funding Cerdanya hospital 151
Table 34: Estimate of operating cost for first 5 years 151

Table 35: Cross-border collaboration in the field of *Emergency Care* – project details 153
Table 36: What to keep in mind when starting a cross-border collaboration project in the field of *Emergency Care* 154
Table 37: Hospital disaster bed capacity EMR, 2015 155
Table 38: Number of emergency services in the EMR, 2015 155
Table 39: Overview of different emergency care systems in the EMR 156
Table 40: Differences in statutory travelling time in the EMR 157
Table 41: Cross-border collaboration in the field of *Health and Care Workforce and Training* – project details 158
Table 42: What to keep in mind when starting a collaboration project in the field of *Health and Care Workforce and Training* 160
Table 43: Cross-border collaboration in the field of *Knowledge Sharing and Management* – project details 163
Table 44: What to keep in mind when starting a collaboration project in the field of *Knowledge Sharing and Management* 165
Table 45: Cross-border collaboration in the field of *Treatment and Diagnostics* – project details 168
Table 46: What to keep in mind when starting a collaboration project in the field of *Treatment and Diagnostics* 170
Table 47: Fraud dimensions including potential topics for further investigation 174
Table 48: Prevalence and magnitude of cross-border healthcare fraud (N=8) 175
Table 49: Link between fraud in cross-border healthcare and fraud in the national healthcare systems (N=8) 176
Table 50: Mitigation of cross-border healthcare fraud (N=8) 182
Table 51: Examples of assessment criteria for the PaSQ evaluation (output and take-up) 196
Table 52: Type of Exchange Events conducted during PaSQ 196
Table 53: Topics that Exchange Events dealt with during PaSQ 197
Table 54: Continuation of exchange events after PaSQ (Q6) 197
Table 55: Access statistics for the PaSQ website www.pasq.eu 200
Table 56: Usefulness of the PaSQ Wiki (Q15) 201
Table 57: PaSQ website access (Q17) 201
Table 58: Future value of infrastructure (Q16) 201
Table 59: Impact of the Wiki at the national, regional and healthcare provider levels (Q1-3) 203
Table 60: Impact at the national, regional and local level 204
Table 61: Impact at the regional level 204
Table 62: Impact at the level of healthcare providers 205
Table 63: Additional expertise gained via the Wiki and further need for sharing expertise (Q7) 206
Table 64: Description of the networks of three countries during PaSQ (including drivers and barriers) 207

Table 65: Drivers and barriers for a sustainable network 208
Table 66: Suggested necessary steps to be undertaken at the country level in order to support a sustainable network 209
Table 67: How PaSQ strengthened cooperation in relation to patient safety (Q8) 210
Table 68: PaSQ´s influence on networks (Q10) 211
Table 69: PaSQ Member States and implementation of selected SCP 211
Table 70: Patient safety priorities (Q18) 217
Table 71: Prioritisation mechanisms and reasons for prioritising patient safety topics (Q19) 217
Table 72: Priority fields in which best practices still need to be implemented (Q20) ... 218
Table 73: Obstacles encountered in transferring international best practices (Q21) ... 219
Table 74: Tools that could assist in transferring international best practices (Q22) 220
Table 75: Summary of options developed during PaSQ – EU level 239
Table 76: Summary of options developed during PaSQ – national level 240
Table 77: Summary of options developed during PaSQ – regional and local level 242

List of Figures

Figure 1: Overview of the study 3
Figure 2: Time line and methodological steps in the forecasting exercise 18
Figure 3: Overview of different stages of research 23
Figure 4: Project life cycle 28
Figure 5: Search results 40
Figure 6: Source databases of identified projects 41
Figure 7: Regional focus of identified cross-border collaboration initiatives 41
Figure 8: Overview of lead partners in cross-border care collaboration initiatives in Europe by geographical regions 43
Figure 9: Country pairs in the scope of bilateral or multilateral cross-border care collaboration in Europe with at least 10 joint projects 44
Figure 10: Matrix of collaborating countries ordered by geographical region 45
Figure 11: Leading geographical areas in terms of Joint Actions or Network Projects on Cross-Border Care (2007-2017) 46
Figure 12: Distribution of cross-border care projects within and across Euroregions 47
Figure 13: Main thematic focuses of identified cross-border care projects (2007-2017) 48
Figure 14: Frequencies of key words referring to diseases that form the focus of cross-border care projects 48
Figure 15: Frequencies of key words referring to the demographic focus of cross-border care projects 49
Figure 16: Average share of project budget financed via EU funding instruments by thematic focus 50
Figure 17: Average share of project budget financed via EU funding instruments by geographical region of the project leader 50
Figure 18: Driving factors for cross-border healthcare collaboration 51
Figure 19: Impact-Uncertainty Matrix of driving factors for CBHC 62
Figure 20: Work plan structure 105
Figure 21: Project reporting process 130
Figure 22: HELFO risk matrix developed based on Vincke (2013). 181
Figure 23: PRISMA flow diagram of the publications selection 185
Figure 24: Screenshot of PaSQ Wikipedia (www.pasq.eu) 199
Figure 25: Sessions on the PaSQ website (2015-17) 200
Figure 26: Mechanisms to transfer European-level activities into the action cycle 243

List of Tools

Tool 1: How to identify the need for cross-border collaboration 75
Tool 2: Checklist: How to identify the right partners for setting up a cross-border healthcare collaboration project 77
Tool 3: Assessment matrix for complementarity of cross-border care project partners 81
Tool 4: Checklist: Lead partner qualities 82
Tool 5: Guide to lead partner vs. project partner responsibilities 84
Tool 6: Checklist: Identifying stakeholders for cross-border healthcare collaboration 85
Tool 7: Stakeholder analysis matrix 86
Tool 8: Stakeholder management plan 87
Tool 9: Checklist: How to fund the cross-border healthcare project 90
Tool 10: Finalise the project concept with partners 92
Tool 11: Final check ✓ Module 1 93
Tool 12: Checklist: Specify the content of Health and Care Workforce and Training collaboration 96
Tool 13: Checklist: Specify the content of Emergency Care collaboration 98
Tool 14: Checklist: Specify the content of High-Cost Capital Investment collaboration 99
Tool 15: Checklist: Specify the content of Knowledge Sharing and Management collaboration 101
Tool 16: Checklist: Specify the content of Treatment or Diagnostics collaboration 103
Tool 17: Template: Work plan structure 105
Tool 18: Template: Schedule 107
Tool 19: Checklist: What kind of costs should be considered when preparing the project budget? 108
Tool 20: Checklist: What kind of supporting documents are needed per cost type? .. 110
Tool 21: Template: Project budget sheet 112
Tool 22: How to organise the project decision-making 116
Tool 23: How to organise communication 116
Tool 24: Ground rules for communication in a multinational and long-distance environment 118
Tool 25: Checklist: Project information flow 119
Tool 26: Final check ✓ Module 2 120
Tool 27: Checklist: Milestones to project partner agreement 123
Tool 28: Checklist of minimum requirements for a project partnership agreement ... 124
Tool 29: Guide to deciding which legal form to take 125
Tool 30: Decision tree for choosing the appropriate legal form for cross-border collaboration 127
Tool 31: Final check ✓ Module 3 128
Tool 32: How to keep the project implementation on track 130
Tool 33: Checklist: Types of project modifications 133
Tool 34: Basics of financial planning 134

Tool 35: Checklist: How to avoid financial management problems 136
Tool 36: Risk management – Introduction and instructions 138
Tool 37: Risk management matrix 139
Tool 38: Risk management template 141
Tool 39: Final check ✓ Module 4 142
Tool 40: Further reading 144

List of acronyms

AEBR	Association of European Border Regions
AOK	Allgemeine Ortskrankenkasse
BENELUX	Union of Belgium, the Netherlands and Luxembourg
BEUC	Bureau Européen des Unions de Consommateurs
CBHC	Cross-border health care
CHAFEA	Consumers, Health, Agriculture and Food Executive Agency
CF	Cohesion Fund
CLEISS	Centre des Liaisons Européennes et Internationales de Sécurité Sociale
CNAMTS	French National Health Insurance Fund for Salaried Worker
CORDIS	Community Research and Development Information Service
DG EMPL	Directorate-General for Employment, Social Affairs and Inclusion
DG REGIO	Directorate General Regional Policy
DG SANTE	Directorate-General for Health and Food Safety
DRG	Diagnosis related groups
EC	European Commission
EEA	European Economic Area
EFTA	European Free Trade Association
EGTC	European Grouping of Territorial Co-operation
EHFCN	European Healthcare Fraud and Corruption Network
EHIC	European Health Insurance Card
ENI	European Neighbourhood Instrument
ENPI	European Neighbourhood and Partnership Instrument
EOPYY	National organization for health care services, provision, division of International affairs
EPHA	European Public Health Alliance
ERDF	European Regional Development Fund
ERN	European Reference Network
ESF	European Social Fund
ESIF	European Structural and Investment Funds
EU	European Union
EUNetPAS	European Network for Patient Safety
GDP	Gross Domestic Product
GOP	Good Organisational Practices
GOE FP	Gesundheit Österreich Forschungs- und Planungs GmbH
GOEG	Gesundheit Österreich GmbH
GP	General practitioner
HAI	Healthcare Associated Infections

HC	Healthcare
HOPE	European Hospital and Healthcare Federation
HS	Horizon Scanning
HSE	Health Service Executive
HTA	Health Technology Assessment
HWP	Health Workforce Planning and Forecasting
INAMI RIZIV	Belgian National Institute for Health and Disability Insurance
MeSH	Medical Subject headings
MoH	Ministry of Health
MS	Member State
MSoA	Member State of Affiliation
NCP	National Contact Point
OBS	European Observatory on Health Systems and Policies
OECD	Organisation for Economic Co-operation and Development
OSE	European Social Observatory
PaSQ	European Joint Action Project "European Union Network on Patient safety and Quality of Care"
PfR	Project for Results (database)
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PSP	Patient Safety Practices
TEU	Treaty on the European Union
TFEU	Treaty on the Functioning of the European Union
WHO	World Health Organization
WP	Work Package

Executive summary

Legal basis for cross-border healthcare

The concept of cross-border healthcare (CBHC) is legally enshrined in Article 168 of the Treaty on the Functioning of the European Union (TFEU), which aims to encourage cooperation between Member States to improve the complementarity of their health services in cross-border areas [1]. Although healthcare is primarily a national responsibility, Directive 2011/24/EU on patients' rights in CBHC [2] – in accordance with TFEU and Regulation (EC) No 883/2004 [3], which frames the coordination of social security systems and entitlements of beneficiaries – mandates the European Commission to ensure patient mobility in the European Union (EU), to facilitate cooperation in healthcare across Member States and to establish rules facilitating access to safe and high-quality CBHC.

CBHC is defined in Directive 2011/24/EU as follows:

> *'[C]ross-border healthcare' means healthcare provided or prescribed in a Member State other than the Member State of affiliation.'*

In addition, this project draws on the definition of cross-border collaboration given by Irene Glinos I [4]:

> *'Cross-border collaboration in the field of health care can involve a transfer, a movement or an exchange of individuals, services and resources.'*

Main objectives of the study

The idea for this study arose during an informal meeting of health ministers in Luxembourg in September 2015 following a discussion paper prepared specifically by the incumbent Presidency on the topic. As a result, the Commission was requested to draw up a comprehensive overview of existing cross-border initiatives, which subsequently led to commissioning of this study.

The study analyses strengths and opportunities for future cross-border collaboration in healthcare driven by existing EU funded projects as well as by bilateral or multilateral agreements in place. The specific main objectives of the study are as follows:

- to present a comprehensive picture of CBHC collaboration across the European Union (EU), based on EU-funded initiatives (based on Chapter IV of Directive 2011/24/EU),
- to provide insight into potential future challenges and opportunities for cooperation in CBHC by identifying current driving factors, potential future scenarios which are not mutually exclusive and policy options for the period up to 2030,
- to provide documented support (a manual and a toolbox) for stakeholders interested in starting a healthcare-related cross-border collaboration project,
- to provide an overview of fraud and fraud mitigation strategies in CBHC in the EU,
- to assess take-up of the Joint Action on Patient Safety and Quality of Care (PaSQ) at the national, regional and/or local levels in the EU Member States.

Mapping of healthcare related cross-border projects

With some exceptions, cross-border healthcare collaboration is likely to evolve between **countries or regions with similar welfare traditions** and in **close geographical proximity** or connected via specific **historical ties**. Against that background, policy-makers in charge of public funding mechanisms are likely to be most effective in focusing on those projects that are most likely to be sustainable and/or most successful in meeting patients' needs, e.g. by addressing gaps in availability of healthcare services.
Endeavours for **capacity building** could be stepped up, e.g. among hospital managers or regional authorities, to ensure long-lasting collaboration. Similarly, administrative hurdles should be kept low (both for patients and providers/purchasers) so as to reduce transaction costs for dedicated actors on the ground for **cross-border contracting procedures**. About a quarter of the projects identified involved patients moving across

borders for treatment or diagnostics, whereas the large majority of projects were centred on cooperation of healthcare providers or knowledge sharing. In line with the business cases presented in other parts of the study, our findings show that **communication may represent a key prerequisite** for successfully carrying out cross-border collaborations. Regions with close ties may therefore be more likely to effectively deal with necessary adaptations to reimbursement procedures, administrative procedures to successfully exchange healthcare staff, or ensure timely access to emergency care in the respective patients' mother tongue.

Across Europe, a **diverse picture of collaboration in healthcare, social care and public health** emerges. Our study provides a snapshot of EU-funded collaboration initiatives in the period from 2007 to 2016/2017. The total list of identified projects may be accessed online[4]. We identified cross-border projects by performing a systematic comprehensive search of online databases. Validation from experts and additional input from academic literature and grey literature in the field complemented the search. Out of 1 167 projects, a total of 423 projects met the selection criteria, i.e. projects implemented in the study period with at least two EU/EEA countries involved, with the exclusion of collaboration projects aimed at containing communicable diseases and collaboration projects related to European Reference Networks, as it would be premature to assess the latter part. While the mapping study provides a comprehensive picture of projects that were successful in acquiring EU funding, **gaps in data availability** do not allow for a systematic analysis of projects without EU funding. It should also be noted that our study provides a snapshot for the observed period, while **no direct assessment about financial and operational sustainability** can be made. Other parts of the study provide more in-depth insights into potential economic and social benefits.

In recent years, whilst **mobility of patients** has received some attention in the context of Directive 2011/24/EU and Regulation (EC) No 883/2004, our results clearly highlight the importance of provider movements too. More than one in 10 projects had a clear focus on **staff exchange and training** (12%), in addition to more than one-fifth of projects (23%) aimed at improvements in treatment or diagnostics and a small proportion identified as **emergency care** collaboration projects (6%). Further, collaboration projects between public authorities or hospitals are likely to represent an essential precondition for cross-border healthcare projects. In our analysis, we found that about half of all projects identified came under the category of **knowledge sharing** (50%), while only a small proportion (5%) involved **high-cost capital investments**. Finally, only a very minor proportion of projects involved knowledge production and research *about* cross-border healthcare (4%).

In line with a pool of previous studies, our findings point to the **importance of geographical and cultural factors** in driving cross-border healthcare collaboration. We cannot, however, rule out the possibility that legal and administrative drivers often rooted in historical ties also play a role, such as in the case of long-standing bilateral agreements, e.g. between Malta and UK. In our systematic mapping of European collaboration projects, we only considered collaboration projects based on EU funding. The majority of such collaboration initiatives identified take place between countries with similar welfare traditions, like among Scandinavian countries, or countries with a shared history, such as Italy and Slovenia or Italy and Austria. Others clearly result from geographical drivers, as is shown by the cases of Denmark and Germany or Spain and France (Pyrenees). As the literature confirms, such cross-border healthcare collaboration projects may help to **compensate for gaps in regional healthcare provision** or be driven by the **lower cost of service provision** abroad, such as in the case of Finland and Estonia or Austria and Hungary. Our findings also show that Central and Western European countries continue to be frontrunners with respect to leadership of cross-border

[4] https://goeg.at/sites/default/files/2018-02/Final_Deliverable_Mapping_21Feb2018.xls

healthcare collaboration initiatives, paralleling findings from the HealthACCESS study[5], which was carried out in the period before 2007. At the same time, Romania and Hungary, followed by Germany/ Netherlands and Norway/ Sweden are among the most frequent partners in cross-border healthcare projects. However, a number of projects were not included in our study as they may take place at the external borders of the EU and thus did not constitute the focus of this study. The largest number of projects was identified starting in 2011, coinciding with the publication of the Patients' Rights Directive. However, it needs to be taken into account that projects not concluded at the time of the research (summer 2016) were not included in the analysis.

Foresight exercise

In this study, the foresight exercise comprised two major components. First, a horizon scanning – mainly based on desk research – helped identify changes in the environment that have the **potential to affect CBHC policy (driving factors)**. It provided insight into the status quo of CBHC collaboration and serves as a basis for the development of scenarios. The second component refers to scenario-building, during which illustrations/simulations of visions of the possible future, but not future predictions are being discussed. This exercise helps **to identify strategic approaches based on knowledge and experiences from the past and present and to track potential future trends**. With the development of scenarios we aim to describe potential developments at the European level to promote CBHC. A **SWOT analysis** complemented the evaluation of each scenario in an expert and stakeholder consultation.

The **four future scenarios** developed in the study as part of the horizon scanning and foresight exercise illustrate **potential future CBHC set-ups**. They are not mutually exclusive and they assume that the Treaties remain unchanged. They provide illustrations of different degrees of (future) integration of healthcare across the EU, and address the question of the most important actors involved in setting up and/or implementing CBHC initiatives in the future. It is likely that those CBHC scenarios will be most relevant for policy-makers in the next two decades where either (i) geographical and/or cultural proximity play a role, or where (ii) gaps in availability of healthcare services drive patients to seek healthcare abroad, including patients in peripheral regions of the EU. Legal barriers may also play a role, but more systematic research is needed in order to identify drivers for bilateral agreements, including those between non-bordering countries with dissimilar welfare traditions.

Scenario 1 is the status quo, where cooperation between national healthcare systems is encouraged. Scenario 2 focuses on **local and regional needs**. In this scenario, cooperation developed mostly at regional level is at the centre, where regions themselves represent the main trigger for cooperation. In scenario 3, we imagine **patient choice** as a central factor in CBHC developments, with eHealth playing an important role. Integration in this scenario would be quite selective or involve only certain groups of patients (in certain disease groups). Scenario 4 focuses on **strategic networks** of selective collaboration. In scenario 5, Member States' **payers' organisations** are central to launching and maintaining CBHC, while in scenario 2 regional and local needs drive CBHC developments. In addition, local and regional key actors are most important for initiating or sustaining CBHC initiatives in scenario 2. Each of the scenarios represents certain **equity-efficiency trade-offs**, as a SWOT analysis involving experts and stakeholders from different fields and different EU countries highlighted clearly. Strong consideration of local and regional needs, and thus collaboration at the regional level (scenario 2) may create economies of scale in border regions, e.g. as regards joint investments, cross-border contracting or specialised healthcare networks, but geographical inequities may increase as a consequence. Similarly, while younger or highly informed patients might

[5] http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_22_frep_en.pdf

benefit from online support fora and patient-driven innovations in scenario 3, equity concerns may arise for less well-informed patients or patients with complex healthcare needs.

A **mix of mainly qualitative methods** was used to develop the four scenarios branching out of the status quo baseline. First, the foresight model on cross-border healthcare cooperation started by identifying potential developments or changes in the environment that have the potential to affect CBHC policy in the next 10 to 15 years ('horizon scanning' with a time horizon of 2030), based on a systematic search of academic and grey literature. In this context, the concept of 'fluid borders', developed by Glinos and Baeten, stands out as an important factor for understanding CBHC initiatives. As opposed to 'rigid borders', these are easy to pass from the patient's perspective, i.e. there is no or almost no geographical, cultural or administrative barrier present that would prevent patients from seeking healthcare abroad. Cultural familiarity may be determined, for instance, by a shared language, common habits, practices or history and cooperation in other fields than healthcare. The presence of fluid borders is likely to result in great ease of cooperation in border regions i.e. between neighbouring countries or regions. With respect to health travel from the patients' perspective, geographical proximity, unavailability of healthcare services and low access barriers, e.g. travel cost, travel time and immigration laws, are key elements for patients seeking health services abroad. Patients benefit from fluid borders through lower transaction costs and a relatively large degree of cultural familiarity, even if domestic health care systems tend to differ substantially from each other. In a second step, four scenarios were drafted. These were evaluated during an expert and stakeholder workshop in September 2017. Experts also played a part in ranking driving factors according to their predictability (certainty) in the future, and their potential impact (importance). The ranking subsequently helped to refine and further interpret the implications of the four future scenarios.

The results of the literature review allow for driving factors to be grouped into **four dimensions** (geographical/demographic, cultural/societal, regulatory and economic/technological), as depicted above. In line with the findings of the mapping exercise, we found that geographical and cultural proximity are among the most important drivers for CBHC initiatives in the EU. Our results confirm that the **concept of 'fluid borders' remains central** in determining CBHC in the EU. The existence of fluid borders may also extend to the regulatory dimension, as regionally driven collaboration requires less political commitment or even just a 'handshake' agreement to launch cooperation. Finally, relative geographical isolation or medical deserts (i.e. rural areas with provider shortages) may also drive CBHC, even if context-specific characteristics may determine which form of CBHC collaboration is being sought. For instance, regions with a higher degree of innovative capacity might be able to compensate for geographical disadvantages by showing a higher commitment to eHealth technologies. In our study, we present six examples of collaborations that may emerge: collaborations focusing on workforce, emergencies, high-cost capital investment, knowledge production, knowledge sharing, or treatment/ diagnostics.

Cross-border.Care Manual and Tools

The Manual and Tools developed in this study serve the stakeholders and regional or local authorities interested in starting a cross-border cooperation project. There is no "one-size-fits-all" concept for cross-border collaboration in healthcare, as projects strongly depend on their specific environments, such as geography, culture, healthcare systems and the experiences of stakeholders who initiate them. Driving factors and forces that enable collaboration and the resources burden differ from collaboration project to collaboration project and across collaboration categories. Examples of different forms of collaborations are highlighted throughout the study, covering six types. Depending on the type of collaboration, a transfer, a movement or an exchange of individuals, services or resources may take place.

The Cross-border.Care Manual & Tools aim to help healthcare providers, payers and public authorities start cross-border collaboration projects. The *Cross-border.Care Manual & Tools*, which are practice-oriented, were developed according to a multi-stage research

approach combining elements of surveys and literature review. For validation and revision, we consulted stakeholders and experts in the field of CBHC throughout the study. A peer review study completed the validation process.

The *Cross-border.Care Manual & Tools* are designed as a manual consisting of five modules: 1.) Project preparation, 1.) Project development, 3.) Contracting, 4.) Project monitoring, 5.) Successful business cases for cross-border collaboration. The first four modules deal with aspects of the life cycle of a cross-border project, while module 5 gives practical examples of cross-border collaboration projects in the form of case studies of business cases.

Modules 1-4, which comprise 40 tools, provide relevant general information about project management. The five case studies (for workforce and training, for emergency care, in the field of high-cost capital investment, in knowledge sharing/ management and in treatment/ diagnostics) provided in module 5 summarise elements of real-life projects and describe circumstances that need to be considered when initiating a cross-border collaboration project. These circumstances have illustrative value and are broken down into the following dimensions: legal/regulatory, financial, administrative, operational and medical. Altogether 33 projects were suitable for inclusion in the case studies. We analysed incentives for starting cross-border collaboration in healthcare. Further, we collected information on factors that enable or hinder sustainability of cross-border collaboration in healthcare for each case study.

Fraud and fraud mitigation in cross-border healthcare

As part of the study, the existence of fraud and fraud mitigation in CBHC was investigated. Its scale remains unclear, and there is no reason to assume that fraud in CBHC exceeds the extent of fraud in other health care settings. Policy-makers in charge of public funding should foster communication between competent organisations in order to mitigate CBHC fraud.

A systematic review was conducted of academic publications and grey literature on fraud and fraud mitigation in the field of CBHC. Additional information was collected by conducting a consultation of stakeholders from eight EU Member States. The stakeholders in our study panel were not fully aware of the scale of CBHC fraud in either their own countries or in other EU Member States. Sources reviewed in the 'grey' literature found various attempts to estimate the scale of healthcare fraud. However, we did not find any specific data on the magnitude of CBHC fraud on a national or EU level.

The results of our stakeholder consultation (both direct opinions of stakeholders and the HELFO risk matrix) largely suggest that **policy and research should chiefly prioritise fraud involving healthcare professionals**. One priority area mentioned relates to patients, namely EHIC, S2 or insurance fraud. The stakeholders in our study also mentioned **communication between competent institutions as a key fraud mitigation factor in CBHC,** in addition to a system of monitoring and control (e.g. a competent international auditing group) and adequate legal competences of healthcare professionals. The absence of those factors combined with other risks (e.g. insufficient time, resources and investments in healthcare) may reduce the effectiveness of fraud mitigation in general and particularly in CBHC. Fraud mitigation mechanisms in CBHC need to account for the motivations and behaviour of the various healthcare actors, and for differences between healthcare systems. They should also consider contextual factors, e.g. social perceptions of illegality.

PaSQ take-up evaluation

The 'European Union Network on Patient Safety and Quality of Care (PaSQ)' European Joint Action took place between 2012 and 2015. Its focus was to improve Patient Safety and Quality of Care through sharing of information, experience, and the implementation of good practices. The take-up of PaSQ activities and deliverables was found to be good while the Joint Action was running. However, discontinuation limited the sustainability of take-up, as many activities relied on vital infrastructure (Wiki, website). Additional key factors for the sustainable success of PaSQ activities and deliverables were the availabil-

ity of financial resources, support (political and leadership), communication and information transfer.

The assessment of the take-up of the 'European Union Network on Patient Safety and Quality of Care (PaSQ)' European Joint Action was based on a review of previously (un)published PaSQ reporting and a subsequent survey among National Contact Points for patient safety from 16 EU Member States. In addition, research findings were validated by the study's stakeholder panel, which also provided valuable input for drafting policy options.

During PaSQ, the infrastructure set-up (PaSQ Wiki/website and Exchange Events) was successful in facilitating the 'take-up of patient safety' by strengthening international and national networks, enhancing the exchange of patient safety expertise at the clinical or strategic levels and supporting the implementation of specific measures. Accordingly, both the take-up of the Wiki and the Exchange Events were promising during the Joint Action. However, the Wiki's political impact and concrete outcomes were regarded as limited. Furthermore, the sustainability of take-up was affected by the discontinuation of active maintenance of the infrastructure. **Many of the activities that were initiated during PaSQ had relied to a great extent on the vital infrastructure.**

Formal and informal exchange mechanisms (e.g. Exchange Events) facilitated networking during PaSQ. (National) networks are still active even after discontinuation of the Joint Action. However, survey participants reported a 'decline' in exchange events.

Although **enabling factors for the success of PaSQ activities or deliverables** differed depending on the respective level (national or regional level of healthcare providers), some factors are found to be facilitators across PaSQ activities, such as availability of financial resources, political and leadership support and communication and information provision, including the sharing of knowledge.

Challenges for the success of activities or deliverables varied across the PaSQ activities studied. Common challenges observed were: a lack of resources (including infrastructure), deficiencies in communication and information transfer, insufficient support (including the involvement of stakeholders), the lack of a patient safety strategy, and the lack of a patient safety culture.

Limitations of the study

The mapping provides only a snapshot of recent or ongoing projects in Europe, as only projects with at least some degree of EU funding were included. The identification of and research on business cases also included several limitations. Publicly available information on projects in CBHC is very limited in most cases, specifically information on economic aspects including costs and potential savings. In order to receive reliable information and data, a thorough stakeholder consultation is necessary requiring respective stakeholder commitment to provide the requested data. Publicly available information on business cases showed that a final evaluation of projects in CBHC rather seems to be an exception. However, such information might just not be publicly available. Moreover, in numerous cross-border projects economic aspects are of secondary importance and rather characterised by social benefits, mainly affecting and benefiting patients. Further research on the balance of social and economic benefits is desirable to better understand the relation of economic and social benefits associated with CBHC. The relation of economic and social benefits might also differ for different categories of CBHC. What is more, political commitment of public authorities for CBHC projects is a supporting factor. As some cases show, missing political commitment may lead to a discontinuation of CBHC projects, disregarding patient preferences. Such cases show that it is insufficient to study only successful CBHC projects in greater detail. Lessons learned from cases facing challenges in the course of the cooperation might contribute greater to better understand the mechanisms of CBHC.

The results of the foresight exercise need to be interpreted in the light of two main limitations. First, while the study is characterised by a high commitment of experts and stakeholders in the field, the survey in which the importance and certainty of driving

factors were ranked was filled in by a total of ten respondents only. Respondents came from EU countries in different geographic regions and different welfare settings, and some of the most important expert think tanks in the field of CBHC were involved. However, it would have been desirable to cover all EU countries and allow for a more detailed assessment of CBHC driving factors in different contextual settings.

Second, the study did not identify any factors assessed as being of high importance and of high uncertainty, even though these would have lent themselves particularly well for interpreting the developed future scenarios. For example, somewhat surprisingly, technology uptake and innovative capacity were not evaluated as high-impact driving factors for CBHC in the EU, albeit being evaluated as being among the factors associated with a large degree of unpredictability.

Lessons learned in Cross-border Cooperation in Healthcare

The study enhances an in-depth understanding of CBHC collaborations and provides new knowledge to the field on different aspects of CBHC research. Seven lessons are summarised in the following:

1. CBHC initiatives are more effective in regions where ease of cooperation is already established, e.g. due to similar welfare traditions or close historical ties.
2. Support should be given to key players such as regional policy-makers or hospital managers to reduce transaction costs of CBHC. The toolbox developed in this study can provide help[6].
3. There are several scenarios for future CBHC, one of the most realistic ones being one which builds regional networks oriented towards addressing local and regional needs.
4. Regional networks are likely to represent a low-cost option, but the downsides are that they are likely to remain small-scale and they may create inequities by not benefiting all regions equally.
5. Top categories of CBHC initiatives to receive EU-funding over the past 10 years are 1) knowledge sharing and management, and 2) shared treatment & diagnosis of patients.
6. Collaborations such as high-cost capital investments and emergency care tend to have more discernible economic and social benefits, but require more formalised terms of cooperation.
7. Although information on the effectiveness and sustainability of current CBHC initiatives is scarce, funding of CBHC projects could help achieve these aims.

[6] https://goeg.at/study_on_cross-border_cooperation

Sommaire

Cadre juridique des soins de santé transfrontaliers

Le concept de soins de santé transfrontaliers (SST) est juridiquement garanti par l'article 168 du Traité sur le fonctionnement de l'Union européenne (TFUE), qui vise à encourager la coopération entre les États membres afin d'améliorer la complémentarité de leurs services de santé dans les zones transfrontalières [74]. Bien que les soins de santé soient avant tout une responsabilité nationale, la directive 2011/24/UE sur les droits des patients en matière de SST, [75] – conformément au TFUE et au règlement (CE) n°883/2004 [67], qui encadre la coordination des systèmes de sécurité sociale et des droits des bénéficiaires, charge la Commission européenne de garantir la mobilité des patients au sein de l'Union européenne (UE), de faciliter la coopération dans les soins de santé entre États membres et d'établir des règles facilitant l'accès à des SST sûrs et de haute qualité.

Les SST sont définis dans la directive 2011/24/UE comme suit :

> *« "Les soins de santé transfrontaliers" désignent les soins de santé dispensés ou prescrits dans un État membre autre que l'État membre d'affiliation. »*

En outre, ce projet s'appuie sur la définition de la collaboration transfrontalière donnée par Irene Glinos I [99] :

> *« La collaboration transfrontalière dans le domaine des soins de santé peut impliquer un transfert, un mouvement ou un échange de personnes, de services et de ressources. »*

Principaux objectifs de l'étude

L'idée de cette étude est née lors d'une réunion informelle des ministres de la santé à Luxembourg en septembre 2015 à la suite d'un document de travail préparé spécifiquement par la présidence en exercice sur le sujet. En conséquence, la Commission a été invitée à dresser un panorama complet des initiatives transfrontalières existantes, ce qui a ensuite conduit à la commande de la présente étude.

L'étude analyse les points forts et les opportunités de futures collaborations transfrontalières en matière de soins de santé fondées sur les projets en cours financés par l'UE ainsi que sur des accords bilatéraux ou multilatéraux déjà en place. Les principaux objectifs spécifiques de l'étude sont les suivants :

- présenter un tableau complet de la collaboration en matière de SST dans l'Union européenne (UE) basé sur les initiatives financées par l'UE (sur la base du chapitre IV de la directive 2011/24/UE),
- offrir un aperçu des futurs défis et opportunités de coopération à venir dans le domaine des SST en identifiant les facteurs déterminants actuels, les scénarios d'avenir potentiels qui ne s'excluent pas mutuellement, et les options politiques pour la période allant jusqu'à 2030,
- fournir un support documenté (un manuel et une boîte à outils) pour les parties prenantes intéressées par le lancement d'un projet de collaboration transfrontalière en matière de soins de santé,
- fournir un aperçu de la fraude et des stratégies de lutte contre la fraude liée aux SST au sein de l'UE,
- évaluer l'adoption de l'Action commune sur la sécurité des patients et la qualité des soins (PaSQ) aux niveaux national, régional et/ou local au sein des États membres de l'UE.

Recensement des projets transfrontaliers liés aux soins de santé

À quelques exceptions près, la collaboration transfrontalière en matière de soins de santé est susceptible d'évoluer entre des **pays ou des régions ayant des traditions d'aide sociale similaires** et une **étroite proximité géographique** ou qui sont liés par des

liens historiques spécifiques. Dans ce contexte, les décideurs politiques en charge des mécanismes de financement public seront probablement très efficaces pour cibler les projets les plus susceptibles d'être durables et/ou de mieux répondre aux besoins des patients en comblant, par exemple, les lacunes en matière de disponibilité des services de santé.
Les initiatives de **renforcement des capacités** pourraient être intensifiées, par exemple parmi les gestionnaires d'hôpitaux ou les autorités régionales, afin d'assurer une collaboration durable. De même, les obstacles administratifs devraient être minimisés (tant pour les patients que pour les prestataires/acheteurs) afin de réduire les coûts de transaction, pour les acteurs dédiés sur le terrain, des **procédures de passation de marchés transfrontaliers**. Environ un quart des projets identifiés impliquait des patients traversant les frontières pour obtenir un traitement ou un diagnostic, tandis que la grande majorité des projets étaient centrés sur la coopération des prestataires de soins de santé ou le partage des connaissances. En accord avec les analyses de rentabilité présentées dans d'autres parties de l'étude, nos résultats démontrent que la **communication peut représenter une condition préalable essentielle** à la réussite des collaborations transfrontalières. Les régions ayant des liens étroits peuvent donc être davantage susceptibles de gérer efficacement les adaptations nécessaires aux procédures de remboursement, aux procédures administratives pour les échanges réussis de personnels de santé, ou pour assurer un accès rapide aux soins d'urgence dans la langue maternelle des patients concernés.

Dans l'ensemble de l'Europe, une **image diversifiée de la collaboration en matière de soins de santé, de protection sociale et de santé publique** émerge. Notre étude fournit un aperçu des initiatives de collaboration financées par l'UE entre 2007 et 2016/2017. La liste complète des projets identifiés peut être consultée en ligne[7]. Nous avons identifié des projets transfrontaliers en effectuant une recherche systématique et exhaustive sur les bases de données en ligne. Les recherches ont été complétées par la validation des experts et la contribution supplémentaire de recherches universitaires et de documentations parallèles dans le domaine. Sur 1167 projets, un total de 423 projets répondaient aux critères de sélection, à savoir les projets mis en œuvre pendant la période d'étude avec au moins deux pays de l'UE/EEE, à l'exclusion des projets de collaboration visant à lutter contre les maladies transmissibles et des projets de collaboration liés aux réseaux européens de référence, dans la mesure où il aurait été prématuré d'évaluer cette dernière partie. Bien que l'étude de recensement dresse un tableau complet des projets ayant obtenu un financement de l'UE, les **lacunes en matière de disponibilité des données** ne permettent pas une analyse systématique des projets n'ayant bénéficié d'aucun financement de l'UE. Il convient également de noter que notre étude fournit un instantané pour la période observée, tandis qu'**aucune évaluation directe de la viabilité financière et opérationnelle** ne peut être effectuée. D'autres parties de l'étude fournissent des informations plus détaillées sur les avantages économiques et sociaux potentiels.

Ces dernières années, si la **mobilité des patients** a bénéficié d'une certaine attention dans le cadre de la directive 2011/24/UE et du règlement (CE) n°883/2004, nos résultats mettent aussi clairement en évidence l'importance des mouvements des prestataires. Plus d'un projet sur 10 mettait clairement l'accent sur les **échanges de personnels et les formations** (12 %), tandis que plus d'un cinquième des projets (23 %) visait à améliorer les traitements ou les diagnostics, et qu'une petite proportion était identifiée comme des projets de collaboration en matière de **soins d'urgence** (6 %). En outre, les projets de collaboration entre autorités publiques ou hôpitaux sont susceptibles de constituer une condition préalable essentielle pour les projets de soins de santé transfrontaliers. Dans le cadre de notre analyse, nous avons constaté qu'environ la moitié de tous les projets identifiés relevaient de la catégorie du **partage des connaissances**

[7] https://goeg.at/sites/default/files/2018-02/Final_Deliverable_Mapping_21Feb2018.xls

(50 %), alors que seulement une petite proportion (5 %) impliquait des **dépenses d'investissement importantes**. Enfin, seule une très faible proportion des projets concernait la production de connaissances et la recherche *sur* les soins de santé transfrontaliers (4 %).

Conformément à un ensemble d'études antérieures, nos résultats soulignent **l'importance des facteurs géographiques et culturels** dans la conduite de toute collaboration transfrontalière en matière de soins de santé. Cependant, nous ne pouvons pas exclure la possibilité que des facteurs juridiques et administratifs, souvent ancrés dans des liens historiques, jouent également un rôle, comme dans le cas d'accords bilatéraux de longue date, entre Malte et le Royaume-Uni par exemple. Dans notre recensement systématique des projets de collaboration européens, nous avons uniquement pris en considération les projets de collaboration s'appuyant sur des financements de l'UE. La majorité des initiatives de collaboration ainsi identifiées se déroulent entre des pays ayant des traditions d'aide sociale similaires, comme dans les pays scandinaves, ou entre des pays ayant une histoire commune, tels que l'Italie et la Slovénie ou l'Italie et l'Autriche. D'autres initiatives résultent clairement de facteurs géographiques, comme le démontrent les cas du Danemark et de l'Allemagne, ou de l'Espagne et de la France (Pyrénées). Comme le confirme la documentation, de tels projets de collaboration transfrontalière en matière de soins de santé peuvent contribuer à **compenser les lacunes des prestations de soins régionales** ou être motivés par des **coûts de prestations de services moins élevés** à l'étranger, comme c'est le cas de la Finlande et de l'Estonie, ou de l'Autriche et de la Hongrie. Nos résultats démontrent également que les pays d'Europe centrale et occidentale continuent d'être pionniers en termes de leadership dans les initiatives de collaboration transfrontalière en matière de soins de santé, ce qui coïncide avec les résultats de l'étude HealthACCESS[8] qui a été réalisée avant 2007. Dans le même temps, la Roumanie et la Hongrie, suivies par l'Allemagne/les Pays-Bas et la Norvège/la Suède, figurent parmi les partenaires les plus fréquents dans les projets transfrontaliers de soins de santé. Cependant, un certain nombre de projets n'ont pas été inclus dans notre étude car ils étaient susceptibles d'intervenir aux frontières extérieures de l'UE et n'étaient donc pas au centre de cette étude. Le plus grand nombre de projets a été identifié à partir de 2011, ce qui coïncide avec la publication de la directive sur les droits des patients. Cependant, il faut tenir compte du fait que les projets non conclus au moment de la recherche (été 2016) n'ont pas été inclus dans l'analyse.

Exercice de prévision

Dans cette étude, l'exercice de prévision comprenait deux composantes majeures. Premièrement, une analyse prospective, principalement basée sur des recherches documentaires, a permis d'identifier des changements dans l'environnement qui sont **susceptibles d'affecter la politique des SST (facteurs déterminants)**. Elle a fourni un aperçu du statu quo de la collaboration en matière de SST et sert de base à l'élaboration de scénarios. La deuxième composante fait référence à l'élaboration de scénarios, pendant laquelle des illustrations/simulations de visions de l'avenir potentiel, mais pas des prédictions pour le futur, sont examinées. Cet exercice permet **d'identifier des approches stratégiques basées sur les connaissances et les expériences issues du passé et du présent et de suivre les futures tendances potentielles**. Avec l'élaboration de ces scénarios, nous visons à décrire les développements potentiels au niveau européen afin de promouvoir les SST. Une **analyse SWOT** (Forces - Faiblesses - Opportunités - Menaces) a complété l'évaluation de chaque scénario dans le cadre d'une consultation d'experts et de parties prenantes.

[8] http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_22_frep_en.pdf

Les **quatre scénarios d'avenir** élaborés dans l'étude dans le cadre de l'exercice d'analyse prospective et de prévision illustrent les **futures configurations potentielles des SST**. Ils ne s'excluent pas mutuellement et partent du principe que les traités restent inchangés. Ils fournissent des illustrations des différents degrés d'intégration (future) des soins de santé dans l'UE, et abordent la question des acteurs les plus importants impliqués dans la mise en place et/ou la mise en œuvre d'initiatives de SST à l'avenir. Il est probable que ces scénarios seront particulièrement pertinents pour les décideurs politiques dans les deux prochaines décennies lorsque (i) la proximité géographique et/ou culturelle joue un rôle, ou lorsque (ii) les lacunes en matière de disponibilité des services de santé conduisent les patients à chercher des soins à l'étranger, y compris les patients des régions périphériques de l'UE. Les obstacles juridiques peuvent également jouer un rôle, mais des recherches plus systématiques sont nécessaires afin d'identifier les facteurs favorables aux accords bilatéraux, y compris entre des pays non limitrophes ayant des traditions sociales différentes.

Le scénario 1 est celui du statu quo où la coopération entre les systèmes de santé nationaux est encouragée. Le scénario 2 est axé sur les **besoins locaux et régionaux**. Dans ce scénario, la coopération développée principalement au niveau régional joue un rôle central lorsque les régions elles-mêmes représentent le principal déclencheur de coopération. Dans le scénario 3, nous imaginons le **choix du patient** comme un facteur central dans l'évolution des SST, tandis que la santé en ligne joue un rôle important. L'intégration dans ce scénario serait assez sélective ou n'impliquerait que certains groupes de patients (dans certains groupes de maladies). Le scénario 4 met l'accent sur les **réseaux stratégiques** de collaboration sélective. Dans le scénario 5, les **organismes payeurs** des États membres jouent un rôle central dans le lancement et le maintien des SST, tandis que dans le scénario 2, les besoins régionaux et locaux motivent les développements en matière de SST. En outre, les acteurs clés locaux et régionaux revêtent une importance primordiale pour initier ou soutenir des initiatives de SST dans le scénario 2. Chacun de ces scénarios représente certains **compromis équité-efficacité**, comme l'a clairement démontré une analyse SWOT (Forces - Faiblesses - Opportunités - Menaces) impliquant des experts et des parties prenantes de différents domaines et de différents pays de l'UE. Une forte prise en compte des besoins locaux et régionaux, et donc de la collaboration au niveau régional (scénario 2), peut générer des économies d'échelle dans les régions frontalières, par exemple en ce qui concerne les investissements conjoints, les contrats transfrontaliers ou les réseaux de soins spécialisés, mais les inégalités géographiques peuvent augmenter en conséquence. De même, bien que les patients plus jeunes ou très informés puissent bénéficier des forums d'aide en ligne et des innovations axées sur les patients dans le scénario 3, des problèmes d'équité peuvent survenir pour les patients moins bien informés ou présentant des besoins complexes.

Une **combinaison de méthodes principalement qualitatives** a été utilisée afin d'élaborer les quatre scénarios issus du statu quo de référence. Tout d'abord, le modèle de prévision pour la coopération transfrontalière en matière de soins a commencé par identifier les développements ou changements potentiels dans l'environnement qui sont susceptibles d'affecter la politique de SST dans les 10 à 15 prochaines années (« analyse prospective » avec un horizon prévisionnel à 2030), en se basant sur une analyse systématique de la recherche universitaire et de la documentation parallèle. Dans ce contexte, le concept de « frontières fluides », développé par Glinos et Baeten, se distingue comme un facteur important pour la compréhension des initiatives de SST. Contrairement aux « frontières rigides », celles-ci sont faciles à franchir du point de vue des patients, en ce sens qu'il n'existe pas ou quasiment pas d'obstacle géographique, culturel ou administratif qui empêcherait les patients de se faire soigner à l'étranger. La familiarité culturelle peut être déterminée, par exemple, par un langage partagé, des habitudes, des pratiques ou une histoire communes ainsi que par une coopération dans d'autres domaines que les soins de santé. La présence de frontières fluides est susceptible d'entraîner une grande facilité de coopération dans les régions frontalières, c'est-à-

dire entre régions ou pays voisins. En ce qui concerne les voyages de santé du point de vue des patients, la proximité géographique, l'indisponibilité locale des services de soins de santé et le peu d'obstacles à l'accès, par exemple les coûts de déplacement, les délais de déplacement et les lois sur l'immigration, sont autant d'éléments clés pour les patients qui cherchent des services de santé à l'étranger. Les patients bénéficient de frontières fluides grâce à des coûts de transaction plus faibles et à un niveau relativement important de familiarité culturelle, même si les systèmes de soins de santé nationaux ont tendance à différer sensiblement les uns des autres. Dans un deuxième temps, quatre scénarios ont été élaborés. Ils ont été évalués lors d'un atelier d'experts et de parties prenantes en septembre 2017. Les experts ont également joué un rôle dans le classement des facteurs déterminants en fonction de leur prévisibilité (certitude) dans le futur, et de leur impact potentiel (importance). Ce classement a ensuite contribué à affiner et à interpréter de manière plus précise les implications des quatre futurs scénarios.

Les résultats de l'analyse documentaire permettent de regrouper les facteurs déterminants en **quatre dimensions** (géographique/démographique, culturelle/sociétale, réglementaire et économique/technologique), comme décrit ci-dessus. En accord avec les résultats de l'exercice de recensement, nous avons constaté que la proximité géographique et culturelle constitue l'un des facteurs les plus importants dans les initiatives de SST au sein de l'UE. Nos résultats confirment que le **concept de « frontières fluides »** reste central dans la détermination des SST dans l'UE. L'existence de frontières fluides peut également s'étendre à la dimension réglementaire, car la collaboration régionale nécessite moins d'engagement politique, voire même un simple accord basé sur une « poignée de main » afin de lancer la coopération. Enfin, l'isolement géographique relatif ou les déserts médicaux (c'est-à-dire les zones rurales souffrant d'une pénurie de prestataires) peuvent également motiver les SST, même si des caractéristiques spécifiques au contexte peuvent déterminer quelle forme de collaboration en matière de SST est recherchée. Par exemple, les régions disposant de capacités d'innovation plus importantes pourraient être en mesure de compenser les désavantages géographiques en faisant preuve d'un engagement accru en faveur des technologies de santé en ligne. Dans notre étude, nous présentons six exemples de collaborations susceptibles d'émerger : des collaborations axées sur la main-d'œuvre, les urgences, des dépenses d'investissement importantes, la production de connaissances, le partage des connaissances, ou le traitement/diagnostic.

Manuel et outils de SST

Le manuel et les outils développés dans cette étude sont destinés aux parties prenantes et aux autorités régionales ou locales souhaitant lancer un projet de coopération transfrontalière. Il n'existe pas de concept « universel » pour la collaboration transfrontalière en matière de soins de santé, car les projets dépendent fortement de leurs environnements spécifiques, tels que la géographie, la culture, les systèmes de soins de santé et l'expérience des parties prenantes qui en assurent le lancement. Les facteurs déterminants et les forces permettant la collaboration ainsi que le fardeau des ressources diffèrent d'un projet de collaboration à l'autre et selon les catégories de collaboration. Des exemples de différentes formes de collaboration sont mis en avant tout au long de l'étude et couvrent un total de six types. Selon le type de collaboration, un transfert, un mouvement ou un échange de personnes, de services ou de ressources peut intervenir.

Le manuel et les outils de soins transfrontaliers visent à aider les prestataires de soins de santé, les organismes payeurs et les autorités publiques à lancer des projets de collaboration transfrontaliers. Le *manuel et les outils de soins transfrontaliers*, axés sur la pratique, ont été élaborés selon une approche de recherche en plusieurs étapes combinant des éléments d'enquêtes et d'analyses documentaires. Pour la validation et la révision, nous avons consulté les parties prenantes et les experts dans le domaine des SST tout au long de l'étude. Une étude soumise à examen collégial a complété le processus de validation.

Le *manuel et les outils de soins transfrontaliers* sont conçus comme un manuel composé de cinq modules : 1.) Préparation des projets, 2.) Développement des projets, 3.) Procédure contractuelle, 4.) Suivi des projets, 5.) Analyses de rentabilité positives pour la collaboration transfrontalière. Les quatre premiers modules traitent d'aspects du cycle de vie d'un projet transfrontalier, tandis que le module 5 donne des exemples concrets de projets de collaboration transfrontalière sous forme d'études de cas d'analyses de rentabilité.

Les modules 1 à 4, qui comprennent 40 outils, fournissent des informations générales pertinentes sur la gestion des projets. Les cinq études de cas (main-d'œuvre et formation, soins d'urgence, dépenses d'investissement importantes, partage/gestion des connaissances et traitement/diagnostic) présentées dans le module 5 résument des éléments de projets concrets et décrivent des circonstances qu'il est nécessaire de prendre en compte lors du lancement d'un projet de collaboration transfrontalière. Ces circonstances ont une valeur indicative et sont ventilées dans les dimensions suivantes : juridique/réglementaire, financière, administrative, opérationnelle et médicale. Au total, 33 projets ont pu être inclus dans les études de cas. Nous avons analysé les mesures incitatives pour le lancement d'une collaboration transfrontalière en matière de soins de santé. En outre, nous avons recueilli des informations sur les facteurs qui facilitent ou entravent la pérennité de la collaboration transfrontalière en matière de soins de santé pour chaque étude de cas.

La fraude et la lutte contre la fraude dans les soins de santé transfrontaliers

Dans le cadre de l'étude, l'existence de la fraude et de la lutte contre la fraude dans le domaine des SST a été examinée. Son ampleur reste incertaine, et il n'y a aucune raison de supposer que la fraude dans le domaine des SST soit plus importante que la fraude dans d'autres contextes de soins. Les décideurs politiques en charge du financement public devraient favoriser la communication entre les organisations compétentes afin de lutter contre la fraude dans le domaine des SST.

Une analyse systématique des publications universitaires et de la documentation parallèle sur la fraude et la lutte contre la fraude dans le domaine des SST a été réalisée. Des informations supplémentaires ont été recueillies en menant une consultation auprès des parties prenantes de huit États membres de l'UE. Les parties prenantes de notre groupe d'étude n'étaient pas pleinement conscientes de l'ampleur de la fraude en matière de SST dans leur propre pays ou dans d'autres États membres de l'UE. Les sources examinées dans la documentation « parallèle » ont révélé plusieurs tentatives d'estimation de l'ampleur de la fraude en matière de soins de santé. Cependant, nous n'avons pas trouvé de données spécifiques à l'ampleur de la fraude en matière de SST au niveau national ou européen.

Les résultats de notre consultation des parties prenantes (à la fois les opinions directes des parties prenantes et la matrice de risques HELFO) suggèrent en grande partie que **les politiques et les recherches devraient principalement accorder la priorité à la fraude impliquant des professionnels de la santé**. L'un des domaines prioritaires mentionnés concerne les patients, à savoir la CEAM, S2 ou la fraude à l'assurance. Les parties prenantes de notre étude ont également mentionné la **communication entre institutions compétentes comme facteur clé de la lutte contre la fraude dans les SST**, ainsi qu'un système de surveillance et de contrôle (ex : un groupe d'audit international compétent) et des compétences juridiques adéquates pour les professionnels de la santé. L'absence de ces facteurs, combinée à d'autres risques (par exemple, un manque de temps, de ressources et d'investissements dans les soins de santé), peut réduire l'efficacité de la lutte contre la fraude en général, et en particulier dans le cas des SST. Les mécanismes de lutte contre la fraude dans les SST doivent tenir compte des motivations et du comportement des différents acteurs de la santé, ainsi que des différences qui existent entre les systèmes de santé. Ils doivent également prendre en compte les facteurs contextuels, par exemple les perceptions sociales de l'illégalité.

Évaluation de l'adoption de la PaSQ

L'Action commune européenne « Réseau européen sur la sécurité des patients et la qualité des soins (PaSQ) » s'est déroulée entre 2012 et 2015. Son objectif visait à améliorer la sécurité des patients et la qualité des soins grâce au partage de l'information, des expériences, et à la mise en place de bonnes pratiques. L'adoption des activités et des résultats livrables de la PaSQ a été jugée bonne pendant la mise en œuvre de l'Action commune. Cependant, leur interruption a limité la durabilité de cette adoption car de nombreuses activités reposaient sur des infrastructures vitales (Wiki, site internet). Les facteurs clés supplémentaires nécessaires au succès durable des activités et des résultats livrables de la PaSQ étaient la disponibilité des ressources financières, le soutien (politique et en termes de leadership), la communication et le transfert des informations.

L'évaluation de l'adoption de l'Action commune européenne « Réseau européen pour la sécurité des patients et la qualité des soins (PaSQ) » reposait sur un examen des rapports de la PaSQ précédemment publiés (ou non) et sur une enquête ultérieure menée auprès des points de contact nationaux pour la sécurité des patients de 16 États membres de l'UE. En outre, les résultats des recherches ont été validés par le groupe de parties prenantes de l'étude, qui a également fourni une précieuse contribution à la rédaction des options politiques.

Pendant la PaSQ, l'infrastructure mise en place (Wiki/site internet et activités d'échange d'informations sur la PaSQ) a facilité l'« adhésion à la sécurité des patients » en renforçant les réseaux nationaux et internationaux, en améliorant l'échange d'expertise en matière de sécurité des patients aux niveaux clinique ou stratégique, et en soutenant la mise en œuvre de mesures spécifiques. En conséquence, l'adoption du Wiki et les activités d'échange d'informations se sont avérées prometteuses au cours de l'Action commune. Cependant, l'impact politique du Wiki et ses résultats concrets ont été considérés comme limités. En outre, la pérennité de l'adoption de ces outils a été affectée par l'arrêt de la maintenance active de l'infrastructure. **Un grand nombre des activités qui ont été lancées au cours de la PaSQ reposaient dans une large mesure sur les infrastructures vitales.**

Des mécanismes d'échange formels et informels (par exemple, les activités d'échange d'informations) ont facilité le réseautage pendant la PaSQ. Des réseaux (nationaux) sont toujours actifs, même après l'arrêt de l'Action commune. Cependant, les participants à l'enquête ont signalé un « déclin » des activités d'échange.

Bien que les **facteurs d'incitation à la réussite des activités ou des résultats livrables de la PaSQ** aient différé selon le niveau concerné (niveau national ou régional des prestataires de soins de santé), il a été constaté que certains facteurs facilitaient les activités de la PaSQ, comme la disponibilité des ressources financières, le soutien politique et en termes de leadership, ainsi que la communication et la fourniture d'informations, y compris le partage des connaissances.

Les **difficultés liées au succès des activités ou des résultats livrables** variaient selon les activités de la PaSQ étudiées. Les difficultés communes constatées étaient : un manque de ressources (y compris en termes d'infrastructure), des lacunes concernant la communication et le transfert d'informations, un soutien insuffisant (y compris en termes de participation des parties prenantes), l'absence de stratégie de sécurité des patients, et l'absence de culture de sécurité des patients.

Limites de l'étude

Le recensement effectué ne fournit qu'un aperçu des projets récents ou en cours en Europe, car seuls les projets ayant au moins un certain niveau de financement de l'UE ont été inclus. L'identification des analyses de rentabilité et les recherches y afférentes comportaient également plusieurs limites. Dans la plupart des cas, les informations accessibles au public en matière de projets de SST sont très limitées, notamment les informations relatives aux aspects économiques, y compris en ce qui concerne les coûts et les économies potentielles. Afin de recevoir des informations et des données fiables, une consultation approfondie des parties prenantes est nécessaire et exige l'engagement

des parties prenantes concernées à fournir les données requises. Les informations accessibles au public concernant les analyses de rentabilité ont démontré qu'une évaluation finale des projets dans le domaine des SST semble plutôt relever de l'exception. Cependant, ces informations pourraient ne pas être accessibles au public. En outre, dans de nombreux projets transfrontaliers, les aspects économiques sont d'une importance secondaire et se caractérisent plutôt par les avantages sociaux, principalement en ce qu'ils affectent et profitent aux patients. Des recherches plus approfondies sur l'équilibre des avantages sociaux et économiques sont souhaitables afin de mieux comprendre la relation entre avantages économiques et sociaux associés aux SST. La relation entre avantages économiques et sociaux pourrait également être différente selon les catégories de SST concernées. De plus, l'engagement politique des autorités publiques en faveur des projets de SST constitue un facteur de soutien. Comme le démontrent certains cas, un manque d'engagement politique peut entraîner l'interruption des projets de SST, sans égard pour les préférences des patients. De tels cas démontrent qu'il ne suffit pas d'étudier uniquement les projets réussis de SST de manière plus approfondie. Les enseignements tirés des cas faisant état de difficultés rencontrées pendant la coopération pourraient contribuer davantage à mieux appréhender les mécanismes de SST.

Les résultats de l'exercice de prévision doivent être interprétés à la lumière de deux limites principales. Premièrement, bien que l'étude se caractérise par un fort engagement des experts et des parties prenantes sur le terrain, le questionnaire dans lequel l'importance et la certitude des facteurs déterminants ont été classées par ordre de grandeur n'a été complété que par dix répondants au total. Les répondants étaient issus de pays de l'UE situés dans différentes zones géographiques et connaissant différents contextes d'aide sociale, et certains des plus importants groupes d'experts dans le domaine des SST étaient impliqués. Cependant, il aurait été souhaitable de couvrir tous les pays de l'UE et de permettre une évaluation plus détaillée des facteurs déterminants pour les SST dans différents contextes.

Deuxièmement, l'étude n'a identifié aucun facteur jugé d'une grande importance et d'une grande incertitude, même si ceux-ci se seraient particulièrement bien prêtés à l'interprétation des scénarios d'avenir ainsi développés. Par exemple, de façon assez surprenante, l'utilisation des technologies et les capacités d'innovation n'ont pas été évaluées comme des facteurs déterminants à fort impact pour les SST au sein de l'UE, même si elles ont été évaluées comme faisant partie des facteurs associés à un degré élevé d'imprévisibilité.

Enseignements tirés de la coopération transfrontalière en matière de soins de santé

L'étude apporte une compréhension approfondie des collaborations en matière de SST et fournit de nouvelles connaissances dans ce domaine sur différents aspects de la recherche sur les SST. Sept enseignements sont résumés ci-dessous :

1. Les initiatives de SST sont plus efficaces dans les régions disposant déjà de facilité de coopération en raison, par exemple, de traditions d'aide sociale similaires ou de liens historiques étroits.
2. Un soutien devrait être accordé aux acteurs clés tels que les décideurs politiques régionaux ou les directeurs d'hôpitaux afin de réduire les coûts de transaction des SST. La boîte à outils développée dans cette étude peut s'avérer utile en ce sens.
3. Il existe plusieurs scénarios pour les futurs SST, l'un des plus réalistes étant celui qui construit des réseaux régionaux orientés vers le traitement des besoins locaux et régionaux. [9].

[9] https://goeg.at/study_on_cross-border_cooperation

4. Les réseaux régionaux sont susceptibles d'être associés à une option peu coûteuse, mais les inconvénients sont qu'ils sont susceptibles de rester limités et peuvent créer des inégalités en ne profitant pas de manière égale à toutes les régions.
5. Les principales catégories d'initiatives de SST bénéficiant d'un financement de l'UE au cours des dix dernières années sont 1) le partage et la gestion des connaissances, et 2) le partage des traitements et diagnostics des patients.
6. Les collaborations telles que les investissements élevés de capitaux et les soins d'urgence ont généralement des avantages économiques et sociaux plus visibles, mais nécessitent des conditions de collaboration plus formelles.
7. Bien que les informations sur l'efficacité et la pérennité des initiatives actuelles de SST soient rares, le financement des projets de SST pourrait aider à atteindre ces objectifs.

Kurzfassung

Rechtsgrundlagen für die grenzüberschreitende Zusammenarbeit in der Gesundheitsversorgung

Das Konzept der grenzüberschreitenden Zusammenarbeit in der Gesundheitsversorgung (CBHC) ist gesetzlich in Artikel 168 des Vertrags über die Arbeitsweise der Europäischen Union (AEUV) verankert. Dieser zielt darauf ab die Zusammenarbeit zwischen den Mitgliedstaaten zu verbessern und die Komplementarität ihrer Gesundheitsdienstleistungen in Grenzregionen zu verbessern [1]. Obwohl Gesundheitsversorgung in erster Linie eine nationale Aufgabe ist, beauftragt die Richtlinie 2011/24 / EU über Patientenrechte in CBHC [2] - gemäß AEUV und der Verordnung (EG) Nr. 883/2004 [3] zur Koordinierung der Sozialversicherungssysteme und -Ansprüche der Begünstigten in Hinblick auf Patientenmobilität in der Europäischen Union (EU) sicherzustellen, die Zusammenarbeit im Gesundheitswesen in den Mitgliedstaaten zu erleichtern und Vorschriften zu erlassen, die den Zugang zu sicheren und hochwertigen Leistungen im Bereich CBHC erleichtern.

CBHC ist in der Richtlinie 2011/24 / EU wie folgt definiert:

> *"Cross-border healthcare" bezeichnet Gesundheitsdienstleistungen, die in einem anderen Mitgliedstaat als dem Versicherungsmitgliedstaat erbracht oder verordnet werden.*

Darüber hinaus stützt sich dieses Projekt auf die Definition der grenzüberschreitenden Zusammenarbeit von Irene Glinos [4]:

> *Die grenzüberschreitende Zusammenarbeit im Bereich der Gesundheitsversorgung kann einen Transfer, eine Bewegung oder einen Austausch von Personen, Dienstleistungen und Ressourcen beinhalten.*

Ziele der Studie

Die Idee zu dieser Studie entstand im Zuge einer Diskussion über CBHC auf einem informellen Treffen der Gesundheitsminister der EU-Mitgliedsstaaten in Luxemburg im September 2015. Die Kommission wurde aufgefordert, einen umfassenden Überblick über bestehende grenzüberschreitende Initiativen zu erstellen, woraufhin diese Studie beauftragt wurde.

Ausgehend von aktuellen Vereinbarungen, analysiert die Studie Stärken und Chancen für künftige grenzüberschreitende Zusammenarbeit im Gesundheitswesen. Die spezifischen Ziele der Studie sind folgendermaßen:

- Darstellung eines umfassenden Bildes von CBHC in der EU (basierend auf Kapitel IV der Richtlinie 2011/24 / EU),
- Darstellung potenzieller zukünftiger Möglichkeiten und Herausforderungen grenzüberschreitender Zusammenarbeit im Bereich Gesundheit, indem aktuelle treibende Faktoren, mögliche zukünftige Szenarien auf europäischer Ebene und entsprechende politische Empfehlungen für den Zeitraum bis 2030 ermittelt werden,
- dokumentierte Unterstützung für Stakeholder, die an der Gründung eines grenzüberschreitenden Kooperationsprojekts im Gesundheitswesen interessiert sind,
- Schaffung eines Überblicks über Betrugs- und Betrugsbekämpfungsstrategien für CBHC in der EU,
- Bewertung der Annahme der Joint Action zu Patientensicherheit und Qualität in der Gesundheitsversorgung (PaSQ) auf nationaler, regionaler und / oder lokaler Ebene in den EU-Mitgliedstaaten.

Mapping von gesundheitsbezogenen grenzüberschreitenden Projekten

Mit einigen Ausnahmen entwickelt sich grenzüberschreitende Zusammenarbeit im Bereich der Gesundheitsversorgung eher zwischen **Ländern oder Regionen mit ähnlichen Wohlfahrtstraditionen** und in **unmittelbarer geographischer Nähe** oder durch gemeinsame **historische Vergangenheit**. Vor diesem Hintergrund sollten sich politische

Entscheidungsträger, die für öffentliche Finanzierungsmechanismen zuständig sind, auf jene Projekte konzentrieren, die eher nachhaltig und / oder erfolgreich die Bedürfnisse von PatientInnen bedienen, beispielsweise indem Lücken in der Gesundheitsversorgung adressiert werden. Um eine langfristige Zusammenarbeit sicherzustellen, können Bemühungen für den **Aufbau von Kapazitäten** verstärkt werden, z.B. bei Krankenhausdienstleistern oder regionalen Behörden. Administrative Hürden sollten für PatientInnen und Gesundheitsdienstleister gering gehalten werden, um die Transaktionskosten (bspw. für **Vertragsvergabeverfahren**) für Akteure gering zu halten. Ein Viertel der identifizierten Projekte wies eine Grenzüberschreitung von PatientInnen zur Behandlung oder Diagnose auf, wobei der Großteil grenzüberschreitender Kooperationen den Austausch von Gesundheitsdienstleistern und Wissen betraf. Die Studienergebnisse zeigen im Einklang mit den in dieser Studie enthaltenen Business cases, dass **Kommunikation eine wesentliche Voraussetzung** für eine erfolgreiche Durchführung von Kooperationen im Bereich grenzüberschreitender Gesundheitsversorgung darstellt. Eng miteinander verbundene Regionen scheinen dadurch besser mit notwendigen Anpassungen zur Erstattung grenzüberschreitender Gesundheitsdienstleistungen, administrativen Vorgängen für einen erfolgreichen Austausch von Gesundheitspersonal oder der Sicherstellung eines zeitnahen Zugangs zur Notfallversorgung unter Berücksichtigung der Muttersprache der PatientInnen umgehen zu können. Die grenzüberschreitende Zusammenarbeit im Bereich der Gesundheitsversorgung zwischen Nicht-EU-Ländern / Nicht-EWR-Ländern muss stärker erforscht werden.

Über ganz Europa zeichnet sich ein **vielfältiges Bild der Zusammenarbeit in den Bereichen Gesundheit, Sozialfürsorge und öffentliche Gesundheit** ab. Diese Studie bietet einen Überblick über EU-finanzierte Kooperationsinitiativen im Zeitraum von 2007 bis 2016/2017. Grenzüberschreitende Projekte wurden durch eine umfassende systematische Suche in Online-Datenbanken identifiziert. Eine Validierung durch ExpertInnen und zusätzliches thematisches Input aus wissenschaftlicher und grauer Literatur ergänzten die Suche. Von 1,167 Projekten erfüllten insgesamt 423 Projekte die Auswahlkriterien[10], d.h. Projekte, die im Untersuchungszeitraum mit mindestens zwei beteiligten EU/EWR-Ländern durchgeführt wurden, mit Ausnahme von Kooperationsprojekten zur Eindämmung übertragbarer Krankheiten und europäischen Referenznetzwerke. Das Mapping bietet ein umfassendes Bild an Projekten, bei denen EU-Mittel erfolgreich akquiriert wurden, jedoch erlauben **Lücken bei der Datenverfügbarkeit** keine systematische Analyse von Projekten ohne EU-Finanzierung. Es sollte angemerkt werden, dass diese Studie eine Momentaufnahme für den beobachteten Zeitraum darstellt und **keine Bewertung der finanziellen und operativen Nachhaltigkeit** vorgenommen werden konnte.

Im Rahmen der Richtlinie 2011/24/EU hat das Thema Patientenmobilität in den letzten Jahren Aufmerksamkeit erhalten, wohingegen unsere Ergebnisse die Bedeutung der Mobilität auf Anbieterseite hervorhebt. Thematisch lag der Schwerpunkt der betrachteten Initiativen in mehr als einem von zehn Projekten eindeutig auf dem **Austausch und der Schulung von Mitarbeitern** (12%), in mehr als einem Fünftel der Projekte (23%) auf **Verbesserung der Behandlung oder Diagnose** und ein geringer Anteil zielte auf **grenzüberschreitende Kooperationen zur Notfallversorgung** ab (6%). Darüber hinaus scheinen Kooperationsprojekte zwischen Behörden oder Krankenhäusern eine wesentliche Voraussetzung für grenzüberschreitende Versorgungsprojekte sein. In unserer Analyse stellten wir fest, dass etwa die Hälfte aller identifizierten Projekte in die Kategorie des **Wissensaustauschs** (50%) fielen, während nur ein kleiner Teil der Projekte (5%) **teure, hochspezialisierte Kapitalinvestitionen** inkludierte. Schließlich entfiel nur ein sehr geringer Teil der Projekte auf Wissensproduktion und Forschung im Bereich der grenzüberschreitenden Gesundheitsversorgung (4%).

[10] https://goeg.at/sites/default/files/2018-02/Final_Deliverable_Mapping_21Feb2018.xls

Entsprechend früherer Studien weisen die Studienergebnisse ebenfalls auf die **Bedeutung geographischer und kultureller Faktoren** für die Entwicklung grenzüberschreitender Zusammenarbeit in der Gesundheitsversorgung hin. Jedoch schließen wir die Möglichkeit nicht aus, dass rechtliche und administrative Faktoren eine Rolle spielen, wie beispielsweise im Falle der langjährigen bilateralen Vereinbarung zwischen Malta und Großbritannien. Im systematischen Mapping europäischer Kooperationsprojekte wurden nur EU-geförderte Kooperationsprojekte inkludiert. Die meisten dieser Initiativen finden zwischen Ländern mit ähnlichen Wohlfahrtstraditionen statt, wie beispielsweise in skandinavischen Ländern oder zwischen Ländern mit einer gemeinsamen Geschichte wie Italien und Slowenien oder Italien und Österreich. Andere Kooperationen ergeben sich aufgrund geografischer Faktoren, wie die Fälle Dänemark und Deutschland oder Spanien und Frankreich (Pyrenäen) zeigen. Die Literatur zeigt, dass grenzübergreifende Projekte in der Gesundheitsversorgung dazu beitragen, **Lücken in der regionalen Gesundheitsversorgung auszugleichen oder durch die niedrigeren Kosten der Dienstleistungserbringung im Kooperationsland**, wie in Finnland und Estland oder Österreich und Ungarn, **vorangetrieben werden**. Die Ergebnisse zeigen, dass mittel- und westeuropäische Länder weiterhin Spitzenreiter in Bezug auf die Leitung derartiger Initiativen sind, parallel zu den Ergebnissen der HealthACCESS-Studie[11], die in der Zeit vor 2007 durchgeführt wurde. Zu den häufigsten Kooperationsländern zählen Rumänien und Ungarn, gefolgt von Deutschland und den Niederlanden, und Norwegen und Schweden. Kooperationen grenzüberschreitender Gesundheitsversorgung in Grenzregionen mit nicht EU/EWR-Ländern waren kein Schwerpunkt dieser Studie und wurden nicht berücksichtigt. 2011 startete die größte Anzahl an Kooperationen, was als Parallelentwicklung zur Veröffentlichung und dem Inkrafttreten der Richtlinie 2011/24 / EU über Patientenrechte in CBHC interpretiert werden kann. Zusätzlich wurden nur jene Projekte mit einbezogen, die zum Zeitpunkt der Suche bereits abgeschlossen waren.

Foresight Modell

Das Foresight Modell umfasste zwei wesentliche Komponenten. Die erste Komponente bestand aus einem Horizon Scanning, basierend auf einer umfassenden Recherche facheinschlägiger Literatur, um Veränderungen von Rahmenbedingungen zu identifizieren, die **grenzüberschreitende Gesundheitsversorgung potentiell beeinflussen** können (***driving factors***). Dies gab Einblick in den aktuellen Status quo von CBHC und diente als Basis für die Entwicklung zukünftiger Szenarien. Die zweite Komponente bezog sich auf die Entwicklung der Szenarien – einer Illustration potentieller Entwicklungsmöglichkeiten grenzüberschreitender Gesundheitsversorgung. Das Foresight Modell unterstützt die **Identifikation strategischer Ansätze, basierend auf vergangenem und aktuellem Wissen und entsprechenden Erfahrungen, um daraus zukünftige potentielle Entwicklungsmöglichkeiten** für grenzüberschreitende Gesundheitsversorgung auf EU-Ebene abzuleiten, jedoch nicht um konkrete Handlungsempfehlungen davon abzuleiten. Eine SWOT-Analyse mit Experten und anderen Stakeholdern des Bereichs CBHC vervollständigte die Entwicklung der Szenarien.

Die **vier entwickelten Szenarien** des Foresight Modells stellen **potentielle zukünftige Gestaltungsmöglichkeiten für CBHC** dar. Die Szenarien schließen sich gegenseitig nicht aus und lassen die Verträge der Europäischen Union unangetastet. Die Szenarien unterscheiden sich in ihrer Ausprägung und adressieren Hauptakteure der grenzüberschreitenden Gesundheitsversorgung. Es ist wahrscheinlich, dass in den nächsten zwei Jahrzehnten jene CBHC-Szenarien für politische Entscheidungsträger relevant werden, für die entweder (i) geographische und/oder kulturelle Nähe eine Rolle spielen oder (ii) Lücken in der Verfügbarkeit von Gesundheitsdiensten die Patienten – einschließlich Patienten in peripheren Regionen der EU – dazu bringen Gesundheitsdienstleistungen im Ausland in Anspruch zu nehmen. Gesetzliche Barrieren können ebenfalls eine Rolle

[11] http://ec.europa.eu/health/ph_projects/2003/action1/docs/2003_1_22_frep_en.pdf

spielen. Es bedarf zusätzlicher systematischer Erforschung der treibenden Kräfte für bilaterale Abkommen, einschließlich jener zwischen nicht angrenzenden Ländern mit unterschiedlichen Wohlfahrtstraditionen.

Szenario 1 repräsentiert den aktuellen Status quo, in dem Kooperationen zwischen nationalen Gesundheitssystemen gefördert werden. In Szenario 2 liegt der Fokus auf **lokalen und nationalen Bedürfnissen**, wobei Kooperationen hauptsächlich auf regionaler Ebene entstehen und Akteure in Regionen Hauptauslöser für das Zustandekommen von Kooperationen sind. In Szenario 3 stellt die **Wahlfreiheit der PatientInnen** den zentralen Faktor für CBHC-Entwicklungen dar, wobei eHealth eine wichtige Rolle spielen wird. Die Integration wäre in diesem Szenario sehr selektiv und betrifft nur bestimmte Patientengruppen (z.B. bestimmte Krankheitsgruppen). Szenario 4 umfasst **strategische Netzwerke** selektiver Kooperationen mit speziellem Fokus. In Szenario 5 sind **Financiers der Gesundheitsversorgung** von zentraler Bedeutung, während in Szenario 2 Akteure auf regionaler oder lokaler Ebene am wichtigsten für die Initiierung oder Erhaltung von CBHC sind. Jedes der Szenarien beinhaltet **Kompromisse hinsichtlich Effizienz und Gerechtigkeit**, wie die SWOT-Analyse unter Beteiligung von ExpertInnen und Stakeholdergruppen aus verschiedenen Bereichen und verschiedenen EU-Ländern deutlich hervorhob. Die Zusammenarbeit auf regionaler Ebene (Szenario 2) kann Skaleneffekte in Grenzregionen, beispielsweise in Bezug auf gemeinsame Investitionen oder spezialisierte Betreuungsnetze, bedingen, jedoch können als Folge geografische Ungerechtigkeiten zunehmen. Auch wenn jüngere oder hochgradig informierte PatientInnen in Szenario 3 von Online-Unterstützungsforen und patientengetriebenen Innovationen profitieren, können Ungerechtigkeiten für weniger gut informierte PatientInnen oder PatientInnen mit komplexen Versorgungsbedürfnissen auftreten.

Ein **Mix aus (hauptsächlich) qualitativen Methoden** wurde zur Entwicklung der vier Szenarien angewandt. Basierend auf einer systematischen Suche nach akademischer und grauer Literatur, wurden im Foresight Modell zuerst potenzielle Entwicklungen oder umweltbedingte Veränderungen, mit Einfluss auf die CBHC-Politik in den nächsten 10 bis 15 Jahren ("horizon scanning" mit einem Zeithorizont von 2030) ermittelt. In diesem Kontext spielt das Konzept der fluid borders von Glinos und Baeten eine wichtige Rolle um Mechanismen grenzüberschreitender Gesundheitsversorgung zu verstehen. Im Gegensatz zu „rigid borders" sind „fluid borders" aus Patientensicht leicht zu überschreiten und beinhalten keine administrativen, geographischen oder kulturellen Barrieren. Kulturelle Verbundenheit kann beispielweise durch gemeinsame Sprache, Gewohnheiten, Praktiken oder Geschichte und andere Kooperationen im Gesundheitsbereich determiniert sein. Es ist wahrscheinlich, dass der Bestand von „fluid borders" Kooperationen grenzüberschreitender Gesundheitsversorgung zwischen benachbarten Ländern oder Regionen wesentlich vereinfacht. In Bezug auf Gesundheitstourismus beeinflussen aus Patientensicht die geographische Nähe, die Nichtverfügbarkeit bestimmter Gesundheitsleistungen und geringe Zugangsbarrieren (beispielsweise geringe Kosten, kurze Reisezeiten oder Einreisebestimmungen) die Inanspruchnahme grenzüberschreitender Gesundheitsversorgung. In einem zweiten Schritt wurden vier Szenarien entworfen. Diese wurden im September 2017 im Rahmen eines ExpertInnen- und Stakeholder-Workshops evaluiert. Darüber hinaus haben ExpertInnen treibende Faktoren nach ihrer Vorhersehbarkeit (*certainty*) in der Zukunft und ihrer möglichen Auswirkung (*importance*) bewertet. Das Ranking half anschließend, die Implikationen der vier Zukunftsszenarien zu verfeinern und weiter zu interpretieren.

Die Ergebnisse der Literaturrecherche erlauben es, treibende Faktoren in **vier Dimensionen** (geographisch/demographisch, kulturell/gesellschaftlich, regulatorisch und ökonomisch/technologisch) zu gruppieren. Im Einklang mit den Ergebnissen des Mappings haben wir festgestellt, dass geografische und kulturelle Nähe zu den wichtigsten Antriebsfaktoren für CBHC-Initiativen in der EU zählen. Die Ergebnisse zeigen, dass das **Konzept der "fluid borders" für die Entwicklung von CBHC in der EU nach wie vor eine zentrale Rolle** spielt. Die Existenz von „fluid borders" kann auch die regulatorische Dimension mit einschließen, wenn beispielsweise regional gesteuerte Zusammenarbeit lediglich einen "Handschlag" erfordert, um eine Zusammenarbeit einzuleiten.

Schließlich kann die relative geografische Isolation auch CBHC antreiben, auch wenn kontextspezifische Merkmale die Art der CBHC-Zusammenarbeit bestimmen können. So können beispielsweise Regionen mit einem höheren Grad an Innovationsfähigkeit geographische Nachteile kompensieren indem sie ein stärkeres Engagement für eHealth-Technologien zeigen. In dieser Studie werden sechs Typen für grenzüberschreitender Kooperationen herangezogen: Kooperationen zu Beschäftigten im Gesundheitsbereich, Notfallversorgung, teure, hochspezialisierte Kapitalinvestitionen, Wissenserzeugung und –austausch und Verbesserung der Behandlung oder Diagnose.

Toolbox

Das Manual und die entwickelten Tools sollen Stakeholder und regionale oder lokale Behörden beim Start ihres Kooperationsprojekts unterstützen. Natürlich gibt es kein "Einheitskonzept" für die grenzüberschreitende Zusammenarbeit im Gesundheitswesen, da Projekte stark von ihrem spezifischen Umfeld abhängen, z. B. Geographie, Kultur, Gesundheitssysteme und auch den Erfahrungen von Interessenvertretern, die sie initiieren. Die treibenden Faktoren und Kräfte, die die Zusammenarbeit und die Ressourcenbelastung ermöglichen, unterscheiden sich je nach Kooperationsprojekt sowie je nach Kooperationskategorie. Je nach Projekttyp kann es zu einem Transfer, einem Austausch oder einer Verlagerung von Personen, Leistungen oder Ressourcen kommen.

Das *Cross-border.Care Manual & Tools* zielt darauf ab, Gesundheitsdienstleistern, Kostenträgern und Behörden zu helfen, grenzübergreifende Kooperationsprojekte im Bereich Gesundheit zu starten. Das praxisorientierte *Cross-border.Care Manual & Tools* wurde in einem mehrstufigen Prozess entwickelt, der Elemente aus Umfragen und Literaturrecherche kombiniert. Zur Validierung und Überarbeitung wurden Stakeholdergruppen und Experten auf dem Gebiet von CBHC konsultiert. Die Ergebnisse wurden einem Peer Review unterzogen.

Das *CrossBorder.Care Manual & Tools* ist als Handbuch konzipiert, das aus fünf Modulen besteht: 1.) Projektvorbereitung, 1.) Projektentwicklung, 3.) Vertragsgestaltung, 4.) Projektüberwachung, 5.) Erfolgreiche Business Cases für grenzüberschreitende Zusammenarbeit. Die ersten vier Module befassen sich mit Aspekten des Lebenszykluses eines grenzüberschreitenden Projekts, während Modul 5 praktische Beispiele für grenzüberschreitende Kooperationsprojekte in Form von Business Cases liefert.

Module 1-4 umfassen 40 Tools und liefern relevante Informationen zu allgemeinem Projektmanagement. Die Business Cases in Modul 5 fassen Elemente realer Projekte zusammen und beschreiben Umstände, die bei der Initiierung eines grenzüberschreitenden Kooperationsprojekts im Bereich der Gesundheitsversorgung zu berücksichtigen sind. Diese Umstände haben illustrativen Charakter und umfassen folgende Dimensionen: rechtlich/regulatorisch, finanziell, administrativ, operativ und medizinisch. Insgesamt wurden 33 Projekte in den Fallstudien berücksichtigt. Pro Fallstudie, wurden Anreize für den Beginn der grenzüberschreitenden Zusammenarbeit im Gesundheitswesen sowie förderliche bzw. hinderliche Faktoren für die Nachhaltigkeit grenzüberschreitender Zusammenarbeit im Gesundheitswesen dargestellt.

Betrug und Schadensminderung von Betrug bei grenzübergreifender Zusammenarbeit in der Gesundheitsversorgung

Im Rahmen der Studie wurden ebenfalls die Themen Betrug und Betrugsbekämpfung Gesundheitssystem untersucht. Das Problem des CBHC-Betrugs in der EU wurde zwar erkannt, sein Umfang bleibt jedoch unklar. Es gibt Hinweise, dass CBHC-Betrug, ähnlich wie Betrug in nationalen Gesundheitssystemen, von verschiedenen Akteure des Gesundheitswesens in Form von unangemessener Versorgung bzw. Abrechnung begangen wird. Vor diesem Hintergrund sollten politischen Entscheidungsträger die Kommunikation zwischen den zuständigen Organisationen fördern, um so CBHC-Betrug einzudämmen.

Es wurde eine **systematische Übersicht über akademische Publikationen und graue Literatur** zum Thema Betrug und Betrugsbekämpfung bei CBHC erstellt. Zusätzliche Informationen wurden mittels Konsultation von Stakeholder aus acht EU-

Mitgliedstaaten gesammelt. Die Mitglieder unseres begleitenden Studiengremiums waren sich weder des Ausmaßes des CBHC-Betrugs in ihren eigenen Ländern noch in anderen EU-Mitgliedstaaten voll bewusst. In der "grauen" Literatur fanden sich unterschiedliche Versuche, das Ausmaß des Betrugs im Gesundheitswesen abzuschätzen. Wir haben jedoch keine spezifischen Daten zum Umfang des CBHC-Betrugs auf nationaler oder EU-Ebene gefunden.

Die Ergebnisse unserer Stakeholder-Konsultationen (sowohl direkte Stellungnahmen von Stakeholdergruppen als auch die HELFO-Risikomatrix) legen weitgehend nahe, dass **Politik und Forschung Betrug durch Gesundheitsdiensteanbieter vorrangig behandeln sollten**. Ein angesprochener Schwerpunktbereich betrifft PatientInnen, nämlich Betrug mittels EHIC, S2 oder Versicherungsbetrug. Die Stakeholder in unserer Studie erwähnten die **Kommunikation zwischen den zuständigen Institutionen als einen Schlüsselfaktor zur Betrugsbekämpfung bei CBHC**, zusätzlich zu einem Überwachungs- und Kontrollsystem (z. B. eine zuständige internationale Auditierungsgruppe) und angemessener Rechtskompetenz von Angehörigen der Gesundheitsberufe. Das Fehlen dieser Faktoren in Kombination mit anderen Risiken (z.B. unzureichende Zeit, Ressourcen und Investitionen im Gesundheitswesen) kann die Wirksamkeit der Betrugsbekämpfung im Allgemeinen und insbesondere in CBHC verringern. Betrugsbekämpfungsmechanismen bei CBHC müssen die Beweggründe und das Verhalten der verschiedenen Akteure im Gesundheitswesen sowie die Unterschiede zwischen den Gesundheitssystemen berücksichtigen. Sie sollten auch kontextuelle Faktoren berücksichtigen, z.B. soziale Wahrnehmung von Illegalität.

Evaluierung der Inanspruchnahme von PaSQ

Das Joint Action 'European Union Network on Patient Safety and Quality of Care (PaSQ)' fand zwischen 2012 und 2015 statt. Der Fokus lag auf der Verbesserung der Patientensicherheit und Behandlungsqualität anhand eines Austausches von Informationen, Erfahrungen und der Implementierung von "good practices". Während der Laufzeit der Joint Action wurde die Annahme und Verwendung von PaSQ-Aktivitäten und -Projektergebnissen für gut befunden. Die Beendigung limitierte jedoch die Nachhaltigkeit der Verwendung, da viele Aktivitäten auf wesentliche Infrastruktur (Wiki, Website) angewiesen waren. Wesentliche Schlüsselfaktoren für den nachhaltigen Erfolg der PaSQ-Aktivitäten und -Dienstleistungen waren die Verfügbarkeit finanzieller Ressourcen, Unterstützung (Politik und Leadership), Kommunikation und Informationstransfer.

Die Bewertung der Inanspruchnahme der Europäischen Joint Action "Europäisches Netz zur Patientensicherheit und Qualität in der Gesundheitsversorgung" erfolgte auf Grundlage (nicht) veröffentlichter PaSQ-Projektberichte und den Befragungsergebnissen von VertreterInnen von 16 nationalen Kontaktstellen für Patientensicherheit. Darüber hinaus wurden die Forschungsergebnisse vom begleitenden Stakeholder-Panel der Studie validiert. Dieses lieferte auch wertvolle Beiträge für die Ausarbeitung politischer Optionen.

Während der Laufzeit von PaSQ gelang es mittels der Infrastruktur (PaSQ Wiki / Website und Exchange Events) die „Inanspruchnahme von Patientensicherheit" zu unterstützen, und zwar durch die Stärkung internationaler und nationaler Netzwerke, die Förderung des Austausches von Patientensicherheits-Expertise auf klinischer oder strategischer Ebene und die Unterstützung bei der Umsetzung spezifischer Maßnahmen. Dementsprechend waren sowohl die Inanspruchnahme des Wikis als auch der Exchange Events während der Joint Action vielversprechend. Die politische Wirkung und die konkreten Ergebnisse des Wikis wurden jedoch als limitiert eingeschätzt. Die Einstellung der aktiven Instandhaltung der Infrastruktur wirkte sich negativ auf die Nachhaltigkeit von PaSQ aus. **Viele der Aktivitäten, die während PaSQ initiiert wurden, waren zu einem großen Teil auf die wesentliche Infrastruktur angewiesen.**

Formale und informelle Austauschmechanismen (z. B. Exchange Events) erleichterten die Vernetzung während der Laufzeit von PaSQ. Auch nach Beendigung der Joint Action sind

(nationale) Netzwerke noch aktiv. Die UmfrageteilnehmerInnen berichteten jedoch von einem Rückgang der Exchange Events.

Obwohl **Erfolgsfaktoren für PaSQ-Aktivitäten oder -Produkte** je nach Ebene (nationale oder regionale Ebene der Gesundheitsdienstleister) unterschiedlich ausfallen, wurden einige Faktoren als wesentlich für die Förderung einzelner PaSQ-Aktivitäten genannt, beispielsweise die Verfügbarkeit finanzieller Ressourcen, politische und Führungsunterstützung sowie Kommunikation und Bereitstellung von Informationen, einschließlich der Weitergabe von Wissen.

Die **Herausforderungen für den Erfolg von PaSQ-Aktivitäten oder -Produkten** unterschieden sich je nach PaSQ-Aktivität. Häufige Herausforderungen waren: Mangel an Ressourcen (einschließlich Infrastruktur), Kommunikations- und Informationsdefizite, unzureichende Unterstützung (einschließlich der Einbeziehung von InteressenvertreterInnen), das Fehlen einer Patientensicherheitstrategie sowie einer Patientensicherheitskultur.

Limitationen der Studie

Das Mapping der Studie lieferte nur einen Einblick in jüngste Kooperationsprojekte im Bereich grenzüberschreitender Gesundheitsversorgung und bezog nur Projekte mit EU-Finanzierung ein. Die Identifikation der Business Cases und zugrundeliegender Informationen ist durch mehrere Limitationen gekennzeichnet. Zu den Projekten sind nur wenig öffentliche Informationen verfügbar, speziell zu ökonomischen Aspekten wie Kosten oder potentiellen Einsparungsmöglichkeiten. Eine gründliche Stakeholder Konsultation ist notwendig um notwendige Informationen zu sammeln, was eine entsprechende Stakeholder-Bereitschaft voraussetzt. Anhand der öffentlich verfügbaren Informationen scheint eine Ergebnisevaluation von Kooperationen grenzüberschreitender Gesundheitsversorgung die Ausnahme zu sein, oder die Informationen stehen nur öffentlich nicht zur Verfügung. Außerdem spielen in einer Vielzahl der Kooperationen ökonomische Aspekte nur eine untergeordnete Rolle und soziale Aspekte, die primär Patienten betreffen und von denen Patienten profitieren, eine wichtigere Rolle. Um Mechanismen zwischen ökonomischen und sozialen Aspekten bzw. Vorteilen besser verstehen zu können, ist zusätzliche Forschung notwendig. Das Verhältnis zwischen ökonomischen und sozialen Aspekten kann auch zwischen verschiedenen Kategorien von CBHC unterschiedlich sein. Politische Unterstützung durch öffentliche Behörden ist ein unterstützender Faktor. Aus gewissen Kooperationen wird ersichtlich, dass fehlende politische Unterstützung zu einer Beendigung der Kooperation, ungeachtet von Patientenpräferenzen, geführt hat. Diese Beispiele zeigen, dass neben erfolgreichen auch nicht erfolgreiche Kooperationen untersucht werden sollten. Gewonnene Erkenntnisse und Herausforderungen dieser Projekte können zu einem besseren Verständnis von Kooperationen grenzüberschreitender Kooperationen beitragen.

Bei der Interpretation der Ergebnisse des Foresight Modells müssen zwei Limitationen beachtet werden. Obwohl das Foresight Modell durch ein sehr ausgeprägtes Experten- und Stakeholder-Kommittent geprägt ist, wurde die Umfrage zur Beurteilung der Wichtigkeit und Vorhersehbarkeit der treibenden Faktoren nur von zehn Befragten beantwortet. Die zehn Befragten kamen aus unterschiedlichen EU-Ländern, geographischen Regionen und Wohlfahrts-Settings. Einige der wichtigsten Expertengruppen im Bereich CBHC waren involviert. Es wäre dennoch wünschenswert gewesen Vertreter aus allen europäischen Ländern zur Teilnahme an der Umfrage bewegen zu können. Dies hätte eine detailliertere Evaluation der treibenden Faktoren im kontextabhängigen Setting ermöglicht. Zusätzlich konnten keine treibenden Faktoren identifiziert werden, die mit einer hohen Wichtigkeit oder geringen Vorhersehbarkeit einhergehen, und gut zur Interpretation und Entwicklung zukünftiger Szenarien geeignet hätten. Beispielsweise wurden die Faktoren Einführung neuer Technologien und Innovationskraft nicht als Faktoren mit hohem Einfluss auf CBHC in der EU bewertet, sondern mit geringer Vorhersehbarkeit.

Gewonnene Erkenntnisse aus Kooperationen grenzüberschreitender Gesundheitsversorgung

Die Studienergebnisse bieten einen vertiefenden Einblick in CHBC-Kooperationen mit unterschiedlichen Zielsetzungen und neue Erkenntnisse hinsichtlich verschiedenster Forschungsaspekte im Bereich grenzüberschreitender Gesundheitsversorgung. Zusammenfassend können folgende sieben Erkenntnisse aus der Studie gewonnen werden:

1. Kooperationen bzw. Initiativen im Bereich grenzüberschreitender Gesundheitsversorgung sind in jenen Regionen wirksamer, in denen entsprechende Kooperationen bereits etabliert sind, beispielsweise aufgrund ähnlicher Wohlfahrtstraditionen oder geschichtlicher Verbundenheit.
2. Schlüsselakteuren, wie regionale Entscheidungsträger oder Krankenhausmanager, sollte Unterstützung in ihren Aktivitäten grenzüberschreitender Gesundheitsversorgung geboten werden um Trankaktionskosten zu verringern. Die Tools der Toolbox sollen dafür Hilfestellung bieten[12].
3. Von den zahlreichen potentiellen Zukunftsszenarien zur Gestaltung grenzüberschreitender Gesundheitsversorgung wird das Szenario regionaler Netzwerke mit Berücksichtigung lokaler und regionaler Gegebenheiten und Bedürfnisse als am wahrscheinlichsten erachtet.
4. Regionale Netzwerke sind potentiell die kostengünstigste Variante grenzüberschreitender Gesundheitsversorgung, obwohl sie tendenziell von kleinem Umfang sind und Regionen ungleich profitieren.
5. Kooperationen grenzüberschreitender Gesundheitsversorgung in den Bereichen *Knowledge sharing and management* und *Shared treatment & diagnosis of patients* erhielten in den letzten zehn Jahren große Anteile öffentlicher Förderungen.
6. Kooperationen in den Bereichen *High-cost capital investment* und *Emergency care* scheinen größere soziale und ökonomische Vorteile aufzuweisen, setzen jedoch auch einen höheren Formalisierungsgrad der Kooperation voraus.
7. Informationen über Effektivität und Nachhaltigkeit aktueller Kooperationen grenzüberschreitender Gesundheitsversorgung sind spärlich und könnten durch öffentliche Förderungen verbessert werden.

[12] https://goeg.at/study_on_cross-border_cooperation

1 Introduction

In September 2015, an informal meeting of health ministers was held in Luxembourg, during which those attending took stock of matters including the Cross-border Healthcare Directive (CBHC Directive). Based on the results of the discussion, the Commission was requested to draw up a comprehensive overview of existing cross-border initiatives, which subsequently led to this study being commissioned.

This report is the final deliverable pursuant to Specific Contract N°20167103 under Framework Contract N°EAHC/2013/Health/01 lot 2 'Health economic reports - analysis and forecasting' for the 'Study on Cross-Border Cooperation – Capitalising on existing initiatives for cooperation in cross-border regions'. The requested service comprised three thematic strands: 1.) cross-border cooperation in healthcare, 2.) fraud and fraud mitigation in cross-border healthcare and 3.) patient safety.

The final report summarises the overall objective of this study and specific objectives of the respective work packages. Methodologies applied and findings are presented for four out of five work packages. The report ends with limitations and recommendations.

1.1 Objectives of the study

The overall aims of the study are to propose options and solutions for improving the status quo regarding cross-border healthcare collaboration for the period up to 2030, to provide an in-depth overview of literature in the field and of fraud and fraud mitigation in cross-border healthcare and to assess the take-up of Joint Action on Patient Safety and Quality of Care (PaSQ) deliverables in the field of patient safety.

The specific objectives of the study's thematic strand on **cross-border healthcare** are as follows:

- to present a comprehensive picture of cross-border healthcare collaboration across the European Union (EU) (based on Chapter IV of Directive 2011/24/EU) by mapping projects which received support by European funding instruments,
- to provide insight into potential future challenges and opportunities for cooperation in cross-border healthcare by identifying current driving factors, potential future cross-border healthcare scenarios at the European level and respective policy recommendations for the period up to 2030.
- to provide general documented support for stakeholders and authorities with an interest in cross-border cooperation in healthcare, thus providing stakeholders with guidance on starting a cross-border healthcare collaboration project.

Those objectives were met by mapping EU-funded cross-border healthcare initiatives (see sections 3.1 and 4), by conducting horizon scanning and foresight modelling (see sections 3.2 and 5) and by developing the Cross-border.Care Manual & Tools (see sections 3.3 and 6).

The specific objective of the study's thematic strand on **fraud and fraud mitigation in cross-border healthcare** was to provide an overview of fraud and fraud mitigation strategies in cross-border healthcare in the EU. The review sets out to answer the following research questions:

- Is fraud in cross-border healthcare proportionate to the general level in national social insurance systems and national health systems?
- Are the fraud patterns followed the same as in general health-care or specific to cross-border healthcare?
- What fraud mitigation mechanisms are implemented or proposed for implementation in relation to cross-border healthcare in EU?

The objective was met by conducting a stakeholder survey and a systematic literature review (see sections 3.4 and 7).

The specific objective of the study's thematic strand on **patient safety** is to investigate and report on how the work of the PaSQ Joint Action has been taken up at the national, regional and/or local levels in the EU Member States. The evaluative assessment aims to answer the following research questions on the PaSQ project in general:

- What is the magnitude of take-up of the work of the Joint Action on Patient Safety and Quality of Care at national, regional and local levels and in which specific topics?
- What mechanisms and which activities or deliverables have worked particularly well based on take-up?
- What were enabling factors for the success of activities or deliverables?
- What were challenges for the success of activities or deliverables?

In addition, the aim is to answer the following question regarding healthcare-associated infections:

- What mechanisms and elements of good practice have been developed in the Joint Action, and are being sustained in relation to prevention of transfer of healthcare-associated infections and antimicrobial resistance in patients participating in cross border healthcare?

Finally, the following questions will be addressed in the concluding recommendations:

- How could Member States best take forward the work of the Joint Action on Patient Safety and Quality of Care for the future?
- What lessons could be learned for potential future Joint Actions in the patient safety field.

The evaluation was conducted bearing in mind that the primary aim of the PaSQ project was to be a project with a networking approach aiming to strengthen cooperation within and between Member States of the European Union as well as international organizations and EU stakeholders regarding patient safety, health care quality improvement and patient involvement. However, this study focuses on the take-up of the project at the national, regional and local levels. Furthermore it needs to be mentioned that many aspects of the underlying research questions were addressed during the PaSQ project itself. In order to not be duplicated, this information will be drawn upon during this study.

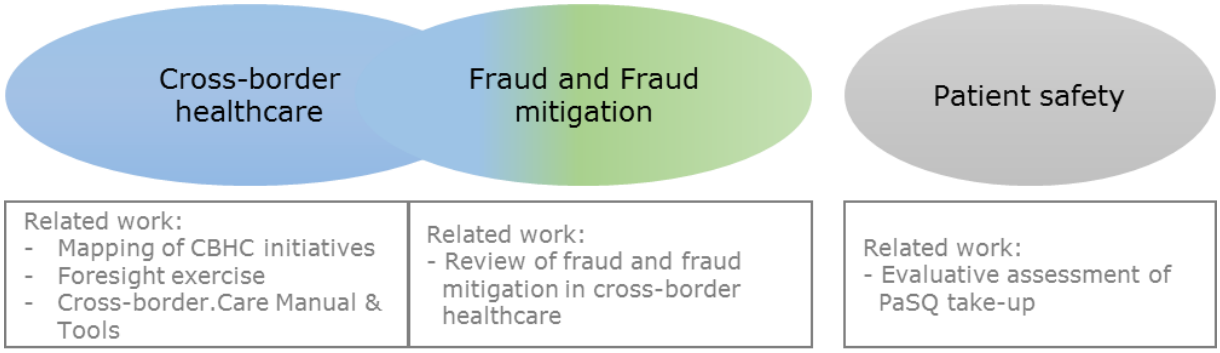
The objective was met by conducting an online survey and a review of available PaSQ reporting (see sections 3.5 and 8)

1.2 Overview of the study

As indicated by the objectives above, the study comprises three thematic strands covering five work packages in total (see Figure 1):

- Cross-border healthcare
- Patient safety
- Fraud and fraud mitigation

Figure 1: Overview of the study



Source: GOE FP

In the following report, the thematic strand of *cross-border healthcare* relates the mapping of cross-border healthcare projects (for methodology see section 3.1, for findings see section 4), the horizon scanning and foresight modelling of cross-border healthcare collaboration 2030 (for methodology see section 3.2, for findings see section 5) and the Cross-border.Care Manual & Tools for starting cross-border collaboration projects in the field of healthcare (for methodology see section 3.3, for findings see section 6).

The thematic strand of fraud and fraud mitigation is connected to cross-border healthcare due to its research focus of reviewing fraud and fraud mitigation in cross-border healthcare (for methodology see section 3.4, for findings see section 7).

The thematic strand of patient safety relates to the evaluation of PaSQ take-up (for methodology see section 3.5, for findings see section 8) and should be seen separate from the aforementioned topics.

For all three thematic strands and related work packages, main results and discussion are presented in section 9, the limitations faced during the conduction of the research are presented section 10; conclusions as well as policy options, which base on the findings depicted in previous chapters are presented in section 11.

2 Background of the study

2.1 Legal basis for cross-border healthcare

The Treaty on the European Union (TEU) [1] and the Treaty on the Functioning of the European Union (TFEU) [1] define legal responsibilities of the EU Member States and institutions of the EU. Although healthcare is primarily a national responsibility, Directive 2011/24/EU on patients' rights [2] in accordance with the TFEU and Regulation (EC) 883/2004 [3] mandate the European Commission to support national health authorities in certain fields of healthcare.

Regulation (EC) 883/2004 [3] defines the coordination of social security systems and entitlements of beneficiaries. Table 1 provides a brief overview of Regulation (EC) 883/2004.

Table 1: Outline Regulation (EC) 883/2004

European Parliament and Council Regulation (EC) 883/2004 of 29 April 2004 on the coordination of social security systems
The Regulation lays down common rules to protect social security rights when moving within the EU (as well as Iceland, Liechtenstein, Norway and Switzerland). It recognises that EU countries decide on aspects such as beneficiaries of their social security systems, levels of benefits and eligibility conditions. The Regulation on the coordination of social security systems does not replace national systems. Member States are free to determine the features of their own social security system (benefits provided, conditions for eligibility, calculation of benefits and contributions to be paid). **Scope**: The Regulation covers all the traditional branches of social security, namely sickness, maternity, paternity, old-age pensions, pre-retirement and invalidity pensions, survivors' benefits and death grants, unemployment, family benefits, accidents at work and occupational illness. (Article 3) **Beneficiaries** are all EU nationals (and their families) who are covered by the social security legislation of an EU country. They include employees and self-employed people, civil servants, students and pensioners, but also people who are unemployed, not working or no longer working. The rules also apply to non-EU nationals and their family members who reside legally in the EU. Basic principles applicable for beneficiaries: • beneficiaries are covered by the legislation of a single country and pay premiums in that country — the organisations that manage social security decide which legal jurisdiction they belong to (principle of single applicable law) (M1, 18a). • beneficiaries have the same rights and obligations as nationals of the country in which they are covered (principle of equal treatment or non-discrimination) (Article 4) • beneficiaries are guaranteed that previous periods of insurance, work or residence in other countries will be taken into account in the calculation of their benefits (principle of aggregation of periods) (Article 61) • beneficiaries can, if they are entitled to a cash benefit in a country, collect this benefit if they do not live in that country (principle of the exportability of benefits to all EU countries where the beneficiary or family members reside) (Article 7). • beneficiaries are guaranteed that their benefits will be paid, that they will be covered for healthcare and that they will receive family benefits even if they move to another EU country.

Source: [3]

Directive 2011/24/EU [2] particularly encourages the Commission to promote cross-border cooperation and conclusion of healthcare agreements between EU Member States. Despite that mandate, Member States are not subject to any legal obligation to engage in cross-border healthcare collaboration. The next section provides an overview of Directive 2011/24/EU on the application of patients' rights.

Table 2: Overview of Directive 2011/24/EU

Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare

The Directive sets out the conditions under which a patient may travel to another EU country to receive safe and high-quality medical care and have the cost reimbursed by the Member State of Affiliation (MSoA). The Directive aims to clarify its relationship with Regulation (EC) 883/2004 on the coordination of social security systems and addresses the application of patients' rights. It encourages cooperation between national healthcare systems and defines the rules for the various institutions.

The Member State of Treatment must ensure that:

- patients are provided with information allowing them to make an informed choice,
- transparent complaint procedures exist,
- professional liability insurance or similar guarantees are in place,
- privacy of personal data is respected,
- patients have access to a written or electronic record of the treatment they receive,
- the healthcare fees charged are the same as for domestic patients.

The MSoA must ensure that:

- the cost of the healthcare provided is reimbursed,
- information on patient rights and entitlements is available,
- patients have access to any medical follow-up treatment which might be necessary,
- patients have access to their medical records.
- National Contact Points provide information for patients and consult with organisations, healthcare providers and insurers. Healthcare providers provide information for patients including treatment options, availability, quality and safety of health services, prices, authorisation and enrolment status.

Framework and entitlements:

- A patient may seek prior authorisation of the required treatment from the MSoA before utilising health services in the Member State of Treatment. That may be necessary if health services require at least one night in hospital and/or the use of highly specialised and expensive medical equipment, or if there is a particular risk for the patient or the population.
- A national authority may refuse authorisation if the authority can provide the patient with the necessary healthcare within a medically justifiable time limit.
- Requests for medical treatment in another EU country are required to be processed within a reasonable period of time.
- Prescriptions issued in one EU country are valid in all other Member States.
- National health authorities must cooperate with one another in implementing the legislation and in developing European reference networks between healthcare providers and centres of expertise.
- Such cooperation extends to tackling rare diseases, developing e-health and assessing new health technologies.
- The legislation does not cover long-term care, allocation of and access to organs or vaccinations.
- The Directive does not affect the organisation and financing of national healthcare systems.

Source: [2]

2.2 Room for improvement for cross-border healthcare

After implementation of the Cross-Border Healthcare Directive 2011/24/EU [2] in 2011, a simulation found that its implementation has the advantage of increased certainty surrounding reimbursement of health services received in the Member State of Treatment by the MSoA due to severe limitation of prior authorisation of respective treatments [5]. From the perspective of health authorities, that implies low control of patient inflows and outflows and low influence on ensuring equal access to health services for inflowing and outflowing patients [5]. Although Directive 2011/24/EU [2] grants patients the right to receive information on health services in other Member States and their medical records, including proof of the treatment received, as well as reimbursement of such

treatment, the simulation identified risks related to these factors for patients [5]. The risks result in a high burden for patients, so patients might only seek CBHC in exceptional cases [5].

Directive 2011/24/EU [2] stipulates regular reporting on the Directive at 3-year intervals from 2015 onwards in order to monitor the functioning of the Directive. Each report is required to be submitted to the European Parliament and the Council [2]. The Commission commissioned an 'Evaluative study on the CBHC Directive (2011/24/EU)', which evaluated three areas of the Directive, namely reimbursement, quality and safety, and undue delay [6]. The study results showed:

- a relatively low level of patient awareness regarding general availability and reimbursement of CBHC,
- diverging provision of information on quality and safety by National Contact Points (NCPs), which turned out to be limited for the most part, and
- no publicly available information on undue delay, but limited publication of waiting times, which are estimated at the individual level by national authorities or health insurance providers [6].

Results of the simulation and the evaluative study on Directive 2011/24/EU [2] partly matched. Results showed discrepancies between actual information availability on treatments or medical records for patients in breach of the legal entitlements pursuant to the Directive. On the other hand, projections of the simulation go much further than the current status quo of CBHC. Consequently, there is room to avert anticipated burdens for patients and develop suitable instruments to help national health authorities further engage in collaboration and adequate monitoring of CBHC.

In terms of the type of cooperation, a trend can be observed from regional cooperation between neighbouring European countries towards European Groupings of Territorial Cooperation (EGTCs) [7]. EGTCs require a more institutionalised setting and have legal personality, which allows for more efficient use of EU funds [7]. That trend might also emerge in the healthcare sector. Due to high formal requirements, EGTCs require specific conditions to be in place between collaborating partners, for example trust, strong political commitment, clear regulation of competences, strong communication between stakeholders, sharing of information and so forth [7, 8].

Apart from patients' rights in the scope of CBHC, the mobility of health professionals plays an important role [9]. Directive 2005/36/EC [10] and Regulation (EC) 883/2004 [3] ensure mutual recognition of professional qualifications between EU Member States and entitlements to social security benefits. That helps to balance out the lack of health professionals in EU Member States and specific regions [9, 11]. Whenever patients utilise health services abroad, effective communication and clarification of legal responsibilities between health professionals is necessary to ensure proper medical follow-up after receiving treatment abroad [9, 12].

In this context, the overall objectives of this study and respective work packages become apparent, in particular the need for further specification of implementation strategies.

2.3 Fraud in (cross-border) healthcare

Fraud comprises illegal hidden actions or information. It is therefore not easy to detect and measure [13]. There are, however, a number of reasons for concern about its existence, such as adverse impacts on the financing, quality and coverage of healthcare services. That underlines the importance of fraud mitigation strategies. To reduce wastage of expenditure and other losses resulting from fraudulent behaviour, it is important to understand the nature of the problem [14].

Fraud basically means illegal personal gains attained by intentionally breaking rules. However, grey areas exist, which are left open for interpretation. For instance, it is not

clear when an ineffective or expensive medical activity should be considered fraudulent [15]. The answer to that question may vary substantially from country to country depending on social perceptions of what is illegal, as well as on professional codes of ethics applied in the countries or the absence of such codes. In a sense, the scope of the problem of fraud can be seen as a reflection of the society in which it manifests itself.

Fraudulent activities may occur in every healthcare system, but the extent and nature of fraud depend on the specific institutional structures and relationships between actors in the healthcare sector [16]. In particular, fragmentation of the healthcare system, lack of cooperation between healthcare actors, incomplete or vague regulations, inadequate monitoring mechanisms and lack of transparency can make complex healthcare systems especially vulnerable to fraud and corruption [13, 17, 18]. Such conditions increase the uncertainty and asymmetry of information among actors in the healthcare sector and create opportunities for those actors to act upon their personal interests, in some cases even colluding and violating integrity rules applicable to healthcare [13].

Healthcare fraud can be triggered by demand-side factors. Patients or their relatives/friends may get involved in fraudulent activities to secure extra services or financial gains. Misrepresenting enrolment in insurance schemes by using the insurance card of another person in order to access medical care, services and treatment is one example [16, 18]. Other cases include falsely claiming exemptions from prescription co-payments and other healthcare costs; trying to obtain refunds on service costs that were never incurred; selling prescriptions; drug trafficking; and registering with a range of physicians in order to receive multiple prescriptions [16, 19]. The identification of such fraudulent activities by patients is difficult as the amounts of money involved tend to be fairly small. However, in future, the use of electronic health records and other databases could increase the chance of detecting outliers and patients' fraudulent activities [16].

Fraud in healthcare can be also triggered by the supply side. Physicians and other staff members, e.g. nurses and administrators, also have incentives to commit fraud and abuse the system for financial gains (e.g. extra income) and non-financial benefits (e.g. job promotion). Fraud on the supply side can be divided into two main categories: inappropriate services and inappropriate billing. While the latter category is easily detectable and may be investigated without the need for medical expertise, the former category requires medical professionals with knowledge of efficient and effective medical practices, and guidelines. It is important to note that inappropriate services can sometimes be seen as a grey area of overconsumption and unnecessary expenses that cannot strictly be termed fraud. Fraud related to overconsumption may involve misrepresenting a patient´s diagnosis in order to justify services that are not medically necessary [16]. Unnecessary expenses can be seen as waste, which has been defined as 'money that is overspent or lost to healthcare systems through unnecessary services, excessive administrative costs, inefficiently delivered services, as well as too high prices or missed prevention opportunities' [19]. Consequences of such fraudulent activities include lower quality of treatment, unmet needs of patients and reduced utilisation due to higher costs and refusal of services and treatment [20, 21].

Fraudulent behaviour is not, however, limited to patients and healthcare providers. Other actors, such as pharmacists, healthcare facility administrators, suppliers of pharmaceuticals and suppliers of medical devices, may also abuse the system for personal or institutional gains [18]. Overall, a distinction can be made between fraud related to healthcare demand, fraud related to the supply of healthcare services and products, and fraud related to healthcare administration and billing services.

There are three conditions that are conducive to an environment in which fraud is committed. First, the actor needs to have the opportunity to be involved in fraudulent activities, for example due to poor monitoring and accountability and a lack of transparency. A second contributing factor is an environment in which the activities in question appear justifiable. Justification may be provided, for instance, by certain individual beliefs and social norms or a belief in eroding public services. A third contributing factor is

financial hardship, either that of the healthcare actor itself due to financial debt, or because of financial shortages of the institution, which may create pressure to participate in fraudulent activities [20]. When these three factors coexist, they create an environment that is prone to fraud. The aforementioned weaknesses of healthcare systems may further facilitate such behaviour.

The country cases presented in Annex I indicate some common patterns of healthcare fraud within the EU healthcare systems in terms of inappropriate billing (e.g. up-coding and misspecification of claims) and inappropriate service provision (e.g. unnecessary and more expensive services). The country cases also confirm that even well-developed healthcare systems in Europe, such as those in Belgium, France, the Netherlands and Spain, are prone to healthcare fraud. However, there is no indication that healthcare fraud is more prevalent in these Western European EU Member States than in other countries. On the contrary, it is recognised that evidence on fraud is more available in countries with a better developed healthcare system, i.e. systems with established healthcare regulations and effective monitoring mechanisms. That is also related to the somewhat paradoxical phenomenon that increased attention and efforts to detect fraud generally increase the prevalence of fraudulent behaviour and the amount of fraud detected. In Eastern European EU Member States, there is no or little information about healthcare fraud in general.

We can conclude from this overview that both the causes of fraud and the forms that it may take are multifaceted. Various patterns of fraud in healthcare can be detected, which are triggered by patients, providers and third parties (as summarised in Table 47). However, estimating the impact of fraud remains a challenge even in well-monitored healthcare systems because of its hidden nature. The existing figures suggesting that the level of fraud amounts to 30 % of healthcare budgets in the EU might not reflect the actual levels [22].

Table 3: Fraud dimensions including potential topics for further investigation

Types of fraud by healthcare actors
Fraud by healthcare professionals/providers
• Falsifying credentials, employment history or registration status; • Billing for services that were never delivered - either by using genuine patient information, perhaps obtained through identity theft, to fabricate entire claims or by padding claims with chares for procedures that did not take place; • Unbundling - billing each step of a procedure as if it were a separate procedure; • Misrepresenting procedures performed to obtain payment for non-covered services (e.g. cosmetic surgery); • Billing for more expensive services or procedures than those that were actually provided; • Falsifying a patient's diagnosis to justify tests or other procedures that are not medically necessary; • Establishing bogus clinics/hospitals in order to bill for treatments that were never provided; • Pharmacists dividing prescriptions into smaller amounts in order to claim additional dispensing fees; • Alteration of prescriptions, claiming reimbursement for work not undertaken, creation of ghost patients and fraudulent claims for out-of-hours treatments; • Clinicians accepting 'kickbacks' for patient referrals; • Risk of organised cartels to restrict treatments or to artificially raise prices; • Ambulance services automatically taking patients to private hospitals where EHIC is not accepted; • Low value invoice fraud (i.e. intended to be of a sufficiently low financial scale to go unnoticed) • Fraudulent overconsumption (unnecessary and /or too expensive healthcare services).
Fraud by patients and the public

- Use of a stolen identity in order to gain entitlement to treatment;
- "Opportunist" fraud (e.g. patient buying cosmetics who submits the pharmacy credit card voucher and claims that it was for a repeat prescription);
- Duplication of reimbursement claims to different insurers;
- Patient inflating the services represented on a claim;
- Wrongful claiming of exemption from fees, alteration of prescriptions or use of aliases to obtain e.g. controlled drugs;
- Fraudulent claims for travel costs expenses (for journeys never made or made using an alternative mode of transport)
- EHIC, S2 or insurance fraud – i.e. an attempt to claim under the Directive for treatments/items covered by EHIC/S2/insurance.

Fraud by third-party intermediaries

- Falsified claim/application forms;
- Collusion with local clinicians & payment of "kickbacks" for guaranteed referrals;
- Third party intermediaries;
- False invoices for services not actually provided;
- Inflated prices.

Source: Tender Specifications

2.4 Patient safety and quality of care

Patient safety has been a priority topic on the European policy agenda since the early 2000s and various measures have been undertaken at the national and European levels to address this issue:

- 2004: the European Commission established an **EU Patient Safety Working Group**, which brought together representatives from all EU countries, EFTA countries, international organisations and EU bodies [23].
- 2008: the decision was made to widen the remit of the Working Group to include healthcare quality issues and to re-name it the 'Patient Safety and Quality of Care Working Group'.
- 2009: the Patient Safety and Quality of Care Working Group contributed considerably to the formulation and adoption of the Council Recommendation on patient safety and healthcare-associated infections, which laid down an EU-wide strategy on patient safety, focusing on 1) policies and programs on patient safety, 2) empowering patients, 3) reporting adverse events and learning from errors, and 4) education and training of healthcare workers [24].
- 2008 to 2010: the **EUNetPaS** project was funded and supported by the European Commission within the framework of the EU Health Programme 2008-2013. It aimed to establish a platform for all EU Member States, international organisations and stakeholders to encourage and enhance collaboration and networking in this field and focused on four key topic areas: 'Promoting a culture of patient safety', 'Structuring education and training on patient safety', 'Implementing reporting and learning systems' and 'Piloting the implementation of medication safety'. Outcomes of the project include a tool to measure patient safety culture [25], guidelines for education and training [26], a virtual library of European reporting and learning systems, a recommendation on medication safety [27] and the establishment of national Patient Safety Platforms in 13 EU Member States.

Council Recommendation

The first part of the **Council Recommendation** focusses on general patient safety issues. Member States are asked to plan a series of measures aimed at minimising harm to patients receiving healthcare. That is to be achieved by developing national policies on patient safety, empowering and informing patients, establishing reporting and learning systems on adverse events, promoting the education and training of healthcare workers and developing research. The second part focusses on the prevention and control of healthcare-associated infections (HAIs). Here Member States are asked to adopt and implement a strategy at the appropriate level for the prevention and control of HAIs and to consider setting up an inter-sectoral mechanism for the coordinated implementation of such a strategy. That strategy should comprise infection prevention and control measures at the national/regional level and at the level of healthcare institutions, surveillance systems, the education and training of healthcare workers, informing patients and research.

After the completion of EUNetPaS, steps were taken to continue promoting patient safety in the EU by establishing the **European Joint Action Project titled 'European Union Network on Patient Safety and Quality of Care' (PaSQ)**. PaSQ was conducted between 2012 and 2016 (36 months + a 12-month no-cost extension) [28].

Its aim was to contribute to patient safety and quality of care through cooperation between European Member States, European stakeholders and international organisations. Furthermore, it was intended to support Member States in the implementation of the Council Recommendation (2009/C 151/01) on patient safety [24].

One of the main outcomes of PaSQ was a proposal for a permanent network on patient safety and quality of care. That proposal aimed to support the decision-making process regarding the development of a framework for sustainable EU collaboration on patient safety and quality of care as recommended in the 2014 Council Conclusions on patient safety and quality of care, including the prevention and control of healthcare-associated infections and antimicrobial resistance. The 2014 Council Conclusion also invites European Member States and the European Commission to finalise a framework for sustainable EU collaboration on patient safety and quality of care by December 2016, taking into account the results of the PaSQ Joint Action [29]. The Joint Action was ended in 2016. Yet, a permanent network has not been installed.

Directive 2011/24/EU in the context of patient safety

Directive 2011/24/EU of the European Parliament and of the Council of 9 March 2011 on the application of patients' rights in cross-border healthcare does not just seek to clarify the rights of patients when accessing care in another EU Member State, but also aims to ensure that such care is safe and of good quality. In that context, it asks Member States to collaborate on standards and guidelines, provision of information to patients and healthcare providers and on the safety and quality standards applied. Directive 2011/24/EU on the application of patients' rights in cross-border healthcare sets the objectives of establishing rules for facilitating **access to safe and high-quality cross-border healthcare** and ensuring patient mobility in the EU. It also aims to promote cooperation on healthcare between Member States. The Directive deals with the patient's rights to reimbursement, and, for the first time, establishes a minimum set of requirements that apply to all healthcare providers and all healthcare provided within the EU. Those requirements relate to the fields of transparency, provision of information to patients and safety and quality of care [2].

3 Methodology

3.1 Mapping of healthcare related cross-border projects

Cross-border healthcare is defined in Directive 2011/24/EU as follows.

> *'[C]ross-border healthcare' means healthcare provided or prescribed in a Member State other than the Member State of affiliation' (Directive on patients' rights in cross-border healthcare, 2011/24/EU)*

In addition, this project draws on the definition of cross-border collaboration given by Irene Glinos I [4]:

> *'Cross-border collaboration in the field of health care can involve a transfer, a movement or an exchange of individuals, services and resources.'*

However, it should be noted that the results presented here differ from that definition in three key respects. First, we also included projects that are focused on the social care sector (e.g. in the field of long-term care for elderly people) in our analysis, as there is a link with healthcare, for instance with regard to efforts aimed at improving integrated health and long-term care systems or helping elderly people remain in their own homes despite becoming frail. However, projects primarily involving the development of infrastructure (e.g. Ambient Assisted Living) were excluded. Public health projects were also included, as long as they did not focus solely on environmental aspects (e.g. air pollution).

Second, we excluded projects that focus on communicable diseases, as they are considered to differ conceptually from projects that focus on non-communicable diseases (e.g. in emergency care) and were not part of the contract for this study. Third, given the methodology and overall focus of the *Cross-border.Care* project, we did not systematically include legal agreements aimed at enhanced patient mobility, such as the one between Malta and UK, and the various agreements in the Benelux region. Instead, the study focusses on collaboration facilitated by EU funding instruments in the period from 2007 to 2017 between policy-makers of various EU/EEA Member States (e.g. mutual training of the healthcare workforce) or at organisational or provider levels (e.g. between hospitals in border regions).

3.1.1 Selection criteria

The inventory of cross-border care projects primarily consists of projects that were funded in the research period under the remit of European Structural and Investment Funds (ESIF) in the field of health, INTERREG Programmes, the European Neighbourhood and Partnership Instrument (ENPI) and/or the European Neighbourhood Instrument (ENI). In addition, Joint Actions co-funded by the EU Health Programme that focus on cross-border care were included (see section 4.3.3), as were research projects that focus on the implementation of cross-border care projects. The analysis focusses on the funding periods 2007-2013 and, where possible, 2014-2020.

A set of selection criteria for cross-border projects was defined at the beginning of the project, in line with the project's emphasis on analysing the status quo of cross-border healthcare collaboration in the EU, and medium-term and long-term suggestions are provided for policy-makers on how to improve such collaboration in the future. Accordingly, the following inclusion criteria were applied:

- The project is primarily an applied cross-border healthcare project
- The project is completed
- Project implementation date between 2007 and 2016/2017
- The primary investigated geographic area is Europe (i.e. EU, EEA Member States)

Projects were excluded if one or more of the following criteria were met:

- Health-related cross-border collaboration is not the primary subject of the initiative
- The project does not receive any EU funding
- The collaboration is related to the European Reference Networks
- The primary focus of the collaboration is communicable diseases
- Fewer than two EU/EEA Member States are involved
- The project took place before 2007
- No description of the project's context is provided
- Basic research projects (e.g. dealing with the development of new treatment methods)

3.1.2 Strategy for identifying cross-border care initiatives

The primary source of information for identifying initiatives that fulfil the selection criteria defined in the Cross-border.Care project are existing online databases that cover a variety of projects within the separate funding instruments (in particular ESIF, DG SANTE, DG RESEARCH, INTERREG and ENPI/ENI). Building on the synthesis of existing projects through those different databases, complementary information was gathered via grey literature (e.g. cross-border project evaluation reports), from materials available via international organisations (WHO, OECD), cross-border initiatives (e.g. Association of European Border Regions), national health ministries and regional health or structural funds authorities. More precisely, the databases listed below are primary sources for the mapping of cross-border health-related projects that are funded by ESIF or other EU sources mentioned above. Search terms are listed in Table 5.

- **ESIF:** A number of health-related projects have been funded in the latest programming periods (2007-2013, 2014-2020) with the support of ESIF, an overview of which can be found in the mapping report of the 'Effective use of European Structural and Investment Funds for health investments' project. That mapping report and the ESIF website serve as a basis for identifying existing cross-border initiatives under the ESIF instrument. In addition, the specific databases of the European Social Fund (ESF)[13], the Cohesion Fund (CF), and the European Regional Development Fund (ERDF)[14] were searched.
- **Community Research and Development Information Service (CORDIS)**[15]: This database systematically covers information on EU-funded research projects and project results. Projects funded by DG Research and Innovation were considered only if the inclusion criteria were fulfilled (i.e. if they were applied cross-border projects).
- **KEEP Database**[16]: This database contains information on projects and beneficiaries of EU programmes dedicated to cross-border, transnational and interregional cooperation within the EU and between EU Member States and neighbouring countries. The main funding instruments included in the database were INTERREG and ENPI/ENI Cross Border Care (CBC) programmes.
- **CHAFEA Health Programmes database**[17]: This database includes information about projects, Joint Actions, conferences and operating grants funded between 2003 and 2013 under the previous EU Health Programme and under the previous EU Health Programme (2008-2013). In addition, a detailed list of projects and sources from the EU Health Programme for the periods 2007-2013 and 2014-2020, provided by the

[13] http://ec.europa.eu/esf/

[14] http://ec.europa.eu/regional_policy/en/projects#1

[15] http://cordis.europa.eu/projects/home_en.html

[16] http://www.keep.eu/keep/search

[17] http://ec.europa.eu/chafea/projects/database.html

contractor, was searched in order to identify cross-border health collaboration initiatives that satisfy the selection criteria.

- **EU Projects for Results Database**[18]: This database represents a comprehensive online collection of EU-funded projects in various thematic fields (including health). Information on the context, time frame, funding source, budget and participating countries is provided.

Information on the projects that were found to meet the selection criteria was collected by a team of four researchers using a questionnaire. The team of researchers held weekly meetings to ensure a coherent data collection strategy. In addition, a peer review process was introduced so that each project was classified first by one researcher and data about the project entered in an electronic database. The classification of the project was then peer-reviewed by a second researcher for quality assurance. The categories on which information was collected in the questionnaire are listed in Table 4. In addition, Annex II provides more information about the geographical classification of projects into cross-border projects, interregional collaboration and transnational collaboration.

Table 4: Overview of categories for data collection

Geographical information:	Thematic information:
• Country • Geographical classification (see Annex II) – cross-border – interregional – transnational • Other countries involved	• Short description • Project Name • Acronym • Objectives • Thematic focus I • (Optional) Thematic focus II • (Optional) Key word(s) • (Optional) Results or achievements
Financial make-up	**Organisational make-up:**
• Budget • EU funding • % EU funding • Funding instrument (name) • Optional: Funding priority axis • Optional: Investment focus of the Commission	• Project start and end • Project duration in years • Website/contact information • (Optional) Lead partner
Internal selection:	
• Selection criteria fulfilled (yes/no) • Available evaluation in English (yes/no/likely)	

Source: GOE FP

We applied a structured search strategy consisting of two steps. First, a pilot set of 40 projects was identified, which were grouped into five different tentative thematic categories. The five initial categories were based on distinguishing between the actors involved in cross-border care collaboration, as outlined in Table 4 (healthcare and social care providers, patients, general/interested public, hospital managers, researchers).

[18] http://ec.europa.eu/budget/euprojects/search-projects_en

Table 5: Search strategies for ESIF project databases

	ESIF Databases		CORDIS	KEEP	CHAFEA Health Programmes Database	EU Projects for Results Database
	ERDF/CF	ESF				
Search terms*	'cross-border' AND 'health'. Alternative search terms: 'cooperation' AND 'healthcare' OR 'Directive 2011/24/EU'	'cross-border' AND 'health'. Alternative search terms: 'cooperation' AND 'healthcare' OR 'Directive 2011/24/EU'	'cross-border'/ 'cross-country' AND 'health'. Alternative search terms: 'cooperation' AND 'healthcare' OR 'Directive 2011/24/EU'	'cross-border'/ 'cross-country' AND 'health'. Alternative search terms: 'cooperation' AND 'healthcare' OR 'Directive 2011/24/EU'	'cross-border'/ 'cross-country' AND 'health'. Alternative search terms: 'cooperation' AND 'healthcare' OR 'Directive 2011/24/EU'	'cross-border health'; 'health border'; 'health across'; 'health across borders'; 'care health border'; 'care across'; 'care across borders'
Filters	Health	- Better public services - Giving a chance to all	Financing instrument: Project	Health and social services	Financing instrument: Project and Joint Actions	Health
Search period	2007-2013, 2014-2020	2007-2017 (no filter option)	2008-2013, 2003-2007	2007-2013, 2014-2020	2008-2013, 2003-2007	2007-2017

* Search terms are searched for in the title and abstract if available in English, French and German. A time period of 2007 to 2016 is suggested.

Source: GOE FP

During the analysis of the pilot set of initiatives, we followed the conceptual approach suggested by Glinos I [4], further grouping the different types of cross-border care collaboration in a classification matrix according to the following criteria:

- Actors involved in carrying out the collaboration (e.g. providers, public authorities)
- Cooperation levels (e.g. local, regional, national, European)
- Typical content, with the following sub-questions:
  - Is it a transfer (passive), exchange (mutual) or a movement (dynamic, e.g. patient mobility)?
  - What is being transferred/exchanged (e.g. services, information, health professionals)?
  - Is the purpose (also) resource generation (yes/no), e.g. physical resources/equipment/infrastructure, or information networks?
- Typical activities (e.g. providing care, providing knowledge/training, sharing information)
- Patient categories (e.g. mobile patients versus non-mobile patients), and
- Target group (e.g. providers, patients, public authorities/policy-makers).

In a second step, based on the evaluation carried out in the first step (classification matrix), six thematic categories were defined. Those served as a basis for mapping the remaining cross-border care projects. In addition, the classification of the projects included initially in the pilot set was corrected where necessary. The six thematic categories are listed in Table 6.

Table 6: Definition of six thematic categories used for classifying cross-border care initiatives

No.	Category name	Brief description of category	Examples	Target group
#1	Health and care work-force/training	• Competency training or intercultural education for healthcare staff; • Recruitment support for remote regions, • Capacity building, • Professional exchanges	RESAMONT, Boundless Care	Health and social care providers
#2	Emergencies except communi-cable diseases	• Collaboration in the case of extraordinary events not related to communicable diseases, e.g. major traffic accidents, fires, earthquakes, landslides, • ambulance deployment (but excl. initiatives not primarily developed for emergency care situations)	EMRIC+, coSAFE	Patients, general population
#3	High-cost capital investment	• Collaboration regarding investments in specialised equipment, e.g. MRTs, imaging devices, cancer diagnostics, PET scans	Radiotherapy for Danish patients in Flensburg, cross-border cooperation between Aachen and Maastricht	Hospital managers
#4	Re-search/knowledge Production	• Cooperation on research projects related to cross-border care (at a meta level), particu-larly on applied health research or problem-oriented (use-inspired) basic research, as per Pasteur's quadrant	EUCBCC/ECAB	Researchers, interested public, policy-makers
#5	Knowledge shar-ing/management	• Exchange of good practices (e.g. in the field of e-services/telehealth), • Exchange of healthcare data for mutual learning and building networks, • excl. initiatives related to one of the fields already included in other categories (in particular #1, #2, #3).	KFFB (Kræft-forskning Femern Bælt), PHARMATLANTIC, Trans2Care	Health and social care providers
#6	Treatment or diagnostics	• Telemedicine services, • Standard care, second opinion visits, • Planned and unplanned care (excl. initiatives covered under ambulance deployment in Cate-gory #2).	CoSante	Patients

Source: GOE FP

3.1.3 Stakeholder/expert involvement

The study is supported by a stakeholder panel, which comprises experts and stakeholders from different European Member States and various organisations at the national and European level (see Table 7). The stakeholder panel was consulted to validate the mapping results. They were asked to validate results and complement the list of identified projects, where pertinent. The consultation was conducted by e-mail. The results were sent to 23 stakeholders. Feedback was received from 14 stakeholders.

Table 7: List of consulted stakeholders

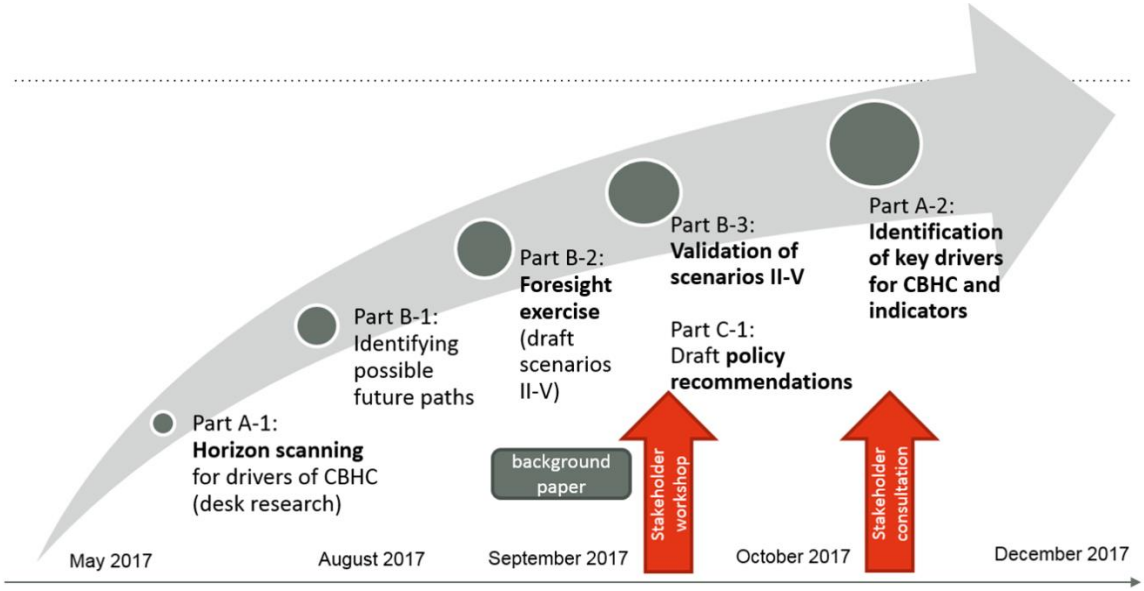
Country	Organisation
EU	Association of European Border Regions (AEBR)
EU	European Consumer Organisation (BEUC)
EU	European Public Health Alliance (EPHA)
EU	European Hospital and Healthcare Federation (HOPE)
EU	European Observatory on Health Systems and Policies (OBS)
EU	European Social Observatory (OSE)
BENELUX	Secrétariat General Benelux
EUREGIO DE-BE	Euregio Foundation Maas-Rhine
AT	Austrian Public Health Institute (GOEG)
BE	Federal Public Service Public Health (FPS)
BE	National Institute for Health and Disability Insurance (INAMI RIZIV)
BE	Mutualités Libres/Onafhankelijke Ziekenfondsen (MLOZ)
DE	Allgemeine Ortskrankenkasse (AOK)
DE	GKV-Spitzenverband
EE	Haigekassa – Estonia Health Insurance Fund
EL	National Organisation for Healthcare Services Provision, Department of International Affairs (EOPYY)
FI	Social Insurance Institution (KELA)
FR	Centre of European and International Liaisons for Social Security (CLEISS)
FR	Caisse Nationale d'Assurance Maladie des Travailleurs Salari (CNAMTS)
IE	Health Service Executive (HSE)
LT	National Health Insurance Fund under the Ministry of Health of Lithuania (VLK)
NL	European Patients Empowerment for Customised Solutions (EPECS)
RO	National Health Insurance House

Source: GOE FP

3.2 Forecasting exercise

The aim of WP 1B is to perform a foresight exercise (including horizon scanning) on cross-border cooperation in 2030. In order to reach this aim, it is necessary first to scan the horizon for potential developments of driving factors. Horizon scanning aims to identify changes in environment that could affect policy, identifying drivers of cross-border healthcare initiatives in the future. Second, based on the identified drivers four future scenarios of cross-border care were developed. The results in each part were validated by consulting experts and stakeholders in the field at different stages of the project (Figure 2). The final results of this work include a set of key drivers for CBHC (including suggestions for indicators to measure these drivers) (see section 5.1) and a total of four validated future scenarios for CBHC (see section 5.2). In addition, the works carried out in the forecasting exercise build the basis for a number policy recommendations (summarised in section 9.2).

Figure 2: Time line and methodological steps in the forecasting exercise



Source: GOE FP

3.2.1 Horizon scanning

Horizon scanning (HS) aims to identify changes in the environment that have the potential to affect policy. According to a report on 'Models of horizon scanning' that was commissioned by the European Commission in 2015 [30], *'horizon scanning is the systematic outlook to detect early signs of potentially important developments. […] It seeks to determine*

- *what is constant,*
- *what may change, and*
- *what is constantly changing in the time horizon under analysis.'*

This approach serves as an instrument for considering how emerging trends and developments or risks might potentially affect current or future policy and practices.

Additional examples of the use of horizon scanning in healthcare are as follows:

- Health Technology Assessment (HTA) to identify and evaluate new health technologies (e.g. JA EUnetHTA). EuroScan is a prominent horizon scanning network.
- Health Workforce Planning and Forecasting (HWP) to better understand the dynamics of health workforce systems, e.g. Joint Action Health Workforce Planning and Forecasting (JA EUHWF).
- FRESHER (Foresight and Modelling for European Health Policy and Regulation), which aims to identify internal and external factors for health-related short-term, medium-term and long-term trends.

Results of the horizon scanning build the foundation for the foresight model to assess potential future trends, develop policy scenarios and draft policy recommendations for cross-border cooperation in 2030.

Identification of driving factors

The first step of the horizon scanning was a systematic scan for potential and actual key driving factors for cross-border healthcare collaboration, such as depletion of

health resources, the EU socio-economic situation, technology uptake, health literacy and patient choice.

A **literature and data review** covered a search period of 2007-2016/17. The search strategy included search terms (outlined in Table 8) and all relevant combinations in the title and (if available) in abstracts in English, French and German.

Table 8: Search terms for horizon scanning

Search blocks	Search terms
Cross-border healthcare	cross-border, cooperation, healthcare, health across, border care
Driving factors	key driver, driving factor, driver, social/technological/economic/environmental/political/legal/ethical/demographical factors/drivers, environment, society, technology, economy, politics, law, ethics, demography, factor
Scenario building	scenario, scenario building, policy option, policy scenario, future scenario, scenario development, scenario planning, case scenario, baseline scenario

Source: GOE FP

In order to include all relevant publications, the literature and data review extended to non-academic sources (i.e. project databases, project evaluation reports etc.), academic databases (e.g. for social sciences) and university library websites. The websites and online databases of European institutions and supranational organisations served as additional data sources. Examples are the following:

- European Commission sources: DG SANTE, CHAFEA, DG REGIO, DG EMPL
- European Committee of the Regions (http://cor.europa.eu/en/Pages/home.aspx)
- EUREGIO
- Association of European Border Regions
- WHO databases, projects and programmes
- OECD database and reports
- EUROSTAT database
- European Observatory on Health Systems and Policies (OBS)

Pre-defined inclusion and exclusion criteria (see Table 9) served as a guide for identifying relevant and irrelevant publications.

Table 9: Literature and data review – inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
I1: The primary investigated subject refers to external factors with a potential impact on cross-border collaboration	E1: The publication describes identified non-drivers for cross-border collaboration in healthcare 2030
I2: The publication describes already identified drivers for cross-border collaboration	E2: Duplicate
I3: The publication describes (further) potential drivers for cross-border collaboration in healthcare 2030 to be further investigated	E3: Publication date before 2007
I4: The publication describes potential scenarios for cross-border collaboration in healthcare 2030	E4: No clear description of the context
I5: Publication date between 2007-2016/17	
I6: The primary investigated geographical area is Europe (i.e. EU, EEA Member States).	

Source: GOE FP

Highly relevant literature on CBHC that was published before the stated time period was included nonetheless to cover all topic-related aspects. The identified driving factors help to locate and illustrate the possibilities for improvement in order to shape

more successful cross-border healthcare cooperation at the European level in the future.

Identification of key driving factors and indicators

Following an expert workshop in September 2017 and a written consultation of the experts and stakeholder panel (see section 3.2.3), driving factors previously identified from the literature were validated. For that purpose, experts were asked to evaluate driving factors in two different dimensions. First, they were asked how important a driving factor was for future developments in CBHC (with a time horizon until 2030). Second, they were asked how predictable a driving factor was. In each dimension, experts provided an assessment ranging from 1 (unimportant/uncertain) to 5 (highly important/highly certain). For each driving factor, experts were asked to suggest indicators by which driving factors could be measured as well as the perspective, from which the respective assessment was given (e.g. patient perspective). Expert and stakeholder organizations approached are listed in Table 7.

In a next step, the assessments provided in the written consultation process were used to cluster driving factors and identify a set of key driving factors for CBHC. These provided an important basis for the refinement of scenarios developed in the foresight model in parallel (Figure 2).

3.2.2 Foresight model

Scenario-building

The development of scenarios aims to describe potential developments at the European level to promote CBHC. It combines scenarios with identified indicators and indicates the potential benefits and challenges of respective scenarios.

The horizon scanning provided insight into the current status quo of CBHC collaboration and serves as a basis for the development of scenarios. According to the European Commission Joint Research Centre [31], a scenario is the illustration/simulation of visions of the possible future, but not a prediction of the future. Scenario-building is an exploratory method or tool for decision-making. It mainly serves to highlight discontinuities from the present and to reveal available choices and their potential consequences. The presentation of potential scenarios and potential underlying drivers shapes the context for future developments. This exercise helped to identify strategic approaches based on knowledge and experiences from the past and present and to track potential future trends.

The following criteria were taken into account when drawing up the scenarios [31]:

- **Plausibility:** The selected scenarios must be plausible; that means that they must fall within the limits of what might conceivably happen.
- **Differentiation:** The selected scenarios should be structurally different, meaning that they should not be so similar that they are simply variations of a base case.
- **Consistency:** The selected scenarios must be internally consistent. The combination of logics in a scenario must not have any built-in inconsistency that would undermine the credibility of the scenario.
- **Decision-making utility:** Each selected scenario, and all scenarios as a set, should contribute specific insight into the future that will allow for more precise decision-making.
- **Challenge:** The selected scenarios should challenge conventional wisdom about the future.

'Using these criteria it is usually possible to quickly select those few scenarios that are most worthy of development. Some possibilities may be eliminated because their

combinations of logics are thought to be implausible or inconsistent. Others can be dropped from consideration because they would not offer any significantly new insights to the decision making' [31].

Scenario analysis

The scenarios were analysed based on a SWOT approach (identifying strengths, weaknesses, opportunities and threats) during the stakeholder/expert workshop in September 2017. In addition, following the written consultation on key driving factors, scenarios were refined further. Main results are presented in section 5.2.

3.2.3 Stakeholder/expert involvement

The study is supported by a stakeholder/expert panel consisting of various experts and stakeholders from different European countries and different organisations on national or European level. The stakeholder panel was consulted by email after the expert and stakeholder workshop (Figure 2).

E-mail consultation

As outlined in section 3.2.1, members of the expert and stakeholder panel (see Table 7) were asked to validate, complement and rate preliminary findings in an e-mail consultation in November/December 2017. Overall, ten experts participated in this consultation. These included NCPs from France, Germany, Austria, Finland, Greece and Ireland, as well as representatives of the social health insurance funds in Belgium and Lithuania. In addition, representatives from the European Social Observatory and the Association of European Border Regions provided answers.

In the consultation, experts and stakeholders were asked to:

- rate the importance and predictability/uncertainty of identified driving factors
- state whether the rating concerned CBHC in general or was based on a specific project or country characteristic
- provide suggestions for indicators for identified dimensions and driving factors

Stakeholder/expert workshop

The stakeholder/expert workshop took place on 19 September 2017 at the DG SANTE premises. Table 10 displays the organisations that were represented by the participating stakeholders and experts.

Table 10: List of workshop participants

Country	Organisation
EU	Association of European Border Regions (AEBR)
EU	European Public Health Alliance (EPHA)
EU	European Hospital and Healthcare Federation (HOPE)
EU	European Observatory on Health Systems and Policies (OBS)
EU	European Social Observatory (OSE)
BENELUX	Secrétariat General Benelux
BENELUX	Secrétariat General Benelux
EUREGIO DE-BE	Euregio Foundation Maas-Rhine
BE	Vanbreda International (Cigna)
BE	Controledienst voor de ziekenfondsen (CDZ)
BE	National Institute for Health and Disability Insurance (INAMI RIZIV)
BE	Mutualités Libres/Onafhankelijke Ziekenfondsen (MLOZ)
DE	GKV-Spitzenverband
EE	Haigekassa – Estonia Health Insurance Fund
EL	National Organisation for Healthcare Services Provision, Department of International Affairs (EOPYY)
FI	Social Insurance Institution (KELA)
FR	Caissenationale de l'AssuranceMaladie des travailleurssalariés (CNAMTS)
IE	Health Service Executive (HSE)
LT	National Health Insurance Fund under the Ministry of Health of Lithuania (VLK)
NL	Dutch Healthcare Authority (NZA)
PT	Inspecção-Geral das Actividades em Saúde (IGAS)
RO	National Health Insurance House
SI	Zavod za zdravstveno zavarovanje Slovenije (ZZZS)

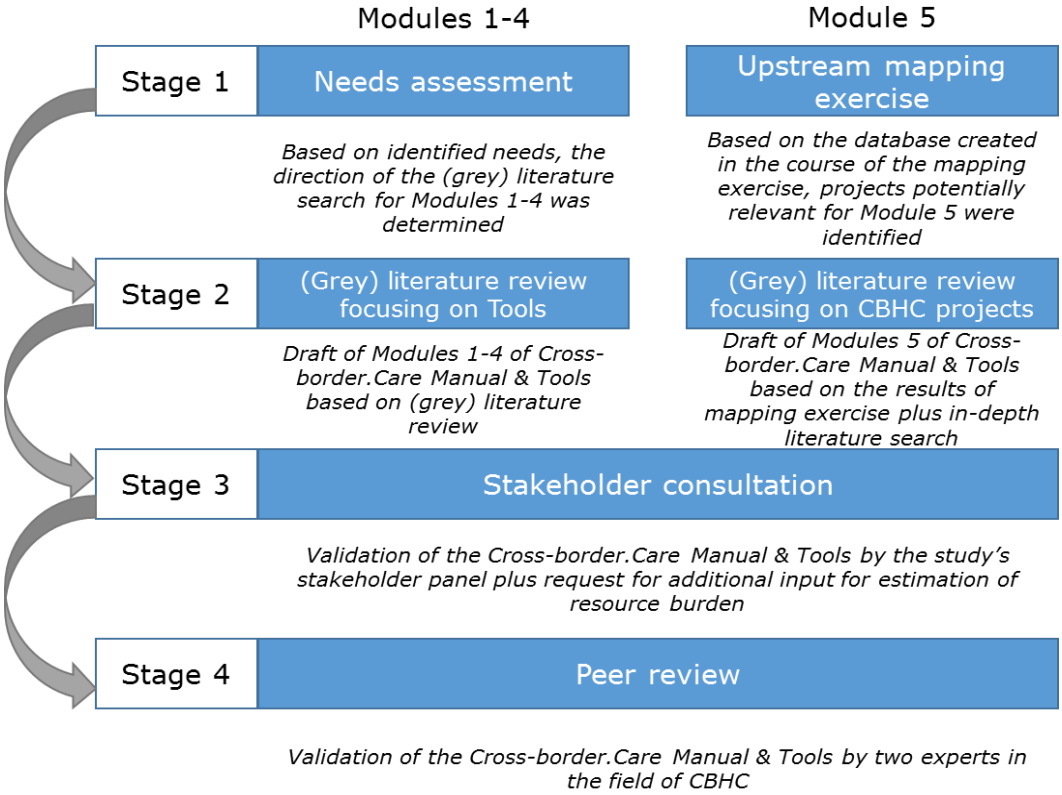
Source: GOE FP

The one-day workshop included presentations of preliminary study results with a main focus on D5 'Horizon Scanning and Foresight Model' including one break-out session on preliminary findings of D5 on the identified draft scenarios and another break-out session on respective policy recommendations.

3.3 Cross-border.Care Manual & Tools

The aim of the Cross-border.Care Manual & Tools to support stakeholders in starting cross-border collaboration projects, and the related research questions were addressed by taking a multi-stage research approach, which combined elements of surveys and a (grey) literature review. In the first stage of research, the study's stakeholder panel was consulted to identify obstacles and enabling factors for starting cross-border healthcare collaboration and stakeholders' needs in terms of tools (see section 3.3.1). The purpose of the second stage was to review relevant (grey) literature, based on which the major parts of the *Cross-border.Care Manual & Tools* (i.e. tools and case studies) were developed (see section 3.3.2). Stages three and four involved stakeholder and expert consultations, based on which the *Cross-border.Care Manual & Tools* was revised (see section 3.3.3). The following sections provide more information about the specific methods used in each stage.

Figure 3: Overview of different stages of research



Source: GOE FP

3.3.1 Needs assessment

The groundwork was laid for the development of training materials by conducting a survey among the study's stakeholder panel. The survey was conducted between 21 June and 7 July 2017 by email. The questionnaire was sent by email to the study's cross-border stakeholder panel and to an additional number of experts currently or formerly involved in cross-border collaboration projects (see Table 11).

Table 11: Overview of stakeholders and experts involved in the needs assessment

Country	Organisation
Organisations represented on the study's cross-border panel	
EU	Association of European Border Regions (AEBR)
EU	European Consumer Organisation (BEUC)
EU	European Public Health Alliance (EPHA)
EU	European Hospital and Healthcare Federation (HOPE)
EU	European Observatory on Health Systems and Policies (OBS)
EU	European Social Observatory (OSE)
BENELUX	Secrétariat General Benelux
EUREGIO DE-BE	Euregio Foundation Maas-Rhine
AT	Austrian Public Health Institute (GOEG)
BE	Federal Public Service Health (FPS)
BE	National Institute for Health and Disability Insurance (INAMI RIZIV)
BE	Mutualités Libres/Onafhankelijke Ziekenfondsen (MLOZ)
DE	Allgemeine Ortskrankenkasse (AOK)
DE	GKV-Spitzenverband
EE	Haigekassa – Estonia Health Insurance Fund
EL	National Organisation for Health Care Services Provision, Department of International Affairs (EOPYY)
FI	Social Insurance Institution (KELA)

Country	Organisation
FR	Centre of European and International Liaisons for Social Security (CLEISS)
FR	Caisse Nationale d'Assurance Maladie des Travailleurs Salari (CNAMTS)
IE	Health Service Executive (HSE)
LT	National Health Insurance Fund under the Ministry of Health of Lithuania (VLK)
NL	European Patients Empowerment for Customised Solutions (EPECS)
RO	National Health Insurance House
Additional experts in the field of cross-border collaboration	
DE	AOK Baden-Württemberg German-Swiss-French Cooperation
FR	MGEN Swiss-German-French Cooperation
DE	MGEN Swiss-German-French Cooperation
AT	SANICAMEDIA Austrian-Italian Cooperation
AT	NOEGUS – Health Fund and Social Fund Specialist team for EU affairs
DE	Lörrach Medical Centre German-Swiss Cooperation
CH	'GRÜZ' pilot project Swiss-German Cooperation
GR	Greek Alliance for Rare Diseases (PESPA)
ES	Cerdanya Cross-Border Hospital Spanish-French-Andorran cooperation
LT	IT Technology in Dermal and Lung Cancer Diagnostics Latvian-Lithuanian-Belarussian cooperation

Source: GOE FP

Building on the work of Glinos et al. [32], the questionnaire had four parts, comprising a combination of quantitative (Parts 1-2) and qualitative questions (Part 2-4) to allow for further analysis (ranking, clustering and descriptive analysis):

- Part 1: Enabling factors for starting cross-border healthcare collaboration
- Part 2: Obstacles to starting cross-border healthcare collaboration
- Part 3: Need for tools for starting cross-border collaboration and experiences of using such tools
- Part 4: Identification of additional projects, including relevant information for development of the *Cross-border.Care Manual & Tools*.

Closed questions on enabling factors and obstacles for starting CBHC collaboration were rated based on a Likert scale (completely agree, agree, disagree, completely disagree, don't know). Open questions were used to identify need for specific tools and to identify tools, which stakeholders have already been using. Further, stakeholders were given the chance to recommend CBHC projects and publications, which should be included in the *Cross-border.Care Manual & Tools.*

The results of the needs assessment, especially results of Part 1-3, determined the search strategy for the (grey) literature review on Modules 1-4 (see section 3.3.2). Detailed results of the needs assessment are presented in Annex I.

3.3.2 (Grey) literature review

Due to the diversity of information provided in the *Cross-border.Care Manual & Tools*, the review of (grey) literature required two different search strategies, which are presented below:

8. identification of literature relevant to the tools presented in Module 1, Module 2, Module 3 and Module 4,

9. identification of literature relevant to providing information concerning the practical examples of CBHC collaboration presented in Module 5.

Identification of literature for Modules 1-4 of the Cross-border.Care Manual & Tools

Based on the results of the needs assessment (see Annex I), which indicated the thematic content of the Tools, a hand search was conducted to identify information relevant to the design of Modules 1-4. The search strategy that was used connected general search terms for tools, such as 'Toolbox', 'Toolkit', 'Tool', 'Instrument' and specific tools identified as being relevant to stakeholders, such as 'checklist', 'manual', 'guide', 'template' with specific topics derived from the needs assessment (see Annex I) such as 'stakeholder', 'project management', 'resources', 'Staff', 'financ*'. Search terms for cross-border (healthcare) were used to frame the application field. However, this restriction was removed once no further search results could be identified.

The following information sources were searched:

- Interreg programme websites
- INTERact website
- European institutions (European Commission, DG SANTE, CHAFEA, DG REGIO)
- Euregio websites
- Transfrontier Operational Mission (MOT)
- Google Scholar and Google

For the additional hand search, information was considered *relevant* if the following criteria were met:

- I1: The information source is related to the general topic of project management and/or to the specific topic of cross-border collaboration (in healthcare)
- I4: The information source fulfilled one of the following three priorities:
    a) First priority was given to tools specifically designed for cross-border healthcare projects
    b) Second priority was given to tools designed for cross-border projects in general
    c) Third priority was given to general project management tools
- I2: The information source describes tools identified as being relevant during the needs assessment
- I3: The information source deals with topics identified as being relevant during the needs assessment
- I4: The publication was issued between 1995 and 2017

Information was *excluded* if any of the following criteria were met:

- E1: The publication is neither related to the general topic of project management nor to the specific topic of cross-border collaboration (in healthcare)
- E2: The publication was issued before 1995
- E3: The publication provides only global information about tools and topics identified as being relevant during the needs assessment

The reference lists of the selected 'grey' literature publications were screened for additional literature that met the inclusion criteria, but was not captured by the hand search. The identification of 'grey' literature was further facilitated by involving the study's stakeholder panel, who were invited to suggest relevant publications as part of the survey (see section 3.3.1).

To increase the linkage between Modules 1-4 and Module 5, information, which was presented in Module 5 and considered being relevant for the tools provided in Module 1-4, was either integrated or referenced.

Identification of literature for Module 5 of the Cross-border.Care Manual & Tools

The database created during the 'Mapping' exercise (cf. D2 of Work Package 1A) laid the groundwork for the (grey) literature review for Module 5. During the mapping, researchers indicated projects of potential relevance to the *Cross-border.Care Manual & Tools*. Only those projects, for which this indication (i.e. relevant for Cross-border.Care Manual & Tools) was given, were investigated in depth in order to decide on their inclusion/exclusion in Module 5.

In addition to the assessment of the projects identified in the course of the mapping, a hand search was conducted, for which the restrictive framework of inclusion/exclusion criteria used for the 'Mapping' was relaxed (i.e. concerning EU funding and the time period). Following sources were searched:

- Websites of cross-border collaboration projects
- Websites of cross-border collaboration networks, e.g. Euregio
- Google Scholar and Google

A project was considered *relevant* if the following criteria were met:

- I1: The primary investigated subject is an applied cross-border collaboration (project) in healthcare
- I2: The collaboration was considered relevant if information in at least three of the following categories could be retrieved:
  - the legal and regulatory set-up of the collaboration
  - the financial aspects of the collaboration, including questions of reimbursement
  - the organisational set-up of the collaboration
  - the operational set-up of the collaboration
  - the medical set-up of the collaboration
- I3: The publication describes the costs and benefits of cross-border cooperation
- I4: The publication allows inferences about indicators that are relevant to measuring the success of a collaboration project
- I5: The publication describes incentives and challenges related to the collaboration project
- I6: The collaboration project ran between 2000 and 2017
- I7: The collaboration project involved at least one EU/EEA Member State
- I8: The primary investigated geographic area is Europe (i.e. EU/EEA Member States)

Projects were *excluded* if any of the following criteria was met:

- E1: Health-related cross-border collaboration was not the primary subject of the initiative
- E2: The cooperation was related to European Reference Networks
- E3: The cooperation was related to communicable diseases
- E4: The publication was issued before 2000
- E5: The collaboration involved countries outside Europe (i.e. non-EU/non-EEA Member States)
- E6: The collaboration involved fewer than two EU/EEA Member States
- E7: No description of the collaboration's context is provided

The reference lists of the selected 'grey' literature publications were screened for additional literature that meets the inclusion criteria, but was not captured by the manual search. The identification of 'grey' literature was further facilitated by involving the study's stakeholder panel, who were invited to suggest relevant publications as part of the survey (see section 3.3.3).

3.3.3 Expert consultation and peer review

Drafting of the *Cross-border.Care Manual & Tools* was assisted by the study's stakeholder panel, which is composed of various experts and stakeholders from different European countries and different organisations at the national or European level (see Table 11). The study's stakeholder panel was supplemented by experts in the field who are currently or were formerly involved in healthcare-related cross-border collaboration projects. Both groups (referred to together as the 'extended cross-border panel') were consulted at various stages of the development:

1. Email survey to identify needs (June/July 2017)
2. Validation of the draft *Cross-border.Care Manual & Tools* (October/November 2017)

In addition to the stakeholder involvement, the final draft of the *Cross-border.Care Manual & Tools* is being reviewed by two academic experts in the field of cross-border healthcare cooperation.

3.3.4 Conceptualization of the Cross-border.Care Manual & Tools

The *Cross-border.Care Manual & Tools* builds on prior work packages, especially the Mapping and the Forecasting exercise. To connect with those, identical categories of cross-border collaboration are used for drafting the *Cross-border.Care Manual & Tools* (see Table 6).

One difference to the categories used in the Mapping is the exclusion of the 'Research/ Knowledge Production' category. This is, as research projects follow a different set-up and face different challenges than cross-border collaboration projects in the classical sense. This is mainly as they do not entirely follow the conceptualisation of cross-border collaborations by Irene Glinos I [4]:

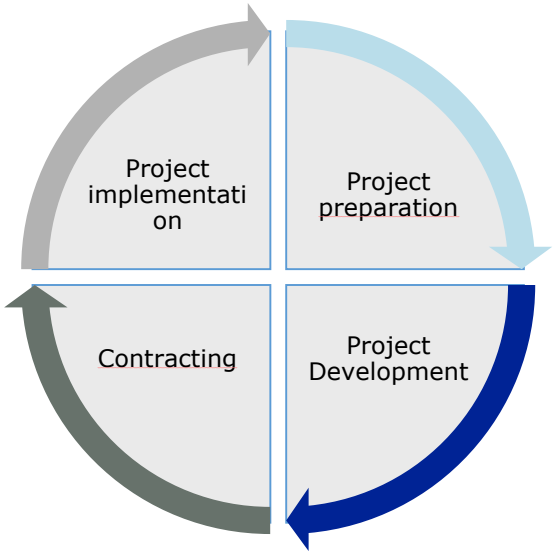
> *„Cross-border collaboration in the field of health care can involve a transfer, a movement or an exchange of individuals, services and resources." (Glinos, 2011:217)*

However, the *Cross-border.Care Manual & Tools* involves a more practice-oriented orientation and aims to solve issues related to the start of practical cross-border collaboration projects.

Cross-border collaboration in healthcare requires at least two actors of the healthcare sector in two different countries separated by a border [4]. Actors in the healthcare sector are *providers*, like hospitals, clinics or doctors, *purchasers*, i.e. funding of health services, *public authorities* and *middlemen*, serving as an intermediary between collaborating parties [4]. All four types of actors can be involved in the phase of setting up a project, while providers are also involved in directly providing health services in a cooperation [4]. Patients are not defined as actors because they are not involved in the organizational and financial set-up of cross-border cooperation in healthcare and rather utilize health services provided within the cooperation [4].
The target group of the *Cross-border.Care Manual & Tools* are healthcare providers, payers and public authorities.

The conceptual framework for developing the training material follows the project life cycle following guidelines developed by the European Commission [33] and adapted for Interreg projects [34]. For the purpose of the *Cross-border.Care Manual & Tools*, which aims to support stakeholders in starting cross-border collaboration in healthcare, the project life cycle ends with the implementation phase. Project closing and evaluation are outside the study's purpose and thus were not considered for the *Cross-border.Care Manual & Tools*.

Figure 4: Project life cycle



Note: Project implementation in this case means horizontal (control) actions which need to be performed to ensure a smooth implementation of the project, e.g. project risk management

Source: GÖ FP based on [33, 34]

The *Cross-border.Care Manual & Tools* is designed as a manual for starting cross-border collaboration in healthcare. As determined by the project life cycle depicted in Figure 4, the manual is set up of four core modules – one module for each phase.

The phases of the project life cycle are progressive, thus each of the phases needs to be completed in order to proceed into the next phase. The tools provided for each phase are intended to facilitate the proceeding. Each module comprises a number of tools. Although integrated into the manual, the tools are designed as self-standing support material.

An additional module refers to practical examples in form of business cases for cross-border collaboration projects, which were drafted in form of case studies for each of the aforementioned cross-border collaboration categories (see Table 6). The Case studies describe circumstances, which need to be considered in cross-border collaboration. Their structure is inspired by the obstacles mentioned in the 'Brainstorming document' of Glinos et al. [32].

- Legal/regulatory dimension,
- Financial dimension (incl. reimbursement),
- Administrative dimension
- Operational dimension
- Medical dimension

The **legal dimension** covers issues related to, e.g. legal basis for cross-border collaboration, formal and informal agreements, and legal (in) compatibilities between involved parties.

The **financial dimension** covers issues related to, e.g. funding of cross-border collaboration, financial make-up of cross-border collaboration, reimbursement of cross-border services.

The **administrative dimension** covers issues related to, e.g. the (project) set-up of the cooperation, organisational procedures, bureaucratic paths to follow, communication incl. ICT systems.

The **operational dimension** covers issues related to, e.g. resources and infrastructure needed for cross-border collaboration, sharing of resources and infrastructure, involved parties, differences in language.

The **medical dimension** covers issues related to, e.g. differences in medical protocols, treated cases.

Case studies cover information on incentives for starting cross-border collaboration in healthcare and factors enabling or hindering the success of cross-border collaboration in healthcare. Based on this information pool, it might be possible to draw conclusions on driving factors and forces leading to the success of a collaboration. In order to make this success measurable, thematic indicators are presented per cross-border collaboration category. Further, one business case per CBHC category presents the organisational make-up as well as social and economic benefits of successful CBHC collaborations.

3.4 Fraud and fraud mitigation

We focus on fraud and fraud mitigation in cross-border healthcare in the EU. The core of the investigation followed the method of a systematic literature-based desk-research (including a hand search). Additional information on the topic was collected through stakeholder consultation.

3.4.1 Overall concept of the review

The review applied the PRISMA concept [35]. The objective of the review was to outline different typologies of fraud cases (fraud patterns in cross-border healthcare) and mechanisms for fraud mitigation (implemented or proposed for implementation). Data for quantifying fraud in cross-border healthcare were also in the focus of the review. Based on the review findings, solutions and risk mitigating strategies were proposed.

Given the concept framework of the study outlined in the background section (see Table 47), the investigation of fraud and fraud mitigation in cross-border healthcare comprised three dimensions:

1. Fraud and mitigation of fraud by healthcare professionals/providers
2. Fraud and mitigation of fraud by patients and the public
3. Fraud and mitigation of fraud by third party intermediaries.

A distinction was made between different types of fraudulent behaviour in cross-border healthcare, for example abuse of the European Health Insurance Card (EHIC) versus other fraudulent behaviours amenable through Directive 2011/24/EU. It was strived to explore a preferably wide range of fraud topics. However, as the topics presented in Table 47 do not necessarily apply systematically to cross-border healthcare, their applicability to cross-border healthcare had to be proven based on the literature review and through an online consultation of selected stakeholders from EU Member States (stakeholder panel). The stakeholder panel also validated the review results.

The following research steps were followed (as explained in the subsequent sections):

Step 1: Online consultation of stakeholders on the topic
Step 2: Systematic literature search and hand search
Step 3: Analysis and validation by the stakeholder panel

Step 1 and 2 were carried out in parallel, and their outcomes were compared in step 3.

3.4.2 Online consultation of stakeholders on the topic

The stakeholder panel consisted of 8 country representatives. The countries covered by the panel were Belgium, Bulgaria, Germany, Hungary, Latvia, the Netherlands, Portugal, and Slovenia. The panel members were selected based on the method of convenient non-probabilistic sampling. The convenient sampling approach is widely applied in qualitative studies to identify suitable participants through the professional network of the researchers involved in the study. In this investigation, professional contacts helped to find participants with the necessary knowledge and experience of a senior level in the area of cross-border healthcare and fraud, who were also able to participate in the online consultation. These experts either worked in related area or investigated aspects of healthcare fraud.

The online consultation was carried out in July 2017 based on a web-based questionnaire developed by the study team. The questionnaire was discussed with other researchers and adjusted based on their comments. Since these researchers were experts in cross-border healthcare and survey design, they were also able to comment on the face validity of the questionnaire. The questionnaire was designed in English in Qualtrics®. The panel members received the questionnaire link through an email. In addition to the link, the email included instructions for filling in the questionnaire. The panel members were asked to submit their answers within 14 days from the receipt of the link. A reminder was emailed at the end of this period allowing for a 14-days extension of the submission deadline.

An informed consent was requested from each stakeholder at the beginning of the online questionnaire. Overall, the questionnaire consisted of the following sections with:

- Direct questions related to the three key research questions as defined in the introduction section, namely questions about the magnitude and patterns of cross-border healthcare fraud, and their relation to fraud in the national healthcare system, as well as questions about the mitigation of cross-border healthcare fraud
- A rating of healthcare fraud types presented in Table 47 to check their relevance to cross-border healthcare in the EU, including their probability of occurrence, severity of consequences and importance in cross-border healthcare
- A request for additional information on the topic, specifically 'grey' literature

The data from the online consultation of the stakeholder panel collected through the online questionnaire were analysed using descriptive statistics of the quantitative data complemented with a narrative description and quotations of the qualitative data. The rating of the cross-border healthcare fraud topics in terms of probability and severity of consequences, made it possible to develop HELFO risk matrix [36]. The stakeholder panel was invited to comment on the final report.

3.4.3 Systematic literature search and hand search

For the systematic literature searches, the following databases were utilised: PubMed (including Medline), Embase, Cochrane Databases (Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effects), ECONLIT, JSTOR, SAGE, Web of Science, LWW journals, Econpapers, Business source complete, and Emerald. Given the focus of this review, four components were used to build the search terms for the identification of relevant publications (see Table 12):

(1) Country block to focus the search on EU;
(2) Healthcare block to focus the search on the healthcare sector only;
(3) Fraud block including fraud mitigation terms to assure that all topics selected for the review, were included;
(4) Cross-border block to focus the search on cross-border healthcare only.

Different combinations of the above search blocks were tested to make sure that no relevant literature was excluded. In addition, free-text truncation (e. g. health*, corrupt*, fraud*) and subject headings (e. g. Medical Subject headings (MeSH)) were also added and used for all search terms where applicable. Differences in spelling of the search terms were also taken into account. The above search concept was reviewed by one of the peer reviewers in the project.

The systematic literature search was conducted in April 2017 and the analysis was completed in July 2017. Further, the search in all databases was limited to the last 10 years (2007-2017).

The final search terms in PubMed were based on the above concept as depicted in Table 12. The search was performed in the general search builder of PubMed and a search in 'all fields' was applied. In addition to the query presented in Table 12, MeSH headings were automatically added according to the PubMed search system suggestions. The search in other databases was slightly modified due to technical limitations and specificities of the search function of these databases.

Table 12: Search terms used for the literature search in PubMed

Search terms per thematic search block	
Country block:	*EU OR european union OR austria OR belgium OR bulgaria OR croatia OR cyprus OR czech republic OR denmark OR estonia OR finland OR france OR germany OR greece OR hungary OR ireland OR italy OR latvia OR lithuania OR luxembourg OR malta OR netherlands OR poland OR portugal OR romania OR slovakia OR slovenia OR spain OR sweden OR united kingdom*
	AND
Healthcare block:	*health OR medical care OR pharmaceutical OR treatment OR health service OR health-service OR health insurance OR health care OR healthcare OR health-care*
	AND
Fraud and fraud mitigation block:	*Fraud* OR corrupt* OR fabricat* OR forgery OR scam OR unbundling OR false claims OR falsification OR kickback OR brib* OR misconduct* OR extra billing OR anti-corrupt* OR anti-fraud* OR up-coding OR abuse OR misrepresent* OR scam OR incorrect billing OR incorrect use OR incorrect report OR over utilization OR theft*
	AND
Cross-border block:	*cross-border OR cross border OR medical tourism*

Source: Maastricht University

The challenge of the systematic literature search was to maximise the amount of the relevant literature while keeping the number of unrelated papers as small as possible. Therefore, the selection of literature was subdivided into:

(1) initial screening of the Endnote® file based on title/abstract
(2) second screening based on the full text

For the selection, a set of inclusion and exclusion criteria were defined. Specifically, a publication was considered as relevant, if the following criteria were met:

- The publication was issued during the last 10 years (2007-2017)
- The publication was in English, German or French language
- The primary investigated geographical area was the EU
- The primary investigated subject was fraud and fraud mitigation in healthcare
- There was a clear connection to the cross-border topic (i.e. bilateral or multilateral cooperation between European countries)

A publication was excluded, if one of the following criteria was met:

- Fraud and fraud mitigation in healthcare was not investigated
- The publication was lacking a connection to the cross-border topic
- The study was published in a language other than English, German or French
- The publication was a duplicate or reported the same study as another publication
- Publication date before 2007
- There was no clear description of the context
- The primary investigated geographical area was not the EU

In order to minimise the selection bias, the relevance of the identified literature sources was appraised by two researchers. One researcher performed the initial screening, a second research checked the outcomes of this initial screening. During the final screening, the selection was done by one researcher. When the relevance of the publication was unclear according to the first researcher, the second researcher was consulted to jointly decide on the publication relevance.

Additionally, the reference lists of the collected literature were reviewed to obtain additional relevant sources that were not identified via the systematic search. The selection of these sources followed the same scheme (i.e. inclusion and exclusion criteria) as mentioned above. The final list of included peer-reviewed articles was organised in an Endnote® file.

In order to identify relevant 'grey' literature, the systematic literature search was complemented by a thorough hand search, which included the websites of national/international fraud and corruption institutes as well as international organisations and networks:

- European Institutions (European Commission particularly DG SANTE, DG ENTR, DG COMP, DG Research, but also European Parliament, Council of the EU, Curia, CHAFEA Health Programmes Database, EU Cordis, OLAF)
- World Bank (documents & reports, e-Library)
- Transparency international
- U4 Anti-Corruption Resource Centre
- United Nations publications
- WHO publications
- EHFCN and members of EHFCN
- Google Scholar and Google search
- ADJACENT open access and ADJACENT government
- University databases, e.g. databases, criminology department websites

The hand search was conducted in April 2017. The same search concept was applied, including inclusion and exclusion criteria used in the systematic search. The search terms finally used were determined by the technical limitations and specificities of the websites' search function. For some websites (e.g. Google search), the snowball principle was applied, i.e. every item was screened, as well as the links related to it, until a point of saturation was reached (10 subsequent irrelevant items). Priority was given to more recently published 'grey' literature. Thus, in case of a duplicate, the most recent version was included. To minimise the selection bias, publications with uncertain relevance were checked by a second researcher.

The reference lists of the selected 'grey' literature publications were screened for additional literature meeting the inclusion criteria that was not captured by the systematic review and the hand search. The identification of supplementary 'grey' literature was further facilitated by involving the study's stakeholder panel, who were invited to suggest relevant publications. We also checked whether the literature suggested by CHAFEA as well as by the two reviewers was included in the final list.

The final set of 'grey' literature publications identified via the hand search as well as by consulting the study's stakeholder panel was organised in an Endnote® file.

3.4.4 Analysis, quality assessment and validation of the review

After the screening, the method of directed (relational) content analysis was used for the analysis of the publications that met all eligibility criteria (peer-reviewed articles and 'grey' literature publications). This type of analysis requires the identification of categories (themes) according to the review objective. Based on this, information is extracted and synthesised. The groups of themes used for the review and which formed the categories for the analysis, were:

- Fraud cases/patterns by healthcare professionals/providers, by patients and the public, and by third party intermediaries.
- Scale of fraud in a cross-border context by healthcare professionals/providers, by patients and the public, and by third party intermediaries. The scale of fraud was either defined as the number of fraud cases or amount of money lost due to fraud depending on the information provided in the literature reviewed.
- Fraud mitigation mechanisms by healthcare professionals/providers, by patients and the public, and by third party intermediaries.
- The themes were formulated based on the three key research questions defined in the introduction section of this report, as well as based on the stakeholder groups identified in the concept framework of the study (see Table 47).

Based on these groups of themes, the data extraction was done. During the data extraction process, detailed tables describing the study design, relevant findings and conclusions per publication, were prepared. These extraction tables were used to prepare a summary result table. The summary table presented the key findings and was complemented by a narrative description of the findings per theme.

A quality assessment of the included peer-reviewed journal publications was carried out in a qualitative manner using online checklists. Overall, a study was considered reliable if the methods of data collection and analysis were well defined in the publication, and was potentially repeatable. Similarly, a study was considered valid if the publication provided clear indications of consistency of the results with stated study hypotheses, expectations and/or results of other similar studies. The generalisability of the study was defined based on indications for possible extrapolation of the findings to the larger population. The quality of our review was also checked using the PRISMA 2009 checklist.

At the last stage of the analysis, the key study findings were defined and reviewed by the members of the study's stakeholder panel to assure the validity of the results and their interpretation. Based on this, the final conclusions and recommendations of the review were formulated.

3.5 Evaluation of PaSQ take-up

In order to address and answer the research questions (see section 1.1), the research built on three pillars: 1.) a desk-based literature review, 2.) a subsequent online survey and 3.) the validation of research results and requesting input for policy options of the study's stakeholder panel. The literature review aimed to analyse the project itself and to identify the mechanisms, activities and deliverables that might have led to take-up. Take-up was analysed by means of an online survey of the National Contact Points, which were determined during the PaSQ project and which were believed to have comprehensive information about related take-up in their associated Member States.

The final research question was dealt with separately (see section 1.1) due to its distinct focus on healthcare-associated infections and antimicrobial resistance in relation to cross-border healthcare.

3.5.1 Desk-based literature review

Groundwork for the literature review was accessible PaSQ reporting provided by the European Commission. Throughout PaSQ the continuous evaluation of activities was a guiding principle. Various surveys amongst different target groups were conducted in order to analyse the progress of the project. The results were documented in respective reports. Additionally, a database was developed listing Safe Clinical Practices and Good Organizational Practices in European Health Care institutions.

Therefore we conducted a selective literature search. We accessed the following websites:

- PaSQ Website http://www.pasq.eu/)
- PaSQ Wiki (http://www.pasq.eu/Wiki.asp)
- European Commission (https://ec.europa.eu/commission/index_en)

A google analytics report listing PaSQ access statistics was provided by the lead of work package 2 (during PaSQ in charge of disseminating the results). Furthermore, the documents listed in the tender specifications were searched for relevant information: [29, 37-40].

Search terms used are displayed in Table 13.

Table 13: Search terms used for PaSQ evaluation

Search categories Related to:	Search terms
PaSQ - general	• implementation projects • exchange mechanisms • exchange platform • good practice • network • communication tools
Quality topics	• hand hygiene • antimicrobial resistance • hygiene
PaSQ - output	• surgical checklists • critical incident reporting systems • paediatric warning systems • medication reconciliation • quality management system
Research question	• success factors • challenges/obstacles • activities

Source: GÖ-FP

To identify relevant grey (unpublished) literature, we contacted the European Commission and received the permission to use the available and provided reports for the purpose of this study.

Literature was considered as being relevant, when:

- I1: The relation to the PaSQ Joint Action is clearly stated
- I2: The publication is issued in the period 2012 - 2016
- I3: The primary investigated subject is patient safety
- I4: The primary investigated geographic area is Europe (i.e. EU Member States).
- I5: The publication is in English, French or German language

Literature was excluded, if:

- E1: Patient safety is not the primary investigated subject of the study
- E2: The study/report was published in a language other than English, French and German
- E3: Publication date before 2012

As a result of this iterative literature selection process, the following (mainly un-published*) reports were identified:

- Concluding Report on Implementation Findings (WP5)* [41]
- Glossary and Conceptual Frameworks (WP4, WP6)* [42]
- Network Sustainability Final Report (WP7)* [43]
- PaSQ Evaluation Report (WP3)* [44]
- Permanent PaSQ Network – Years 2015+. Proposal 7 April 2014 (WP7)*[45]
- Safe and Transferable Patient Safety Practices at Clinical Level - An Analysis of Reported Practices (WP4)* [46]
- Transferable Good Organisational Practices to be shared through the Exchange Mechanisms (WP6)* [47]
- WP4 & WP6 Good Practices for Exchange between Member States (WP4, WP6)* [48]
- Results of WP6 Questionnaire. Parts 1-2 (WP6)[49]
- WP6 Questionnaire. Part 3 Data analysis (WP6)[50]
- Quality Management Systems and Quality Improvement Activities in European Member States (WP6)* [51]

3.5.2 Online Survey

In order to evaluate the take-up on the basis on the identified mechanisms, activities and deliverables, an online survey was conducted of project-related National Contact Points. The survey, which was conducted via the Questback® online tool, took place between 28 July 2017 and 16 August 2017. Institutions received a link to the questionnaire by e-mail. Due to the short timeline, which was necessary due to the research framework of the total Cross-border.Care study, intensive efforts were taken to increase the response rate. Contact persons received personal phone calls and reminders were sent to those institutions that could not be reached by telephone.

Questionnaire

The questionnaire was written in English and consisted of six parts:

Part I: Personal and organisational information

Part II: Building and sharing of expertise

Part III: Strengthening of cooperation between EU Member States, international organisations and EU stakeholders

Part IV: Implementation of Safe Clinical Practices

Part V: PaSQ website and Wiki

Part VI: Best practice examples

The survey was designed to comprise a combination of quantitative and qualitative questions to allow for further analysis (ranking, clustering, descriptive analysis). Respondents were asked to indicate the level at which they were answering (local, regional, national or EU level).

Piloting of the questionnaire:

The study's stakeholder panel piloted the questionnaire between 10 July and 19 July 2017. Six participants from the panel were able to give feedback during that time frame. That feedback was incorporated into the final version of the questionnaire.

Response rate:

A total of 29 National Contact Points were addressed. Two reminders (one by phone, one by email) were sent in order to reach the response target of 14 responses. In total, 16 completed questionnaires were returned (Table 17). Reasons for the lack of participation were no reaction at all (n=4), lack of reaction after phone/email inquiry (n=3), personnel changes/no involvement in PaSQ (n=1) and lack of willingness to participate (n=4), response after delivery of the report (n=1).

Table 14: Response rate as a %

Number of contacted countries	Completed questionnaires received	Response rate as a %
29	16	55 %

Source: GÖ FP

Table 15: Responses at the Member State level

Country	PaSQ NCPs	Reply
AT	Ministry of Health	✓
BE	Federal Public Service Health, Food Chain Safety and Environment	✓
BU	National Centre of Public Health and Analyses	✓
HR	Agency for Quality and Accreditation in Healthcare and Social Welfare	✓
CY	Ministry of Health	✓
CZ	Ministry of Health	
DE	German Agency for Quality in Medicine	
DK	Danish Society for Patient Safety	✓
EE	Health Board	✓
ES	Spanish Ministry of Health, Social Services and Equality	
FI	National Institute for Health and Welfare	
FR	Haute Autorité de Santé	
GR	National and Kapodistrian University of Athens	
HU	National Institute for Quality and Organisational Development in Healthcare and Medicines	✓
IE	Health Information and Quality Authority	✓
IT	National Agency for Regional Healthcare Services	✓
LV	Riga East University Hospital	✓
LT	State Healthcare Accreditation Agency under the Ministry of Health of the Republic of Lithuania	
LU	Ministry of Health	
MT	Ministry of Health, the Elderly and Community Care	
NL	Netherlands Institute for Health Services Research	
NO	Norwegian Knowledge Centre for the Health Services	✓
PL	National Centre for Quality Assessment in Healthcare	✓
PT	Directorate General for Health	
RO	National School of Public Health, Management and Professional Development	
SK	Ministry of Health of the Slovak Republic	✓
SI	Ministry of Health	
SW	National Board of Health and Welfare	✓
UK	NHS England, Department of Health	✓

Source: GÖ-FP

3.5.3 Desk-based web-content review

In order to identify good practices for the prevention of transfer of healthcare-associated infections and antimicrobial resistances, the PaSQ Wiki (http://pasq.eu/Wiki) formed the basis for the review. Specifically, the Wiki databases for 'Patient Safety and Quality of Care Good Practices', comprising Patient Safety

Practices (PSP) and Good Organisational Practices (GOP), and for Exchange Events were searched in August 2017. Filters by topic were applied: 1) Infection control/prevention of surgical site infections, 2) Hand hygiene.

A Patient Safety and Quality of Care Good Practice or an Exchange Event was considered relevant if it fulfilled the following criteria:

- Clear relation to healthcare-associated infections and/or antimicrobial resistance.
- Clear relation to cross-border healthcare.
- Positive assessment with regards to safety/potential safety
- Implementation of the PSP

A Patient Safety and Quality of Care Good Practice or an Exchange Event was considered not relevant if the following criteria applied:

- Non-implementation of PSP
- Lack of evaluation of PSP
- Lack of proof about effectiveness of PSP

In total, 28 Patient Safety Practices, 6 Good Organisational Practices and 3 Exchange Events related to the topics of infection control/prevention of surgical site infections and hand hygiene were identified. The geographical allocation of those is presented in Table 16.

Table 16: Overview of geographical allocation of PSP, GOP and Exchange Events

	PSP	GOP	Exchange Event
Austria	1		2
Bulgaria			1
Croatia	2		
Denmark	1		
Finland	1		
Germany	1	1	
Hungary	3		
Ireland		1	
Italy	11		
Norway			
Romania	2		
Slovenia		1	
Spain	6	3	

Source: [52]

3.5.4 Stakeholder/expert involvement and peer review

Stakeholders (see Table 17) were involved at two stages of the project.

In the scope of the interim involvement (at the stage of drafting of the questionnaire), they were asked to provide feedback and pilot the survey.

In the scope of the final involvement, they were consulted to validate the evaluation results and they were asked to provide input for the development of policy options.

Table 17: Institutions represented on the stakeholder panel

Country	Institution
EU	European Health Management Association
EU	European Patients' Forum
EU	European Society for Quality in Healthcare
EU	European Hospital and Healthcare Federation
EU	European Health Futures Forum
EU	European Union of Private Hospitals
international	Organisation for Economic Co-operation and Development
DK	Danish Patient Safety Authority
EE	Estonian Ministry of Health
FI	Helsinki University Hospital
IT	Italian Ministry of Health
LT	Lithuanian Ministry of Health
SI	Slovenian Ministry of Health

Source: GÖ FP

After incorporating the validation comments of the stakeholders (including the draft of policy options), this report was peer reviewed by two experts on patient safety.

4 Mapping of healthcare related cross-border projects

4.1 Previous efforts to map cross-border care collaboration

The analysis presented here builds on previous mapping activities in cross-border care. These include, in particular, the study titled 'Effective use of European Structural and Investment Funds for health investments' [53], the final report of the HealthACCESS study [54], the study titled 'EUREGIO – Evaluation of border regions in the European Union', as well as the final report of the EUREGIO project, covering an analysis of the project landscape [55]. The EUREGIO study was based on a written survey among INTERREG secretariats and EUREGIO offices, and a follow-up survey among the responsible bodies of the identified cross-border health projects. In comparison with the list presented here, the focus of the EUREGIO study was, however, on projects carried out before 2007. Furthermore, the EUREGIO study emphasised main priorities, documentation, evaluation tasks and quality assurance procedures for the implementation of cross-border healthcare projects. By contrast, the results presented here are aimed at providing a comprehensive overview of geographical, financial and thematic aspects of cross-border care projects that goes beyond the silos of individual EU funding instruments (ESIF, INTERREG and ENPI/ENI, DG SANTE, DG Research).

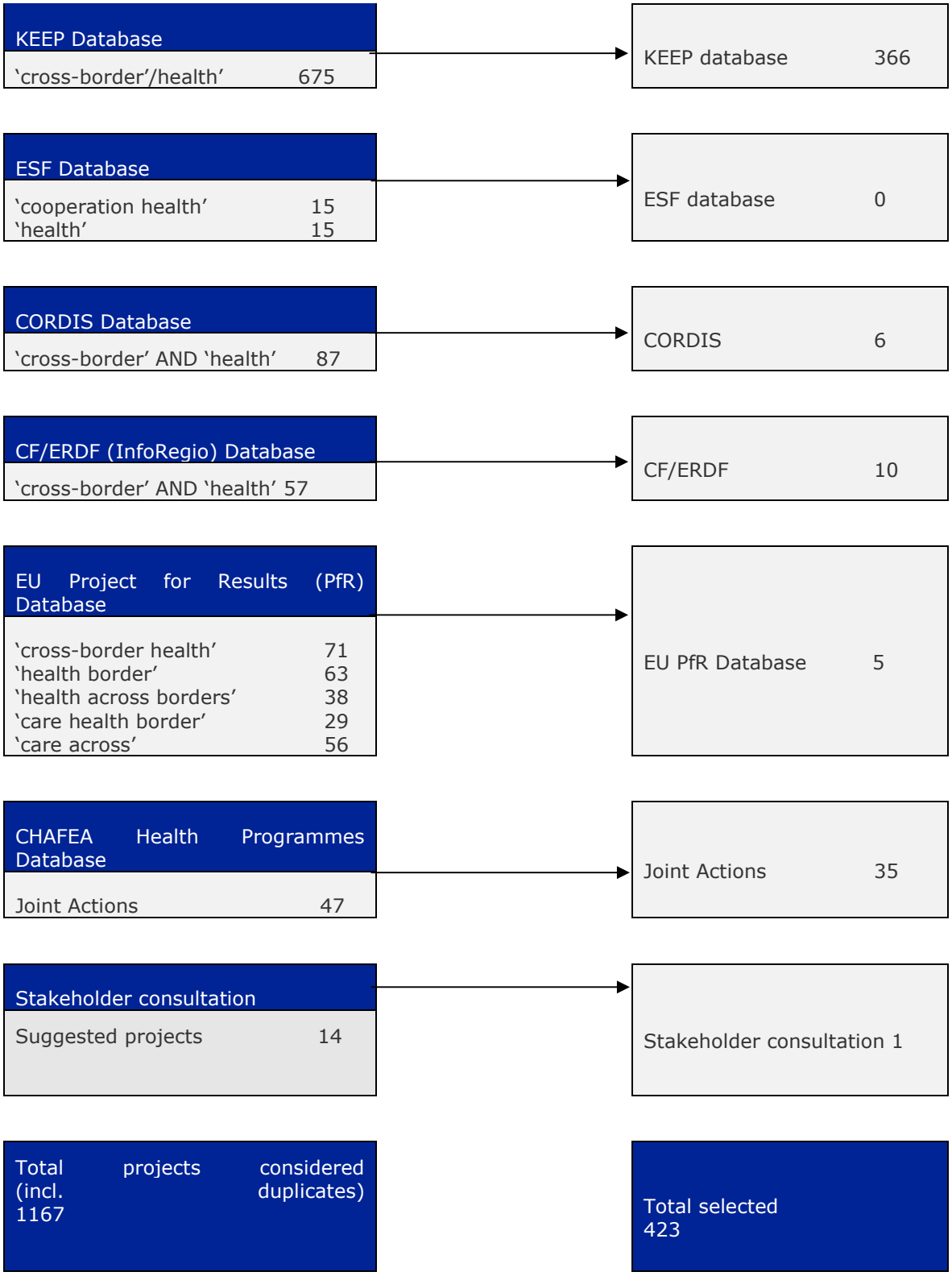
This is the first study that systematically covers all EU-28 Member States and provides an overview of cross-border care projects across a range of funding mechanisms in the EU and/or EEA countries. For instance, the EUREGIO study only covered countries that joined the EU before 2007/08 (EU-15). Similarly, the HealthACCESS study only investigated a sample of 10 EU Member States.

4.2 General results of the search[19]

The following sections provide an overview of the results of the comparative analysis of the geographical location of collaborating partners, the six thematic categories and the organisational and financial context of the identified projects. The vast majority of the identified projects were in the INTERREG online database (KEEP), where more than 80 percent of projects were found. Out of 1167 identified projects, 423 projects were included in the mapping list (36.2 %). Figure 5 provides a detailed picture of the search terms used and the number of selected projects by source. Of the selected projects, the large majority were identified via the INTERREG database (KEEP), followed by CHAFEA's Health Programmes Database (Figure 6).

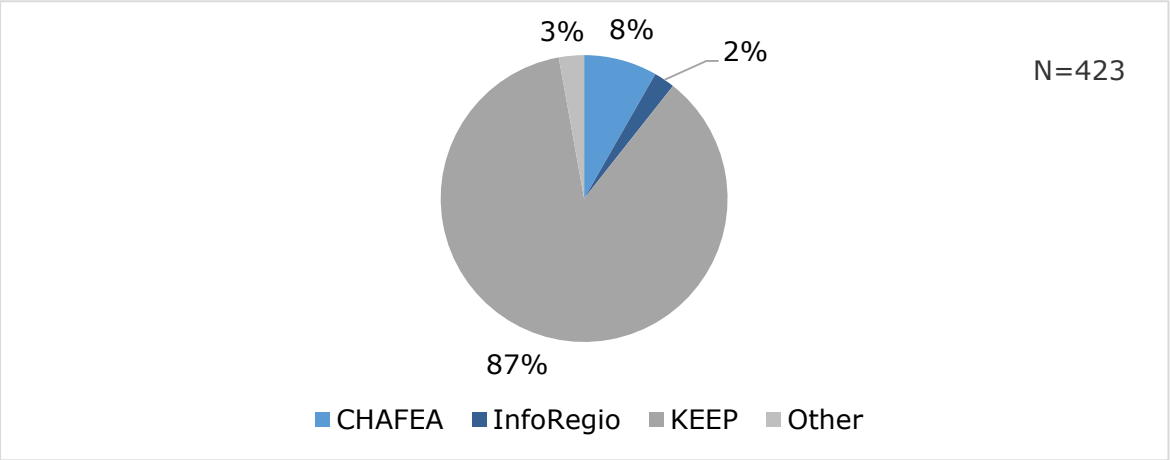
[19] The full list of projects may be accessed under the following link: https://goeg.at/sites/default/files/2018-02/Final_Deliverable_Mapping_21Feb2018.xls

Figure 5: Search results



Source: GOE FP

Figure 6: Source databases of identified projects

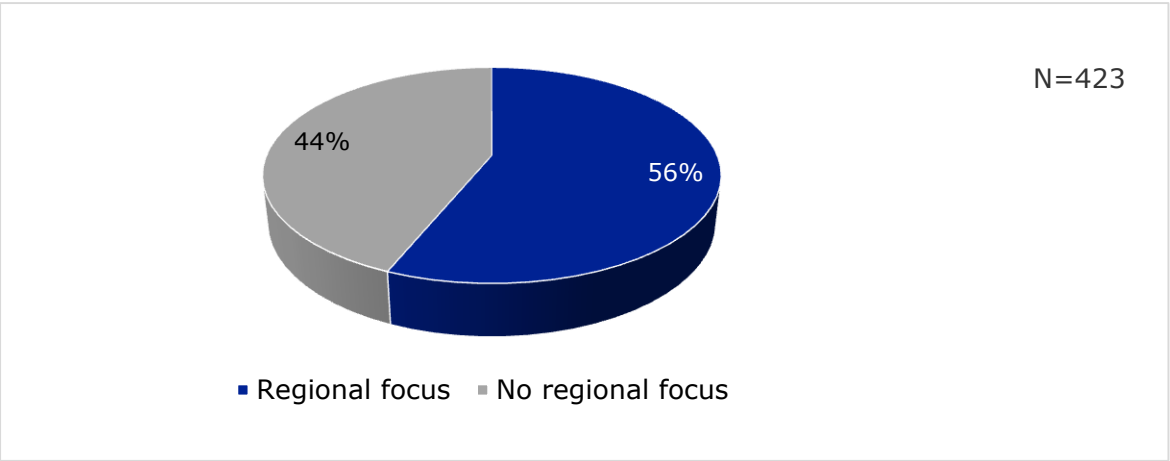


Source: GOE FP

4.3 Geographical aspects

Before detailing the partner countries and their locations, it should be noted that a general geographical classification also formed part of the questionnaire that was used to map cross-border collaboration initiatives. The relevant results and definitions are presented in Annex II. Overall, almost 6 out of 10 of the identified cross-border collaboration initiatives have a regional focus, for instance collaboration between local municipalities or bordering regions (Figure 7).

Figure 7: Regional focus of identified cross-border collaboration initiatives



Source: GOE FP

In order to facilitate the analysis of locations and geographical links between collaborating partners in Europe, two geographical classifications were made. First, countries were grouped according to their location by means of conventional geographical criteria (Central and Western Europe, Central and Eastern Europe, Southern Europe, Baltic countries, Anglo-Saxon countries or regions, Nordic countries, non-EU/EEA countries). In addition, based on a classification published on the website of the EUREGIO study[20], countries were classified into six 'Euroregions'. According to the

[20] See http://www.euregio.nrw.de/links.html for further information (accessed on 21 July 2017).

Opinion of the European Economic and Social Committee on Euroregions, the latter may be defined as follows:

> *'Euroregions are permanent structures intended to promote cross-border cooperation between directly neighbouring local or regional authorities located along shared State borders.'* (Source: ECO/179 EESC-2007-1002)

Table 18 provides a list of countries included in the six Euroregions used in this project.

Table 18: Definition of Euroregions used in the Cross-border.Care project

Euroregion: Alps and Danube Region	Euroregion: Central and Eastern Europe (Euroregion)	Euroregion: Southwest Europe and Western Mediterranean Sea (Euroregion)	Southwest Europe and Eastern Mediterranean Sea (Euroregion)	Northern Europe and Baltic Sea Area (Euro-region)	Northwest Europe (Euroregion)
Albania	Austria	France	Bulgaria	Denmark	Belgium
Austria	Belarus	Portugal	Greece	Estonia	France
Bosnia and Herzegovina	Czech Republic	Spain	Macedonia	Finland	Germany
Croatia	Germany		Romania	Latvia	Ireland
France	Hungary		Turkey	Lithuania	Liechtenstein
Germany	Poland		Ukraine	Norway	Luxembourg
Hungary	Russia			Russia	Netherlands
Italy	Serbia			Sweden	Switzerland
Montenegro	Slovakia			Iceland	UK
Romania	Switzerland				
Serbia	Ukraine				
Slovakia					
Slovenia					
Switzerland					

Note: Countries may simultaneously be part of more than one Euroregion.

Source: Adapted from the EUREGIO website (no year).

4.3.1 Geographical location of lead partners

As is clear from Figure 8, the large majority of project leaders in EU-funded cross-border care projects are based in Central and Western Europe (n=154), followed by Central and Eastern Europe (n=86) and Southern Europe (n=86). Looking more closely at the countries that lead cross-border care collaboration initiatives, the top eight countries are France, Hungary, Germany, Spain, Italy, Austria, Belgium and the Netherlands.

That finding is in line with the final report of the 2006 HealthACCESS study, which included 10 European countries; it likewise identified countries in Central and Western Europe (Belgium, the Netherlands, Germany, France and Austria) as important actors in implementing cross-border care collaboration. However, countries in Eastern Europe (Poland, Hungary) played a minor role at the time of the HealthACCESS study [54]. With Hungary as the country leading the second highest number of initiatives in cross-border care in Europe in the period from 2007 to 2017, it is striking how integration of Central and Eastern European countries has progressed in the past decade. However, some countries in the region still lag behind with regard to the number of collaboration initiatives in the analysed period. Clearly, the central geographical location of smaller countries with many bordering countries like Austria, Belgium and Hungary facilitates their involvement in cross-border care collaboration.

Another possible explanation for cross-border collaboration could be the degree of advancement of public healthcare sectors, where providers might be interested, for instance, in extending their catchment areas. We would then expect that countries

with higher health expenditure would also participate in a larger number of cross-border care collaboration initiatives. Our analysis shows, however, that there is only a weak correlation between public health expenditure and the number of projects. What is striking is that Hungary seems to be an outlier in the Central and Eastern European region, with a very high number of cross-border collaboration initiatives despite low health expenditure (analysis available on request).

Figure 8: Overview of lead partners in cross-border care collaboration initiatives in Europe by geographical regions

Central and Eastern Europe	
Bulgaria	6
Croatia	2
Czech Republic	4
Hungary	39
Poland	4
Romania	18
Slovakia	3
Slovenia	10
	86

Central and Western Europe	
Austria	26
Belgium	23
France	38
Germany	31
Luxembourg	6
Netherlands	23
Switzerland	7
	154

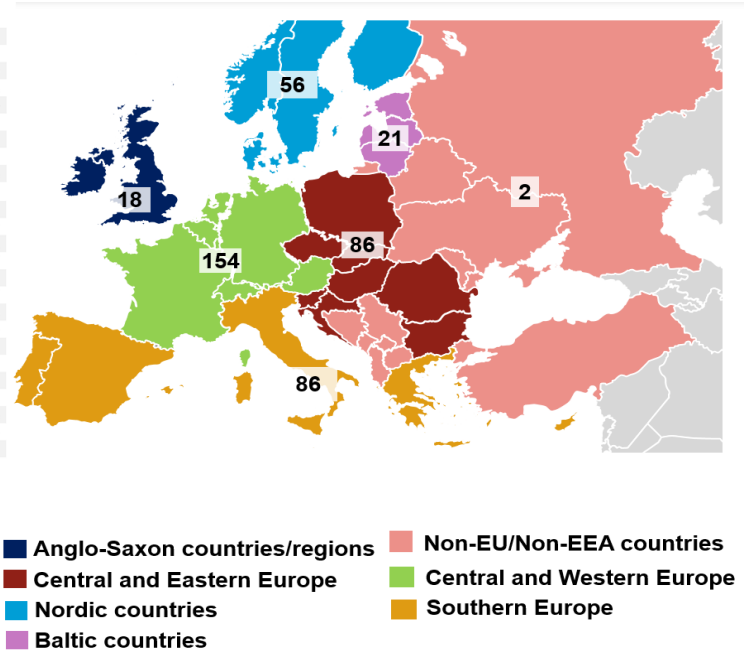
Baltic countries	
Estonia	6
Latvia	6
Lithuania	9
	21

Nordic countries	
Norway	2
Finland	15
Denmark	18
Sweden	21
	56

Non-EU/Non- EEA countries	
Serbia	1
Russia	1
	2

Southern Europe	
Cyprus	5
Greece	12
Italy	27
Malta	2
Portugal	7
Spain	33
	86

Anglosaxon countries/regions	
Ireland	1
Scotland/UK	5
United Kingdom	12
	18



N=423

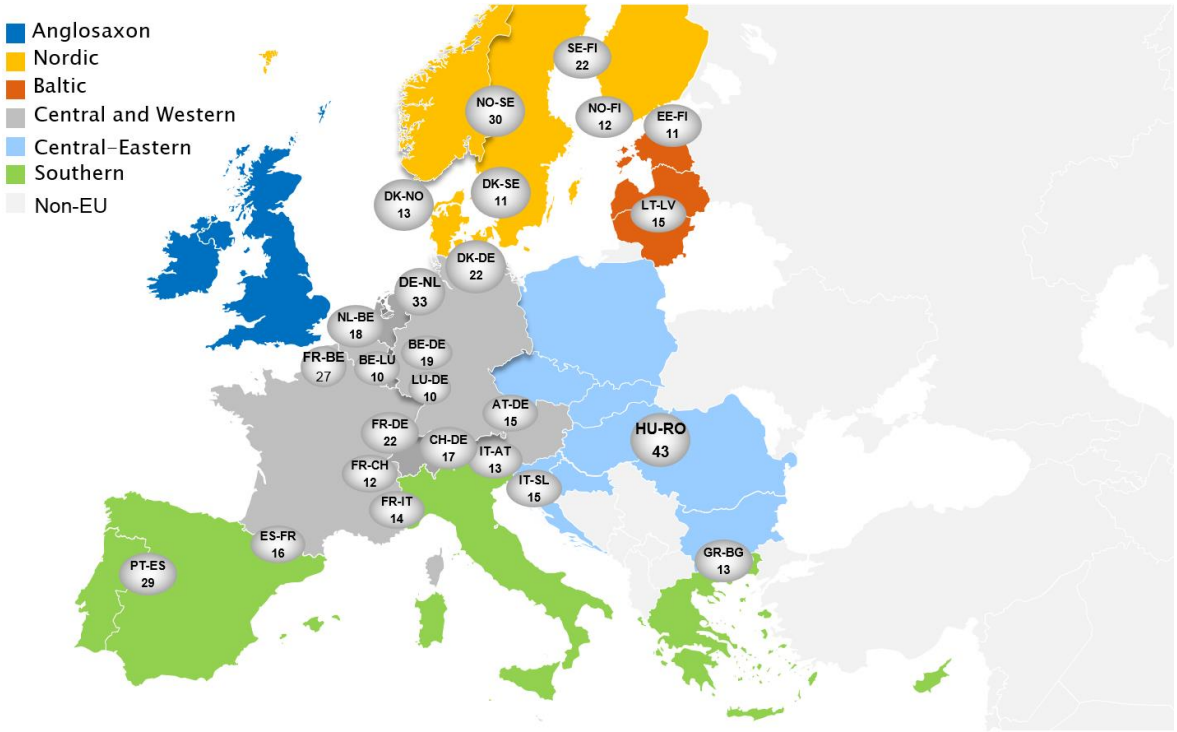
Source: GOE FP

Notes: Numbers in the graph refer to the total of cross-border care projects identified in the whole region subject to the respective colouring where the number is placed (e.g. 86 projects in Central and Eastern European countries, coloured in dark red).The table on the left side provides a more detailed split-up.

4.3.2 Country pairs identified in the scope of bilateral or multilateral collaboration initiatives

Apart from the question of who leads the ranking of cross-border care collaboration initiatives, it is also of relevance to identify patterns of bilateral collaboration (in the scope of bilateral or multilateral projects). We have therefore analysed the most frequent country pairs in European cross-border care initiatives in Figure 9. Hungary and Romania are the two countries with the most joint projects, either bilaterally or multilaterally, followed by Germany and the Netherlands. The large majority of collaboration initiatives take place within a geographical region, according to the classification used. It is notable that Anglo-Saxon countries are not among the groups of countries with cross-border care collaboration exceeding 10 projects per country pair.

Figure 9: Country pairs in the scope of bilateral or multilateral cross-border care collaboration in Europe with at least 10 joint projects

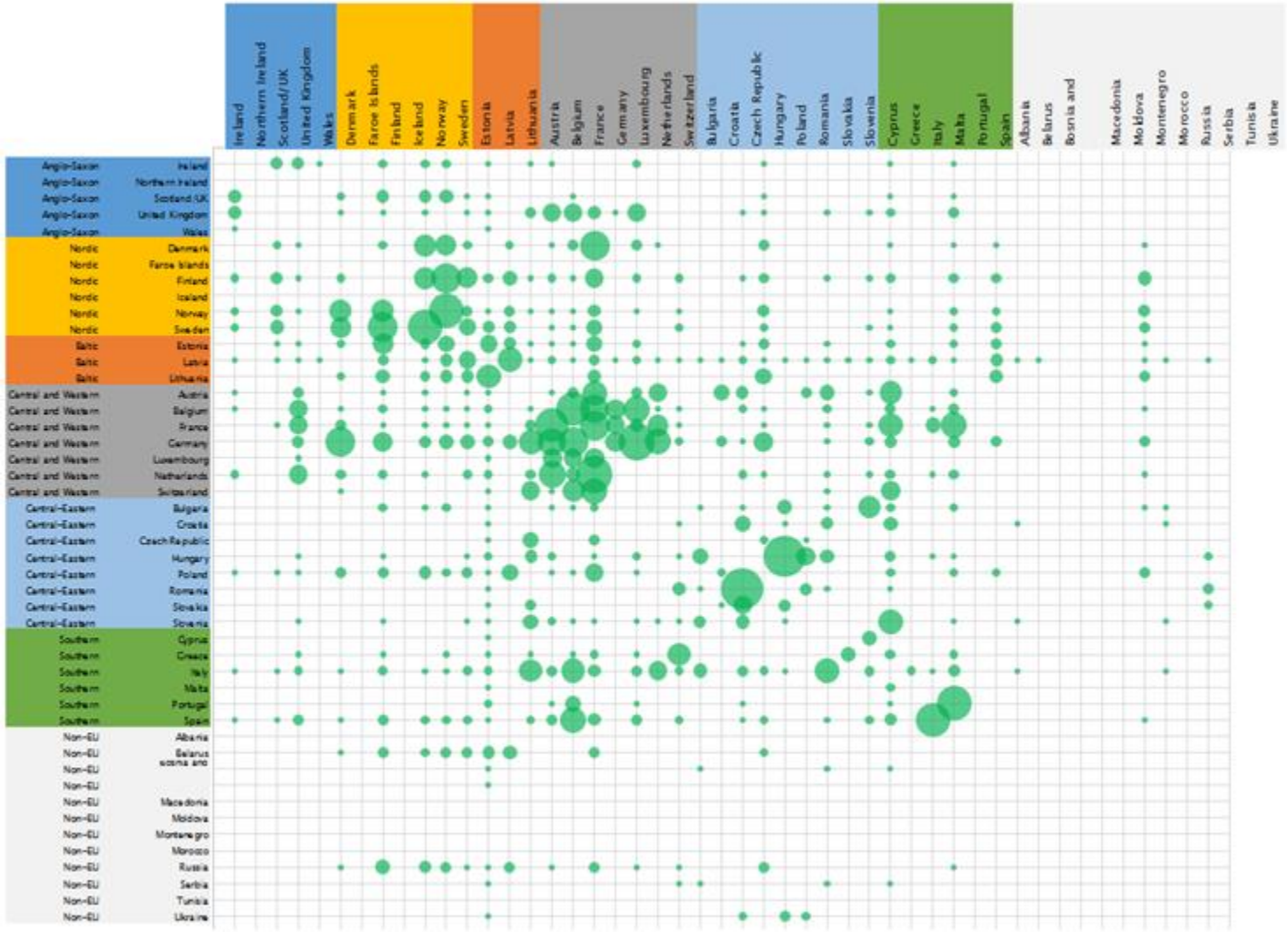


Notes: Number of EU-funded cross-border care projects per country pair indicated in each bubble for the 2007-2017 period. Only country pairs with collaboration exceeding 10 projects are shown.

Source: GOE FP

Another way of representing collaboration in healthcare and social care across borders in Europe is by providing a geographically ordered matrix of countries, as displayed in Figure 10. It confirms that the majority of collaboration initiatives take place within geographical regions, most prominently in Central and Western European countries. In addition, Baltic and Nordic countries collaborate closely within and across regions. In Central and Eastern European countries, cross-border care collaboration initiatives largely involve a small set of countries (particularly Hungary and Romania), whereas countries like Croatia, Slovenia and Slovakia collaborate less frequently with others. That is also interesting given the lack of a common language between Hungary and Romania, the countries in the region with the most collaboration initiatives.

Figure 10: Matrix of collaborating countries ordered by geographical region

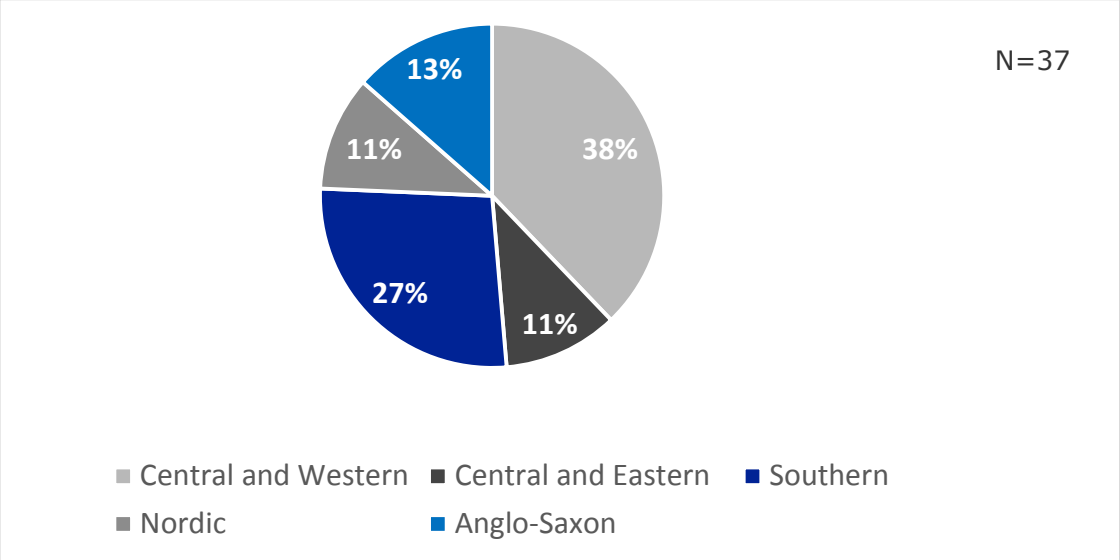


Source: GOE FP

4.3.3 Joint Actions/Networks funded under the EU Health Programme

One specific form of cross-border care collaboration that is also included in the list are EU Joint Actions. These are designed and financed by Member State authorities and the EU in order to address specific priorities under the EU Health Programme. Usually, a large number of EU countries participate. In the study sample, 37 projects were classified as Joint Actions or Networks[21]. As Figure 11 shows, the majority of Joint Actions and Network projects were led by Central and Western European countries, but Southern European countries also played an important role in leading these kinds of cooperation in the 2007-2017 period.

Figure 11: Leading geographical areas in terms of Joint Actions or Network Projects on Cross-Border Care (2007-2017)



Source: GOE FP

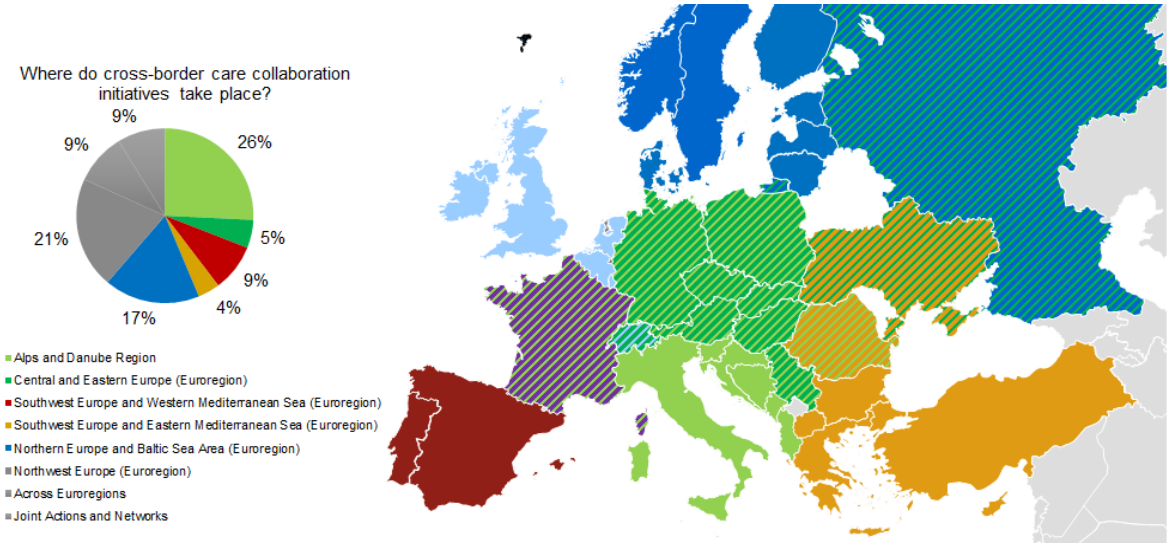
4.3.4 Collaboration initiatives within and across Euroregions

As mentioned above, a second approach to analysis of geographical linkages in cross-border care collaboration involves applying the concept of Euroregions [55]. It is important to note that countries may simultaneously be part of more than one Euroregion (e.g. Germany, France). The analysis took into account those overlaps, distinguishing between collaboration between countries *within* one of the six Euro-regions (Table 18) and collaboration *across* Euroregions.

Given the large number of participating countries, Joint Actions were treated separate-ly in the analysis. Out of the 423 projects investigated, 40 projects were not located entirely within one of the Euroregions (Figure 12), apart from the 37 Joint Actions and Network Projects described in the previous section. The largest number of projects was identified in the Alps and Danube Region (26 %), but Northwest Europe (21 %) and Northern Europe and the Baltic Sea (17 %) were also among the most important Euroregions in the field of health and care collaboration.

[21] . The URBACT Network (http://urbact.eu/) and the CASA Network (Consortium for Assistive Solutions Adoption; http://www.casa-europe.eu) were also analysed under the category of Joint Actions, as the conceptual approach is closely related to the idea of Joint Actions.

Figure 12: Distribution of cross-border care projects within and across Euroregions



Notes: Joint Actions are treated as a separate category. To avoid double counts, collaboration initiatives between France and Germany, Switzerland and Germany, and France and Switzerland were considered projects in the Northwest European Euroregion. Collaboration initiatives between Germany and Poland, and between Austria and Slovakia were considered projects in the Central Eastern European Euroregion.

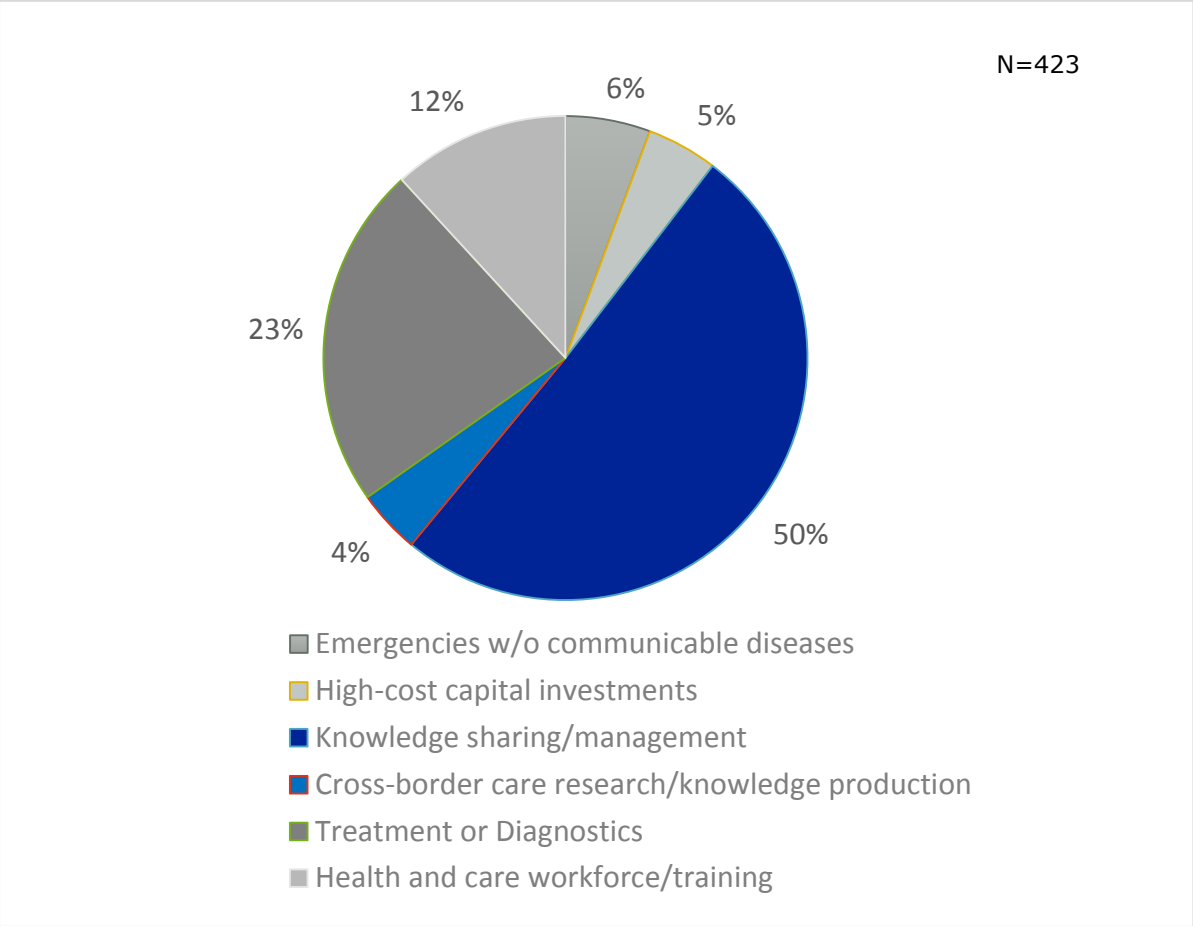
Source: GOE FP

4.4 Thematic focuses of cross-border care projects

Among the six thematic categories defined previously (Table 6), the 'Knowledge sharing/management' category clearly dominates, as half of the selected cross-border care projects were classified in that main category. Slightly more than a fifth of all projects came under the main category of 'Treatment or diagnostics', while the remaining categories make up only about a third of all projects (Figure 13).

During the analysis, the research team provided two or more key words for each project. Given that the number of key words was not restricted, the list of those key words is not representative. However, two aspects should be noted here. First, the collaboration initiatives identified focus on a large variety of different diseases. For example, cancer, rare diseases, chronic diseases and dementia were referred to most frequently (Figure 14). By contrast, as regards the demographic focus of cross-border care projects, older people dwarf all other age groups, even if young people and children were also mentioned (Figure 15).

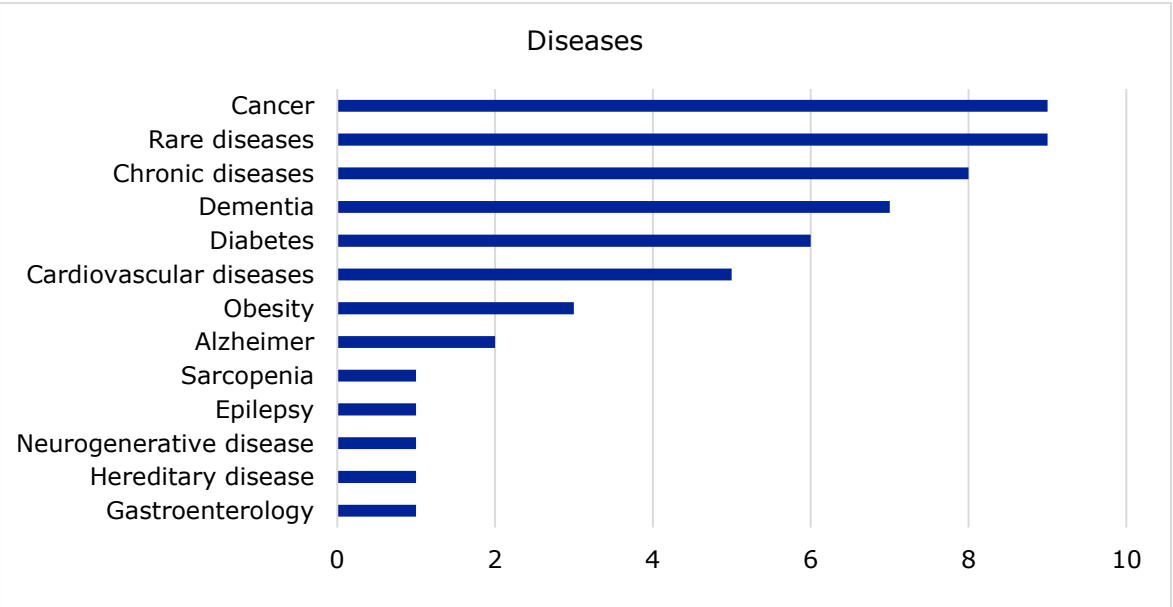
Figure 13: Main thematic focuses of identified cross-border care projects (2007-2017)



Note: Only main thematic focus considered.

Source: GOE FP

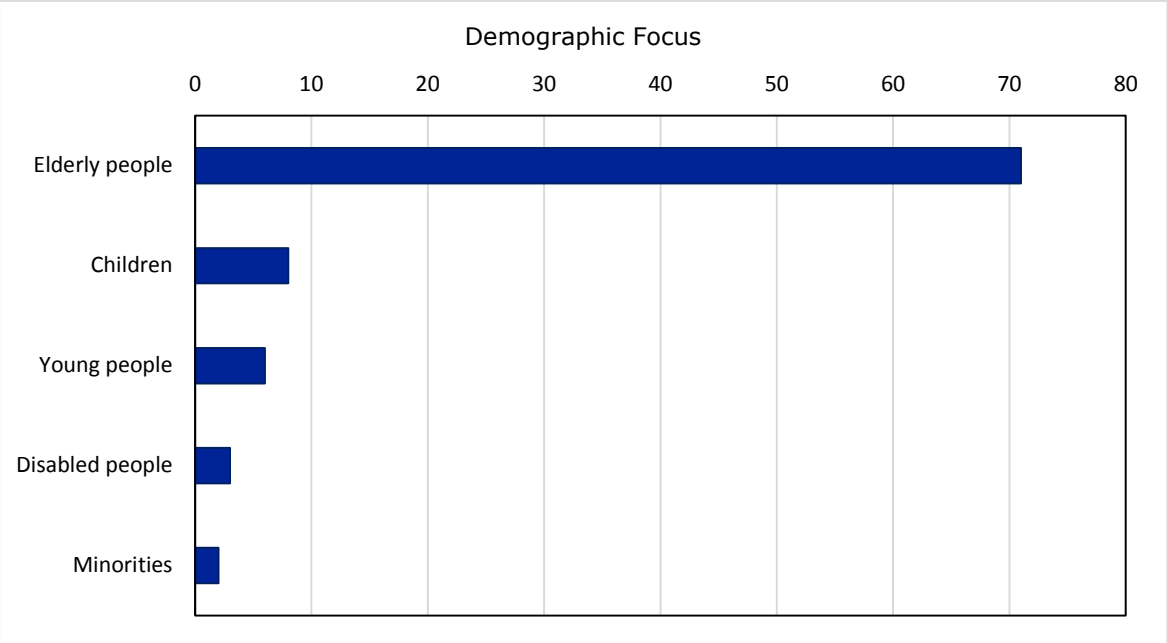
Figure 14: Frequencies of key words referring to diseases that form the focus of cross-border care projects



Notes: The number of categories assigned to each project was not fixed.

Source: GOE FP.

Figure 15: Frequencies of key words referring to the demographic focus of cross-border care projects



Notes: The number of categories assigned to each project was not fixed.

Source: GOE FP

4.5 Financial set-up and duration

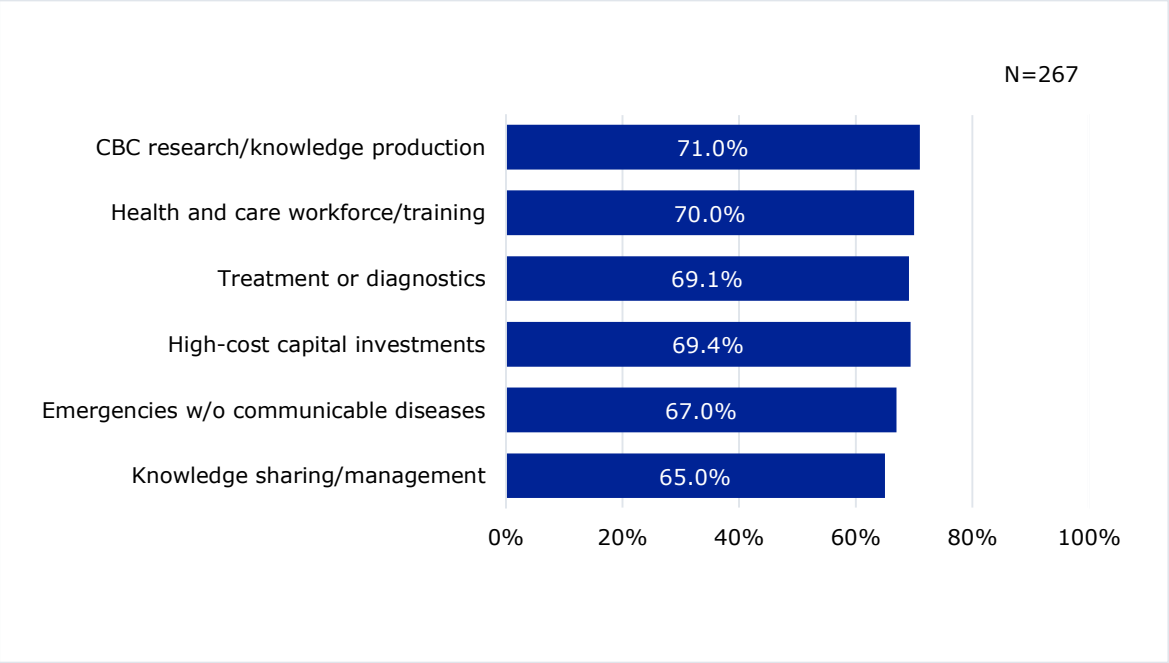
Structural criteria such as project budget and project duration may be factors that influence the sustainability and transferability of projects beyond EU support. Ideally, EU public financial support represents a 'kick-off' for creating the infrastructure needed and for allowing experimentation in cross-border collaboration, so as to identify the most fruitful form of collaboration between stakeholders. Structural factors are analysed in this section, albeit without being able to present insights into long-term developments. We find that Baltic countries and Central and Eastern European countries are among those with the highest share funded from EU sources, accounting for more than 80 % of the total budget. By contrast, EU funding support for projects in Central and Western European countries on average is below two-thirds of the total project budget (Figure 16). EU funding is lower only for projects where the lead country is not an EU Member State.[22] As regards financial support for cross-border care projects in different thematic fields, no substantial differences were found (Figure 17). When analysing the amount of the total budget financed via EU funding instruments, it is necessary to bear in mind that no precise budget numbers were found for 157 projects. Hence, the analysis of the financial set-up of the identified cross-border care projects refers only to those with sufficient information available.

One final aspect is the length of cross-border care projects. The average duration of the identified projects was 2.6 years. No substantial differences across thematic categories were found. The longest projects on average were in Central and Western European countries (3.3 years) and in Anglo-Saxon countries (3.5 years).

[22] The legal status of the organisation applying influences the co-financing rate, as does EU membership, with different regulations applying to Norway and Switzerland (Non-EU EEA Member States).

Regarding the time frame, the most projects were identified in the year 2011. The majority of projects identified started in the years 2008 to 2013. However, it needs to be taken into account that projects not concluded at the time of the research (summer 2016) were not included in the analysis. Thus, we refrain from a more detailed analysis with regard to the starting date of identified projects.

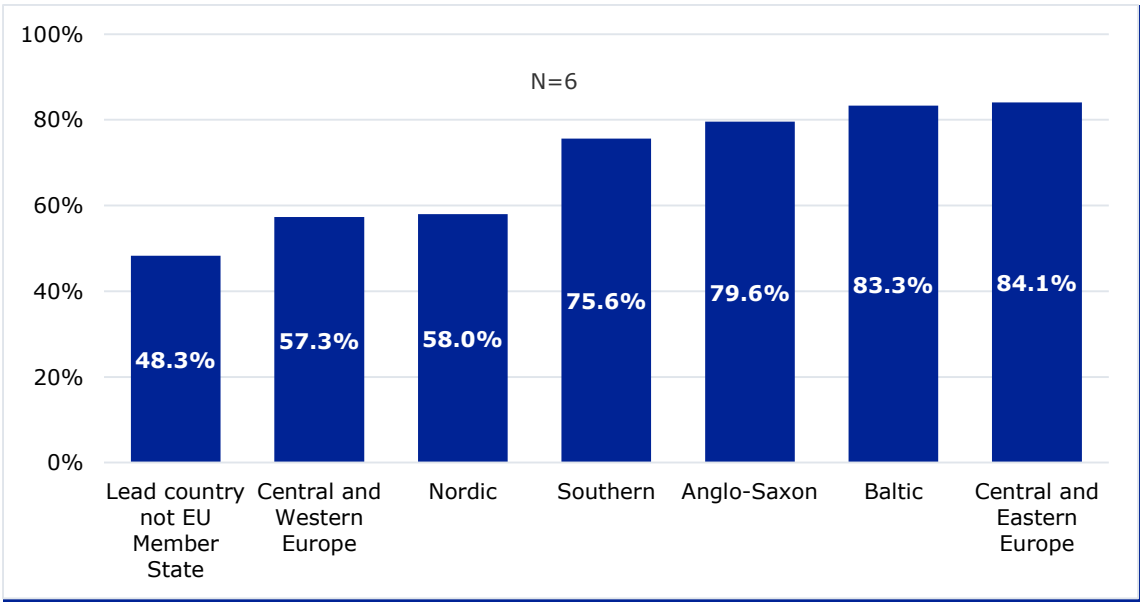
Figure 16: Average share of project budget financed via EU funding instruments by thematic focus



Notes: Not enough information available for 156 projects. These were excluded from the analysis.

Source: GOE FP

Figure 17: Average share of project budget financed via EU funding instruments by geographical region of the project leader



Notes: Not enough information available for 156 projects. These were excluded from the analysis.

Source: GOE FP

5 Results of the foresight exercise

5.1 Horizon scanning

5.1.1 Driving factors (literature review)

In the context of this study, driving factors are defined as causal factors that may trigger greater cross-border cooperation. In addition, our definition includes contributory factors that facilitate (or hinder) cross-border cooperation. Such facilitating factors serve as a framework for cross-border cooperation, but are not the main causal factors for collaboration. Identifying driving factors for cross-border care helps to describe processes that trigger, facilitate or hinder cross-border healthcare collaboration. Ultimately, that step in the research helps to illustrate the possibilities for improvements in cross-border healthcare cooperation to ensure that it provides added value to the participating countries and regions.

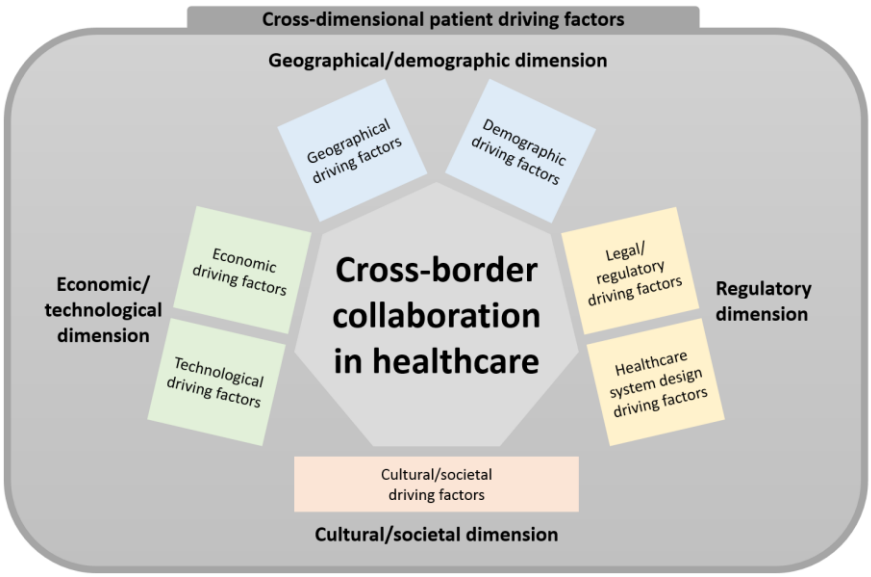
While we acknowledge the importance of the multiple perspectives of the various stakeholders involved in cross-border collaboration, this part of the study is mainly concerned with the perspective of the 'actors' that are chiefly responsible for establishing collaboration projects, rather than with the perspective of patients as 'consumers' of cross-border care collaboration [4]. Notwithstanding, drivers at the individual (patient) level are accounted for in a cross-dimensional section (Table 20).

First, four main dimensions were identified by reviewing existing literature. Each of the dimensions includes one or more potential driving factors for cross-border healthcare collaboration (Figure 18):

- geographical/demographic dimension
- cultural/societal dimension
- regulatory dimension
- economic/technological dimension.

Patient drivers are cross-dimensional. For each dimension, driving factors were separately assigned to the respective sub-categories (e.g. geographical driving factors come under the geographical/demographic dimension), as displayed in Table 19.

Figure 18: Driving factors for cross-border healthcare collaboration



Source: GOE FP

Table 19: Driving factors for cross-border collaboration in healthcare

Geographic/ Demographic Dimension	**Geographic driving factors (perspective of 'actors' e.g. local or regional government authorities)**
	Geographical proximity between countries or regions ▪ Number and kind of borders (fluid and rigid borders) between countries or regions ▪ Peripheriality and relative geographical isolation of countries or regions
	Demographic driving factors (perspective of 'actors' e.g.local or regional government authorities)
	▪ Population composition (e.g. ageing of population, migration) ▪ Population characteristics (e.g. epidemiology)
Cultural/ Societal Dimension	**Cultural/Societal driving factors (perspective of 'actors' e.g. local or regional government authorities)**
	▪ General cultural proximity/familiarity between countries or regions (e.g. cultural identification, low language barriers, high reputation of a country in the population) ▪ Health related cultural proximity/familiarity between countries or regions (e.g. patients' trust in own healthcare system, patients' perception of foreign healthcare systems) ▪ Societal characteristics (e.g. patient mobility/openness to travel, healthcare personnel mobility, degree of patient empowerment, degree of access to patient-relevant data)
Regulatory Dimension	**Legal/regulatory driving factors (perspective of 'actors' e.g.local or regional government authorities)**
	▪ Importance of levels of cross-border cooperation (separately for local, regional, national and EU level) ▪ General political stability and governmental organization (e.g. political willingness, design of decision-making) ▪ Legal determinants (e.g. bilateral agreements) including bioethical legislation (e.g. privacy and data protection regulation, regulation of patients' choice, relevant in case of international travel for abortion services, fertility treatment,etc)
	Healthcare System design driving factors (perspective of 'actors' e.g. local or regional government authorities)
	▪ Characteristics of the domestic health care system (e.g. share of public/private sector, specialisation of countries, (de-) centralization of health service provision/planning) ▪ Financing & remuneration by national health funds (e.g. share of out of-pocket expenses and optimal value-for-money) ▪ Characteristics of health care services (e.g. quality, safety, (non-) availability and over-/undercapacities and price of services (e.g. treatment costs, potential travel expenses and accommodation costs and insurance expenses)
Economic/ technological Dimension	**Economic driving factors (perspective of 'actors' e.g. local or regional government authorities)**
	▪ Socio-economic situation of countries or regions (e.g. general economic situation, unemployment, restrictions in financing for health care, over- or undercapacities in service provision) ▪ Economies of scale (e.g. increased specialisation, pooling of competencies, cost reduction and quality of care) ▪ Technology uptake of countries or regions (e.g. large scale technology investments) ▪ Innovative capacity of countries or regions ▪ Use of Information Communication Technology (ICT) (e.g. e-/m- health and cross-country data availability, to be seen in connection with data protection and patients' rights)

Source: GOE FP

Table 20: Driving factors from the patient perspective (cross-dimensional)

Driving factors from the patient perspective (cross-dimensional)	
Cross-dimensional	Driving factors for cross-border collaboration in healthcare
	Familiarity with health care systems abroad
	Lack of availability of domestic health care services
	Awareness of treatment options abroad (e.g. through promotion by National Contact Points or European Reference Network)
	Financial costs of health care services (low domestic insurance coverage, high domestic out-of-pocket payments)
	Preferable bioethical legislation abroad, or restrictive domestic regulations
	Quality deficits in domestic health care (e.g. regarding safety of treatments)
	Influenced by experiences of other patients

Source: GOE FP

Geographical/demographic dimension

The geographical/demographic dimension largely comprises factors that are 'external' or 'given'. When considering geographical driving factors for cross-border healthcare collaboration, general aspects regarding the location of a country/region and its characteristics (e.g. size of the country, number and kinds of borders) have to be taken into account. Collaboration and the kind of collaboration between countries or regions depend on their proximity or distance and also on the proximity or distance to required health services for the population [11, 56, 57]. Geographically isolated or scarcely populated regions are often prone to cross-border collaboration due to a lack of infrastructure. Such regions are particularly attractive in terms of pushing for new technological approaches (e.g. telemedicine) (for technological driving factors, see also the economic/technological dimension). Nonetheless, long-distance cooperation already exists and is not limited to new technology, as for example between UK and Malta. The cooperation between Malta and the UK has been in place since 1975 and allows Maltese patients to access highly specialist care for rare diseases that is not available in Malta. In exchange, UK residents and pensioners in Malta are entitled to free healthcare [9, 58]. Another example of long-distance cooperation is 'BeNeLuxA', a group of countries (Belgium, Netherlands, Luxemburg and Austria) that have started to collaborate more closely across several fields of health with the primary aim of ensuring access to innovative drugs at affordable prices (initially for orphan drugs) through the generation of an enhanced patient pool for pharmaceutical companies [8].

Collaboration in healthcare is not only influenced by the homogeneity of geographical regions, but also by the population living in border regions and by the kind of borders under consideration [12, 56, 57]. Borders – referred to by Glinos and Baeten (2006) as 'fluid' or 'rigid' country borders – may either be easy to pass from the patient's perspective, i.e. there is no geographical, cultural or administrative barrier ('fluid-borders') or difficult to pass from the patient's perspective, i.e. including geographical, cultural and/or administrative barriers ('rigid borders') [12]. In many cases, cooperation in border regions, i.e. between neighbouring countries, is more frequent than cooperation within a country, e.g. due to long travel distances [12]. With respect to health travel, geographical proximity, unavailability of healthcare services and low access barriers, e.g. travel cost, travel time and immigration laws, are key elements for patients seeking health services abroad [59-61].

Demography is the second 'external' factor identified in the scope of this first dimension. Cross-border collaboration also depends on the composition of the population (e.g. the share of ageing population or migrants) and its characteristics (e.g. epidemiology, specific expertise of health professionals) or needs. As an example, a country/region with a growing proportion of elderly people and, for instance, a lack of

medical personnel, know-how or relevant infrastructure, might have no choice but to cooperate with other countries/regions.

Cultural/societal dimension

Besides geographical/demographic driving factors – but linked to those – cultural and/or societal factors can be grouped and deemed relevant to cross-border healthcare collaboration. General cultural proximity to and cultural identification by the population with the country/region of destination seem to have a key influence on the patient's choice to use health services in a country/region other than the one of origin [59]. Cultural/societal familiarity includes language, habits, practices or history [11, 12, 59]. In specific cases, language barriers may even be greater within a country than between countries, encouraging cross-border collaboration and catering better to patients' needs [11].

In addition to such general cultural/societal aspects, health-related cultural proximity/familiarity between countries/regions is important for collaboration, since the reputation of health services and whole health systems are determining factors for patients' trust in their own healthcare systems and the perception of foreign healthcare systems [59].

Another set of aspects that come under the cultural/societal dimension are the characteristics of the respective society in a given country/region, such as healthcare personnel and patients' mobility, degree of patient empowerment, including ease of access to patient-related data, and the existence of information asymmetries between actors in the healthcare system.

Increased patient mobility can either lead to greater mobility of healthcare professionals or incentivise healthcare professionals to attract patients from other countries for private motives, e.g. attaining higher incomes [11, 56]. Besides monetary motives, cross-border care promotes exchange of knowledge and training of health professionals [62]. Moreover, regional cross-border collaboration, e.g. between two hospitals, necessitates exchange of healthcare personnel, which supplements local structures and expertise, in particular if specific knowledge or know-how is lacking or institutions are understaffed [11]. On the other hand, the mobility of health professionals might affect patient mobility as well, i.e. patients following health professionals across borders [12]. Moreover, people crossing borders daily to reach their workplace are more likely to seek out health services in the country of their workplace than in their home country [12]. Overall, patient mobility, service mobility and professional mobility are related phenomena and follow similar trends [57].

Regulatory dimension

Regulation (EC) 883/2004 [3] on the coordination of social security systems and Directive 2011/24/EU [2] on the application of patients' rights in cross-border healthcare allow residents of EU Member States to receive health services in a different Member State (Member State of Treatment) from the Member State of Affiliation (MSoA). Use of healthcare services is subject to the conditions of the Member State of Treatment, while reimbursement of the healthcare services used falls under the responsibility of the MSoA. The MSoA defines entitled persons, the type and degree of reimbursement and eligibility requirements for reimbursement. Specific treatments require prior authorisation. Directive 2011/24/EU excludes health services related to long-term care, organ transplants and public vaccination programmes. Medical emergencies are, broadly speaking, always covered and are subject to reimbursement based on the European Health Insurance Card. Moreover, Directive 2011/24/EU ensures that patients receive information regarding medical treatment and its safety and quality from National Contact Points (NCPs), as well as regarding their rights and entitlements in the Member State of Treatment and that they receive

medical records on the healthcare services they have used. While Regulation (EC) 883/2004 and Directive 2011/24/EU aim to guarantee patients' rights and patient mobility in the first place, they do not replace national legal frameworks.

Moreover, health services that are used within the framework of Regulation (EC) 883/2004 [3] in connection with prior authorisation and/or reimbursement require case-by-case assessment, which can lead to a high administrative burden, in particular if the number of cases increases [6]. Although Directive 2011/24/EU[2] and Regulation (EC) 883/2004 [3] promote patient mobility and ensure patients' rights, a study evaluating the Cross-border Healthcare Directive and its implementation in Member States showed limited patient awareness throughout European countries and relatively low numbers of information requests to National Contact Points (NCPs) and reimbursement of health services used [6]. When evaluating Directive 2011/24/EU[2], the population survey showed that factors like a high administrative burden associated with healthcare use in another Member State or experiences of other patients have a greater influence on patient choice than quality and safety standards [6].

Increased cooperation between governments and national adaptation to provide an adequate legal and administrative framework also requires the reduction of uncertainties surrounding cross-border health services and increased sharing of information between the parties concerned [12, 57, 63]. Directive 2011/24/EU[2] and Regulation (EC) 883/2004 [3] harmonised the framework conditions for cross-border healthcare by defining the responsibilities of Member States and the entitlements of patients, thus reducing the uncertainty for the stakeholders involved.

Based on the existing European regulatory context as partly described above, the regulatory dimension covers two main categories of driving factors: on the one hand, legal/regulatory driving factors and, on the other hand, health system design factors which drive healthcare collaboration.

With respect to the legal/regulatory driving factors, it is essential to first distinguish between cross-border collaboration at the national/regional level and at the European level. Regional collaboration (see background for definition) tends to be small-scale, is initiated either by patients, providers or national policy and may be organised with or without political strategic support. Collaboration at the European level (see background for definition) tends to be policy-initiated or policy-driven. Sousa (2013) reports on the differences between cross-border collaboration that is initiated at the national/regional level and cross-border collaboration that is initiated at the EU level. Implementation of collaboration at the EU level may face difficulties due to national legal regulations that maintain regional sovereignty and tend to hamper the efficiency and harmonisation of cross-border collaboration at the EU level [7].

Regionally driven cross-border collaboration requires less political commitment, often needing just a 'handshake' to start cooperation, than cooperation at the EU level [7, 11]. Moreover, incentives to establish national cross-border cooperation differ from incentives to enhance cooperation at the European level [64]. Cooperation at the national or sub-national level is mainly established without a connection to specific cross-cutting policy issues, and tends to be connected to the local needs of the respective area [11, 64]. In such cases, actors at the local level often play an important role in contributing to the establishment of collaboration projects. Networks of grassroots non-state actors, for example, have the capacity to connect communities that share common backgrounds, histories and cultures and thus enhance integration across borders [65]. Local actors – whether non-state or state actors – often tend to be sceptical about any top-down collaboration schemes and are free to support or oppose initiatives according to whether they perceive their interests to be promoted or threatened [12].

A further distinction can be made in terms of the type of funding mechanism. Cross-border collaboration projects can be financed through national funds or EU funds [7].

As specific cases of regional collaboration show, regions finance cross-border projects jointly to ensure appropriate infrastructure and provide the required health services [11].

General political stability and the governmental organisation of a country/region is another important regulatory/legal facilitator. Some regions are more active in establishing cross-border collaboration, while other regions do not take a cross-border approach [7]. That also depends on the political willingness for collaboration, the need for collaboration and the underlying national legislative framework. Due to converging systems, cross-border collaboration requires specific knowledge of legal aspects of the collaborating states [7].

Political commitment at the European, national, regional and local level that takes into account various challenging factors and perspectives, i.e. the perspectives of patients, payers and healthcare providers, is necessary to ensure well-functioning healthcare systems and improve cross-border healthcare collaboration [56, 57, 62]. That leads to the other driving factor in the scope of the regulatory dimension, namely the design of health systems. Especially recently, there has been increasing pressure for adaptation of health systems to account for technological progress, changes in the population, e.g. ageing of the population, and migration, while dealing with increases in healthcare expenditure [56, 57, 66].

General characteristics of the healthcare system (e.g. share of public/private sector, specialisation of countries, (de-) centralisation of health service provision/planning) depend heavily on different driving factors from the economic ones. Specifically, the relationship between the private and public health sector may change as the sustainable financing of health systems faces increased uncertainties, which also affects patient empowerment [56].

Cross-border collaboration at the sub-national level often includes stakeholders from the private for-profit or non-profit sector located in border regions [64]. Patient flows into neighbouring countries also trigger competition between both public and private healthcare providers in different countries. Patient outflows may harm national health systems and intensify healthcare providers' incentives to prevent potential patient outflows [12]. Cross-border collaboration, especially in this sense and in the sense of travel for use of health services (so-called 'medical tourism'), may therefore contribute to an increase in the use of health services provided by the private for-profit sector [59].

Privacy and data protection regulations play an important role with regard to exchange of data at the patient level. Ethical questions, such as ownership of data [67], are becoming more and more difficult to answer in the light of a technological environment that is developing at an ever increasing pace. Sound policies are therefore needed to ensure that new technologies (such as the application of genomics in medicine) are introduced in the field of healthcare without any misuses or unintended consequences [68].

Besides the balance between public and private provision of health services, the scope of national health insurance coverage affects cross-border care [12, 59]. Required health services not covered by national health insurance incur out-of-pocket payments for patients, thus motivating patients to search for cheaper alternatives abroad [12, 59]. There is a trend towards patients from high-income countries using health services in medium- or low- income countries [11, 58, 60]. Similar trends may apply in long-term care for elderly people [69, 70]. Accordingly, patient rights within and across countries are an essential basis for reducing uncertainties for patients and promoting cross-border collaboration, not only from a legal perspective, but also in terms of health system design. Patient rights may refer to patients' entitlements, including legal and non-legal aspects, especially related to the reimbursement of health services [57].

Various characteristics of health services (e.g. health services mobility, quality, safety, (non-) availability and over-capacity/under-capacity, price of services) in the scope of the health system may influence the possibility for cross-border collaboration. Special triggers of cross-border care may be under-capacity in terms of personnel, equipment or facilities, long travel distances or waiting lists [11, 59] in the national health systems. Taking a closer look at potential over-capacity or under-capacity in health service provision, the type of treatments required by patients, i.e. specialised vs. mass treatments, and the (non-) availability of treatments are decisive with regard to the use of health services [56, 57, 63]. Besides the general availability of health services, available quantities of health services are a crucial factor [12]. Whenever availability and quantities are limited, viable alternatives are necessary, leading to intentional use of healthcare services abroad [12]. In particular, highly specialised treatments or treatments involving the latest technology are subject to cross-border care, optimising the use of scarce resources [12, 56, 57, 71]. Alternatively, access to innovative healthcare products is often limited as development requires considerable cost investment and private companies aim to achieve high profits as a result [66].

Collaboration projects resulting from under-capacity tend to be driven by national health authorities (top-down approach, e.g. England, Norway, Denmark or the Netherlands), while other collaboration projects are initiated at the local level without the legal and administrative support of national authorities (bottom-up approach), with equipment, facilities and medical knowledge thus being shared or supplemented (e.g. German-Danish borders) [12, 63]. However, increased cross-border use of services due to national under-capacity in public healthcare provision may not result in the improvement of access to national healthcare services [63]. An alternative to cross-border care is to offset national under-capacity by increased collaboration with national healthcare providers from the private sector [12].

Health service quality is another characteristic of health services that is relevant to whether cross-border collaboration takes place and possibly whether it is necessary at all. The low quality of national health services either shifts use of health services to the respective national private sector or encourages cross-border care [12]. Cross-border collaboration can contribute to overall enhanced quality and safety standards for those health services provided [57]. Transparent quality and safety standards are particularly important for patients so that they can correctly assess health services abroad and evaluate potential risks and benefits [59].

With respect to prices of health services, cross-border collaboration offers the potential to operate more cost-effectively by introducing specialised healthcare units, providing care for larger regions and balancing diverging capacity between countries [56, 57]. Especially in the case of scarce capacity in neighbouring countries, broader collaboration on cross-border care seems vital to converge supply and demand with respect to required health services [56] and, hence, reduce over-capacity or under-capacity.

Besides the price of envisaged health services, patients need to consider additional expenses that are related to cross-border care, such as travel costs or accommodation costs [9, 58, 59]. In the majority of cases, use of health services abroad is not covered by national health insurance and incurs out-of-pocket expenses for patients [59].

Economic/technological dimension

The economic/technological dimension covers economic driving factors, such as the general socio-economic situation of countries/regions or economies of scale and technological driving factors including technology uptake, capacity to innovate and the use of Information Communication Technology.

Economic factors are closely related to the driving factors of the health system described above, as cross-border collaboration necessitates accurate planning of capacity within and between countries to prevent financial imbalances and adverse effects on healthcare budgets [57].

Often closer collaboration between countries may even facilitate development of specialised healthcare providers or healthcare units. These collaborations complement existing health services so as to enhance the efficient use of resources [56, 57]. As history shows, regional cooperation between specific healthcare institutions, e.g. hospitals, was also economically successful throughout Europe [11, 72]. Furthermore, cross-border collaboration is not only assumed to increase efficient use of resources, but also to improve knowledge sharing between healthcare providers and professionals [62, 73]. Similarly, common efforts at the EU level to regulate patient mobility or health professionals' mobility, such as in the context of the modernised Professional Qualifications Directive (2013/55/EU) and the Cross-Border Patient Rights' Directive (2011/24/EU), may ultimately also influence national policies in the field of quality assurance in healthcare and (harmonised) cost calculation mechanisms [5, 74, 75]. Another aspect of resource allocation in this context is the possibility of joint procurement of health inputs or services facilitated by IT applications, such as information platforms, data warehouses, clearing houses or exchange platforms (e.g. exchange of information on prices for pharmaceuticals for a stronger negotiating position vis-à-vis the pharmaceutical industry, see also the intention behind 'BeNeLuxA' [8]).

The uptake of new, specialised technologies and the related investment costs amount to a substantial share of healthcare expenditure, thus requiring common investment to keep pace with technological change [56]. Accordingly, the expansion and integration of e-health services and m-health services foster adequate assimilation to Information Communication Technology (ICT) and the provision of technology-supported health services [56]. However, the trend towards serving a limited number of patients in specialised medical units that are equipped with the latest technology seems worth discussing in terms of access [59, 62]. All these are factors that are important for future cross-border cooperation, even though countries set diverging priorities. Yet, existing data on cross-border care is either scarce or varies in quality and extent.

Harmonisation of relevant data could prove to be a driving factor for large-scale cross-border collaboration, but requires increased data collection [57]. In this sense, although regulatory driving factors are very much interlinked, regulation of data protection is important to protect patients' rights. Furthermore, information exchange in the field of research and development offers the potential to both increase the efficiency of cross-border cooperation and reduce information gaps [76]. Accordingly, enhanced information exchange between health professionals is vital to promote knowledge transfer [62, 77]

Patient drivers (cross-dimensional section)

Information asymmetries may occur between providers and patients, but also between providers and insurers [78], both in national and cross-border contexts. Especially when crossing borders, patients may be confronted with a lack of information about providers in the target country. That is influenced by the amount and quality of information on providers available to patients in the target country and in the patients' language. For instance, public reporting mechanisms may exist, other channels may be dominant (e.g. patients informing each other in online forums), or information on providers in the target country may not be accessible to (foreign) patients. On the other hand, providers may also be confronted with information asymmetries about foreign patients as they might not have the patients' records (or other forms of information, such as the patient history) at disposal [77]. Medical doctors (e.g. dentists) treating patients returning from treatment in another country may face similar challenges [60]. However, in that context, the European Health Insurance Card

(EHIC) represents a first step towards enhanced information exchange across borders and harmonised European quality standards in healthcare [79]. Information asymmetries between providers and insurers may create incentives for providers to exploit the information advantage for the purpose of generating additional demand for their services, thus leading to overprovision of services by providers and resulting in higher costs for insurers [78].

Patient mobility is a driving factor for further use of cross-border care, and increased cross-border collaboration might enhance patient mobility, indicating potential reverse causality [63]. Cross-border healthcare can therefore be highly demand-driven, which means an important aspect of the design of cross-border collaboration is to satisfy the unmet needs of patients (for health system design driving factors, see also the regulatory dimension). Existing cooperation has shown that demand-driven healthcare results in increased regional cooperation to satisfy patient needs with respect to availability of services and expertise [11]. For treatments that are not available in their home countries, patients are also willing to travel longer distances [12]. Besides that specific and controversial legislative aspect, legislative structures should consider cross-border care that is driven by geographical proximity [12].

Patients' willingness to seek out appropriate medical care outside their home country has increased due to globalisation and improved access to information, resulting in higher patient mobility [56, 63]. Thus, better access to health-related information supported by Information Communication Technology (ICT) empowers patients [63]. The two main reasons for patients using health services abroad are that people either face health issues when travelling outside their home country or intentionally seek out health services abroad due to geographical proximity or disadvantages of their national healthcare system [12, 80]. In particular, highly specialised healthcare requires patient mobility as countries may not provide highly specialised health services [62] on the grounds that national demand lacks critical mass. In addition, it can be observed that patients living in border regions are especially prone to crossing borders and using health services abroad rather than travelling long distances in their home country due to shorter distances and higher identification with a familiar environment [11, 12].

At the individual level, the current health status of an individual, especially poor health status, encourages the use of healthcare services abroad, and therefore promotes, for example, travel for the purpose of using health services in countries with medium or low price levels, taking the individual's income into account [56, 57, 63, 81]. However, patient preferences on where to use health services (especially if there is no ultimate need for that health service) may also be influenced by the degree of information available about health services and the exchange of such information at the patient level. The level and quality of knowledge and exchange of information are in turn based on sociocultural factors, such as trust, communication and language [62]. Cultural trust and interest in health data interpretation also play a major role when it comes to inclusion of patients and their perspective in the generation of information for patients and about patients. Especially in the light of health research analysing large quantities of data, demand for more public participation is rising ('citizen-science') [82]. In relation to that, data protection and ensuring patients' rights are evident matters to take into account. For example biomedical research is increasing as more data becomes available (e.g. from clinical trials, observational studies and administrative data). 'Owners' or those responsible for storage of the data (hospitals and institutes) have to comply with both national and international bioethical regulations [68]. A positive effect of sharing large quantities of medical data might also be that it helps provide information about quality of care in the sense of 'big data' [83].

5.1.2 Identification of key driving factors and indicators

As outlined in section 3.2.2, an e-mail consultation of the members of the study's expert and stakeholder panel ran from mid-November 2017 to mid-December 2017. Reminders were sent after two and after three weeks. The consultation helped assess the importance for CBHC and the predictability of driving factors presented in the previous section. Importance of each driver was rated from 1 to 5, with 5 referring to the most important driver(s). Both the median and the average values amounted to 3,8 (n=10). The six most important driving factors according to the e-mail consultation are presented in Table 21. The least important driving factor (at an average rating value of 2.8) was "preferable bioethical legislation abroad, or restrictive domestic regulations". The most important factors were found to be geographical factors, cultural/societal factors, patient-level driving factors and legal/regulatory factors (see Figure 18).

Uncertainty was rated from 1 to 5, with a value of 5 referring to the most certain driver(s). One of the experts did not feel competent to evaluate predictability/certainty of driving factors and refrained from providing an assessment in this dimension. The median rating value amounted to 3.2 and the average value to 3.3 (n=9). The five most certain driving factors are presented in Table 22. The least certain or predictable driving factors (at an average rating value of 2.2) were "overall technological driving factors
(perspective of 'actors' e.g. local or regional government authorities)". The most certain driving factors were found to be patient-level driving factors, geographical factors and cultural/societal factors (see Figure 18).

Table 21: Six most important driving factors and suggested indicators according to expert and stakeholder consultation (n=10)

Driving factor (ranked according to importance)	Ø value	Indicator(s) suggested during the consultation
General cultural proximity/familiarity between countries or regions (e.g. cultural identification, low language barriers, high reputation of a country in the population)	4.6	• Number of border areas (e.g. France-Wallonia) • Number of languages spoken
Geographical proximity between countries or regions	4.6	• Number of borders with other countries
Lack of availability of domestic healthcare services	4.5	• Unmet patient needs • Health care coverage (who is covered?; which services are covered?; proportion of the costs covered)
Peripheriality and relative geographical isolation of countries or regions	4.4	• Share of population living in rural areas • Accessibility of health care • Availability of new technologies
Overall geographic driving factors (perspective of 'actors' e.g. local or regional government authorities)	4.4	• Population density • Share of population living in rural areas • Number of EU or non-EU neighbouring countries
Overall legal/regulatory driving factors (perspective of 'actors' e.g. local or regional government authorities)	4.4	• Number of bilateral or multilateral agreements • Mutual recognition of qualifications • Healthcare service portfolios (in either side of the border) • Political stability • Consistent commitment to CBHC

Source: GOE FP

Table 22: Five most certain driving factors and suggested indicators according to expert and stakeholder consultation (n=10)

Driving factor (ranked according to certainty)	Ø value	Indicator(s) suggested during the consultation
Lack of availability of domestic healthcare services	4.1	• Unmet patient needs • Health care coverage (who is covered?; which services are covered?; proportion of the costs covered)
Geographical proximity between countries or regions	4.0	• Number of borders with other countries
General cultural proximity/familiarity between countries or regions (e.g. cultural identification, low language barriers, high reputation of a country in the population)	3.9	• Number of border areas (e.g. France-Wallonia) • Number of languages spoken
Peripheriality and relative geographical isolation of countries or regions	3.9	• Share of population living in rural areas • Accessibility of health care • Availability of new technologies
Familiarity with healthcare systems abroad	3.9	• Degree of information about treatments abroad • Number of family members living in another country

Source: GOE FP

Based on the ranking, an impact-uncertainty matrix was developed, based on the 5-6 most important/most certain and the 5-6 least important/least certain driving factors identified in the consultation (Figure 19). This matrix serves to identify driving factors assessed as being of high importance (impact) for CBHC. Among the most important factors, a distinction can be made between factors of low uncertainty which are not expected to change substantially in the future (with a time horizon of 2030), and factors of high uncertainty. While current planning may adapt to predictable trends (low uncertainty), longer-term planning may be required for important trends that are not easily predictable (high uncertainty).

In our analysis of the results from the e-mail consultation, no factors of high importance (impact) and high uncertainty were found. Factors of medium impact with medium uncertainty were legal/regulatory factors and economies of scale (e.g. due to increased specialisation). Four driving factors were found to be of high importance, while displaying low uncertainty:

- General cultural proximity/familiarity between countries or regions (e.g. cultural identification, low language barriers, high reputation of a country in the population
- Geographical proximity between countries or regions
- Lack of availability of domestic healthcare services (patient-level driving factor)
- Peripheriality and relative geographical isolation of countries or regions

These factors largely coincide with the most important factors identified in the literature (see section 5.1.1). They represent an important basis for the development and validation of the scenarios presented in the next section.

Figure 19: Impact-Uncertainty Matrix of driving factors for CBHC

	low uncertainty	medium uncertainty	high uncertainty	IMPACT
General cultural proximity/familiarity between countries or regions (e.g. cultural identification, low language barriers, high reputation of a country in the population)	x			high impact
Geographical proximity between countries or regions	x			
Lack of availability of domestic healthcare services (patient level)	x			
Peripheriality and relative geographical isolation of countries or regions	x			
Overall legal/regulatory driving factors (perspective of "actors" e.g. local or regional government authorities)		x		medium impact
Familiarity with healthcare systems abroad (patient level)	x			
Economies of scale (e.g. increased specialisation, pooling of competencies, cost reduction and quality of care)		x		
Population composition (e.g. ageing of population, migration)		x		low impact
Technology uptake of countries or regions (e.g. large scale technology investments)			x	
Innovative capacity of countries or regions			x	
Use of Information Communication Technology (ICT) (e.g. e-/m- health and cross-country data availability, to be seen in connection with data protection and patients' rights)		x		
Population characteristics (e.g. epidemiology)		x		
Preferable bioethical legislation abroad, or restrictive domestic regulations			x	
	low uncertainty	medium uncertainty	high uncertainty	
	UNCERTAINTY			

Source: GOE FP

5.2 Foresight model - scenarios

The development of scenarios was done in three subsequent steps. First, starting with the aforementioned categorisation and description of driving factors based on the literature (see section 5.1.1), four potential future scenarios were drafted, in addition to describing the status quo (Scenario 1). Scenarios 1 to 4 are illustrative visions of potential future settings (see section 3.2.1) and are listed in ascending order with respect to the extent of collaboration from Scenario 1 to Scenario 5. The scenarios are not to be considered mutually exclusive future visions. Rather, they represent different aspects of possible future CBHC collaboration. Also, different forms of cross-border collaboration in healthcare are assumed to be fostered in the scenarios (see Table 23), which are described in detail in section 3.1.

Second, at the expert workshop (see section 3.2.3) a SWOT analysis was carried out, which allowed to refine the description of the scenarios further and gain a better understanding of the implications for CBHC in each scenario. Third, the e-mail consultation of experts and stakeholders following the expert workshop contributed to identifying the most important driving factors for CBHC. In addition, the e-mail consultation helped evaluate the degree of uncertainty associated with the development of each driving factors (see section 5.1.2). Four factors were found to be of high impact and of low uncertainty. Two of these factors concern the relationship between countries or regions, namely (i) cultural proximity/familiarity, and (ii) geographical proximity. Two factors concern the characteristics of a specific country and/or a specific health care system, namely (iii) availability of domestic healthcare services and (iv) peripheriality and relative geographical isolation. Three factors were of high uncertainty, but their impact was estimated to be low: (i) technological uptake, (ii) innovative capacity and (iii) preferable bioethical legislation abroad. Considering these results, displayed in the impact-uncertainty matrix (section 5.1.2), it seems likely that particularly scenario 2 might become important in the future, whereas scenarios in which cultural factors play a minor role (e.g. scenario 4) represent less likely options for CBHC in the future. It remains to be seen, however, how uncertain technological uptake and innovative capacity may transform the situation of CBHC in the coming decades.

All envisaged scenarios are based on the assumption that TEU and TFEU remain unchanged. The scenarios do not represent fixed future scenarios for implementation but (partly extreme) potential developments in order to identify and explore associated advantages and disadvantages. The scenarios will lead to concrete policy recommendations on the basis of the identified (dis-)advantages.

Table 23: Potential scenarios for cross-border collaboration in health care and linkage to dimensions of driving factors

Scenarios/ Driving Factors	Scenario 1 **Status quo** (carrying on)	Scenario 2 **Regional collaboration within and across countries** (together with cross-border neigbours)	Scenario 3 **Empowered Patients** (letting them do, bottom-up)	Scenario 4 **Strategic networks** (doing much more together)	Scenario 5 **Member States' payer network** (responsible together, top-down)
1. & 2. Geographical/demographic driving factors	• Lower national and European access barriers, National patient population/epidemiology	• High importance of regional networks • Geographic proximity • Regional patient population/epidemiology • Lower regional access barriers	• Limited geographic barriers • EU patient populations/ EU-wide epidemiological characteristics	• Lower influence of geographic factors • Clustered patient population/epidemiology • Selective reduction of access barriers	• 'Fluid borders' • European infrastructure of payer organisations • Only selective access barriers remain
3. Cultural/ Societal driving factors	• National and EU-wide patient mobility, National and EU- wide health professional mobility	• Cultural identification • Selective patient mobility (e.g. specific treatments) • Selective health professional mobility	• EU-wide patient mobility (patient-induced) • High level of patient choice • HC professional training capacities oriented on patient flows	• Set-up of centralized mechanism to facilitate healthcare e.g. exchange of electronic health records • Lower importance of cultural proximity • Encouraged health-professional mobility	• EU-wide patient mobility (payer-induced) • Health professional mobility (payer-induced)
4. Legal/ regulatory driving factors	• TFEU/ TEU unchanged, bilateral agreements, health care/Health policy is national responsibility	• TFEU/ TEU unchanged • Bilateral agreements • Health care/Health policy remains primarily national responsibility • Main legal aspects are responsibility of MS • Informal agreements	• TFEU/ TEU unchanged • Bilateral/ multilateral agreements • Health care/Health policy remains primarily national responsibility • National contribution by providing information access • Reinforced patient rights in regulatory frameworks	• TFEU/ TEU unchanged • Multilateral agreements • Health care/Health policy remains primarily national responsibility • Regulated competition • Brokering organisations facilitating patients' healthcare use abroad possible • Opt-in of MS incl. legal or formal agreements • Third country involvement possible	• TFEU/ TEU unchanged • Bilateral and multilateral agreements • Health care/Health policy remains primarily national responsibility • Liberalized competition between insurers • EU-wide capacity sharing incl. platform for information exchange on capacities
5. Healthcare System design driving factors	• Public funding, national pooling of HC resources, enforcing national specialised units/health professional training, national quality & safety standards, strong participation in ERNs	• Collaborative regional R&D • Regional joint financing; improved quality and safety • Joint regional HC professional training • Creation of more highly specialised regional mechanisms • Creation of regional specialised networks	• Increased utilisation of HC providers • Higher level of OOP payments • Reimbursement • HC professional training/ R&D orientating on demand driven HC • Creation of specialised networks driven by patient demand	• Opt-in MS incl. budgetary agreements • Clustered R&D • Clustered financing • Clustered HC professional training • Specialised units throughout HC cluster • Clustered quality & safety standards • Creation of highly specialised	• Potential rise of 3rd party intermediaries and private for-profit and not-for-profit healthcare insurance providers • Joint financing of payers • R&D collaboration at EU-level • Exchange of quality & safety standards between payers • EU-wide specialised HC units (payer-induced) • Creation of highly specialised

				networks (such as ERNs)	networks
6. Economic driving factors	• Continued problems of healthcare funding, price increases, national pooling of resources, adaptation HC supply/demand	• Clustering of regional HC resources across borders • Joint investments on regional level • Balance of prices accounting for different price levels • Selective regional innovation	• Increased OOP expenses if health services and related expenses (e.g. travel costs) not covered by MSoA • Price-levels decisive • Increased competition between providers • Demand-driven innovation	• Market harmonization between participating MS • Clustered investments • Clustered resource pooling • Balance of prices accounting for different price levels • Clustered innovation	• EU-wide capacity building (payer-induced) • Potential joint investments at EU-level • Payer-induced innovation processes
7. Technological driving factors	• Information database on national level, increased networking within MS, nation-wide network for telemedicine solutions	• Information database on national level • Selective information exchange (e.g. regarding electronic health records) based on bilateral agreements • Small scale telemedicine solutions between regional collaborators	• Database/platform incl. all patient-relevant data & health services (regulatory and patient provision) • Telemedicine solutions induced by health profession-als to meet patient needs	• Clustered databases and platforms • Selective, clustered information exchange • Increased use of telemedicine solutions within cluster	• European payer databases & platforms incl. patient data, knowledge exchange, training • Telemedicine solutions used for cost-effectiveness • IT solutions supporting capacity building and sharing • Use of IT infrastructures for joint procurement

ERNs= European Reference Networks; MSoA= Member State of Affiliation; TFEU=Treaty on the European Union; TFEU = Treaty on the Functioning of the European Union

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Table 24: Types of cross-border collaboration in health care being fostered[1]

	Scenario[1] **One single national health care market** (doing all alone)	Scenario [2] **Regional collaboration** (together with cross-border neighbours)	Scenario [3] **Empowered Patients** (letting them do, bottom-up)	Scenario [4] **Strategic networks** (doing much more together)	Scenario [5] **Member States' payer network** (responsible together, top-down)
Emergencies except communicable diseases [2]	x	x			x
Health and Care Workforce/Training [3]		x	x	x	x
Treatment and diagnostics [4]		x	x	x	x
High-cost capital investment [5]			x	x	x
Knowledge shar-ing/management[6]		x	x	x	x
Research/knowledge production (CBC)[7]			x	x	

[1] **Which types of cross-border collaboration patterns in health care (according to WP1A Mapping) are predominantly fostered in the specific scenario?**

[2] **Emergencies except communicable diseases:** Collaboration in case of extraordinary events not related to communicable diseases, e.g. major traffic accidents, fires, earthquakes, landslides, ambulance deployment (but excl. initiatives not primarily developed for emergency care situations)

[3] **Health and Care Workforce/Training**: e.g. competency training or intercultural education for health care staff; recruitment support for remote regions, professional exchanges

[4] **Treatment or diagnostics**: e.g. telemedicine services, standard care, second opinion visits, planned and unplanned care (excl. initiatives covered under ambulance deployment

[5] **High-cost capital investment:** Collaboration regarding investments in specialised equipment e.g. MRIs, imaging devices, cancer diagnostics, PET scans

[6] **Knowledge sharing/ Management**: Exchanging good practices (e.g. in the field of e-services/telehealth), exchange of health care data for mutual learning and building networks

[7] **Research/ Knowledge Production:** Cooperation on research projects analysing cross-border care interactions.

Source: GOE FP

5.2.1 Scenario 1: Status quo

The current **'status quo'** of cross-border healthcare collaboration in the European Union represents a mixture of strengthening national structures, promoting regional cross-border collaboration, empowered patients and selective 'strategic networks'. The type of factors and extent of consideration given to those factors varies considerably between Member States. Accordingly, collaboration tends to be established when needed, rather than on the basis of broader strategic aspects or intentions. National and European legal frameworks promote patient mobility across Europe.

Possible benefits and challenges:

Although Directive 2011/24/EU [2] and Regulation (EC) 883/2004 [3] aimed to support cross-border collaboration in healthcare in the European Union, in-depth implementation and information transfer to the micro-level have remained modest or moderate [6]. One reason for that might be differing national requirements, e.g. introduction of prior authorisation or varying practices for provision of available information by NCPs, which are subject to national regulations. Establishment of an appropriate information channel could further strengthen stakeholders. Patients in particular could benefit from such an information channel as increased awareness could improve accessibility to specific, thus far unavailable or limited health services in the MSoA and ensure equitable access to health services across Europe. Overall, available opportunities are currently not sufficiently used and the potential of the current framework remains unexplored. As a result, potential benefits and challenges still need to be identified.

5.2.2 Scenario 2: Regional collaboration

Scenario 2 **'Regional collaboration'** focuses on tackling local and regional needs, particularly in border regions and between neighbouring countries or regions. It also describes the aim of stakeholders to optimise the national healthcare market and to promote cross-border collaboration to increase efficient use of healthcare resources. Regional collaboration refers to cooperation between neighbouring countries and geographical regions. The basis for such cooperation are possibilities for joint funding of initiatives and consideration for joint patient needs in border regions or geographical regions. Healthcare agendas would remain a national responsibility and few formal processes would be subject to bilateral agreements. Low formal requirements would facilitate quicker access to health services. Such regional cooperation is expected to drive a variety of forms of cooperation in cross-border care, such as knowledge sharing and management, joint training of health professionals and development of specialised healthcare units in border regions or geographical regions. Nonetheless, this scenario would result in selective patient mobility in the case of policy-driven collaboration and health professional mobility by controlling and monitoring patient flows. The scenario might improve patient access for treatments targeted within cooperation initiatives and reduce potential inequities, but neglect patient needs with lower priority under those types of cooperation. Regional cooperation would be limited to the scope of cooperation, focussing on specific indications or national under-capacity. As a result, regional cooperation might not achieve the full potential of cross-border collaboration or better balance supply and demand for healthcare services. In that case, regional/national affairs might still dominate over common objectives.

Possible benefits and challenges:

This scenario supports a national focus and aims to optimise the national healthcare market, but also strengthens cross-border regional collaboration initiatives. These may contribute to an optimised input and use of resources and capacities at the regional level. Low administrative hurdles would allow for limited transaction costs and the accelerated establishment of regional cooperation to help compensate for under-capacity in specific regions. One of the challenges of the scenario is that collaboration would be highly

selective without a rigid structure across Europe. That could also cause problems, as engagement of regional policy-makers, which might not always take patients' needs as the main argument for cooperation, is important in this scenario.

Table 25: Scenario 2 – preliminary results of the SWOT analysis

	Strengths	Weaknesses
Internal factors	• Economies of scale: Investment savings (e.g. equipment), pooling of resources and general efficiency gains for payers and providers • Potential to reduce inequalities (e.g. improved patient access and workforce) • Specialised practice in regions • Optimization of the national healthcare market • Improved recognition of regional/local needs and service provision • Exchange of experiences and best practice examples • Dealing with pull factors • Associated with low amount of investments and costs	• Definition of remuneration mechanism and definition of 'regional' necessary • Requires definition of legal aspects for (joint) financing • Determination of involvement of public authorities necessary • Effect of specific regional characteristics unclear (e.g. transport, professional differences, language barriers) • Incentive for increased competition • Healthcare remains diversified • Low comparability between collaborations • Small-scale activities do not promote beneficial long-term effects or optimization of results of collaboration
	Opportunities	**Threats**
External factors	• Public funding or EU funding • Familiarity and fluid borders • Win-win situation for stakeholders • High flexibility of collaborations • Optimisation of capacities of healthcare infrastructure • Trans-regional balance of gaps of health service provision and professional capacity	• Lack of transparency of authorities • Decrease of competences of specific regions • Potentially low stakeholder willingness to cooperate, specifically low political willingness (e.g. to prevent patient outflows) • Requires exact definition of responsibilities of stakeholders • Limited steering capacity of authorities • Missing learning effect across countries due to fragmentation of collaboration • Outflow of healthcare personnel in border regions

Source GOE FP based on the stakeholder/expert workshop

5.2.3 Scenario 3: Empowered patients

Scenario 3 **'Empowered patients'** is based on the idea of demand-driven healthcare. It anticipates European-wide networking of patients, with development of patient platforms to exchange any type of information on health services provided in the European Union and exchange of patient-relevant data. R&D, innovation and training of healthcare professionals would ultimately be driven by demand. As a result, competition between healthcare providers would increase and health services would subsequently be more and more tailored to patients' needs. That might result in advantages and disadvantages for both stakeholder groups. For example, this scenario could create severe under-capacity in certain disciplines, which could force patients to use cross-border care involuntarily, representing a threat to patients with low incomes. Furthermore, state interference might be reduced, if patients refrain from national health insurance because required services might be cheaper in other countries than in the home country due to no or low reimbursement. Within the framework of Directive 2011/24/EU [2], that would mean higher out-of-pocket expenses for patients requiring health services that are not reimbursed, partly reimbursed or not authorised. Out-of-pocket expenses could also lead to increased use of private for-profit or not-for-profit healthcare providers in patients' home countries rather than use of healthcare services in other European countries. Private healthcare providers might adapt quicker to patient needs compared to public healthcare providers,

thus further balancing healthcare-related supply and demand. Hence, patients' income and concerns about the equity of access and use for all patients regardless of socio-economic status might play a decisive role in Scenario 3. Moreover, the experiences of patients and respective patient networks could either promote the use of private healthcare services or cross-border healthcare services or both. Typical forms of collaborations in this scenario would include joint knowledge sharing and management at the patient, provider and administrative levels, as well as joint approaches in treatment and diagnostics or research projects analysing cross-border patient mobility at a meta-level.

Possible benefits and challenges:

Patient empowerment is an important element of the future design of healthcare systems, though chiefly for those patients with sufficient know-how, cognitive and physical abilities to acquire information and exchange their views with others. Current developments show that patients' dependence on payers and providers of healthcare decreases for those groups of patients, specifically due to improved access to information in countries where high-quality public reporting mechanisms exist. A challenge implicit in this scenario is that patients with fewer cognitive, physical or socio-economic resources will remain excluded from participating in European networks. At the same time, it is also possible that specific networks among patients who lack visibility in national contexts may arise in such a scenario, e.g. for patients suffering from rare diseases who may benefit substantially under such a scenario. Consequently, patient empowerment is necessary to improve the level of information of less empowered patients. Thus, ensuring a more equitable level of information among the different stakeholder groups would be a natural way forward. An overall challenge of this scenario is the specific focus on the perspectives of certain stakeholder groups.

Table 26: Scenario 3 – preliminary results of the SWOT analysis

	Strengths	Weaknesses
Internal factors	• Reduction of language barriers through e-health • Provision of e-health services reduces the need for patient mobility • Increased patient choice • Quality improvements due to increased competition •	• Increased patient inequality (empowered vs. non-empowered patients) • Valuation scheme for quality of information for making an informed patient choice necessary • High need of (transparent) information • Definition of funding mechanism necessary • Lack of guidelines • Lack of regulation, potentially increasing fraud • Artificial increase of CBHC, as patients might seek cross-border care despite there is no actual need • Less integrated care, due to competition as every providers strives for the biggest share • Reduction in benefit package benefiting private health insurances
	Opportunities	**Threats**
External factors	• Enhanced information provision on treatments by healthcare providers • Healthcare providers attracting patients • Role of (social) media, promoting better patient access • Public funding	• Reduction of benefit basket could promote private health insurance (public sector perspective) • Ensure public funding to prevent monetization of health service provision • Role of social media, favouring patients with access • Attempt of public authorities to limit patient empowerment

Source: GOE FP based on the stakeholder/expert Workshop

5.2.4 Scenario 4: Strategic networks

Scenario 4 **'Strategic networks'** is designed to enforce development of healthcare clusters throughout Europe. Such clusters could be characterised, for example, by similar epidemiological characteristics of the patient population, balance of resources, specialisation in specific treatments with greatest experience etc. Every country or region would have the opportunity to opt into a cluster of interest. Geographical, regional and cultural factors become less important in this scenario, especially the geographical distance between collaborating countries. Members of a cluster jointly finance collaboration and engage in joint knowledge sharing and management, shared high-cost capital investments, collaborative training of health professionals and health professional mobility within the cluster. This scenario offers the possibility to harmonise healthcare markets within the framework of the respective cluster. However, collaboration would remain selective in nature, in particular for patient mobility. As a result, Scenario 4 might still impose restrictions on cross-border healthcare collaboration. Motives for opting into a cluster should be analysed to ensure a balance of costs and benefits for each member of the cluster. Formal agreements are necessary to guarantee equality and compliance with the responsibilities of each member. Third party intermediaries (e.g. private broker organisations) may foster collaboration by empowering patients to use healthcare abroad or providing on medical tourism, as is currently the case already in countries like the UK and Ireland.

Possible benefits and challenges:

The creation of specific healthcare clusters at the European level offers high flexibility with respect to the extent of collaboration, e.g. ranging from small-scale to large-scale, or fields of collaboration, e.g. ranging from primary care to high cost capital investments. The scenario therefore offers major potential for future cross-border collaboration, especially for patients profiting from such strategic networks, but also poses some challenges. One example of such challenges is the substantial need for formal requirements, in particular to ensure clustered financing and R&D and to regulate entry of third party providers, while ensuring accessibility to affordable healthcare for patients affected by cross-border collaboration or investments. Establishment of efficient and continuous collaboration (which would tend to be large-scale) could therefore result in a non-negligible administrative burden. Another challenge is that this particular scenario might lead to enhanced patient mobility within clusters and lower patient mobility outside of clusters. Such an imbalance would also reduce inequity in access to health services within clusters, but enhance inequity outside the clusters.

Table 27: Scenario 4 – preliminary results of the SWOT analysis – continued

	Strengths	Weaknesses
Internal factors	• Healthcare adapted to local/regional needs • Regulated competition can lead to shorter waiting lists • Economies of scale for payers • Fraud prevention, due to close and formal collaboration of stakeholders who opted-in a cluster • Reduction of healthcare providers' income • Improved planning and training of healthcare personnel • Enhancing patient's knowledge on cost of healthcare services abroad • High flexibility of arrangements between stakeholders • Easy assessment and evaluation • New options for patients	• Avoiding investment on national level • Uneven development of healthcare coverage due to increased adaption and high number of clusters • Data protection issues • Reduce cohesion, due to increased competition • Low patient involvement • Regulated competition increases supply of healthcare services, i.e. potentially causing oversupply • Increasing healthcare expenditure for payer • Advantage for countries experienced with collaborations • Missing promotion of patients and citizens • Supports agencies' and companies' interests • Tailored to needs of healthcare providers • Reduction of investment on national level
	Opportunities	**Threats**
External factors	• Europeanisation of domestic welfare legislation • Promotion of ERNs • Increased financial drive • Based on medical needs • Legal requirements • Formal project set-up • Regulated competition increases effectiveness (selective contracting) • Promotes innovation, specifically access to innovative medical treatment • Improved quality of cooperation • Promotes communication on/about the project	• Incompatibility of healthcare system design • Position of the Member States, low willingness to participate, low political interest • Potential disagreement on funding, legal restrictions and politics • Cartel restrictions • Regulated competition leading to a public and political revolt • Administrative/legislative barriers • Gap between supply and demand as scenario represents interests of agencies and companies • Clustered financing of R&D • Limited funding • Increased inequality between high/low GDP countries • Potentially increasing healthcare expenditure • Low patient awareness of treatment options

Source: GOE FP based on the stakeholder/expert workshop

5.2.5 Scenario 5: Member States' payer network

Scenario 5 **'Member States' payer network'** aims to build up a voluntary network for payer organisations in the EU to support capacity building and capacity sharing among organisations. 'Payers' in this scenario might be from the private or the public health sector, accounting for different structures of European healthcare systems, but do not include providers of supplementary private health insurance. Networks might be small-scale (neighbouring countries), medium-scale (regions) or large-scale (pan-European). Examples of collaboration include ambulance deployment, high-cost capital investments

or (shared) centres of medical excellence for treating specific conditions. The network includes joint financing of participating payer organisations, joint investment and collaboration in R&D. The network offers the opportunity to better coordinate the supply of health services with patient needs by reducing the influence of healthcare providers on such developments and increasing the independence of processes. It therefore has the potential to reduce access barriers for patients significantly. The network includes a platform for network members to share patient data in due consideration of data protection, knowledge exchange and support training. On the other hand, access to health services might be increasingly influenced by payer incentives and might lead to selective access barriers, in particular for providers and patients.

Possible benefits and challenges:

The network has the potential to strengthen a payer's organisation, better reflecting patient needs with regard to the supply of health services. As European countries face similar challenges in the healthcare sector, enforced interconnectedness allows for pooling of knowledge and experiences to increase efficiency of processes, as well as to support innovative solutions and promote exchange of strategies to overcome current challenges in the healthcare markets. One most obvious challenge of the scenario, however, is its rather unilateral perspective. Specifically, high patient involvement would be vital to meet that challenge and avoid access barriers. That applies specifically to certain patient groups, e.g. rare diseases or high unmet medical needs.

Table 28: Scenario 5 – preliminary results of the SWOT analysis

	Strengths	Weaknesses
Internal factors	• Increased exchange of information • Empowered payers exert cost-control • Avoid supplements • Joint investments at EU level • Telemedicine solutions increase transparency on costs • Payer-induced patient mobility • Selective contracting • Joint commitment • Joint financing easier on payer level • Promotes telemedicine solutions	• MS with fluid borders privileged • Costly and intransparent payer competition • Depending on political willingness • Need for defining basket of benefits • Coordination challenges • Liberalised competition increases inequities and risk selection
	Opportunities	**Threats**
External factors	• Europeanisation of domestic welfare legislation • EESSi network • Would attract attention ('headlines') • Increased communication due to higher commitment • Level of administrative work • Share public/private providers	• Data protection regulations limit sharing of patient data • Inequalities on the national healthcare market • National legislation hindering Member States to participate in a profitable manner • Patients resist payer control • Payer-induced patient mobility • E-security weaknesses • Involvement of private sector • Level of administrative work • Share public/private providers • Feasibility of clustered healthcare personnel training • Higher out-of-pocket expenses

Source: GOE FP based on the stakeholder/expert workshop

6 Cross-border.Care Manual & Tools

The *Cross-border.Care Manual & Tools* aims to help healthcare providers, payers and public authorities (referred to as 'users' in the following sections) to start cross-border healthcare collaboration projects. It is structured into four modules. Each module deals with aspects of the life cycle of a cross-border project.

Module 1: Project preparation

Module 2: Project development

Module 3: Contracting

Module 4: Project monitoring

Module 5: Successful business cases for cross-border collaboration

At the end of the Cross-border.Care Manual & Tools a list of useful literature was compiled.

Who is the target group of the *Cross-border.Care Manual and Tools*?

The target group of the *Cross-border.Care Manual & Tools* consists of stakeholders and public authorities who are in the process of starting or intend to start a cross-border healthcare collaboration project. Stakeholders in this context are primarily healthcare providers and healthcare payers. However, experience shows that public authorities often play an important role in cross-border collaboration projects, so these three groups are the intended end users of this Manual.

How should the *Cross-border.Care Manual and Tools be used*?

Modules 1-4 build on one another, so once a user finishes Module 1, he/she is requested to proceed to Module 2 and so on. However, depending on the experience of respective users or the stage within the life cycle of a specific collaboration project, users may focus on particular topics and study them according to their respective sequences.

Modules 1-4 are the core modules. As an additional module, Module 5 provides detailed information about each of the cross-border collaboration categories in the form of case studies. The manual provides two types of information:

- General information and tools, which are related to project management topics
- Specific information, which is related to specific types of cross-border collaboration and are illustrated by one business case per CBHC category.

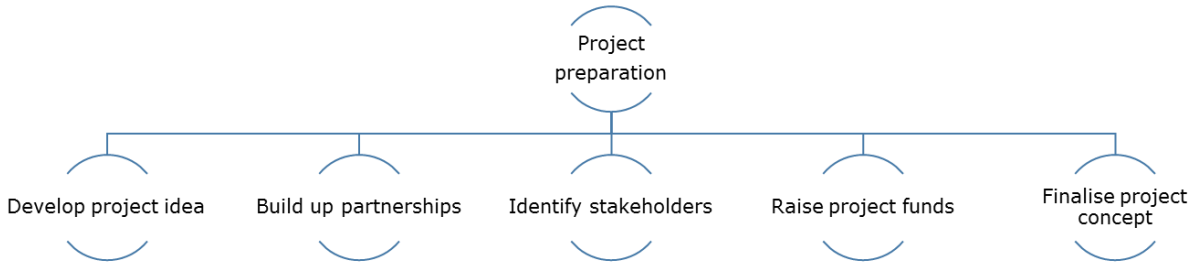
As already shown in the upstream 'Mapping' exercise (Deliverable 2 of the study, included in the final report), no two cross-border collaboration projects are the same. They strongly depend on environmental factors such as geography, culture, healthcare systems and the experience of the stakeholders who initiate them. Due to that diversity, the *Cross-border.Care Manual & Tools* cannot touch upon all specific features observed in ongoing or former cross-border collaboration projects. Instead they are designed to provide an idea of what to consider when starting a cross-border collaboration project in order to make it a success.

Although there are many schools of project management, the presented combination seemed most relevant to reflect the specific requirements and characteristics of cross-border healthcare collaboration.

All Tools are separately available under: https://goeg.at/study_on_cross-border_cooperation

6.1 Module 1: Project preparation

Module 1 presents information for the initial preparation of cross-border collaboration (projects). In this first module, relevant information and tools related to the development of the project idea, project partners, stakeholders and project funding are provided.



Tool 1: How to identify the need for cross-border collaboration 75
Tool 2: Checklist: How to identify the right partners for setting up a cross-border care collaboration project 77
Tool 3: Assessment matrix for complementarity of cross-border care project partners .. 81
Tool 4: Checklist: Lead partner qualities 82
Tool 5: Guide to lead partner vs. project partner responsibilities 84
Tool 6: Checklist: Identifying stakeholders for cross-border care collaboration 85
Tool 7: Stakeholder analysis matrix 86
Tool 8: Stakeholder management plan 87
Tool 9: Checklist: How to fund the cross-border care project 90
Tool 10: Finalise the project concept with partners 92
Tool 11: Final check ✓ Module 1 93

Tool 1: How to identify the need for cross-border collaboration

The starting point of every project is a project idea. Usually project ideas originate from a specific need or a specific problem that lacks an adequate solution or has no solution at all. Once the user has identified a need or problem to be solved, he/she needs to find out if stakeholder(s) in other (neighbouring or distant) countries or regions face similar problems. In order to frame the project idea, it is advisable to develop an understanding what drives cross-border healthcare collaboration. Glinos et al. (2014) identified five main factors that drive cross-border healthcare collaboration [84]:

- the need for cooperation, either due to unmet patient needs or increased efficiency of the use of resources or the knowledge exchange of healthcare organisations,
- sufficient time and effort of the stakeholders involved to make the project work,
- alignment of interests and the aim of achieving a common goal of the stakeholders involved,
- support of external stakeholders, e.g. public authorities, funding institutions and local actors, and
- a governance structure that supports the cooperation and the involved stakeholders.

Often it is that a need on one side of the border can be solved by solutions to be found on the other side of the border and it is rather a matter of identifying complementarities, common interests or solutions that are mutually beneficial. To increase the likelihood of sustainability of the project, an important factor is to create a 'win/win situation' for all involved parties.

As cross-border regions vary (see section 5.1.1 on rigid vs. fluid borders), and this variation determines the scope for and nature of cross-border healthcare collaboration. Therefore, a comprehensive situation analysis and mapping at the start is crucial. An in-depth analysis, which should not only include the driving factors mentioned above but also include an analysis of stakeholders (see Tool 6, Tool 7, Tool 8), legal (in)compatibilities and applications and support from central/national politics/administration.

Useful tools for the observation of cross-border territories are [85]:

- **The Greater Region geographical information system** (www.sig-gr.eu): produces customised thematic maps that make it possible to steer development and spatial planning policies and to guide users in their decision-making. The maps created are made available via the Greater Region's geoportal server, which posts most of the maps in the form of cross-border overlays on an interactive map.
- **The Network of Statistical Offices** (www.grande-region.lu): brings together the Greater Region's statistical offices to compile harmonised economic and social statistical data for the cross-border regions.
- **The Interregional Job Market Observatory** (www.iba-oie.eu): is a network of specialised institutes responsible for compiling comparable and interpretable data on the job market for Greater Region policy-makers. The data relates to the area of structural and employment policy for the Greater Region.

A ***problem statement*** may serve several purposes in an upcoming project. It clarifies the current situation by specifically identifying the problem and its severity, location and financial impact. It also serves as a great communication tool, helping to get buy-in and support from others. A well-written problem statement helps people readily grasp and understand what you are trying to accomplish [86].

A well-written problem statement does not need to go on for pages if the following questions are answered in a concise way.

1. What is the problem, its impact and the eventual risk if we do not respond to this problem?

Brief description of the problem in one or two lines (including the list of issues)
e.g. lack of healthcare personnel, waiting times and travel distances, long transportation times (emergency care), salary cuts for staff, recruitment freeze

2. Where does the problem arise?

Describe the setting, including geographical level
e.g. region-specific, Member State-specific, EU

3. Who is affected by the problem/who is the target population facing the problem?

Explain who needs a solution
e.g. (emergency) patients), healthcare providers, healthcare workforce, local/regional authorities

4. Optional: What path might lead to the solution?

Not a solution itself, but a rough idea of a potential path to a solution

Tool 2: Checklist: How to identify the right partners for setting up a cross-border healthcare collaboration project

Establishing a trusted partnership is essential for a well-functioning project team and thus for the successful future of CBC. In order to develop a successful partnership, the culture and sensitivities of the cross-border territory need to be taken into account.

> European and **cross-border cultural and linguistic initiatives**, such as the development of cross-border media, the creation of cross-border narratives and increasing proficiency in the neighbouring country's language can help to overcome these cultural obstacles. Within border territories that are closely interconnected historically and culturally, cross-border cooperation focusing on learning the language and culture of the neighbouring country should be ambitious and cross-sectoral, and start at a very young age [85].
>
> **Example:** Cross-border early childhood centre ("Maison de la petite enfance transfrontaliére") in Strasbourg: It offers places for 60 children aged three months to four years. Staff of both countries (DE and FR) offer bilingual, multicultural early childhood care. The facility promotes bilingualism and intercultural exchange between children, families and professionals on both sides of the border.

Furthermore, the partnership needs to be based on a common need that calls for cooperation (see Tool 1: How to identify the need for cross-border collaboration). Before users step up their efforts to identify the right partners, they should think about a partnership mix that is beneficial for the respective collaboration plan. Special attention should be paid to [34]:

- **Partnership size:** bigger is not always better in the case of partnerships. The size of a partnership has a strong influence on its efficiency. Generally speaking, the bigger the partnership, the more likely delays are due to the processing of greater volumes of information and complex reporting and financial management.
- **Partnership composition:** for successful collaboration, the project idea should be in line with the strategic focus of the partner organisation (and not only individuals). That ensures that all partner organisations take an active role. A balanced mix of similar and complementary know-how and expertise has proven to be successful:
  - Similar expertise: it helps if partners have a similar understanding of key issues. Similar expertise might facilitate the implementation of project activities in the respective partner countries.
  - Complementary expertise: in the best case, the skills of partner A match the needs of partner B. Complementary expertise might facilitate mutual learning, ensuring the successful exchange of experiences between partners.
- (**Eligibility of partners**): this relates to questions concerning formal requirements that need to be taken into account in some cases. For instance, in the case of public funding, partners need to fulfil specific criteria (e.g. private vs. non-private partners, geographical location of partner organisations)

Once users are clear about the aforementioned points, they can start considering where to find potential partners. One simple way of identifying potential partners is to follow this classification:

Type of contact	Benefit	Downside
Existing contacts	Identification of new partners within the network of former partners might be facilitated. Existing contacts, who know about working methods, might support the preparation of the project proposal.	In the case of a mix of old and new partners, efforts need to be made to integrate new partners from the very beginning of a partnership.
New contacts	New partners might facilitate innovative collaboration approaches and contribute new expertise.	Building partnerships with new contacts requires more time and preparatory work.
Private sector contacts	Private partners might facilitate economies of scale within a cross-border collaboration project. As their skills, knowledge and attitudes often differ from those of public stakeholders, their involvement might be considered to enrich the collaboration project.	If users plan to apply for public funds, they need to be aware that some funds do not allow the involvement of private organisations. The administrative workload might be higher than private partners are used to in their day-to-day operations.

One source for identifying new contacts is the keep database, where you can find organisations that have previously participated in projects and/or have indicated an interest in doing so in the future.

Developing a sound project partnership is crucial in cross-border collaboration projects. This tool is designed to help identify those partners who are needed to achieve the project objectives and results.

Please put a cross in the relevant field ('yes', 'no'). Sample questions in the 'Comment' field give inspiration about points to be considered.

Questions for reflection	Yes	No	Comment	Consequences if the answer is 'No' (impact on other criteria, the whole project, the timeline)
• Does my organisation cover all the required expertise?			• *What kind of expertise does it cover?* • *What kind of additional expertise is needed for successful cross-border collaboration?*	*Please consider the consequences if the question was answered with 'No'*
• How many partners do we need for a cross-border collaboration project?	-	-	• *Estimate of number of partners:*	*Please consider the consequences if the question was answered with 'No'*
• Does the potential partner have similar needs?			• *What kind of similar needs does the partner have?* • *What kind of different needs does the partner have?*	*Please consider the consequences if the question was answered with 'No'*
• Does the potential partner provide similar or additional expertise?			• *What kind of similar expertise does the partner bring to the partnership?* • *What kind of additional expertise does the partner bring to the partnership?*	*Please consider the consequences if the question was answered with 'No'*
• Has the potential partner solved similar problems before?			• *What kind of problems has the partner faced before?*	*Please consider the consequences if the question was answered with 'No'*
• Can the potential partner bring some crucial experience to the partnership?			• *What kind of experience of the partner is relevant to the potential collaboration?*	*Please consider the consequences if the question was answered with 'No'*
• Does the potential partner facilitate exchange of experiences?			• *What kind of additional expertise is needed for successful cross-border collaboration?*	*Please consider the consequences if the question was answered with 'No'*
• Does the network of the potential partner benefit the collaboration?			• *Who are members of the partner's network?* • *Which of the members could be beneficial for the potential collaboration?*	*Please consider the consequences if the question was answered with 'No'*
• Do we trust the potential partner? Have we had good experiences of cooperating with the potential partner before now and can			• *Any negative experiences with the potential partner in the past?*	*Please consider the consequences if the question was answered with 'No'*

we therefore expect their full commitment?				
• Is there a need to fulfil formal requirements? If yes, do potential partners fulfil those requirements?			• *What kind of requirements does the partner not fulfil?* • *How could this be solved?*	*Please consider the consequences if the question was answered with 'No'*
• Does the potential partner have sufficient resources for such a commitment?				*Please consider the consequences if the question was answered with 'No'*

Source: [34]

Tool 3: Assessment matrix for complementarity of cross-border care project partners

A good project partner mix is crucial for successful cross-border collaboration. Based on the objectives of the collaboration, the following matrix assists the decision-making process on which partner(s) to involve in the collaboration by looking at partners' expertise and experiences.

For all project partners, please fill in the level of experience, including examples, as well as learning fields per collaboration objective. This visualisation helps to decide on a balanced mix of project partners.

	Lead partner	Project partner 1	Project partner 2	Project partner 3	Project partner 4
Collaboration objective 1	Significant experience in: *Please give examples*	Significant experience in: *Please give examples*	Some experience in: *Please give examples* Particularly interested in learning about: *Please mention learning fields*	Minor experience in: *Please give examples* Particularly interested in learning about: *Please mention learning fields*	No experience in: *Please give examples* Particularly interested in learning about: *Please mention learning fields*
Collaboration objective 2					

Source: [34]

Tool 4: Checklist: Lead partner qualities

Cross-border collaboration projects involve the organisations of at least two countries. As a result, one partner needs to take on the role of **coordinating lead partner with overall responsibility for the project process**, while the other project partner(s) take on specific responsibilities according to the project plan.

As a case of natural progression, the lead partner is often the party that initiated the project idea. Taking on the lead partner role requires a certain level of resources, knowledge, administrative and financial capacity. There are various ways to handle this: 1.) either the initiating partner feels comfortable taking the lead, 2.) or the lead is taken by a partner organisation that feels comfortable with the related responsibilities 3.) or a subcontractor with experience of project management and administration is hired so that the partner organisations may focus on project content.

The lead partner plays a key role in the partnership building process and leads the process of formulating objectives, the project plan and the structure of activities. In addition, the role of leading a project also requires interpersonal skills to coordinate project partners and ensure and maintain their collaboration.

Benefits of being the lead partner
• Control over content, financial management and delivery of results • Notification at the regional, national and EU level • Avoiding the risk and downsides of working together with a different lead partner, whose performance may not be as good • Building up contacts and networks for potential future cross-border collaboration

This checklist gives guidance on which qualities a lead partners should fulfil.
Please put a cross in the relevant field ('yes', 'no').

Dimen-sion	Specific qualities to be fulfilled	Yes	No	Comments	Consequences
Capacity/ experience	• Strongly involved in project idea generation				*Please consider the consequences if the specific qualities are not fulfilled*
	• Good networker in the given field				*Please consider the consequences if the specific qualities are not fulfilled*
	• Know-how concerning national and international project funding and EU regulations				*Please consider the consequences if the specific qualities are not fulfilled*
	• Sufficient human and financial resources to manage the project scope				*Please consider the consequences if the specific qualities are not fulfilled*
	• Expert knowledge of the project topic				*Please consider the consequences if the specific qualities are not fulfilled*
Coordina-tion	• Keeps strategy, project goal and work plan on track				*Please consider the consequences if the specific qualities are not fulfilled*
	• Negotiation skills to define roles and responsibilities within the project team				*Please consider the consequences if the specific qualities are not fulfilled*
	• Flexibility in dealing with unforeseen situations during the process without losing the main focus of the project goal				*Please consider the consequences if the specific qualities are not fulfilled*
Communication	• Motivational skills to build up a working project team				*Please consider the consequences if the specific qualities are not fulfilled*
	• Good understanding of the subject and ability to check the quality of inputs of project partners				*Please consider the consequences if the specific qualities are not fulfilled*
	• Information hub for all project partners, external stake-holders and authorities.				*Please consider the consequences if the specific qualities are not fulfilled*
	• Problem solving skills in case of conflicts among partners				*Please consider the consequences if the specific qualities are not fulfilled*
	• Availability if project partners need assistance				*Please consider the consequences if the specific qualities are not fulfilled*
	• Managing cultural and languages gaps and all related issues				*Please consider the consequences if the specific qualities are not fulfilled*
Finan-cial man-age-ment	• Knowledge base for all project partners for questions regarding reporting, record keeping, auditing and eligibility				*Please consider the consequences if the specific qualities are not fulfilled*
	• Scheduling and keeping track of deadlines				*Please consider the consequences if the specific qualities are not fulfilled*

Source: [34]

Tool 5: Guide to lead partner vs. project partner responsibilities

Every project partner has certain responsibilities in the scope of the project. It is important to have a clear picture of who is responsible for what. This tool aims to provide guidance on what aspects to consider.

Project stage	Lead partner (LP) responsibilities	Project partner (PP) responsibilities
Project idea generation	• The idea is shared among potential partners based on an evident need	
Project development	• Coordinates input from project partners	• The project should be jointly developed and agreed by the partnership (see Tool 10)
Financial contribution	• Secure financial contribution	• Secure financial contribution
Contracts	• LP draws up the project partnership agreement (see Tool 27, Tool 28)	• The project partnership agreement must be signed by all PPs. They commit to deliver all approved outputs and activities and meet their financial responsibilities
Implementation	• LP has overall responsibility for implementation of the project	• Each partner is responsible for carrying out the activities assigned to it in the project partnership agreement
Finance and reporting *(depending on the partnership agreement and responsibilities to external/public funding bodies)*	• LP checks that all expenditure of project partners has been validated by approved controllers (see Tool 35) • LP ensures that reported spending has been incurred through spending on the agreed activities only	• Each partner is responsible for ensuring that their expenditure has been certified by the approved controller • They should ensure as far as possible that certification and other documents are provided before the LP's deadline

Source: [34]

Tool 6: Checklist: Identifying stakeholders for cross-border healthcare collaboration

Stakeholders are people (or groups) who can affect or be affected by the activities carried out during a project's life cycle and/or by the project's output(s) and outcome(s). The influence of stakeholders might be positive or negative and their relation to the project might be internally driven (i.e. staff, management) or externally driven (i.e. people, groups, other organisations and institutions). The influence of stakeholders on the project has a key impact on the success or failure of a collaboration project [87]. Such influence ranges from useful support to totally blocking the project.

Depending on their relation to the project, different strategies and ways to manage the project's stakeholders need to be developed [88].

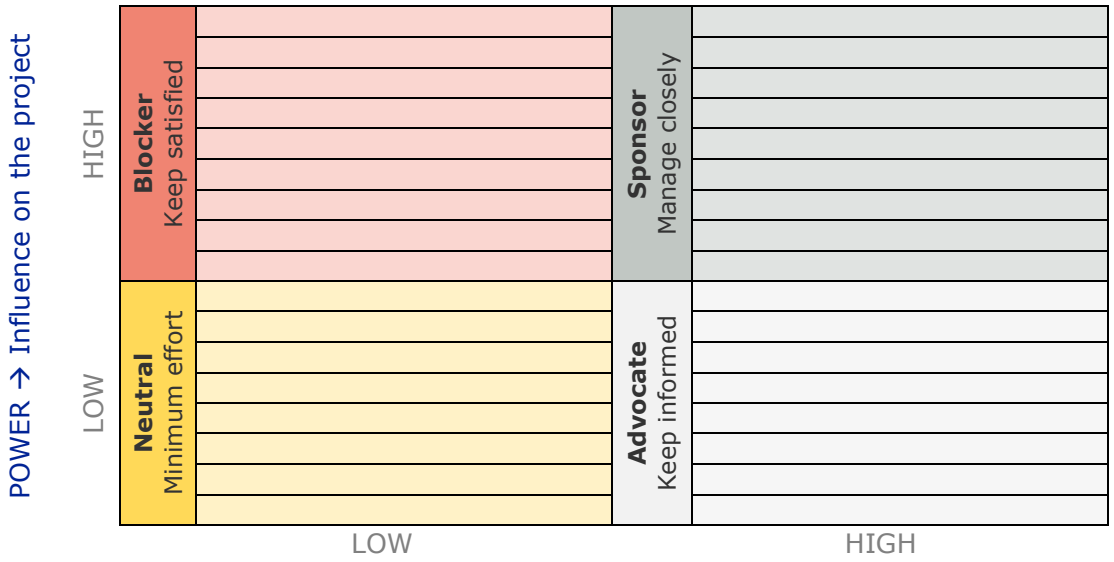
This checklist is designed to support the identification of potential stakeholders during the stakeholder analysis process. Please put a cross ('yes', 'no') beside those stakeholders that might play a role in the collaboration and need to be further analysed. In the comment field you can write down their roles and influence on the project.

		Potential stakeholder/key participants	Yes	No	Comments *Role, influence on the project*
Internal perspectives		Own organisation			
		Project manager			
		Project financier			
		Project staff			
		Potential partner organisation(s)			
		Target group i.e. patients requiring services/patient organisations			
External perspectives	**Healthcare provider** *if appropriate, fill in separately for each medical specialty, including dental care*	Public healthcare providers			
		Private healthcare providers			
		(Regional) hospitals			
		(Primary) healthcare centres			
		Ambulatory care centres			
		Diagnostic institutes (radiology, laboratory etc.)			
		Doctors and general physicians *Inpatient/outpatient*			
		Specialist physicians *Inpatient/outpatient*			
		Care workers			
		Other healthcare professionals			
		Hospital association(s) *National, European*			
		Professional association(s) *National, European*			
	Healthcare payers	Public health insurance funds			
		Private health insurance providers			
	Policy makers	Local administration/authority			
		Regional administration/authority			
		National administration/authority			
		EU institutions			
		Other public authorities			
	Others	Healthcare purchaser (of medical equipment)			
		Medical industry *Including pharmaceutical industry, medical device suppliers etc.*			
		European associations			
		National Contact Points for cross-border healthcare			

Source: GOE FP

Tool 7: Stakeholder analysis matrix

At the very beginning of each cross-border collaboration project, project partners are advised to perform a stakeholder analysis. Based on the stakeholders identified (see Tool 6: Checklist: Identifying stakeholders for cross-border healthcare collaboration), they can be assessed using a simple two-by-two matrix that takes into account stakeholders' power or influence on the project, stakeholders' interest in the project and the extent to which stakeholders are affected by the project. The assessment of the potential stakeholders for cross-border collaboration is designed to identify how stakeholders' interests may affect the riskiness and viability of the collaboration. The stakeholder analysis needs to be carried out separately for each partner country. This pragmatic, visual approach helps to distinguish between different stakeholder groups (according to their power and interests) and to derive strategies to approach them [88, 89].



Source: [34, 87]

Sponsors	Key players with a high influence on the outcomes of the project. General strategy: Involve, engage and consult them regularly.
Advocates	Advocates are highly affected by the project. General strategy: Involve them and show consideration in order not to become a threat to them.
Neutral	Basically neutral, but a shift to any other position is possible. General strategy: Keep them informed.
Blocker	May hinder the work of the project and could be a risk to the project. General strategy: Engage and consult on area of interest, try to increase the level of interest.

Tool 8: Stakeholder management plan

Based on the stakeholder matrix (see Tool 7: Stakeholder analysis matrix), users can identify four different types of stakeholders [34, 88, 90]:

- **Neutral:** the suitable strategy is to inform
- **Advocates**: the suitable strategy is to involve
- **Blocker**: the suitable strategy is to persuade
- **Sponsors**: the suitable strategy is to engage

Users will find people and organisations who are unlikely to put the planned collaboration project at risk, and instead have a **neutral attitude** towards the project. At the same time they do not represent an opportunity for the project. This group of stakeholders has a different set of priorities, so their capacity to affect results and their interest in the project and its outcomes are limited. Nevertheless, it is important to keep them in the information loop during the project, as they might move from a neutral position to playing a role closer to that of an advocate or blocker.

- ➔ Fairly low degree of involvement at the stage of preparing the project
- ➔ To be considered in the scope of project communication activities

Another group that users will identify are organisations and people that have certain expectations of the collaboration project. These can be described as the **advocates** of a specific collaboration project. Whether they become users of the project's output or beneficiaries of the project's results, this group should actively participate in the project from the very beginning.

- ➔ These represent the target group of the project (i.e. (emergency) patients, healthcare personnel, healthcare providers etc.; they are not necessarily financially involved)
- ➔ Fairly high degree of involvement at the stage of preparing the project
- ➔ Survey their needs during implementation
- ➔ Engage with them by means of initiatives (at different levels)
- ➔ Include specific activities in the project work plan

A group of stakeholders that negatively affect the project by means of active or passive decisions are the **blockers.** It is important not to disregard them. Instead they need to be persuaded of the value of the collaboration project so that their interest in it increases. Accordingly, a solid communication strategy that highlights how they benefit from the project, rather than a hypothetical approach, is crucial for conveying the message. Users need to identify stakeholders in this group at the very beginning of the project in order to build a targeted relationship. Special efforts are necessary if the blockers are internal stakeholders. Engaging such blockers might by most challenging.

- ➔ Modest degree of involvement at the stage of preparing the project
- ➔ Efforts should be made to gain their support (inform them of the benefits for them)
- ➔ Survey their position during implementation
- ➔ Engage with them by means of focused and targeted initiatives only

The last group of stakeholders consists of organisations or people that are pro-active players in the development of the project idea – **sponsors**. It is not uncommon for them to participate in decision-making and planning. These stakeholders might have been project partners, but were not chosen for various reasons (e.g. size of the partnership). As non-partners who are highly interested and capable of influencing the project, they can be involved as multipliers of the project. Users should therefore definitely involve them.

- ➔ Fairly high degree of involvement at the stage of preparing the project
- ➔ Be aware of their needs
- ➔ Keep surveying their needs during implementation
- ➔ Engage with them by means of initiatives (at various levels)
- ➔ Include various activities in the project work plan

Once all stakeholders of relevance to the cross-border collaboration project have been identified and classified (i.e. neutral, advocates, sponsors, blockers), it is important to analyse their influence on the collaboration in detail and prepare a strategy on how to engage them within the project.

By filling in this template (also available as an Excel file) of the stakeholder management plan, different stakeholders (blockers, neutral, advocates, sponsors) can be analysed in detail and strategies for how to deal with them can be developed (including engagement measures and responsibilities). As stakeholders' positions might change over time, the management plan should be regularly updated.

NAME OR GROUP	ROLE	PREDISPOSITION	MOTIVATION/DRIVERS	ANTICIPATED IMPACT	MILESTONES	ENGAGEMENT	RESPONSIBLE PARTY	DATE DUE	STATUS
	Neutral, advocate, blocker, sponsor	*Current commitment profile*:* **resistant, ambivalent, neutral, support-ive/committed**	*Why is the stakeholder interested in the collaboration project?*	*What impact is the stakeholder likely to have on the*	*At what point in the collaboration project is the stakeholder's*	*How should the stakeholder be engaged in the collabora-tion project?*	*Who is responsible for stakeholder engagement (project lead,*	*Task/involvement needs to be completed by*	*What is the status of engagement (ongoing, finished,*

* -blocker, 0neutral, +advocate; ++sponsor

		-	0	+	++		collaboration?	involvement expected?		project partner)		planned)?
		-										
			0									
			0									
					++							
				+								
				+								
					++							
		-										
PREDISPOSITION TOTALS		**2**	**2**	**2**	**2**							

Note: also available as an Excel File

Source: GOE FP

Tool 9: Checklist: How to fund the cross-border healthcare project

As a first fundraising step it is important to identify all relevant funding opportunities.

There are various potential sources and resource types. What they all have in common are goals that allow a framework to be set for the allocation of grants by specifying types of project (by objectives), application and selection procedures, maximum grant levels, the percentage of the total costs and so on. Users can find programmes that offer project finance in various sectors (by programme goals) and at different levels (local, regional, national and at the EU/international level) [91].

What to check before starting to fundraise

- that you know the project – and the organisation – inside out
- that you believe in the project and are prepared to argue its case
- to what extent you are prepared/authorised to adapt certain aspects of the project; that you have a list of everything needed to carry out the project and the resources made available by the organisation
- that you have the support and agreement of the other partners in the project and the members of your organisation

Overview of EU funding:

The European Union provides funding and grants for a broad range of projects and programmes, financed from the EU's budget, as defined through a Multiannual Financial Framework (MFF) for the 2014-2020 period. The MFF sets out the maximum budget for the EU in specific areas. Areas that are potentially relevant for raising funds for cross-border collaboration projects are [92, 93]:

- Competitiveness for growth and jobs, i.e. Erasmus +, EaSI and Horizon 2020
- Economic, social and territorial cohesion, i.e. Structural and Investment Funds (ESF or ERDF)
- Global Europe, i.e. ENI and IPA II
- European Territorial Cooperation (e.g. Interreg A, B, C)
- European Investment Bank (EIB) and European Fund for Strategic Investments (EFSI)

EU funds are mostly allocated through grants. Two types of grants can be distinguished: 1.) action grants for projects with a limited lifetime during which specified activities are implemented and 2.) operating grants that provide financial support for the regular work and activities of an organisation [93].

Not all cross-border collaboration projects can be started without any external funding support. Project partners are therefore advised to seek programmes that provide financial support. The checklist is designed to provide guidance on what to consider in the fundraising process.

Please put a cross ('yes', 'no') beside those points that you have already considered in the fundraising process.

Criteria to be considered in fundraising	**Yes**	**No**	**Comments**	**Consequences in the case of 'No'** (impact on other criteria, whole project, the timeline etc.)
• Have you identified all programmes likely to be compatible with your cross-border collaboration project?				*Please think about the consequences if the criterion is not considered*
• Have you finalised a systematic list of programmes that might provide funding?				*Please think about the consequences if the criterion is not considered*
• Is the level of activity addressed by your projects compatible with the programme considered? *(i.e. local, regional, national or international)*				*Please think about the consequences if the criterion is not considered*
• Have you selected programmes based on topics/problems addressed by your projects? *(i.e. social, economic, environmental)*				*Please think about the consequences if the criterion is not considered*
• Have you considered who runs the project? *(i.e. ministries, local authorities, Euroregions, Eurodistricts etc.).*				*Please think about the consequences if the criterion is not considered*
• Have you considered the geographical area of operation when deciding on a programme?				*Please think about the consequences if the criterion is not considered*
• Have you selected those programmes whose aims and objectives reflect the aims and objectives of your cross-border collaboration project best?				*Please think about the consequences if the criterion is not considered*
• Have you prepared the application for funds according to the programme's requirements?				*Please think about the consequences if the criterion is not considered*
• Have you sent the application for funds to the programme?				*Please think about the consequences if the criterion is not considered*

Source: GOE FP based on [91]

Tool 10: Finalise the project concept with partners

Once you have identified your future project partners, it is essential to jointly refine your initial project idea in order to reach agreement on the goal that you will work towards together. Accordingly, this last step in Module 1 is to reach agreement about the project with your partners.

In this respect, a brief summary of the project's key elements as objectives, partnership, main activities and expected outputs and results, as well as a preliminary budget framework (including expected funding), should be determined and form the basis of any further agreements with your project partners. Agreeing on a joint project description allows a mutual understanding of the project to be established, which is also important for external communication with stakeholders. The following template serves as an example of a general structure. When filling it out, make sure that the project summary is clearly worded and self-explanatory.

Project description

What problem(s) will the CBC project address?

What are the objectives of the CBC project?

What are the expected outcomes and results of the CBC project?

What is the target group of the CBC project?

Partnership

How are the project partners organised (lead partner, roles, expertise, contribution to the project)?

Partner	Role	Expertise/experience	Contributes to activity

Stakeholders

Who are the project's stakeholders and how are they engaged?

Stakeholder	Engagement	Responsibility

Budget

What are the first estimates of the CBC project's budget?

Activity	Description	Anticipated costs
	Total	EUR

Source: GOE FP based on [34, 87]

Tool 11: Final check ✓ Module 1

Before you proceed to Module 2, please check whether you have considered the main topics in Module 1.

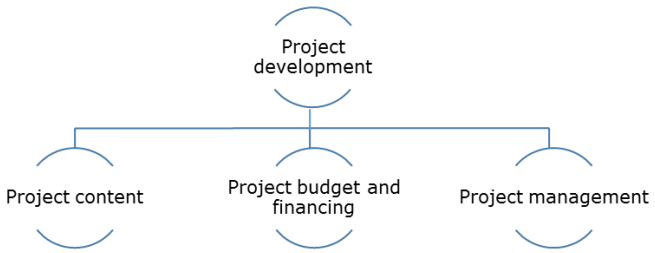
Topic	Criteria	Yes	No	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
Generate cross-border collaboration idea	• Specific need or demand for target group has been identified Tool 1: How to identify the need for cross-border collaboration				*Please consider the consequences if the criterion is not fulfilled*
	• Partnership is based on expertise (experience and competence in the field), necessary capacity and cooperation Tool 2: Checklist: How to identify the right partners for setting up a cross-border healthcare collaboration project				*Please consider the consequences if the criterion is not fulfilled*
	• The mix of partners takes into account how they complement one another Tool 3: Assessment matrix for complementarity of cross-border care project partners				*Please consider the consequences if the criterion is not fulfilled*
	A trustworthy partnership has been established.				*Please consider the consequences if the criterion is not fulfilled*
Analyse Stakeholders	• Project stakeholders have been identified and analysed Tool 7: Stakeholder analysis matrix				*Please consider the consequences if the criterion is not fulfilled*
	• The stakeholders have been engaged in the process in line with their interests and attitudes towards the project Tool 8: Stakeholder management plan				*Please consider the consequences if the criterion is not fulfilled*
Project fund-raising	• Is there a clear need for external funding?				*Please consider the consequences if the criterion is not fulfilled*
	• External sources for raising funds have first been identified Tool 9: Checklist: How to fund the cross-border healthcare project				*Please consider the consequences if the criterion is not fulfilled*
cross-border collaboration	• The project idea has been drafted into a project plan defining: – joint objectives – partnership structures based on tasks and responsibilities – lead partner vs. project partner responsibilities Tool 10: Finalise the project concept with partners				*Please consider the consequences if the criterion is not fulfilled*

Topic	Criteria	Yes	No	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
	• The *Project Summary template* has been jointly agreed on by all partners Tool 10: Finalise the project concept with partners				*Please consider the consequences if the criterion is not fulfilled*

Source: GOE FP

6.2 Module 2: Project development

Module 2 relates to the second stage in the project life cycle when project partners have agreed on the project idea and start to consolidate it. During this stage, the project content is specified, and a concrete work plan, including associated resources (i.e. staff, budget and timeframe), and a working culture, including a communication strategy, are established.



Tool 12: Checklist: Specify the content of Health and Care Workforce and Training collaboration 96
Tool 13: Checklist: Specify the content of Emergency Care collaboration 98
Tool 14: Checklist: Specify the content of High-Cost Capital Investment collaboration ... 99
Tool 15: Checklist: Specify the content of Knowledge Sharing and Management collaboration 101
Tool 16: Checklist: Specify the content of Treatment or Diagnostics collaboration 103
Tool 17: Template: Work plan structure 105
Tool 18: Template: Schedule 107
Tool 19: Checklist: What kind of costs should be considered when preparing the project budget? 108
Tool 20: Checklist: What kind of supporting documents are needed per cost type? 110
Tool 21: Template: Project budget sheet 112
Tool 22: How to organise the project decision-making 116
Tool 23: How to organise communication 116
Tool 24: Ground rules for communication in a multinational and long-distance environment 118
Tool 25: Checklist: Project information flow 119
Tool 26: Final check ✓ Module 2 120

Tool 12: Checklist: Specify the content of Health and Care Workforce and Training collaboration

The questions and topics in this checklist are designed to help the project partners set up a cross-border collaboration project in the field of healthcare workforce and training and to draw their attention to specific issues related to the scope of the collaboration, stakeholders and project partners, the target group, organisational and legal issues, and financing.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the criterion. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Criteria	To be considered		Comments
		Yes	No	
Scope	Why might the health workforce be an issue in terms of delivering health services to the regional population? • High specialisation grade of medical field (skills and grades) • Mobility of health professionals			
	What is the reason for the shortage of healthcare professionals that we are looking for?			
	What options do we have to solve this problem? *(short, medium-term and long-term)*			
	Is the required workforce in another country/region available? Is it possible to employ healthcare professionals from the collaborating country?			
	Are there any **alternative ways** to make up for the lack of healthcare personnel? • E-health options • Is shifting professionals an option to achieve the required skill mix? • Is staff sharing with the cooperating partner an option?			
	What specific skills and expertise are required to provide the healthcare services to the population?			
	What are the short-term (immediate), medium-term (intermediate) and long-term (ultimate) objectives? *e.g. ageing health workforce*			
Stakeholder/project Partner	Which specific project partners are needed to be able to achieve the desired results? • *schools, universities, medical associations, professionals associations, public authorities etc.*			
Target group	Who is addressed by the collaboration address? Who belongs to the target group? • Does the collaboration target patients in need of services or healthcare professionals?			
isation al and legal	Are foreign healthcare professionals allowed to provide these services based on their education?			

Topic	Criteria	To be considered		Comments
		Yes	No	
	What are the **legal requirements** in order to employ them? (e.g. approbation as physician) • What/and how long does it take to get diplomas of health professionals from other countries (the neighbouring region) recognised?			
	If **multilingualism** is an issue, how will we address this issue and can we ensure the availability of interpreters?			
	What other regulations or recommendations should be taken into account? *e.g. in terms of fairness. WHO Global Code of Practice*			
Financing	**National funding** and/or EU funding possibilities (provider perspective)			

Source: GOE FP

Tool 13: Checklist: Specify the content of Emergency Care collaboration

The questions and topics in this checklist are designed to help the project partners set up a cross-border collaboration project in the field of *Emergency Care*. Using this checklist should help to draw their attention to specific issues related to the scope of collaboration, project stakeholders and partners, the project's target group, organisational and legal issues, and financing.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the criterion. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Criteria	To be considered		Comments
		Yes	No	
Scope	• **Purchasing of infrastructure** (shared funding/individual procurement) • **Sharing of infrastructure**, involving high-cost capital investment *ambulance cars, coronary angiography centre, trauma surgery department etc.*			
	• **Conducting** joint **emergency service exercises** (to ensure a proper response in the case of catastrophe)			
	Sharing of staff (e.g. in joint departments), see also			
	ICT/telemedicine for sharing important information and ensuring communication in the case of a catastrophe • also quicker sharing of relevant patient data			
Stakeholder/project partner	• Who needs to be addressed at the project partner and stakeholder level? • Who are the specific stakeholders or potential project partners related to this topic? *Emergency medical service, emergency physicians, provider of Mobile Intensive Care Units (MICUs) or Critical Care Transport, ambulance service, provider organisations in the border region etc.*			
Target group	Patients with a severe medical condition that poses an immediate risk to their life and/or health *e.g. acute onset illness and injuries, such as myocardial infarction, or accidents involving severe injuries*			
Organisational and legal issues	**Joint administration** for the cross-border collaboration project			
	Reorganisation of the partner facilities (structural and strategic)			
	If **multilingualism** is an issue, ensuring availability of interpreters			
	Identifying and addressing **legal issues** in advance, especially related to the workforce, financing and reimbursement, cost-sharing etc. • Joint agreements and legislation *e.g. for reimbursement and rescue transport service* • Establishing reliable and strong agreements among project partners and stakeholders			
	• Gaining political support (regional, national and EU level)			
Financing	**National funding and/or EU funding** possibilities (provider perspective)			
	Health insurance funds reimburse medical costs (patient perspective)			

Source: GOE FP

Tool 14: Checklist: Specify the content of High-Cost Capital Investment collaboration

The questions and topics in this checklist are designed to help the project partners set up a cross-border collaboration project in the field of *High-Cost Capital Investment* and to draw their attention to specific issues related to the scope of the collaboration, stakeholders and project partners, the target group, organisational and legal issues, and financing.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the criterion. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Criteria	To be considered		Comments
		Yes	No	
Scope	What is the **rationale** behind a CBC project in the field of high-cost capital investment? • What can we expect in terms of efficiency and effectiveness by pooling resources for high-cost medical equipment or medical facilities? • What are the benefits of using the medical equipment in a CBC setting?			
	At the level of the EU-Member states, the following expensive and highly specialist medical equipment was identified: • MRI scanners • CT scanners • Stereotactic systems • Surgical robots Nevertheless, depending on regional demand for high-cost medical equipment, projects can be implemented according to the actual need			
	Are we familiar with other (similar) projects and their success in addressing this issue? What can we learn and apply?			
	What is the expected utilisation rate for the equipment? • How many patients from each border region will be using it? • How many therapies/diagnostic procedures can be performed?			
Stakeholder/project partner	Who are the specific stakeholders or potential project partners in the field of high-cost capital collaboration? *provider organisations in the border region, inpatient and outpatient services etc.*			
	Do all stakeholders (including project partners and the target group) agree on the project objectives?			

Topic	Criteria	To be considered		Comments
		Yes	No	
Target group	For the target group *patients*, see also Tool 16			
Organisational and legal issues	Is the effectiveness of the planned intervention/the project objectives proven?			
	Is there a clear picture of the overall process that needs to be implemented?			
	Are there any **legal regulations** that need to be changed to enable activities at the project level for the intended treatment and diagnostic services across the border? • Identifying and addressing legal issues in advance, especially related to the workforce, financing and reimbursement, cost-sharing etc. • Legislation at the regional, national or EU level? • Establishing reliable and strong agreements among project partners and stakeholders, especially concerning decision-making processes during the equipment selection process and for the duration of usage			
	Is a reorganisation of the partner facilities (structural and strategic) necessary to foster better CBC services for patients?			
	Culture and trust are key issues in CBC projects, especially in medical and care services for patients • How will we ensure that these issues are reflected properly in the project partner development process and later on in the process of providing services to patients?			
Financing	• A reasonable estimate of the investment should be made			
	• Financing of the investment and cost-sharing during the life cycle of the medical equipment need to be based on a strong and fair agreement among the CBC project partners			
	• National funding and/or EU funding possibilities (provider perspective)			

Source: GOE FP

Tool 15: Checklist: Specify the content of Knowledge Sharing and Management collaboration

The questions and topics in this checklist are designed to help the project partners set up a cross-border collaboration project in the field of *Knowledge Sharing and Management* and to draw their attention to specific issues related to the scope of the collaboration, stakeholders and project partners, the target group, organisational and legal issues, and financing.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the criterion. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Criteria	To be considered		Comments
		Yes	No	
Scope	What are we trying to achieve through knowledge transfer? • Common (mutual) cross-border knowledge building? • Knowledge transfer from one region (where the knowledge already exists) to another (where there is a lack of knowledge)			
	Has the identified (knowledge management) problem been defined sufficiently clearly and is there agreement among the project partners on the objectives?			
	What are the **specific challenges** in terms of fostering the flow of knowledge among project partners, stakeholders, providers and the target group (e.g. patients)?			
	What different approaches to fostering knowledge exchange should be considered? • Exchange of staff (e.g. rotations) • Formal education (schools, seminars etc.) • Common knowledge base (IT-supported) • Structural changes in the organisational makeup of the institutions concerned • Political support			
	Have we examined **social, cultural and policy** factors and their influence on the prospective success of the project? Do all further steps in the project process reflect that knowledge?			
Stakeholder	Who needs to be addressed at the project partner and stakeholder level? Who are the specific stakeholders or potential project partners for this topic? • *healthcare staff, provider organisations in the border region, IT providers etc.*			
	Do policy network organisations exist that can be integrated as supporting stakeholders or even project advocates in order to help overcome regulatory barriers?			
Target group	Who will benefit the most from improved knowledge flow among (border) regions? • Who are we addressing?			

Topic	Criteria	To be considered		Comments
		Yes	No	
Organisational issues and legal issues	What do we know about the **institutional preconditions** for cross-border healthcare knowledge exchange? • Are there any formal or informal regulations or norms that create barriers or opportunities for cross-border relations?			
	Are there any **legal regulations** that need to be changed to enable activities at the project level for CB knowledge exchange?			
	Who needs to be addressed with regard to these questions? • Legislation at the regional, national or EU level? • Other			
	How will we address the knowledge transfer process at the individual level? i.e. employees of the partner organisations who are supposed to share/transfer their knowledge			
	What (organisational) processes need to be put in place to support the exchange/transfer of knowledge?			
	Culture and trust are key issues for cross-border projects, especially when it comes to knowledge transfer • How will we ensure that these issues are reflected properly in the project partner development process?			
	Is it possible to form strategic alliances across borders based on common objectives and a mutual understanding of benefits to ensure a better knowledge flow?			
Financing	**National funding and/or EU funding** possibilities (provider perspective)			

Source: GOE FP

Tool 16: Checklist: Specify the content of Treatment or Diagnostics collaboration

The questions and topics in this checklist are designed to help the project partners set up a cross-border collaboration project in the field of *Treatment and Diagnostics* and to draw their attention to specific issues related to the scope of the collaboration, stakeholders and project partners, the target group, organisational and legal issues, and financing.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the criteria. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Criteria	To be considered		Comments
		Yes	No	
Scope	What is the rationale behind the cross-border collaboration in treatment and diagnostics? • Low volume of complex procedures • Geographical proximity • Access or waiting times			
	Is there **evidence of the health problem** and its impact on quality of life? • How do we know about the problem? • Are empirical data available about the nature, size and distribution of the problem? • Is evidence of the factors that impact the health problem available?			
	• How will we address these factors? What means of treatment or diagnostic services should be provided to the target population?			
	Are we **familiar** with **other (similar) projects** and their success in addressing this issue? What can we learn and apply?			
	• Have we examined **social, cultural and policy factors** and their influence on the prospective success of the project? • Do all further steps in the project process reflect that knowledge?			
Stakeholder/project partner	• Who needs to be addressed at the project partner and stakeholder level? Who are the specific stakeholders or potential project partners for this topic? (see Tool 6)			
	• Have all stakeholders (including project partners and the target group) been **involved in designing the project objectives?**			
Target group	• Do we know our target group well? (relevant demographic features, priority needs, wishes and social norms) • Essentially all patients with a medical condition in need of treatment and diagnostic services in the border regions			
	• Has the size of the target group been estimated (number of subjects)?			
	• Is it clear how the target group can be reached?			

Topic	Criteria	To be considered		Comments
		Yes	No	
Organisational and legal issues	• Are the effectiveness of the planned intervention/the project objectives proven?			
	• Is there a clear picture of the overall process that needs to be implemented?			
	Identifying and addressing **legal issues** in advance, mostly related to the workforce, financing and reimbursement, cost-sharing etc. • What legislation applies at the regional, national or EU level? • Are there any legal regulations that need to be changed to enable activities at the project level for the intended treatment and diagnostic services across the border? • Establish reliable and strong agreements among project partners and stakeholders			
	• Is a reorganisation of the partner facilities (structural and strategic) necessary to foster better cross-border services for patients?			
	• **ICT/telemedicine** for sharing patient information between different regional healthcare providers and ensuring a smooth treatment chain			
	• Gaining political support (at the regional, national and EU level)			
	Culture and trust are key issues for cross-border collaboration projects, especially when it comes to medical and care services for patients • How will we ensure that these issues are reflected properly in the project partner development process and, at a later stage, in the process of providing services to patients?			
Financing	• National funding and/or EU funding possibilities (provider perspective)			
	• Health insurance funds reimburse medical costs (patient perspective)			

Source: GOE FP

Tool 17: Template: Work plan structure

As the backbone of each project, the project work plan defines

- What work will be carried out?
- Who will carry out the work?
- In what order will the work be carried out?
- How much time will it take to carry out the work?

To put it simply, the work plan defines ***processes*** (i.e. what needs to be done? how should the work required for achieving the project objectives be planned?) and ***responsibilities*** (i.e. who will do what? which partner is responsible for which part of the project? how is the cooperation organised?).

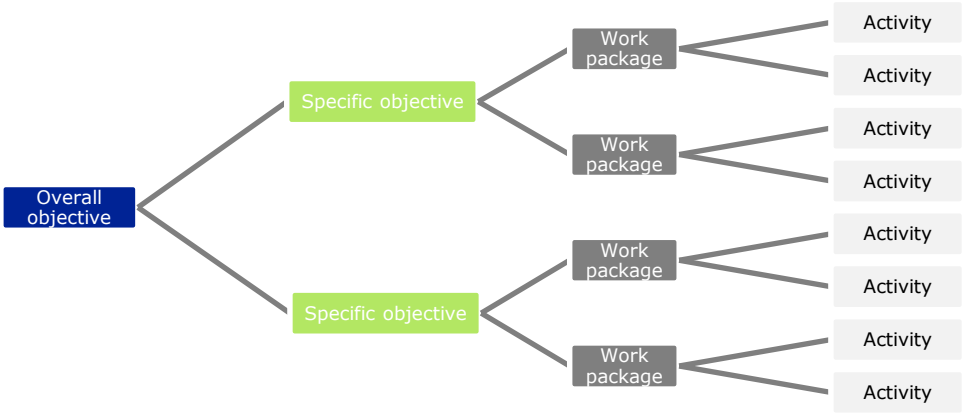
As with the objectives, it is advisable to spend sufficient time on the detailed planning of the work to ensure that the project partners are clear about responsibilities and to avoid misunderstandings at a later stage in the project.

Do's and don'ts in work package planning

- ✓ Cluster activities in a logical way and in chronological order
- ✓ Make sure that it is clear why activities are grouped and what is achieved by completing the work package
- ✗ Avoid putting too many activities in one work package, as these will be difficult to monitor during implementation
- ✗ Avoid vague statements, as these might lead to misunderstandings among partners

In addition, it has proven useful to arrange the activities into work packages, i.e. one work package covers a group of related activities that need to be performed to achieve a certain output. Project activities need to be planned in such detail that realistic estimates of time and resources can be made. Based on how the activities depend on one another, the timelines for work packages and activities can also be set. When planning, it is also important to allow for some flexibility to accommodate changes, which will inevitably occur in the course of the project.

Figure 20: Work plan structure



Source: GOE FP

Depending on whether you are applying for funding and the type of funding, requirements for work package content might differ.

This template provides a generic overview of information to be covered in your work plan. Details on how to fill it out are provided below.

	What is the overall objective of the cross-border collaboration project					
Objectives	*Please describe*					
Work package 'title'	What is the purpose and (specific) objective of the work package?					
	Please describe					
	What are the main activities that will be carried out during the project (per work package, including timeline)?					
	Activity	Description	Target group	Responsibility (project partner)	Allocated budget	Timeline

Source: GOE FP based on [34]

Objectives	• What are the specific objectives in order to achieve the overall goal of the collaboration? • Indicate which work package the specific objective(s) relate to
Work package description	• The work package title should reflect its content • Indicate the purpose and objectives of the work package
Activities and out-comes	• Output-based planning of activities is a pragmatic and easy approach, i.e. take the outputs that have already been identified as the basis and then, as a second step, identify the activities and resources that are needed to achieve those outputs
Target groups	• Describe the target group or stakeholders and how they are engaged within the project • Focus only on those who have an impact on the project
Responsibility (project partners)	• Define the responsibilities of the project partners • Who takes the lead of a respective work package and is therefore responsible for its delivery?
Budget	• Indicate a budget per work package or if possible per activity
Timeline	• Indicate the timeline per activity and globally per work package

Tool 18: Template: Schedule

To increase understanding of the overall expected effort and number of activities included in the cross-border care collaboration project, it is useful to plot all work packages and respective activities in one Gantt chart. This template is also available in Excel format.

Project name:																		
	Responsibility						**Months**											
Work packages and activities	NN	NN	NN	NN	NN	NN	**Month 1**	**Month 2**	**Month 3**	**Month 4**	**Month 5**	**Month 6**	**Month 7**	**Month 8**	**Month 9**	**Month 10**	**Month 11**	**Month 12**
Work package 1																		
Activity 1.1																		
Activity 1.2																		
Activity 1.3																		
Activity 1.4																		
Work package 2																		
Activity 2.1																		
Activity 2.2																		
Activity 2.3																		
Activity 2.4																		
Work package 3																		
Activity 3.1																		
Activity 3.2																		
Activity 3.3																		
Activity 3.4																		

Note: available as an Excel file

Source: GOE FP

Tool 19: Checklist: What kind of costs should be considered when preparing the project budget?

In the budget sheet (see Tool 21) different budget lines (i.e. types of costs) are considered. In order to know what kind of costs to consider when planning the budget, the main cost types are presented and explained below. Please be aware that it is a generic overview of cost types and specific requirements may apply to your project.

Staff costs: this refers to costs for staff employed by the partner organisations who are formally engaged to work on the project. It may include the costs of full-time employees, part-time employees (fixed percentage of time dedicated to the project vs. flexible percentage of time dedicated to the project) and employees contracted on an hourly basis.
Examples: healthcare personnel, translators, administrative staff, etc.

Office and administration: this refers to office and administration costs incurred by the partner organisations in relation to the project.
Examples: IT systems, software, etc.

Travel and accommodation: this refers to the necessary costs of travel and accommodation of staff of the partner organisations in order to carry out the project. It may include travel costs, accommodation costs, costs for meals, visa costs and/or daily allowances.
Examples: travel and accommodation costs for project management, not transportation costs for patients

External expertise and services: this refers to costs incurred for external expertise and services provided by a public or private organisation outside the partner organisations. These services should be based on contractual or at least written agreements. Payment is made based on invoices or requests for reimbursement to the external bodies and is related to the performance of certain tasks and activities.
Examples: external translation services

Equipment: this refers to the costs of financing equipment that is purchased, rented or leased by a project partner in order to achieve the project objectives.
Examples: angiography units, ambulance cars, leased medical wards, etc.

Infrastructure: this refers to the costs of financing infrastructure and construction work.
Examples: newly built hospitals, hospital wards, etc.

This checklist provides an overview of costs to be considered when preparing the project budget. A template for setting up the project budget is provided in Tool 21.

Cost types	Detailed information
Staff costs	• Must relate to activities which would not be carried out in the absence of the project • Includes only project-related costs • Overhead costs, office and administration costs and travel expenses are not included To be considered: ✓ National regulations on social security, holiday fund ✓ Arrangements for maternity/paternity leave, sick leave, overtime ✓ Timesheets for staff working on an hourly basis ✓ National regulation(s) on number of working hours
Office and administration	• Can cover direct and indirect costs • Does not include office equipment (furniture, IT hardware and software etc.) and audit costs • Forms of reimbursement – either on the basis of real costs or a flat rate, for example, (up to) 15 % of staff costs
Travel and accommodation	• Clear link to the project, e.g. participation in project meetings, site visits, seminars etc. • Travel and accommodation of external experts are not covered under this cost type
External expertise and services	• Work by external experts and service providers that is essential to the project • Payments ae made on the basis of contracts and against invoices To be considered: ✓ Additional costs related to external experts (e.g. travel and accommodation) are to be covered under this cost type ✓ If you have applied for funding, there might be rules related to tendering ✓ Ensure a full audit trail for contracting: 1. Evidence of selection process 2. Contract or written agreement 3. Invoices or requests for reimbursements 4. Outputs of the work of external experts 5. Proof of payment
Equipment	• Costs are subject to applicable public procurement rules, so project partners must ensure compliance with those rules To be considered: ✓ Inclusion of full equipment costs (proof of sole use for project) vs. annual deprecation (during the project period) only ✓ Eligibility of second-hand equipment ✓ Eligibility of equipment purchased before the project period

Source: [34, 94]

Tool 20: Checklist: What kind of supporting documents are needed per cost type?

For the purpose of financial control, as the cross-border collaboration project progresses, it should be ensured that various supporting documents are saved and digital access to them is provided. The following checklist provides guidance on which documents should be considered.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the documents. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Documents needed	Considered?		Comments
		Yes	No	
Basic background documents	• **Subsidy contract** and all amendments			
	• Evidence of the **accounting system** (either separate accounting system or adequate accounting code/cost centre) for all project-related transactions			
	• **Project partnership agreement** and all amendments			
	In the case of **external funding:** • Latest approved version of the application form • Programme documents: Cooperation Programme, fact sheets, programme and first-level control manuals etc.			
Basic project report documents	• **Progress report**, including all obligatory annexes, properly signed and submitted			
	• List of expenditure			
	• Copies of **main project deliverables** such as studies and agendas of meetings in line with the progress report			
Staff costs (including part-time and full-time staff)	• A document showing the **contractual relationship** (e.g. employment contract or other formal agreement) for all employees reporting staff costs			
	• **Written agreement(s) outlining the work to be performed** for the project for all persons reporting staff costs			
	• A document specifying **salaries** for each relevant month and each person working on the project (e.g. payslips, print-out from the accounting system)			
	• **Proof of payment of salaries** and any additional compulsory employer contributions (e.g. social insurance)			
	For **part-time work** on the project – based on a fixed percentage of time worked per month: • Document setting out the percentage of time to be worked on the project for each person reporting staff costs under this option			
	• **Records of time worked (**e.g. signed time sheets or equivalent) showing 100 % of the person's work			
	• Document showing the **latest documented annual gross employment cost** (part-time work based on hourly rates using 1 720 hours)			
	• **Calculation scheme for salary costs**			

Topic	Documents needed	Considered? Yes	Considered? No	Comments
	for each employee working part-time on the project			
Travel and accommodation	• Agenda or similar of the meeting/seminar/conference			
	• Proof of participation (e.g. email or signed list of participants)			
	• Paid invoices or documents of equivalent probative value (hotel bills, tickets etc.)			
	• Information on daily subsistence allowance/per diem claims			
	• Proof of payment of travel and accommodation costs (e.g. bank account statement, receipts, and, if applicable, reimbursement to the staff member)			
External experts and services	• The selected **offer or contract**			
	• **Invoices and proof of payment** of external services and experts (e.g. bank account statement)			
	• For experts and services that are NOT exclusively used for the project: calculation method showing the share allocated to the project and justification for the allocated share			
	• **Deliverables and other evidence** of the work carried out by external experts			
Equipment and infrastructure	• The selected offer or contract			
	• Invoices and proof of payment			
	• For depreciation: **calculation scheme for depreciation**			
	• For equipment used only partially for the project: calculation method showing the share allocated to the project and justification for the allocated share			
	• Proof of existence (pictures, delivery note etc.)			
Public procurement	• Document showing where external services or equipment were purchased			
	• Documents required by controllers to check the procurement may also vary depending on national public procurement laws and programme rules			
	• Initial cost estimate made by the project partner to identify the applicable public procurement procedure: – Procurement publication/notice – Terms of reference – Offers/quotes received – Report on assessment of bids (evaluation/selection report) – Information on acceptance and rejection – Contract, including any amendments			

Source: [34]

Tool 21: Template: Project budget sheet

General rules for planning your budget:

- ✓ Be aware that budgeting takes time. Start early enough.
- ✓ There are no shortcuts and no standard budget is available.
- ✓ Be realistic when indicating what you will need to complete the project and how much it will cost. Unclear or excessive costs and unrealistic figures will be spotted at the assessment stage.
- ✓ The project budget should reflect the project partners' involvement in the planned activities.
- ✓ Tell the partners how to plan the budget and what is eligible. Make sure that the partners' internal accounting systems are able to provide information on the programme's budget lines.
- ✓ Be aware of inevitable delays at project start up.
- ✓ Avoid guess-based budgets, as experience shows that they are increasingly risky.

This template for project budgeting, which is also available in Excel format, give users an idea of how to structure their budget sheets and what types of costs (see Tool 19) to consider. The template should be completed in the separate Excel file, which also allows for customisation.

Project:

Project partner:

1. Staff costs										
People working on the project	**Full cost FTE (100 %)**	**Employed for the project as a percentage of FTE**	**Project staff costs**	Distribution per work package						
				WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Person 1 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person 2 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person 3 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person 4 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person 5 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person 6 - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Person … - *function*	**€ 0.00**	**0.00 %**	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Total	**€ 0.00**	**0.00 %**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
2. Office and administration										
			Project costs	Distribution per work package						
				WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Might be calculated as a percentage of staff costs (e.g. 12.5 %)			**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
3. Travel and accommodation										
			Project costs	Distribution per work package						
				WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Travel and accommodation			**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**

4. External expertise and services											
					Project costs	Distribution per work package					
						WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Studies and surveys					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Training					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Translations and interpreters					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Development and maintenance of IT					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Communication					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Events and meetings (including experts)					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Financial management and audits					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Consultancy and expertise					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
Other activities related to project implementation					**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00
			TOTAL		**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
5. Equipment and investment Costs												
	Total cost (100 %)	**Annual depreciation rate**	**Eligible amount**	**Incentive rate**	**Project costs**	Distribution per work package						
						WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Office equipment					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
IT software and hardware					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Furniture					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Laboratory supplies					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00

Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Tools					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00
Instruments					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
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Please specify					€ 0.00							€ 0.00
Vehicles					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
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Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Other equipment necessary for the project					**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
Please specify					€ 0.00							€ 0.00
				TOTAL	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**

6. Infrastructure								
	Project costs	Distribution per work package						
		WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
Construction work	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	**€ 0.00**
Devices	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	**€ 0.00**
Restoration and renovation	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	**€ 0.00**
Other work	**€ 0.00**	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	€ 0.00	**€ 0.00**
TOTAL	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**

7. Income/revenue – if applicable								
	Project costs	Distribution per work package						
Specify the nature of the income		WP 1	WP 2	WP 3	WP 4	WP 5	WP 6	TOTAL
	€ 0.00	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**
Please specify	€ 0.00							€ 0.00

Please specify	€ 0.00							€ 0.00
TOTAL								

	Project costs	**Distribution per work package**						
		WP 1	**WP 2**	**WP 3**	**WP 4**	**WP 5**	**WP 6**	**TOTAL**
TOTAL		**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**	**€ 0.00**

Budget summary	
1. Staff costs	**€ 0.00**
2. Office and administration	**€ 0.00**
3. Travel and accommodation	**€ 0.00**
4. External expertise and services	**€ 0.00**
5. Equipment and investment costs	**€ 0.00**
6. Infrastructure	**€ 0.00**
7. Income/revenue	**€ 0.00**
TOTAL	**€ 0.00**

Financial plan	**As a %**	**Sum**
1. Lead partner		€ 0.00
2. Project partner 1		€ 0.00
3. Project partner 2		€ 0.00
4. Project partner 3		€ 0.00
5. Project partner 4		€ 0.00
TOTAL		**€ 0.00**

Note: available as an Excel file

Source: GOE FP based on [95]

Tool 22: How to organise the project decision-making

Regardless of the size of a collaboration project, some management structure needs to be established to ensure transparent and effective coordination. Of course, the greater the size of the collaboration project, the more important the management structure is. In small partnerships, the lead partner might act as the central point of coordination. Large cooperation projects require more sophisticated coordination structures.

Project steering group: a project steering group might be set up for collaboration projects covering several countries for the purpose of strategic coordination, evaluation and decision-making of the project. A project steering group should usually include, at minimum, the work package leaders, the project manager and/or the project lead partner. Other partners, depending on their expertise, can be invited to steering group meetings according to the subject discussed.

Management structures: these relate to the coordination of some activities within the project. They are located at a level below the project steering group and allow for more technical and detailed discussion among partners. Management structures might (be):

- **based on national/regional coordinators**: useful for projects where the activities are the same for all the partner countries/regions concerned. The risk of partners working in their own silos needs to be considered.
- **based on thematic coordinators:** useful for projects involving partners from different sectors or different fields of expertise.
- **involve an advisory board:** might be used for consultation on wider general or technical issues. Usually it can be composed of local stakeholders, the project target group, experts etc.

Stakeholder involvement: Based on the results of the stakeholder identification and assessment (Tool 6, Tool 7 and Tool 8), users should consider in how far the project might benefit of involving key stakeholders in the project. Their involvement can be a strategy to anticipate potential threats from stakeholders for the project. Especially stakeholders classified as sponsors or advocates but also the blockers for a project should be given a role either in a project steering group or a project advisory board.

Tool 23: How to organise communication

Communication is key to smooth and successful collaboration. It is therefore important to create a clear picture of what to communicate and to whom at the very beginning of a collaboration project. It is important to balance up what to communicate; too little communication involves the danger of conflicts and misunderstandings whereas too much information (or irrelevant information) may confuse project partners or result in them losing interest.

The internal information flows should not solely be limited to the people who are directly involved in the CBHC project but also other professionals of the partner organisations should be regularly informed about the project and its progress. This may help to create a general positive atmosphere towards the collaboration project among all involved. It is the role of the project manager to decide who receives what information (see Tool 25).

Face-to-face communication: a limited number of such meetings is essential for effective project communication (e.g. kick-off meeting, interim meeting(s), closing meeting). However, in order to monitor the progress of a project, it is advisable to organise regular phone calls or e-meetings. In multinational projects, face-to-face meetings usually involve travelling, so their frequency needs to be planned at an early stage in order to account for them in the budget.

Virtual communication: phone and email are still the most commonly used forms of virtual communication tools. However, multinational projects may rely on more sophisti-cated platforms, which may save costs without sacrificing effective communication.

Examples are the online storage of documents, shared working environments, internet calls and conferencing, and project management platforms.

Regardless of the chosen communication channel, special attention should be paid to language. Especially for multinational cooperation projects, it is important to find a **common language**, which might be more difficult, the more partners/nationalities are involved. However, language should never be the reason for partners to participate less actively in the project. It is therefore important to consider the following aspects, in case no common language can be found:

- Ensure adequate translation at meetings and for other communication channels
- Ensure translation of written materials
- Include translation and interpretation services in your budget – not only in terms of financial resources, but also the time needed for translation/interpretation.

A **communication strategy** might be useful in order to develop further a common understanding of communication and related activities among partners and how they will be delivered in practice.

External communication to citizens: Keeping citizens informed is a crucial element in territories' cross-border integration efforts. The involvement of citizens may take place through the organisation of a forum and also the implementation of concrete projects for the inhabitants of cross-border territories. These initiatives contribute to building a crossborder civil society, based on understanding and trusting one's neighbours [85]. Examples are:

- European Cross-Border Grouping (GTE) – Maisons transfrontalières européennes (European cross-border centres)
- Partons, Interreg V (France-Wallonia-Flanders) project for the development of services in rural areas
- GFGZ (German-Swiss association for cross-border cooperation)

Why a communication strategy?

- To convey the project purpose to external actors
- To make things happen, as projects are not isolated; communication helps to move the project forward
- To make project priorities transparent
- To identify where resources should be concentrated
- To inform stakeholders, whose agendas are busy, about activities in good time

Tool 24: Ground rules for communication in a multinational and long-distance environment

Communication in a multinational (and long-distance) partnership is crucial for the success of a cross-border collaboration project. Observing the following simple rules may help to ensure the smooth functioning of such communication.

Ground rules for communication in a multinational and long-distance environment	
✓	Use simple, clear language that is easy for non-native speakers to understand.
✓	Be as specific as possible – vague messages can be interpreted in different ways and can easily lead to confusion or conflicts.
✓	When using technology, ensure that all partners have technical access/capacity and the skills to use these tools without creating extra work for them.
✓	Encourage open/honest communication and feedback.
✓	Respect one another as professionals.
✓	Support one another and provide help when needed.
✓	Listen to feedback and ideas.
✓	Provide the opportunity to ask questions at any time.
✓	Share information, expertise, skills etc. within the team.
✓	Encourage pro-active participation of all members in the team.
✓	Take an open-minded/constructive approach to conflicts.
✓	Do not forget to inform also indirectly involved parties in partner organisations, i.e. persons outside the project team

Tool 25: Checklist: Project information flow

Another crucial aspect with respect to communication is transparent information sharing among project partners and other stakeholders involved in the cross-border collaboration project. The checklist below provides an overview of what information should be made available and to whom.

Information	What to consider?	Who to inform?								
		Partner within work packages	Work package leaders	Lead partner	Staff in partner organisations	Project steering group	Advisory board	Financial group	Consultants, contractors	Funding party
... necessary for working together	All partners have complete, clear and unlimited access to project information in order to perform their activities This might include: • Respective tasks within the project, total budget, the detailed work plan, the finalised deliverables etc.	☑	☑	☑		☑		☑	☑	
... sources	All partners need access to official information sources			☑		☑		☑		
... about project progress	All partners need to inform one another about their progress and issues that need to be addressed by all partners That might include: • How far have we progressed towards the overall objective? • What still needs to be done? • What are problems, challenges, success factors?	☑	☑	☑	☑	☑	☑	☑	☑	☑
... about project changes	All parties involved need to be informed about modifications to the original plan Distinguish between minor modifications (deviations from the work plan) and major modifications (require more formal procedures)	☑	☑	☑		☑		☑	☑	☑

Source: [34]

Tool 26: Final check ✓ Module 2

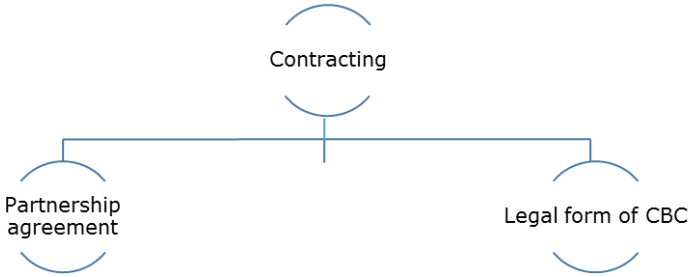
Before you proceed to Module 3, please check whether you have considered the main topics in Module 2.

Topic	Criteria	Yes	No	Comments	**Consequences** (impact on other criteria, the whole project, the timeline etc.)
Cross-border collaboration content	• The project objectives (i.e. overall objective and specific objectives) have been defined				*Please consider the consequences if the criterion is not fulfilled*
	• The project content has been specified Tool 12: Checklist: Specify the content of Health and Care Workforce and Training collaboration Tool 13: Checklist: Specify the content of Emergency Care collaboration Tool 14: Checklist: Specify the content of High-Cost Capital Investment collaboration Tool 15: Checklist: Specify the content of Knowledge Sharing and Management collaboration Tool 16: Checklist: Specify the content of Treatment or Diagnostics collaboration				*Please consider the consequences if the criterion is not fulfilled*
	• The project work plan (including activities, output and responsibilities) has been developed Tool 17: Template: Work plan structure				*Please consider the consequences if the criterion is not fulfilled*
	• The project schedule has been developed Tool 18: Template: Schedule				*Please consider the consequences if the criterion is not fulfilled*
Budget and Financing	• A sufficient and reasonable budget has been planned to ensure project implementation Tool 21: Template: Project budget sheet				*Please consider the consequences if the criterion is not fulfilled*
	• The project budget is in line with the proposed work plan and the main outputs and results that are aimed at Tool 35: Checklist: How to avoid financial management problems				*Please consider the consequences if the criterion is not fulfilled*

Topic	Criteria	Yes	No	Comments	**Consequences** (impact on other criteria, the whole project, the timeline etc.)
Communication	• The communication strategy for the projects has been developed and communication rules or guidelines have been established among all project partners Tool 23: How to organise communication Tool 24: Ground rules for communication in a multinational and long-distance environment Tool 25: Checklist: Project information flow				*Please consider the consequences if the criterion is not fulfilled*

6.3 Module 3: Contracting

Module 3 concerns the third stage in the project life cycle when the project content is specified and a concrete work plan, including associated resources (i.e. staff, budget, timeframe), and a working culture, including a communication strategy, are established. This stage covers legal topics related to partnership agreements and the legal form under which cross-border collaboration projects operate.



Tool 27: Checklist: Milestones to project partner agreement 123
Tool 28: Checklist of minimum requirements for a project partnership agreement 124
Tool 29: Guide to deciding which legal form to take 125
Tool 30: Decision tree for choosing the appropriate legal form for cross-border collaboration..... 127
Tool 31: Final check ✓ Module 3 128

Tool 27: Checklist: Milestones to project partner agreement

Once the project idea has been detailed and the project content has been developed, the next steps are to develop working agreements among project partners and, in the case of external funding (e.g. Interreg, or European Structural and Investment Funds, i.e. ESF or ERDF; see Tool 9), to follow the programme-specific rules to develop a suitable partnership agreement.

The checklist provides five steps to follow before drafting the project partnership agreement. It is not exhaustive, but reflects on some questions that should be clarified before drafting the project partnership agreement.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the topic. Comments (e.g. reasons for non-consideration) can be entered separately.

Topic	Yes	No	Comments
3. Clarification of: – Who takes the lead (lead partner – LP)? – Who is a project partner (PP)?			
4. Inputs of all partners need to be determined. – project plan with milestones, responsibilities – approved outputs and activities – financial responsibilities etc.			
5. All expenditures for the project need to be approved and validated (project controlling, external controlling).			
6. Beside rules on formal responsibilities, all PPs need to make a clear commitment to meet the requirements for making the project a success.			
7. A contract between project partners (project partnership agreement) is drawn up by the LP and signed by all PPs.			

Source: [34]

Tool 28: Checklist of minimum requirements for a project partnership agreement

At the beginning of a cross-border collaboration project, it is important to agree on duties and responsibilities before, during and after the collaboration. These should be stated in a project partnership agreement. In any case, a partnership agreement that fulfils at least minimum requirements needs to be developed and signed by all project partners to foster mutual agreement about the project process.

The following checklist provides guidance on the content to be covered when drafting a project partnership agreement.

Topic	Content	Comments
Definitions of project partners	• **Lead partner** (LP): the project partner who takes overall responsibility • **Project partner** (PP): any institution participating in the project financially and contributing to its implementation	
Subject and duration of the agreement	• Arrangements governing the relations between the LP and all PPs in order to ensure sound implementation of the project	
Budgetary allocation	• The overall **budgetary allocation,** based on a subsidy contract, partners' shares, arrangements for 'shared costs'	
Project steering committee	• Depending on the complexity of the project, a **decision-making body**, composed of representatives of the LP and all PPs, might be necessary	
Financial management, verification of expenditures and liabilities	• Each PP is responsible to the LP for guaranteeing the sound financial management of its budget • **Procedures and deadlines for payments** to PPs, accounts to be used, generated revenues or spending plan • **Consequences/penalties** in the case of failures to deliver and irregularities • **Recovery obligations and procedures**, i.e. procedures for reporting irregularities, procedures for withdrawal and recovery of unduly paid amounts, deadlines for repaying funds	
Internal and external communication	• Agreement on internal and external **communication flows,** e.g. LP is responsible for external communication (ensures that the project achievements are communicated to the relevant stakeholders), PP prepares and presents deliveries and achievements as requested; both communicate within their networks	
Cooperation with third parties and outsourcing	• In the event of **outsourcing**, the PPs will remain solely responsible towards the LP	
Working language	• The **working language** of the partnership needs to be agreed on • Unless there is a common language, different languages should be treated equally	
Other topics depending on individual circumstances	• In the case of **external project funding** through national or European authorities, other/additional requirements might apply	

Source: GOE FP based on [96]

Tool 29: Guide to deciding which legal form to take

Cross-border collaboration develops in stages from rather loose collaborative networks to contractual agreements. However, it does not necessarily reach the stage where the implementation of joint management bodies or the establishment of joint infrastructure are necessary [32]. Often a partnership agreement or memorandum is sufficient for cross-border collaboration projects. However, if the collaboration is sufficiently mature, a legal framework is important to ensure the validity of activities undertaken in the scope of the cross-border project. Usually, collaboration develop over time and this development goes beyond the project life cycle depicted in the *Cross-border.Care Manual and Tools*. Nevertheless, Tool 29 is included to give users an idea of what CBHC collaboration may look like.

Cross-border collaboration arrangements can be summarised in [97]:

Informal arrangement for cross-border collaboration: a lot of cross-border collaboration projects between healthcare providers and local authorities are of an informal nature, as they do not involve any binding legal decision. Such informal arrangements can have a direct impact on the provision of care to the target population.

Cross-border collaboration agreements (bilateral, multilateral): informal cross-border collaboration arrangements may evolve into cross-border cooperation agreements. This is the simplest and least formal instrument for cross-border collaboration projects. Usually such an agreement is based on specific issues the collaborating parties are facing or a framework agreement might be concluded stating the parties' willingness to cooperate with one another. Collaboration agreements may be drawn up under national law or international inter-State agreements. However, the provisions of the agreement are implemented under the sole responsibility of the signatories.

As the number of cross-border collaboration activities increases, necessitating extensions of the agreements, cross-border partners may seek more formal arrangements. That often entails establishment of a legal cross-border collaboration body.

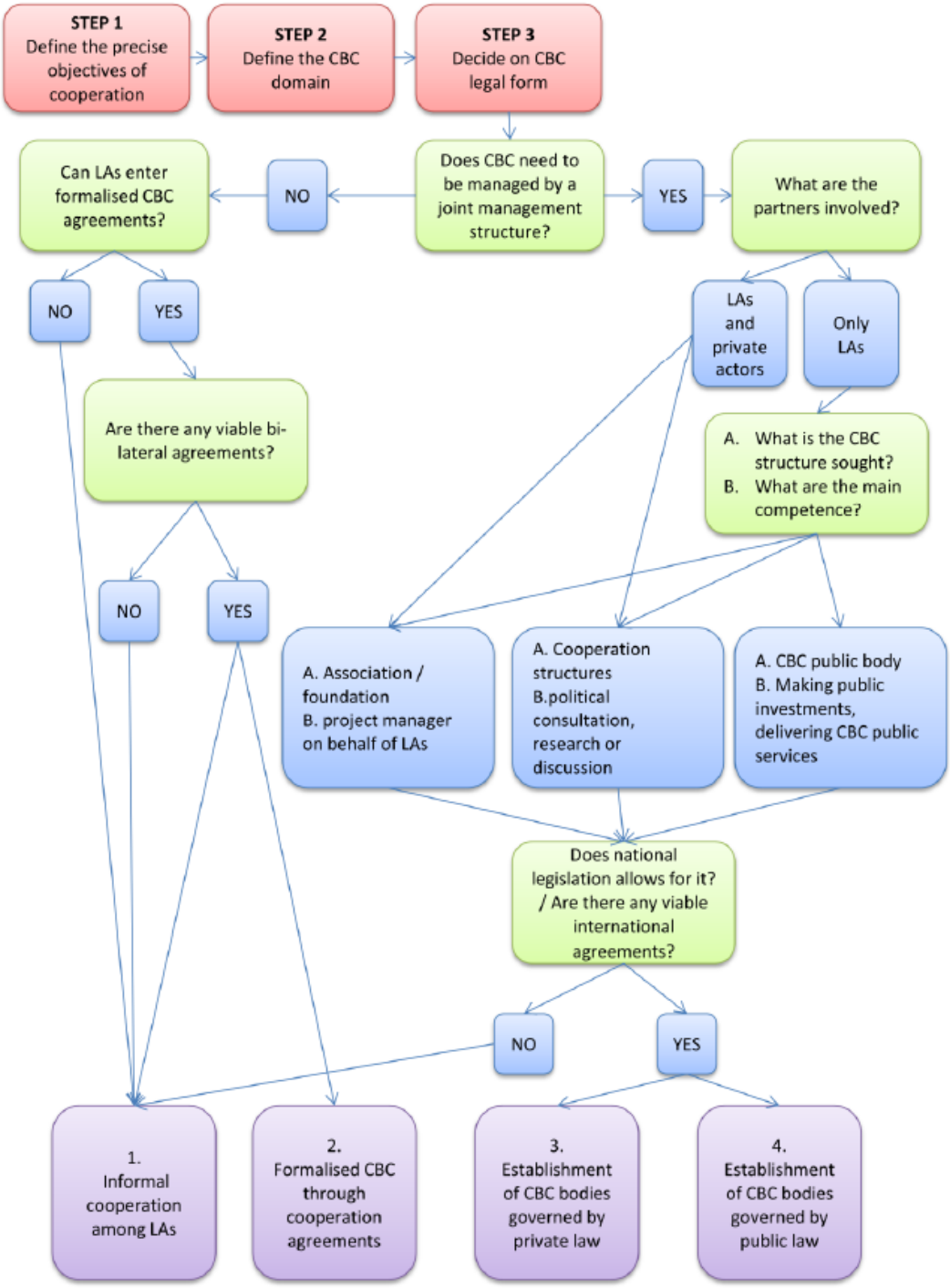
Cross-border collaboration bodies governed by public law: local healthcare providers and local authorities may establish legal cross-border collaboration bodies if bilateral or multilateral agreements between the Member States they belong to allow for it. The law of the country where they are officially headquartered governs such bodies. Tasks they may perform usually include cross-border governance, cross-border healthcare provision and cross-border management of public facilities such as hospitals.

> Regulation (EC) No 1082/2006 of the European Parliament and Council (5/07/2006) on the establishment of a European Grouping of Territorial Cooperation (EGTC) offers local communities and EU authorities a legal instrument that forms the legal basis for the establishment of a cross-border collaboration entity with legal personality [98].
>
> The EGTC tool is a standard of reference, because it may be used in the entire European Union as well as on its external borders, which gives it high visibility in Europe. Established by an EU regulation in 2006, which was amended in 2013, the EGTC is a legal entity that has the ability to manage cross-border projects on behalf of its members. Using the EGTC requires choosing the national law that will govern it (the law of the country where the registered office is located). It can manage intangible (including cross-border governance) or tangible (equipment, infrastructures or joint services) cooperation projects in its members' common areas of competence. It can also take on the role of managing authority for European territorial cooperation programmes or be the vehicle for tools for integrated territorial development (2014-2020 period) [85].
>
> See hospital Cerdanya in section 6.5.2.3

Cross-border collaboration bodies governed by private law: these are often not-for-profit structures governed by the (private) law of the Member State where the headquarters of the body are located. Such cross-border collaboration bodies may take the form of an association (or foundation) that acts as an 'operator' or 'project manager' on behalf of healthcare providers and local authorities. Such bodies are easy to set up, but their remit is often limited to promotion, lobbying and management of cross-border projects.

The decision on which legal form to take is a strategic one. It not only reflects the development of the cross-border collaboration, but also the political compromise that allowed the collaborating partners to develop the collaboration process. Before project partners decide to establish a legal body for cross-border collaboration, it is advisable to take sufficient time to study all the relevant legal aspects extensively. An in-depth legal impact assessment might be useful at this stage. Furthermore, it is advisable (unless required by law) not to decide too early on the exact legal form of the cross-border collaboration. Instead it should be the logical consequence of many other elements.

Tool 30: Decision tree for choosing the appropriate legal form for cross-border collaboration



LA = local authority; CBC = cross-border cooperation

Source: [97]

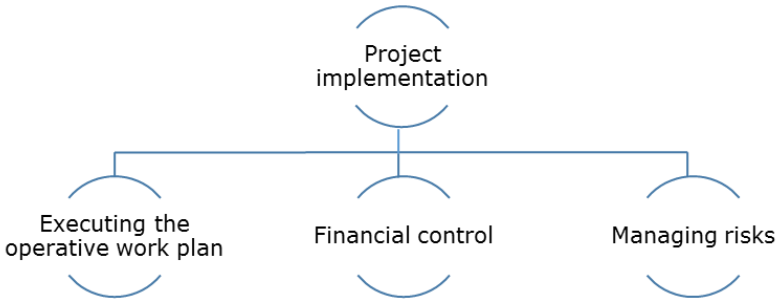
Tool 31: Final check ✓ Module 3

Before you proceed to Module 4, please check whether you have considered the main topics in Module 3.

Topic	Criteria	Yes	No	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
Contracting	• The partnership agreement has been set up and signed by all project partners Tool 27: Checklist: Milestones to project partner agreement Tool 28: Checklist of minimum requirements for a project partnership agreement				*Please consider the consequences if the criterion is not fulfilled*
	• It is clear which legal form needs to be taken (see above) Tool 29: Guide to deciding which legal form to take				*Please consider the consequences if the criterion is not fulfilled*

6.4 Module 4: Project monitoring

Module 4 concerns horizontal tasks that are important for the successful implementation of a cross-border collaboration project. Such tasks include the execution and monitoring of the work plan, financial management and the management of risks, all of which need to be performed on a continuous basis during implementation of a cross-border collaboration project.



Tool 32: How to keep the project implementation on track 130
Tool 33: Checklist: Types of project modifications 133
Tool 34: Basics of financial planning 134
Tool 35: Checklist: How to avoid financial management problems 136
Tool 36: Risk management – Introduction and instructions 138
Tool 37: Risk management matrix 139
Tool 38: Risk management template 141
Tool 39: Final check ✓ Module 4 142
Tool 40: Further reading 144

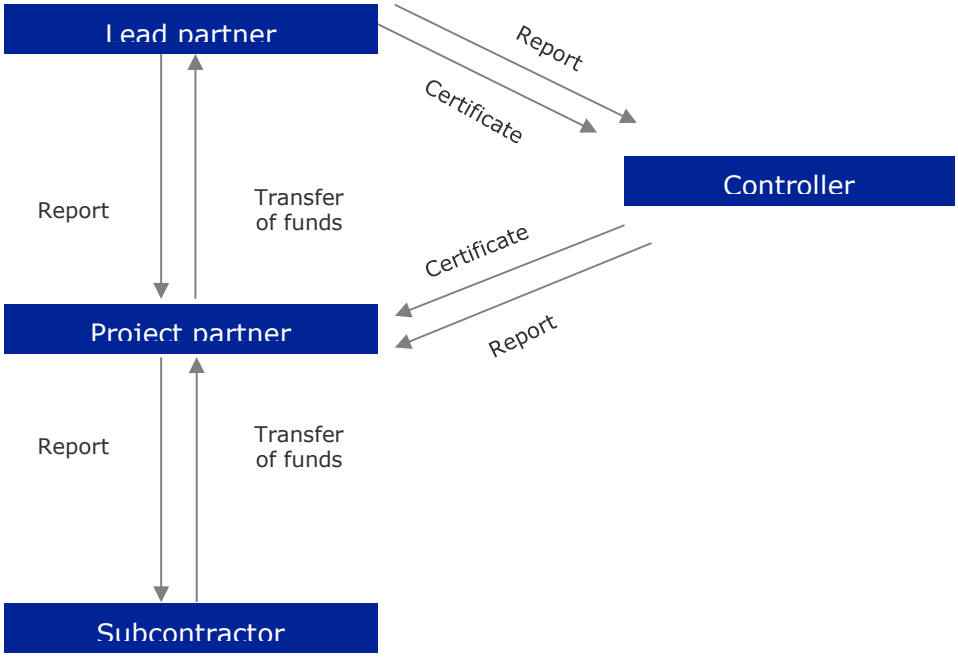
Tool 32: How to keep the project implementation on track

The work plan, or the project proposal in the case of a funding application, lays the groundwork for implementation. However, users should not expect implementation to go exactly to plan. Deviations from the original plan are inevitable during implementation. However, to ensure that such deviations are within the scope of the project, it is crucial for a continuous tracking process to be in place. That allows deviations to be systematically tracked and corrective action/modifications to be taken or made to ensure achievement of the project's objectives. Tackling deviations from the work plan is a highly dynamic process. It requires flexibility and the ability to adapt to (rapid) changes without losing sight of the objective [99].

Project reporting has proven useful for tracking deviations. In the case of funding applications, most programmes require progress reporting and provide specific forms for reporting (external reporting).

Internal reporting starts at the project partner level. The project partners report to the controller, who certifies the declared expenditure. The progress report that is subsequently prepared by the lead partner contains activities, outputs and costs that have been approved by the controller. Transfers of funds between the lead partner and project partners need to be defined in the partnership agreement [34].

Figure 21: Project reporting process



Source: [34]

As part of the project monitoring, work plans are revised periodically and adapted where necessary.

When starting to implement the cross-border collaboration project, it is important to establish a monitoring process to check whether the planned activities and deliverables are in line with the work plan. The following checklist is designed to provide guidance on what to consider in the scope of project monitoring.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the monitoring content. Comments (e.g. reasons for non-consideration) can be entered separately. In the case of non-consideration, please think about the consequences (impact on other criteria or later stages of the project).

Topic	Monitoring content	Considered?		Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
		YES	NO		
Information needs	• Who are the **primary information users?**				*Please consider the consequences if the monitoring content is not considered*
	• Have their **information needs** been identified and prioritised?				*Please consider the consequences if the monitoring content is not considered*
Information sources and collection methods	• What is the **quality** of available/existing information?				*Please consider the consequences if the monitoring content is not considered*
	• What is the **source** of available/existing information and who is collecting it? What are other donors doing?				*Please consider the consequences if the monitoring content is not considered*
	• Is there an appropriate balance between **quantitative and qualitative** information?				*Please consider the consequences if the monitoring content is not considered*
	• Have responsibilities for **information collection** been clearly identified and understood?				*Please consider the consequences if the monitoring content is not considered*
	• Are the existing formats for information **recording and reporting** adequate and are users clear about how to use them?				*Please consider the consequences if the monitoring content is not considered*
	• Where are the most significant **information gaps**?				*Please consider the consequences if the monitoring content is not considered*
Analysis and use	• **Who analyses** available data and information and at what level within the reporting hierarchy?				*Please consider the consequences if the monitoring content is not considered*

Topic	Monitoring content	Considered? YES	Considered? NO	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
	• Is information being **analysed at an operational level** to help implementers understand what they are doing before being passed up to higher levels?				*Please consider the consequences if the monitoring content is not considered*
	• Is the **nature of the analysis** appropriate and useful? (e.g. are comparisons made between what was planned and actual outcomes?)				*Please consider the consequences if the monitoring content is not considered*
	• Is there a functioning **review system** for bringing together project stakeholders to make decisions based on the available information? • How does this operate and who is involved? • Is it coordinated with other donors?				*Please consider the consequences if the monitoring content is not considered*
Capacity and resources	• What **existing physical and financial resources** are available for monitoring?				*Please consider the consequences if the monitoring content is not considered*
	• What is the level of **staff skills** and their understanding of what is required? • Are these adequate?				*Please consider the consequences if the monitoring content is not considered*
	• Is there scope for developing **local capacity** either through provision of technical advice, additional financial resources and/or training?				*Please consider the consequences if the monitoring content is not considered*

Source: [99]

Tool 33: Checklist: Types of project modifications

Based on the information retrieved through the monitoring process (see Tool 32), deviations from the work plan might be identified, requiring modifications to the work plan.

Points to be considered when modifying the work plan:
✓ Is the modification related to working methods or objectives and deliverables?
✓ The nature of the modification (activity, partnership etc.)
✓ Who is affected? (one partner, all partners)
✓ Does it affect the project budget?
✓ Does it affect the schedule?
✓ Is the delivery of some/all results or outputs at risk?
✓ Outline of alternative solutions and justification in terms of complying with the original work plan

This checklist provides users with an idea of what kind of modifications are possible and what to consider if they are actually necessary.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the modification. Comments (e.g. reasons for non-consideration) can be entered separately.

Modification type	Detailed information	To be considered		Comments
		YES	NO	
Activity	• Usually accepted if main outcomes are unaffected • Budget implications are considered			
Roles	• Balance in the redistribution of tasks within the partnership is considered			
Partnership	• Administrative implications are considered, i.e. who will provide the relevant financial contribution? • Are any other organisations worth considering for a partnership?			
Outputs and results	• Modification of results entail modification of objectives			
Project schedule	• Project time extensions need to be based on evidence of delaying factors			
Budget	• Movement of money between budget lines, i.e. staff costs shifted to external experts			

Source: [34]

Tool 34: Basics of financial planning

Financial planning is a horizontal task that accompanies the whole project life cycle.
In the stage of project definition: a first estimate of the overall budget is defined together with an approximate estimate of the project partners' contribution to project planning and implementation.
Together with the definition of the global budget and its division among partners, resources needed for the development of the project and potential sources of funding are identified.

In the stage of project planning: once the global budget has been defined, the budget and costs can be thoroughly estimated, i.e. estimate of costs per activity. Further, users may decide to apply for funding and set up a financial agreement between partners.

In the stage of project implementation: the project leader has to set up a framework for financial monitoring and reporting. During the phase of implementing the project, expenditure needs to be continuously controlled.

Table 29: Overview of financial planning activities

Project definition	Project planning	Project implementation
• Approximate estimate of project cost • Definition and negotiation of the financial framework and the project partners' contributions (financial, human resources, infra-structure) • Identification of resources for implementation of the project • Identification of funding instruments	• Estimate of costs per activity • Detailing of the project budget • Financial agreement • Application for funding • Development of a financial monitoring system	• Setting up a framework for common financial monitor-ing and reporting • Continuous controlling of expenditure

Source: [91]

Budget planning takes a lot of time in the development phase of the project. However, it is worthwhile, as careful planning is the only way to avoid over-budgeting or under-budgeting.

Based on the work plan of your project, the project budget can be planned in three steps:

Resource planning: based on the planned activities and outputs (see Tool 17), the required resources should be estimated. This estimate should include, at minimum, human resources, equipment and materials and (new) infrastructure if necessary. It is important not to underestimate costs related to the cross-border aspect of a project. These are often not obvious, especially for those users who are new to this field (e.g. the costs of face-to-face meetings, additional administration, coordination and communica-tion).
Estimate of costs: once it is clear what kind of resources are needed throughout the project, costs for each of these resources need to be estimated. Depending on the resources needed, estimating costs might be easier in some cases than in others (i.e. staff costs vs. costs for external services). Nevertheless, cost estimates should be realistic, although it is common for project managers to build some buffer into their budgets. In particular, if you plan to apply for public funding (see Tool 9), it is possible that unused money (the planned buffer) needs to be paid back.
Allocation of costs: once you know what kind of resources you need and how much they cost, you can bring both into a budget structure, combining budget lines and work packages/activities (see Tool 19 and Tool 21).

Annual budget targets can also be included in the cost allocation. These act as monitoring mechanisms to check whether the project is running as planned. It is worth thinking about how to spend the total budget over the project runtime.

Tool 35: Checklist: How to avoid financial management problems

This checklist provides a list of useful rules that may help you avoid financial management problems in the course of setting up a cross-border collaboration project.

Please go through the list and put a cross in the relevant field ('yes', 'no') if you have considered the topic. Comments (e.g. reasons for non-consideration) can be entered separately. In the case of non-consideration, please think about subsequent consequences (on other criteria or on later stages of the project).

Topic	To be considered		Comments	**Consequences** (impact on other criteria, the whole project, the timeline etc.)
	Yes	No		
1. Set up separate accounts for project funds • At minimum, ensure that the accounting systems of project partners can clearly keep project costs separate • Without that, evidence for which costs have been assigned to the project and why will be missing • In the case of external funding, parts of the expenditure might be deemed ineligible				*Please consider the consequences if the topic is not considered*
2. Involve partner finance managers from the start • To check if financial management systems and procedures are compatible				
3. Ensure an audit trail • All project partners must keep all invoices • Supporting documents should be kept as well (e.g. time-sheets for part-time staff) • It is advisable to retain the documents after project closure, in case of future audits				
8. **Keep your filing up to date and find out what to file** • Make sure that you always have all documents available, especially contracts and evidence of public procurement				
5. Find out what the national public procurement thresholds are in each partner country • Very small contracts do not need to be tendered • Larger contracts may require a limited tender, whereby a smaller number of offers are requested • Large contracts require a full public tender with strict rules and procedures • 'Small' and 'large' are relative terms here: the threshold				

Topic	To be considered		Comments	**Consequences** (impact on other criteria, the whole project, the timeline etc.)
	Yes	No		
values (referring to the contract value that determines which tender procedure needs to be used) set by different countries vary enormously				
6. Avoid grey areas • In the case of external funding, sometimes there is a temptation to bend the rules or misinterpret programme advice • If in doubt, ask – and accept the guidance that is given				
7. Only report costs that are directly related to implementation of the project • Demonstrate that all of the costs reported were actually incurred and paid out, and were necessary for implementing the project • In the case of external funding: any costs that do not meet these criteria may be treated as ineligible				

Source: GOE FP based on [34]

Tool 36: Risk management – Introduction and instructions

Each cross-border healthcare project requires thorough risk management to ensure the success of a project and prevent or mitigate potential project risks (see project-specific challenges (see Table 42, Table 36, Table 31, Table 44 and Table 46). For the purpose of the *Cross-border Manual & Tools*, information on risk management refers to the pre-assessment, monitoring and post-assessment of potential risks associated with the project planning phase [100-102].

To put it simply, risk management involves three basic steps: 1.) identifying risks, 2.) assessing risks (see Tool 37) and 3.) dealing with risks (see Tool 38).

All partners should be involved in the identification of risks, which can be done by conducting a very basic brainstorming session. The aim is to raise the partners' awareness of the risks and to identify as many risks as possible. Partners should make sure they consider risks related to different countries, legislative systems, sectors and types of organisations.

Risk management pre-assessment

Introduction
The purpose of the risk management pre-assessment is to identify potential risks associated with the planned project before the start of the project and to define potential prevention and mitigation strategies for the listed risks. Prevention strategies help to prevent identified risks from occurring in the course of the project, while mitigation strategies help to reduce their impact on the project if they do occur. Pre-assessment of risks and underlying strategies help ensure a rapid response to events that occur in order to exercise control at the earliest stage.
Instructions for the risk management pre-assessment
1. Please turn to the Risk management template (Tool 38) and fill in the potential risks associated with your project in the first column of the risk definition ('risk').
2. Please rate each of the listed risks by categorising them using the Risk management matrix (Tool 37) and fill in the impact, probability, level and rating key you attribute to each risk in the Risk management template (Tool 38).
3. Define the responsible stakeholder and state the organisation and name. This helps you to distinguish between the responsibilities of the various stakeholders involved in the project and indicate/communicate their respective responsibilities.
4. Develop potential prevention and mitigation strategies. The overall coordinator of the project is tasked with ensuring execution of prevention and mitigation strategies.
5. Inform stakeholders and responsible persons (responsible and executing persons) about the current status quo and request written confirmation of risk management pre-assessment.

Source: GOE FP based on [100-102]

Risk management monitoring

Introduction
The purpose of risk management monitoring is to monitor the (non-) occurrence of risks in the course of the project and to ensure timely identification of potential risks and uptake of mitigation strategies to limit the impact of the respective risks to the greatest extent possible. Identified prevention strategies should be applied during implementation of the project.
Instructions for risk management monitoring

9. Please turn to the Risk management template (Tool 38) and check whether the risk that has occurred is already included in the list. If not, please fill it in and follow the instructions for the risk management pre-assessment, then return.

1. Next, please indicate whether a response to the risk is necessary and focus on the results of the Risk management template (Tool 38), taking the impact, probability, level and rating key into account.
2. Inform the responsible stakeholder and state the organisation and name. The overall coordinator of the project should ensure that the responsible person carries out prevention and mitigation strategies.
3. Please rate the applied prevention or mitigation strategy according to its usefulness. If more than one strategy was used to mitigate the same identified risk, please rate together. *If another stakeholder was responsible for the performance of prevention and mitigation strategies, please request the relevant information from them.*
4. Please indicate the use of respective prevention or mitigation strategies. If any other steps were taken to prevent or mitigate a risk, please indicate them. *If another stakeholder was responsible for carrying out prevention and mitigation strategies, please request the relevant information from them.*
5. Inform stakeholders and responsible persons (responsible and executing persons) about the current status quo and request written confirmation of risk management monitoring.

Risk management post-assessment

Introduction
The purpose of the risk management post-assessment is to summarise the risks that occurred during implementation of the project, factors that potentially support or hinder prevention and mitigation strategies and their impact on the risk mitigation or project.
Instructions for the risk management post-assessment
1. Please indicate factors that supported risk mitigation processes and their impact on the progress of the project.
2. Please indicate factors that hindered risk mitigation processes and their impact on the progress of the project.
3. Please indicate general 'best practice advice', either referring to the prevention/mitigation strategies used or advice for potential future improvements.

Source: GOE FP based on [100-102]

Tool 37: Risk management matrix

Once risks have been identified, they need to be assessed on the basis of their probability of occurrence and their impact on the project. This can be done by using a risk assessment matrix (see Tool 37). A suitable risk management strategy (including risk prevention and risk mitigation) needs to be developed according to the given rating (low, medium, high risk).

This matrix is designed to help users assess the identified risks to the planned cross-border collaboration project.

Risk rating key	LOW ACCEPTABLE	MEDIUM ALARP (as low as reasonably practicable)	HIGH GENERALLY UNACCEPTABLE	EXTREME INTOLERABLE
	OK TO PROCEED	TAKE MITIGATION STEPS	SEEK SUPPORT	PLACE EVENT ON HOLD

		Risk impact on Project			
		ACCEPTABLE Little to no effect on project	TOLERABLE Effects are felt, but not critical to outcome	UNDESIRABLE Serous impact on the course of action and outcome	INTOLERABLE Could result in disaster
PROBABILITY	Low probability Risk is unlikely to occur	LOW 1	MEDIUM 4	MEDIUM 6	HIGH 10
	Medium probability Risk will likely occur	LOW 2	MEDIUM 5	HIGH 8	EXTREME 11
	High probability Risk will occur	MEDIUM 3	HIGH 7	HIGH 9	EXTREME 12

Source: GOE FP based on [100-102]

Tool 38: Risk management template

This template is designed to help users manage the identified and assessed risks (see Tool 37) related to the implementation of a cross-border collaboration project. The template is available in Excel format.

Risk management project flow

Pre-assessment → **Management monitoring** → **Post-assessment**

Risk definition					Stakeholder definition		Risk prioritisation and mitigation					Risk Post-Assessment		
Risk	Risk impact*	Proba-bility*	Risk level*	Risk rating key*	Organ-isation	Name	Prevention strategy	Mitiga-tion strategy	Response according to risk rating key	Application of preven-tion/mitiga tion strategy	Rating of preven-tion/miti gation strategy	Factors that support the risk preven-tion/mitiga tion process	Factors that hinder the risk preven-tion/ mitiga-tion process	Best practice advice
e.g. human re-sources (broad defini-tion, could be further speci-fied)	*tolerable*	*medium*	*medi-um(5)*	*medium ALARP*	*organi-sation XY*	*Mr/M s XY*	*thorough HR planning, personnel turnover*	*replace-ment with person-nel that have similar qualifica-tions*	*response depending on risk occur-rence, immediate response in the case of risk occur-rence*	*yes/no; depending on the project flow*	*e.g. highly success-ful, success-ful, moder-ately success-ful, slightly success-ful, not success-ful*	*e.g. predefini-tion of potential successors with related qualifica-tions profile*	*e.g. unavail-ability of succes-sor, succes-sor with dissimi-lar qualifi-cations profile*	*(de-pending on the project out-come, e.g. pre-definition of succes-sor allowed for rapid replace-placement with minimal project delays)*

*Please fill in based on the risk matrix results
Note: available as an Excel file

Source: GOE FP based on [100-102]

Tool 39: Final check ✓ Module 4

Please check whether you have considered the main topics in Module 4.

Topic	Criteria	Yes	No	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
Executing the work plan	A continuous tracking process to control deviations from the work plan has been implemented Tool 32: How to keep the project implementation on track				*Please consider the consequences if the criterion is not fulfilled*
	If necessary, modifications have been made to the original work plan Tool 33: Checklist: Types of project modifications				*Please consider the consequences if the criterion is not fulfilled*
Executing the financial plan	Financial control mechanisms are in place Tool 35: Checklist: How to avoid financial management problems				*Please consider the consequences if the criterion is not fulfilled*
Avoiding and Managing Risks	Project risks have been identified during the project planning process Tool 36: Risk management – Introduction and instructions Tool 37: Risk management matrix Tool 38: Risk management template				*Please consider the consequences if the criterion is not fulfilled*
	Project risks have been monitored during the project planning process Tool 36: Risk management – Introduction and instructions Tool 37: Risk management matrix Tool 38: Risk management template				*Please consider the consequences if the criterion is not fulfilled*
	Adequate risk prevention strategies have been developed during the project planning process Tool 36: Risk management – Introduction and instructions Tool 37: Risk management matrix Tool 38: Risk management template				*Please consider the consequences if the criterion is not fulfilled*

Topic	Criteria	Yes	No	Comments	Consequences (impact on other criteria, the whole project, the timeline etc.)
	Adequate risk mitigation strategies have been developed during the project planning process Tool 36: Risk management – Introduction and instructions Tool 37: Risk management matrix Tool 38: Risk management template				*Please consider the consequences if the criterion is not fulfilled*
	Ensuring lessons are learned by conducting a post-assessment of risks that occurred during the project planning process Tool 36: Risk management – Introduction and instructions Tool 37: Risk management matrix Tool 38: Risk management template				*Please consider the consequences if the criterion is not fulfilled*

Tool 40: Further reading

Toolkits - cross-border cooperation in general

Centre of Expertise for local government reform & Institute of International Sociology Gorizia. Leadership for cross-border cooperation. Toolkit for practitioners in cross-border cooperation, 2017: https://rm.coe.int/lap-cbc-leadership-for-cross-border-cooperation-toolkit-for-practition/1680759f11

Mission Opérationnelle Transfrontalière. Cross-border territories. Europe's laboratory. Paris: Mission Opérationnelle Transfrontalière, 2017: http://www.espaces-transfronta-liers.org/fileadmin/user_upload/documents/Documents_MOT/EN_brochure_cb_territories_MOT.pdf

Council of Europe, Del Bianco D, Jackson J. Cross-border Cooperation Toolkit. Strasbourgh, 2012.

Tein. Toolkit for inter-cultural/cross-border project management. Transfrontier Euro Institute Network, n.d.: http://pat-tein.eu/wp-content/uploads/2014/07/1-Toolkit-Catalan-Border-public-version.pdf

Trisan. Realisierung eines Grenzüberschreitenden Projekts. Externe Kommunikation eines grenzüberschreitenden Projektes. 2018: https://www.trisan.org/toolbox/projekt-managementtools/externe-kommunikation-eines-grenzueberschreitenden-projekts/ (as of January 2018 tools not uploaded)

Toolkits – general project management

Eurodiaconia. Toolkit on European Funding and Project Management. 2016: https://www.eurodiaconia.org/wordpress/wp-content/uploads/2017/02/toolkit-funding.pdf

Schmeer K. Stakeholder analysis guidelines. Policy toolkit for strengthening health sector reform. 1999: 1-33.

Trisan. Realisierung eines Grenzüberschreitenden Projekts. Projektmanagement Tools. 2012: https://www.trisan.org/toolbox/projekt-managementtools/realisierung-eines-grenzueberschreitenden-projekts/ (as of January 2018 tools not uploaded)

European Commission. Project Cycle Management Guidelines. Brussels: European Commission, 2004: https://ec.europa.eu/europeaid/sites/devco/files/methodology-aid-delivery-methods-project-cycle-management-200403_en_2.pdf

European Commission. Project Management Methodology. Guide. Brussels: European Commission, 2016: https://publications.europa.eu/en/publication-detail/-/publication/0e3b4e84-b6cc-11e6-9e3c-01aa75ed71a1 (available in several languages)

INTERact. Project management handbook. n.d.: https://www.ewt.gov.pl/media/21120/Project_Management_Handbook.pdf

Chapman C, Ward S. Project risk management: processes, techniques, and insights: Wiley; 2003.

Datta S, Mukherjee S, editors. Developing a risk management matrix for effective project planning--an empirical study. 2001: Project Management Institute.

Eskerod P, Vaagaasar AL. Stakeholder Management Strategies and Practices During a Project Course. Project Management Journal. 2014;45(5): 71-85.

Legal documents

European Union. Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union. Official Journal of the European Union. 2012: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:12012E/TXT&from=EN

Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, (2005): http://eur-lex.europa.eu/LEXUriServ/LexUriServ.do?uri=OJ:L:2005:255:0022:0142:EN:PDF

European Commission. Regulation (EC) No 883/2004. 2004: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2004:166:0001:0123:en:PDF

Research on cross-border healthcare cooperation

Glinos I, Wismar M, Eds. Hospital and Borders Seven case studies on cross-border collaboration and health system interactions. Copenhagen: WHO; 2013: http://www.euro.who.int/__data/assets/pdf_file/0019/233515/e96935.pdf

Wismar M, Palm W, Figueras J, Ernst K, Van Ginneken E, Eds. Cross-border Health Care in the European Union. Brussels: European Observatory on Health Systems and Policies; 2011: http://www.euro.who.int/__data/assets/pdf_file/0004/135994/e94875.pdf

Glinos IAW, M.; Palm, W. Cross-border collaboration in health care: when does it work? European Journal of Public Health. 2014; 24(suppl_2): http://www.euro.who.int/__data/assets/pdf_file/0009/263538/Cross-border-health-care-in-Europe-Eng.pdf?ua=1

Delecosse E, Leloup F, Lewalle H. European cross-border cooperation on heatlh: Theory and practice; Luxembourg: Publication Office of the European Union; 2017: http://ec.europa.eu/regional_policy/en/information/publications/brochures/2017/european-cross-border-cooperation-on-health-theory-and-practice

6.5 Module 5: Successful business cases for cross-border collaboration

This section presents the business case for successful CBHC collaboration in five categories:

- Health and Care Workforce and Training (see section 6.5.4.3)
- High-Cost Capital Investment (see section 6.5.2.3)
- Emergency Care (see section 6.5.3.3)
- Knowledge Sharing and Management (see section 6.5.5.3)
- Treatment and Diagnostics (see section 6.5.6.3)

Information is based on detailed investigation of cross-border initiatives identified during the Mapping exercise (see section 4) and the additional literature review. Case studies were developed for each category of CBHC collaboration (presented in Annex IV) comprising 3 to 13 CBHC collaborations. One initiative per category was chosen to present its business case.

For each category of healthcare-related cross-border collaboration (see Table 4), one case study is provided describing circumstances that need to be considered in cross-border collaboration. These are broken down into five different dimensions: 1.) Legal/regulatory dimension, 2.) Financial dimension (including reimbursement), 3.) Administrative dimension, 4.) Operational dimension, 5.) Medical dimension.

6.5.1 Economic and social added value of cross border care

Previous sections analysed obstacles and driving factors of cross border care. Building upon previous findings the following section shows opportunities from sharing best practices in cross border initiatives and pooling of knowledge and resources, facilitating more cost-effective use of resources across Member States.

Economic and integration theory clearly emphasises the economic and social added value of cross border cooperation. This is particularly true for border regions which often perform less well economically than other regions within a Member State. Evidence shows that access to public services such as health care or education is generally lower in border regions [103].

Referring to economic and social benefits it is necessary to distinguish between a payer/system perspective and patient perspective. A coordinated distribution of tasks between health care providers results in lower costs due to specialisation and economies of scale. According to theory this leads to better quality in the long run. Specialising can reduce the competition between providers. Cross border care may also result in pushing important economic sectors by fostering science and technology as important pillars of regional economies. At the same time positive effects on the regional labour markets can be expected. Cross border regions enlarge possible catchment areas for investment and may lead to reach critical mass of patients for investment and specialisation. The latter is particularly true for rare diseases.

In cases where reimbursement for treatment abroad is cheaper than in domestic health care markets, cross border care may lead to significant savings. Cost savings for public health care systems are more likely to arise if sickness funds or NHS take an active role in organising cross border care in terms of evaluating quality and foreign prices. For example the NHS UK is encouraging patients to seek care in France, while Belgium, The Netherlands and Luxembourg are outsourcing patients to neighbouring countries due to lower prices or a temporary unbalance between demand and supply [104-106].

Also, from a patients' perspective cost savings are a major motive for planned cross border care. According to the EU Cross-Border Health Care Survey 2012 about 32% of patients indicated cost savings as the most common reason for seeking care abroad.

Empirical evidence from the UK shows that UK patients seeking health care abroad are able to save between 40 and 70% of the price of UK treatment taking into account travel and accommodation expenses [107]. In 2012 the UK paid almost 1.1 billion Euro to other Member States for cross border treatment, whereas the NHS received about 35 Mio. Euro as inward revenue (without unpaid debts) [108].

6.5.2 High-Cost Capital Investment – Business Case

6.5.2.1 General findings of the case studies

For the business case of cross-border collaboration in the field of *High-Cost Capital Investment the* following eight projects were investigated in detail (see Annex IV):

- **Cerdanya Cross-Border Hospital** (ES/FR) [109, 110]
- Radiotherapy for Danish patients in Flensburg (DE/DK) [111, 112]
- Reutte – Füssen cross-border heart centre (AT/DE) [112]

Table 30: Cross-border collaboration in the field of *High-Cost Capital Investment*

Project	Main objective	Project period	Collaborating partners	Type of agreement	Funding*	EU (co-) funding	Reimbursement mechanism
Cerdanya Cross-Border Hospital (ES/FR)	Cross-border hospital to ensure treatment of inhabitants of geographically remote area	Since 2007	Catalan and French health authorities	Agreements on co-ownership	€ 28,6 million (share Catalonia € 7,4 million, share France 4,9 million)	Yes (50 %, € 22 million)	Contractual agreement according to Spanish regulations, transferred to France; Renewed every 5 years; tariffs and wages are above average due to remote location
Radiotherapy for Danish patients in Flensburg (DE/DK)	Radiotherapy for Danish patients	2001-2017	Malteser St. Franziskus Hospital and the county of Southern Jutland	Several agreements since 1998	Denmark share for new linear accelerator € 500 000	No	Fee-for-service scheme; German fees 10 % lower than Danish fees
Reutte – Füssen cross-border heart centre (AT/DE)	Emergency care for patients suffering acute heart attacks	Since 2009	Sickness funds, healthcare purchasers, hospitals	Bilateral agreement	N/A	No	Direct reimbursement by Austrian/German health insurance funds

N/A: information not available; *Funding of high-cost medical equipment

Sources: [109-112]

6.5.2.2 Circumstances for successful CBHC collaboration

Table 31 provides an overview of circumstances that need to be kept in mind by users when planning a cross-border collaboration project in the field of high-cost capital investments, since the findings suggest that these might be crucial for the success of future collaboration projects.

Table 31: What to keep in mind when starting a collaboration project in the field of H*igh-Cost Capital investments*

	Project characteristics
*What were **incentives** for the collaboration?*	• Bad weather conditions, which make access to care difficult • Geographical proximity and transport times • Road conditions and traffic
*What were **enabling factors** for the collaboration?*	• Political support • Use of medical guidelines that are accepted across Europe • Acceptance among the population • Mutual trust of the cooperating bodies
*What were **challenges** for the collaboration?*	• Differences in legislation and regulations • Differences in ambulance services and competences • Different organisational structures of ambulance services • Differences in use of blue light and alarm signals • Import of pharmaceuticals to neighbouring countries • A flow of financial resources out of the national health system • Reaching agreement on funding
*How to **measure success***	• Number of investments made • Volume of newly developed infrastructure • Total costs of the investment • Cost savings thanks to the collaboration • Utilisation rate per high-cost equipment unit • Waiting time for treatment or diagnostic procedures involving such equipment • Patient satisfaction before and after the new or improved service • Number and duration of cooperation projects among the neighbouring countries

Source: GOE FP

6.5.2.3 The cross-border hospital in Cerdanya

Example for a business-case of CBHC collaboration in the field of *High-Cost Capital Investment*

Objective: Integration of French and Spanish health services in a joint territorial hospital to serve patients on both sides of the border under the same conditions.

Key dates:

2002: Initiation of a feasibility study
2006: Creation of a private foundation for Cerdanya hospital
2007: Declaration of intent to cooperate
2008: Start of construction work
2010: European Group of Territorial Cooperation, Cerdanya Hospital (EGTC-HC)
2014: Opening of Cerdanya hospital

Border: France-Spain-Andorra

Organisational make-up and resources of the framework agreement

Cerdanya is a remote region located in the Pyrenees at the Spanish-French border. Its population varies between 32 000 residents to more than 150 000 people in the tourist season. Although a hospital in Puigcerdà (ES) existed, it did not have enough capacities to serve the patient volumes during the tourist season. In addition, French patients crossed the border to obtain emergency and obstetric care, as the distance to the closest hospital in Pergignan (FR) was more than 100km. However, the agreements established for this were source of administrative, regulatory and financial difficulties. Therefore, a feasibility study was launched in 2003, which evaluated the local needs and resource demands for the construction of a new hospital [109].

After the joint declaration of intent for the construction of the Cerdanya hospital (2005) signed by the French Minister of Health and Solidarity and the Catalan Health Advisor, Cerdanya hospital was created as private foundation in 2006. It was then decided to put the Cerdanya hospital under the legal framework of European Grouping of Territorial Cooperation (EGTC), as the legal and financial autonomy of this tool enabled the French health insurers to (co)finance a healthcare facility across the border.

In its initial stage, forecasts on staff numbers amounted to 201 persons (see Table 32).

Table 32: Estimate of staff in initial phase

Profession	Number
Physician	50
Nurses incl. midwives	58
Technical staff	42
Administrative staff	30
Other staff	21
Total	201

Source: [109]

More recent accounts calculated 244 employees, of which 184 referred to Catalan professionals and 60 to French professionals. In 2016, Cerdanya hospital attained its approved workforce limit of 195 FTE. Of those, about 40% were newly hired, whereas the remaining 60% were already employed by the decommissioned hospital in Puigcerdà [113]. The mixture of Catalan and French professionals was considered as challenge due to the lack of existence of a European employment status. Therefore, the Cerdanya hospital cooperated with local hospitals for some health services and staff, e.g. radiological services was under the responsibility of the Centre hospitalier in Perpignan (FR) and dialysis services under the Manresa hospital (FR). Agreements with local health institutions both in Catalonia and France secured external specialist consultations. Logistical services such as catering, bio-cleaning and laundry representing 24 FTE were outsourced [114].

The hospital is equipped as follows [114]:

- 64 beds of complete hospitalization (MCO)
- 28 external consultation centres
- operation sector including 4 surgical theatres, a delivery room, a room for endoscopy and a sector of post-operative recovery
- 10 day hospital places
- 1 sector for dialysis
- 1 sector for the ER with 15 beds
- Medical imaging (MRI scanner, conventional radiology, ultrasound)
- Laboratory, pharmacy
- Helicopter station

In 2016, a unified Franco-Spanish emergency service was created, which made it necessary to transfer the French emergency and intensive care services to the hospital

site. Medical care protocols had to be formalised. Medical protocols for surgery, obstetrics and dialysis could be finalised till the opening of Cerdanya hospital, others have been/will be resolved in future [115].

The introduction of an exceptional procedure for new-borns simplified their insurance coverage [115].

Economic and social benefits of the initiative

The total budget for building and equipping the Cerdanya hospital amounted to € 28.6 Mio. Of those, € 18.6 Mio. (60%) were funded through ERDF, the remaining 40% were funded by Catalonia (€ 7.4 Mio.) and France (€ 4.9 Mio.) [115].

Table 33: Distribution of investment funding Cerdanya hospital

Funding	Investment, in Mio. Euro	Proportion, in %	Total, in Mio. Euro
ERDF	16.6	60	28.6
Catalonia	7.4	40	
France	4.9		

Source: [115]

Of the overall budget of €28.6 Mio., equipment costs amounted to €10 Mio.(60/40 split Catalonia/France), of which € 3 Mio. were earmarked for information technology. The reason for investing one third of total equipment investments in IT is the necessity to provide information in three languages and to provide specific accounting information according to both Spanish and French laws [116].

In 2011, the annual operating budget was determined by € 20 Mio., of which € 8 Mio. were paid by the French health insurance and € 12 Mio. by the Catalonia health service (Catsalut). After the first five years a new financing model needs to be created, taking into account the pricing of activities [114].

Table 34: Estimate of operating cost for first 5 years

Funding	Operating cost, in Mio. Euro
Human resources	11.7
Other	8.3
Total	20.0

In order to become viable in its initial period, it was calculated that the new Cerdanya hospital needs to attract around 5 000 patients form Upper Cerdanya that visited other French health centres for treatment. Since then the utilization rate has steadily increased, with 24 000 emergency admissions in 2015 [109].

In addition to the construction and management of the hospital, the project increased the mutualisation and cooperation between French and Spanish health professionals.

Success factors and challenges

Cerdanya hospital opened in September 2014. With employing bi-national staff and serving bi-national patients it is unique in Europe. Its success can be summarized as its ability for continuous adaptations in da-to-day work, whether it is to reimbursement procedures, employee status or healthcare procedures [114] .

- **Joint work of Spanish and French healthcare professionals under the same conditions:** difficulties in harmonization of degrees (e.g. radio manipulators, office executives), different working time (1688 hours ES, 1547 hours FR), different purchasing power parity (salaries, taxes).

For nurses a pragmatic solution was found. French nurses (nurses with a state recognized degree = IDE) were employed under Spanish contract. By this, working time could be harmonized and higher salaries are foreseen for beginners. However, as of 2016 this question was not solved for the doctors.

The procedure of recognition of professional degrees requires a lot of formalism and subsequently time. The professional representations charge professionals who practice on both sides of the border. Amounts differ considerably, i.e. € 30 € for a nurse (IDE) in FR, € 600 € in ES.

- **Governance of the hospital: Numerous exchanges are necessary for the decision-making.** Challenges related refer to legal obstacles due to the two different legal systems, language barriers, which both slow down the decision making.

  To overcome this challenge, both nationalities are represented in the directorate of Cerdanya hospital and the Executive Board (management board with the representatives of French and Catalan financing partners) meets once a month. Further, the institutional difficulties (regulation on the functioning of the bank accounts, acquisitions of holdings of Cerdanya hospital in the geriatric and paediatric sector, preliminary authorization request for the refund of the care in France) are almost quite settled today.

- **Handling of binational or cross-border questions in the countries' common law**

  In case of a traffic accident in France, authorities of Criminal Investigation Department (Police Judiciaire), the victims hospitalized in Cerdanya hospital cannot be interrogated by the French police forces (as of 2016 obstacle not solved)

  Regarding the declaration of births and nationality, a French protocol allows to reimburse the care of a new-born child with a document from the Spanish registry office (état civil). The transcription of this document in the French law is still a problem to be solved.

  Death certificates and return of bodies to the French territory: French patients who die at the Cerdanya hospital are considered to die abroad and therefore, the transport of body is regulated by the convention of Strasbourg. As of 2016, an international agreement aiming to relieve the transportation procedure between the two countries was in progress of being signed. The regulations of funeral services remain a national affair. French funeral services face difficulties to practice in Spain.

6.5.3 Emergency Care – Business case

6.5.3.1 General findings of the case studies

For the business case of cross-border collaboration in the field of *Emergency Care the* following eight projects were investigated in detail (see Annex IV):

- Füssen – Reute emergency care collaboration (AT/DE) [112]
- Braunau – Simbach emergency care collaboration (AT/DE) [110]
- Collaboration in the Teno River valley (FI/NO/SE) [117]
- Gmünd – Ceské Velenice emergency care collaboration (AT/CZ) [110]
- **Emergency Care in the Meuse-Rhine Euregio (EMR)** (BE/DE/NL) [110]
- EUMED Project (BE/DE/NL) [118]
- ECTLI ('Euregional Cooperation in Trauma and Large-scale Incidents') (DE/NL) [119]

Table 35: Cross-border collaboration in the field of *Emergency Care* – project details

Project	Main objective	Project period	Collaborating Partners	Type of agreement	Funding	EU (co-) funding	Reimbursement mechanism
Füssen – Reutte emergency care collaboration (AT/DE)	Emergency care for patients suffering acute heart attacks	Since 2009	Sickness funds, healthcare purchasers, hospitals	Bilateral agreement	Shared funding between AT and DE	No	Direct reimbursement by Austrian/German health insurance funds
Braunau – Simbach emergency care collaboration (AT/DE)	Emergency care for trauma surgery patients	Since 1994 in the field of emergency care	Federal health ministries, sickness funds and Braunau Hospital (AT)	Bilateral agreement	N/A	In 2005 INTERREG iiia	First, billing according to inpatient days; now, according to the financial guidelines of Upper Austrian health funds; implementation of common tariff for rescue transport services
Collaboration in the Teno River valley (FI/NO/SE)	Cross-border use of ambulances and helicopters	Since 1970	Regional and national health authorities in FI, NO and SE	Formal multilateral and bilateral agreements since 2004	Temporary project funding	No	N/A
Gmünd – Ceské Velenice emergency care collaboration (AT/CZ)	Provision of emergency care to Czech citizens	2012-2014	Regional health authorities, hospital, sickness funds	Bilateral agreement	€ 750 000	Yes	N/A
Emergency Care in the Meuse-Rhine Euregio (EMR) (BE/DE/NL)							No specific regulation
EUMED Project (BE/DE/NL)	Cooperation in the field of mutual support in the case of large-scale disasters	2005-2007	Federal health ministries, municipalities, hospitals, health insurance funds	Unilateral and bilateral agreements	N/A	Yes	N/A
ECTLI (DE/NL)	Emergency cooperation in the field of trauma and large-scale incidents	2013-2014; 2007-2013			€ 49 999.84	€ 24 999.92	

N/A: information not available

Sources: [110, 112, 117-119]; www.keep.eu

6.5.3.2 Circumstances for successful CBHC collaboration

Table 36 provides an overview of circumstances that need to be kept in mind by users when planning a cross-border collaboration project in the field of Emergency Care, since the findings suggest that these might be crucial for the success of future collaboration projects.

Table 36: What to keep in mind when starting a cross-border collaboration project in the field of *Emergency Care*

	Project characteristics
*What are **incentives** for the collaboration?*	• Restructuring and closure of trauma surgery unit, paediatric unit • Long transport times due to road conditions, traffic and weather conditions • Travelling time set by law not met • Tragic event that could have been avoided by collaborating
*What are **enabling factors** for the collaboration?*	• Bottom-up approach • Close relations between the actors involved and constant demonstration of support for the collaboration • Financial support of national authorities and the EU (especially in the initial phase)
*What are **challenges** for the collaboration?*	• Differences in legislation and regulations • Differences in ambulance services and competences • Different organisational structures of ambulance services • Differences in use of blue light and alarm signals • Import of pharmaceuticals to neighbouring countries
*How to **measure success***	• Number of treated patients/number of calls • Response time (time between call and arrival at the site of the emergency) • Transport time to the emergency department • (Transportation) cost per case • Total cost of emergency care before and after the cooperation in relation to treated patients • Patient satisfaction and satisfaction of the population with the improved services

Source: GOE FP

6.5.3.3 Emergency cooperation in the Euregio Maas-Rhine (EMR)

Example for a business-case of CBHC collaboration in the field of *Emergency Care*

Objective: Provision of emergency care services for the population in the Euregio Maas-Rhine (EMR)

Key dates: start end 1990s - ongoing

Border: Belgium – Germany - Netherlands

Organisational make-up of the framework agreement

The Euregio Maas-Rhine (EMR) is located in the border area of Belgium, Germany and the Netherlands and covers an area of 10.4 km² with a population of around 3.7 Mio. Due to the industrial activities in the EMR, the high volume of traffic and due to the frequently held large-scale events, the area is at higher risk for (large-scale) disasters. For this reason the neighbouring countries started to collaborate on disaster care in the late 1990s.

In the context of cross-border emergency care, a working group was set up with the intention of coordinating cross-border rescue services at the beginning of 2000/2001. Within a short period of time, agreements on mutual support for normal emergency

operations could be made between Zuid-Limburg (BE) and Aachen Regio (DE) and between Zuid-Limburg (NL) and Riemst (BE). These areas are of particular relevance, as in these areas emergency services across the border are closer located than national emergency services.

The emergency cooperation in EMR includes 57 hospitals (including 3 academic hospitals), 70 rescue services and 9 dispatch centres. Two cross-border helicopters are available for operation in the EMR, Christoph 1 of the German ADAC, which is stationed in Würselen-Merzbrück (close to Aachen, DE), and another helicopter is available in Province Liége (BE) [118].

Table 37: Hospital disaster bed capacity EMR, 2015

EMR area	Beds
Liége (BE)	32
Limburg (BE)	51
Zuid Limburg (NL)	46
Aachen Regio (DE)	63
Total	192

source:[120]

Every year around 400 rescue operations are performed in the EMR. Data of the Eumed project, which was conducted between in the period 2005-2007 aiming to improve emergency care (routine rescue operations, large-scale disasters, rescue training and exercises) in the EMR, show the distribution of emergency operations between in 2005 [121].

Table 38: Number of emergency services in the EMR, 2015

Dispatch centre	Type of emergency service	BE	NL	DE	Total
Hasselt region (BE)	Ambulance	0	0	0	0
	Intensive care transport	0	0	0	0
	Transport non-urgent	0	0	0	0
Luik region (BE)	Ambulance	0	0	1	1
	Transport urgent	0	1	146	147
	Transport non-urgent	0	0	0	0
	Helicopter	0	0	4	4
Zuid Limburg region (NL)	Ambulance	56	0	90	146
	Intensive care transport	2		1	3
	B-ambulances*	86	0	48	134
Heinsberg region (DE)	Ambulance	0	9	0	9
	Ambulance + Transport urgent	0	15	0	15
	Intensive care transport	0	0	0	0
	Transport non-urgent incl. Interhospital	0	0	0	0
Aachen region (DE)	Ambulance	8	108	0	116
	Ambulance and Transport urgent	3	28	0	31
	Intensive care transport	0	0	0	0
	Transport non-urgent incl. Interhospital	1	11	0	12
	Helicopter	4	46	0	50
Aachen municipality (DE)	Ambulance	13	62	0	75
	Ambulance and transport urgent	22	51	0	73
	Intensive care transport	0	0	0	0
	Transport non-urgent incl. Interhospital	0	2	0	2
Emergency services total		195	333	290	818

Source: [120]

The cooperation in emergency care systems and process differs between the involved countries [110]:

- **Dutch-German emergency care provision:** The emergency operation follows the first-responder principle, which means that irrespective the nationality of the rescue organisation, that ambulance (including or excluding emergency physician) or helicopter takes on the operation that can manage to arrive first at the emergency location. In addition, the legally responsible rescue operator drives to the emergency location as well and takes over the responsibility of emergency care provision and transportation immediately after arrival. The patient will be transported to his/her desired hospital or the most adequate hospital, irrespective the patient's nationality and the location (country) of the hospital.
- **Belgian-Dutch emergency care provision:** This cooperation is unilateral regulated. Thus, the Dutch ambulance drives to an emergency location only on request of the Belgian dispatch centre.

Table 39: Overview of different emergency care systems in the EMR

	BE	DE	NL
Basic life support	Ambulance • 2 paramedics (Ambulancier)	Patient transport ambulance • 1 ambulance man • 1 paramedic Ambulance • 1 paramedic (Rettungssanitäter) • 1 paramedic assistant (Rettungsassistent)	Ambulance • 1 ambulance driver (Ambulancechauffeur) • 1 paramedic (Ambulanceverpleegkundige)
Advanced life support Prehospital trauma life support	Paramedic Intervention Team • 1 paramedic (Ambulancier) • 1 paramedic (Ambulanceverpleegkundige)		
Advanced medical measures	Mobile intensive care unit (Mobiel Urgentie Groep) • 1 paramedic assistant (Ambulanceverpleegkundige) • 1 emergency physician	Mobile intensive care unit (Notarzteinsatzfaharzeug) • 1 paramedic assistant • 1 emergency physician	Mobile intensive care unit (Mobiel Medisch Team) • 1 paramedic assistant (Ambulanceverpleegkundige) • 1 emergency physician

Source: [120]

Economic and social benefits of the initiative

The emergency care cooperation in the EMR contributed to close gaps in emergency supply and to ensure that statutory travelling time to an emergency location can be met, which is essential to prevent fatal outcomes. Before the start of the cooperation, some border regions, especially on the Dutch and German side of the border, were not optimally provided with national emergency care service. Those areas usually show long distances to the next ambulance station and extend far into the neighbouring country. Consequently, the statutory travelling time based on the principle of 'golden hour'[23] is not met by the national rescue service.

[23] Inemergency medicine, the'golden hour' is the time period (≤ 1 hour) during which there is the highest likelihood that prompt medical treatment will prevent death.

Table 40: Differences in statutory travelling time in the EMR

	BE	DE	NL
Statutory travelling time	• No statutory upper limit	• 8 minutes within built-up area • 12 minutes outside built-up area	• 2 minutes responding the call • 13 minutes travelling time

Source: [110]

Over the last 20 years, the cross-border cooperation in the field of emergency care in the EMR was strengthened by conducting several projects in the field (e.g. EMRIC, EMRIC+, EUMED, EUMIC, IKIC). Some projects received EU (co)funding, e.g. EMRIC+ (total budget: € 1.898.940, EU (co)funding: € 949.470 (50%). However, information on the budget of the emergency cooperation as a whole is lacking.

Challenges and success factors

The cross-border collaboration on emergency care in the EMR exists for more than 15 years now. Most important driver for the success of the initiative was the absolute will to cooperate of the local actors (bottom-up approach) with the intention not to leave any resident, tourist or passenger without adequate emergency care provision in the EMR [110].

- **Differences in optical and acoustic signals:** The Dutch Road Transport Law prescribes the use of a three tone signal horn and blue light for ambulances. Belgian and German ambulances usually use two-tone systems and therefore, are officially not allowed to use them on Dutch ground.

  This hurdle was solved by bilateral agreements between Belgium and the Netherlands and Germany and the Netherlands, which regulate the use of blue light and acoustic signals of foreign ambulances.

- **Differences in national narcotics law impede the import of narcotics:**

  NL: German, Dutch and Belgium ambulances are equipped with pharmaceuticals that fall under the Dutch narcotics law and thus are import and export of those is prohibited. Exemptions are possible only if the Dutch Minister allows the import/export on the condition to follow his/her provisions. General exemptions for foreign emergency care operations within the EMR cross-border cooperation are not foreseen.

  BE and DE: Import and export of narcotics are allowed for the purpose of emergency care provision.

- **Differences in cross-border radio communication:** in the early stage of cooperation, different radio communication systems (analogue vs. digital) were used by national rescue services.

  Emergency cooperation in the EMR is organised in this way that rescue services need not to use radio communication. Dispatch centres communicate with ambulances by phone, which is the most secure connection. Radio communication channels are usually the first which are off due to overload. Hospitals, ambulances and dispatch centres communicate via mobile phone.

6.5.4 Health and Care Workforce and Training – Business case

6.5.4.1 General findings of the case studies

For the business case of cross-border collaboration in the field of *Health and Care Workforce and Training* following eight projects were investigated in detail (see Annex IV):

- **Professional mobility across the Danube (RO/BG) [122]**
- Eucrew (NL/DE/BE) [123]
- SourcE ('Staff in cross-border care in the EUREGIO') (DE/NL) [124]
- Teno River valley (FI/NO) [117]
- Braunau – Simbach hospital collaboration (AT/DE) [125]
- Aachen – Maastricht university hospital collaboration (DE/NL) [126]
- Competence to Go (DE/DK) [127]
- Future proof for cure and care (DE/NL) [128]

Table 41: Cross-border collaboration in the field of *Health and Care Workforce and Training* – project details

Project	Main objective	Project period	Collaborating partners	Type of agreement	Funding	EU (co-) funding	Reimbursement mechanism
Professional mobility across the Danube (RO/BG)	Professional mobility of Bulgarian physicians to compensate for a shortage of physicians in Romania	Since 2008	Călăraşi DEH (District Emergency Hospital) in Romania and Bulgarian physicians	Individual contracts	Transportation across the Danube organised by Călăraşi DEH	No	Payment according to Romanian law; Salary for five to six night shifts equal to monthly Bulgarian salary
Eucrew (NL/DE/BE)	Training and education and knowledge exchange in the field of emergency care	N/A	BE and DE	Bilateral agreements	Part of EMRIC	Interreg 2005-2007 for EMRIC	N/A
SourcE ('Staff in cross-border care in the EUREGIO') (DE/NL)	Reduction of financial, legal and organisational obstacles for rescue staff	2014-2015	DE and NL	N/A	N/A	N/A	N/A

Aachen – Maastricht university hospital collaboration (DE/NL)	Patient care; since 2004 patient care and research	1990-2012	Maastricht and Aachen university hospitals	Formal legally and non-legally binding agreements	N/A	Yes, Interreg I, II and III	Payment based on hourly rates or employment at both hospitals
Competence to Go (DE/DK)	Simplification of cross-border recognition of health professions	2008-2013	DE and DK	Bilateral agreement	Total budget € 603 571.00	Yes, Interreg IV A (€ 392 321.00)	N/A
Future proof for cure and care (DE/NL)	Promoting the caregiving profes-sion	2007-2013	BE, DE and NL	Multilateral agreement	Total budget € 3 705 992.27	€ 1 852 996.13	N/A

N/A = information not available

Sources: [117, 122-128], www.keep.eu

6.5.4.2 Circumstances for successful CBHC collaboration

Based on the information provided within the projects mentioned above, Table 42 provides an overview of circumstances that need to be kept in mind by users when planning a cross-border collaboration project in the field of *Health and Care Workforce and Training*, since the findings suggest that these might be crucial for the success of future collaboration projects.

Table 42: What to keep in mind when starting a collaboration project in the field of *Health and Care Workforce and Training*

	Project characteristics
*What were **incentives** for the collaboration?*	• Shortage of staff • Unemployment • Salary cuts for staff • Recruitment freeze • Economies of scale • Positive spill-over effects
*What were **enabling factors** for the collaboration?*	• Recognition of qualifications and skills (degrees, training) • Flexibility in contracting
*What were **challenges** for the collaboration?*	• Differences in legislation and regulations • Administration of accounting and staff remuneration • Different organisational structures of healthcare services • Taxation and insurance coverage (e.g. recognition of contributions to public pension plans) • Lack of healthcare professionals in countries with low wage levels • Recognition of foreign diplomas
*How to **measure success***	• Number of recognised degrees • Number of staff that worked abroad • Number of hours worked abroad • Available healthcare workforce per capita (in FTE) • Service hours provided (before and after CBC) • Scope of services available to the population (before and after CBC) • Patient satisfaction with the healthcare services provided

Source: GOE FP

6.5.4.3 Professional mobility across the Danube

Example for a business-case of CBHC collaboration in the field of *Health and Care Workforce and Training*

Objective: One-direction mobility of Bulgarian physicians to Romania to compensate the severe shortage of medical specialties in a Romanian hospital.

Key dates: 2008 - ongoing

Border: Bulgaria - Romania

Organisational make-up of the framework agreement

The cities of Călăraşi in Romania and Silistra in Bulgaria lie around 2 km apart at the end point of the Danube river border.

In April 2011, the Romanian MoH decided to close 67 hospitals, which were considered being inefficient. One of the hospitals affected by this decision was the hospital of Budeşti located in the district of Călăraşi. For about 40 000 inhabitants this closure meant that the next closest hospital was the Călăraşi District Emergency Hospital (DEH), which is located 100 km away from Budeşti.

In 2010/2011 around 200 professionals (physicians and nurses) left Călăraşi DEH. Due to Emergency Ordinance 34/2009, the filling of vacancies is prevented in all public institutions including health care institutions. Both leading to severe staff shortages at Călăraşi DEH. Following medical disciplines are either completely missing or severely understaffed (1 person only):

- Endocrinology
- Haematology
- Pneumology
- Radiotherapy
- Different surgical specialties
- Urology
- Cardiology
- Infectious disease
- Oncology

Due to this personnel shortages, working conditions are tense and all physicians are obliged to work night shifts in addition to their contracted daytime hours– although some are unwilling.

Attracting Bulgarian doctors started in 2008. By May 2012 5 6 Bulgarian physicians were contracted by Călăraşi DEH: 4 anaesthetists, 1 radiologist and 1 neonatologist. In addition to the Bulgarian physicians, Călăraşi DEH employed an interpreter working the same shifts as the Bulgarian physicians. Contracts were concluded between Călăraşi DEH and the individual physicians – not with Silistra hospital. Contractual arrangements include: the number of monthly night shifts, taxes to be paid to the Romanian state and the Romanian work legislation. On average they work 5-6 night shifts per month (08:00-08:00) with a monthly net income of about 375€ (1600 Romanian Leu). In comparison, the monthly salary of an anaesthesist in Bulgaria is about € 350-400 (700-800 Bulgarian Lev). To avoid conflicts with the Bulgarian College of Physicians because of the number of monthly working hours, the Bulgarian physicians reduced working hours at Silistra Hospital (RO). As each day only one physician was missing at Silistra hospital, continuity of care was not disturbed.

Economic and social benefits of the initiative

Economic and social benefits cannot be quantified due to lack of information. However, economic and social benefits that have emerged due to the mobility of Bulgarian health professionals are attributable to different perspectives:

- The Bulgarian hospital provider benefit of the relief of internal pressures and the reduction of salary expanses. Further, the cooperation prevents the (total) migration of health specialists to foreign health systems.
- Bulgarian physicians commuting to Călăraşi DEH have the economic advantage of increased salaries. Although Romanian public health care sector faced salary cuts of 25% since between 2010 and 2012, wages still remain attractive compared to Bulgarian levels.
- Romanian hospital provider bear the majority of financial burden of this cooperation. They have to pay the monthly salaries (€ 375) of the Bulgarian doctors and the interpreter, pay for their transportation, and carry the administrative burden related to the time and effort spent on solving the difficulties of licensing foreign physicians to practise in Romania (up to 1 year). However, this is contrasted by the social benefit of ensuring availability and continuity of care for the population in the district of Călăraşi. Contracting Bulgarian physicians gave Călăraşi DEH the possibility to combat staff shortages despite the national hiring freeze (Emergency Ordinance 34(2009).

Challenges and success factors

Low-threshold approach, avoiding formalism induced by setting up agreements between two hospitals. But cooperation emerged due to individual contacts.

- **Transportation from Silistra to Călăraşi DEH posed a challenge:**
  A cooperation between Călăraşi DEH and the border police enabled the use of the border police's transport boat for crossing the Danube. At the river pier Bulgarian doctors were picked up by a transport care offered by Călăraşi DEH. Altogether the travel time takes 45 min.
- **Recognition of Bulgarian diplomas:**
  The district public health directorate in Călăraşi, the hospital human resources department, the Romanian MoH and the College of Physicians were involved in the recognition of Bulgarian diplomas in Romania. Bulgarian physicians wishing to work in Romania, were obliged to register with the College of Physicians. Only after the College of Physicians had signed a licence for them to practise, the Bulgarian physicians were allowed to sign the contract with the district public health directorate. Usually the whole recognition process takes about 1 year due to bureaucratic processes. Working licences need to be re-certified every year.
- **Overcoming language barriers**: Romanian is a Latin language, while Bulgarian is Slavic, thus Bulgarian doctors practicing at Călăraşi DEH faced a language barrier.
  Călăraşi DEH employed an interpreter in addition to the Bulgarian physicians, who was working the same shifts.

6.5.5 Knowledge Sharing and Management – Business Case

6.5.5.1 General findings of the case studies

For the business case of cross-border collaboration in the field of *Knowledge Sharing and Management* following eight projects were investigated in detail (see Annex IV):

- ACCORD Joint Action (Achieving Comprehensive Coordination in Organ Donation throughout the European Union) [129]
- EUnetHTA Joint Action(s) (Network for HTA across Europe) [130]
- JASEHN Joint Action (Joint Action to Support the eHealth Network) [131]
- RD Joint Action (action, data and policies for rare diseases) [132]
- PARENT Joint Action (Cross Border PAtient REgistries iNiTiative) [133]
- PaSQ Joint Action (Network for Patient Safety and Quality of Care) [129, 134, 135]
- Radiotherapy in Flensburg (DE/DK) [111, 112]
- HoNCAB (Hospital Network for Care Across Borders) [136]
- **TRISAN** (tri-national competency centre in the Upper Rhine region) (CH-DE-FR) [137]
- INTERSYC (Integrated Territorial Synergies for Children's Health and Protection EL/BG) [138]
- 'Putting Patients, Clients and Families First' (under CAWT, cooperation and working together) (UK/IE) [139]

Table 43: Cross-border collaboration in the field of *Knowledge Sharing and Management* – project details

Project	Main objective	Project period	Collaborating Partners	Type of agreement	Funding	EU (co-) funding	Reimbursement mechanism
ACCORD Joint Action	Support cooperation between Member States for organ donation and transplantation	2012-2015	23 associated partners and 10 collaborating partners	Multilateral agreement	Total budget € 2 435.123	Yes, 60 %	N/A
EUnetHTA Joint Action(s)	Support collaboration between Member States in HTA	Since 2008	38 associated partners and 30 collaborating partners	Multilateral agreement	40 %	Yes, 60 %	N/A
JASEHN Joint Action	Support integration of eHealth	2015-2018	23 associated partners and 15 collaborating partners	Multilateral agreement	Total budget € 4 000 000	Yes, 60 %	N/A
RD Joint Action	Implementation of measures and generation of data about RDs	2015-2018	30 collaborating partners	Multilateral agreement	Total budget € 8 300 000	Yes	N/A
PARENT Joint Action	Development of patient registries	2012-2015	12 associated partners and 12 collaborating partners	Multilateral agreement	Total budget € 3 400 000	Yes	N/A
PaSQ Joint Action	Implementation of Council Recommendations on patient safety	2012-2015	28 associated partners and 15 collaborating partners	Multilateral agreement	Total budget € 5 850 148	Yes, € 3 496 164	N/A
Radiotherapy in Flensburg (DE/DK)	Radiotherapy for Danish patients; knowledge exchange trough cross-border participation in profes-sional societies	2001-2017	Malteser St. Franziskus Hospital and county of Southern Jutland	Several agreements since 1998	N/A	No	Fee-for-service scheme; German fees 10 % lower than Danish fees
HoNCAB	Knowledge exchange between hospitals and patient feedback system	2012-2015	20 associated partners and 16 collaborating partners	Multilateral agreement	Total budget € 1 346 306	Yes	Patient feedback system gathers data on patient satisfaction with reimbursement of received treatments and quality of care.

TRISAN	Optimising cross-border cooperation through networking of healthcare actors or dissemination of experiences of cross-border medical knowledge	since 2016, dates back to 1991	12 associated partners	Multilateral agreement	Total budget € 801 916	Yes (ERDF) € 367 750	N/A
INTERSYC	Coordinating measures aimed at improving prevention, protection and health services for children and families. Includes measures against child disappearances and trafficking	2013-2015	6 associated partners	Multilateral agreement	Total budget € 624 362	Yes (ERDF) 85 %	N/A
Putting Patients, Clients and Families First (IE/UK)	Umbrella programme for 12 projects aimed at improving access to services, promoting health, well-being and social inclusion and reducing health inequalities in rural border areas	2007-2013	50 organisations involved	Multilateral agreement	Total budget € 30 000 000	Yes (ERDF) € 22 500 000	N/A

N/A = information not available

Sources: [111, 112, 129-136]

6.5.5.2 Circumstances for successful CBHC collaboration

Table 44 provides an overview of circumstances that need to be kept in mind by users when planning a cross-border collaboration project in the field of Knowledge Sharing and Management, since the findings suggest that these might be crucial for the success of future collaboration projects.

Table 44: What to keep in mind when starting a collaboration project in the field of *Knowledge Sharing and Management*

	Project characteristics
*What were **incentives** for the collaboration?*	• Economies of scale (research and development, database maintenance) • Lack of healthcare provision (e.g. rare diseases) • Waiting times (e.g. organ donation) • Accessibility and quality of care (e.g. rare diseases) • Optimising the organisation of healthcare provision by developing guide-lines and best practice examples
*What were **enabling factors** for the collaboration?*	• Interoperability and standardisation • Internal and external communication of collaboration project(s) in order to raise awareness • Flexibility and innovation capacity in setting up a collaboration project • Conceiving healthcare collaboration projects as multi-sectoral projects • Ensuring regular dialogue between stakeholders of different sectors • Long-term political, financial and administrative support
*What were **challenges** for the collaboration?*	• Differences in legal framework • Cultural differences • Coordination of stakeholders • Differences in national healthcare systems • Lack of information among healthcare actors about the existence and content of an agreement • Free-rider problem: non-participating countries may benefit from progress pursued by participating countries/partners (public good characteristic of non-exclusiveness) • Resource-consuming administrative efforts (e.g. time spent in meetings)
*How to **measure success***	• Waiting times (e.g. for organ donations), patient mobility • Private investment (EUR) triggered by public R&D funds • Full time equivalents of new researchers at supported entities • Number of enterprises cooperating with research institutions

Source: GOE FP

6.5.5.3 TRISAN

Example for a business-case of CBHC collaboration in the field of *Knowledge Sharing and Management*

Objective: Optimising cross-border cooperation through networking of healthcare actors and dissemination of experiences of cross-border medical knowledge

Key dates: since 2016, 12 associated partners

Borders: Switzerland – Germany - France

Organisational make-up of the framework agreement

TRISAN [137] is a tri-national competency centre in the Upper Rhine region to promote projects in the field of healthcare. The aim of the cooperation is to:

- promote cooperation and cross-border networks between participating actors
- assist stakeholders with setting up and conducting their cross-border project
- horizon scanning for potential project cooperation within the Upper Rhine region
- support dissemination of project results

TRISAN offers administrative and operational advice and assistance to any type of stakeholders of the Upper Rhine region related to emerging and ongoing cross-border cooperations. Additionally, TRISAN supports information exchange on the healthcare system of Switzerland, Germany and France and provides a toolbox for stakeholders engaging in cross-border projects. 12 associated partners of the Upper Rhine region include numerous public health actors, mainly public authorities. The Euro-Institute leads the cooperation [137].

The initiative evolved from the cooperation AG health-care policy of the German-French-Swiss Upper Rhine Conference and the Euro-Institut, pursuing exchange on healthcare system across borders and reduce costs. TRISAN and AG health-care policy share a common executive board [137].

Regularly, TRISAN reports on new developments in the field of healthcare and cross-border healthcare in the Upper Rhine region and the European Union. Moreover, it offers a catalogue on cross-border projects in healthcare of the region and organises workshops to inform interested parties on the facts, benefits and risks of cross-border projects in healthcare, explains differences of the healthcare systems of France, Switzerland and Germany, and the legal background on the utilisation and reimbursement of cross-border health services [137].

The toolbox includes

- background information on project management of cross-border projects and respective project management tools,
- factsheets on specific aspects of healthcare systems,
- advice on inter-cultural aspects within cross-border collaboration,
- guidance on the evaluation of cross-border projects and
- presentation and dissemination of cross-border projects.

TRISAN offers an overview of EU-regulations and other regional cooperation agreements of cross-border projects in the region. Besides the framework agreement between cooperating countries of the initiative, concrete collaboration agreements on inpatient treatment of patients with epilepsy, emergency services and severe burn victims are publicly available and serve as best-practice examples for stakeholders initiating cooperation.

Economic and social benefits

The overall budget of the initiative amounts for € 801 916 with a share of € 367 750 funded through the ERDF. Financial costs and benefits might play a minor role in the

setting of this specific cross-border collaboration and rather evolve on a different level, namely cross-border cooperations seeking advice and assistance provided by TRISAN. Professional advice provided through the initiative of TRISAN incurs costs rather than savings and reduces the administrative burden of stakeholders initiating cross-border projects. Therefore, economic benefits might arise only in regards to cross-border projects seeking advice and support.

The cooperation is co-financed by national ministries of health and other public authorities, the Swiss confederation and the INTERREG programme. Information on the concrete share of involved parties, besides the share of the ERDF, is not publicly available except the INTERREG funding share.

Challenges and success factors

Potential success factors are the establishment of a single-point of contact for stakeholders initiating cross-border collaboration. Organised and informed legal, administrative and operational advice and support might boost success of cross-border projects in healthcare in the Upper Rhine region. Moreover, the subordinate unit combines and ensures interests of participating Member States. An economic benefit is the shared funding of the initiative by the Members States. Additionally, inhabitants of the Upper Rhine region are prone to work across borders due to the geographic circumstances which promotes exchange of health professionals and promote knowledge sharing. A potential challenge for the initiative is to bring together the different types of health care systems from Germany, France and Switzerland. Overall, challenges and success factors become apparent as the cooperation further proceeds.

6.5.6 Treatment and Diagnostics – Business case

6.5.6.1 General findings of the case studies

For the business case of cross-border collaboration in the field of *High-Cost Capital Investment the* following eight projects were investigated in detail (see Annex IV):

- Braunau – Simbach hospital collaboration (AT/DE) [125]
- Cerdanya Cross-Border Hospital (ES/FR) [109, 110]
- Hospital collaboration in the Belgian Ardennes (BE/FR) [140]
- **Radiotherapy in Flensburg** (DE/DK) [11, 112]
- Teno River valley (FI/NO) [117]
- Aachen – Maastricht university hospital collaboration (DE/NL) [126]
- Malta – UK [9]
- Dialysis services in the Veneto region (IT/EU tourists) [9]
- Orthopaedic care in Hungary (HU/neighbouring countries) [9]
- Cross-border dental care (SE/FI) [141]
- Telepom (Telemedicine Euroregion Pomerania) (DE/PL) [115, 142]
- Forbach – Völklingen cardiology partnership (DE/FR) [143]
- IZOM (Integratie Zorg Op Maat: tailored healthcare, BE/DE/FR) [115]

Table 45: Cross-border collaboration in the field of *Treatment and Diagnostics* – project details

Project	Main objective	Project period	Collaborating partners	Type of agreement	Funding	EU (co-) funding	Reimbursement mechanism
Braunau - Simbach hospital collaboration (AT/DE)	Paediatric treatment; Coronary angiography unit; European clinical centre	1994-2011	Braunau Hospital and Simbach Hospital	Contract between Braunau Hospital and Simbach Hospital	N/A	In 2005 INTERREG iii a	Higher fee for German patients to cover cost share financed by taxes in Austria
Cerdanya Cross-Border Hospital (ES/FR)	Cross-border hospital to ensure treatment of inhabitants of geographically remote area	Since 2007	Catalan and French health authorities	Agreements on co-ownership	€ 28,6 million (share Catalonia € 7,4 million, share France 4,9 million)	Yes (50 %, € 22 million)	Contractual agreement according to Spanish regulations, transferred to France; Renewed every 5 years; tariffs and wages are above average due to remote location
Hospital collaboration in the Belgian Ardennes (BE/FR)	Emergency care, inpatient and outpatient services	Since 1990	Belgian and French healthcare facilities and sickness funds	7 agreements since 1997	French and Belgian health insurers	No; main initiator OFBS yes	According to reimbursement scheme of French SHI and VHI funds
Radiotherapy in Flensburg (DE/DK)	Radiotherapy for Danish patients	2001-2017	Malteser St. Franziskus Hospital and the county of Southern Jutland	Several agreements since 1998	N/A	No	Fee-for-service scheme; German fees 10 % lower than Danish fees
Teno River valley (FI/NO)	Provision of secondary healthcare	Since 2004	Regional and national health authorities in FI, NO and SE	National-level formal agreement	Temporary project funding	No	N/A
Aachen – Maastricht university hospital collaboration (DE/NL)	Patient care; since 2004 patient care and research	1990-2012	Maastricht and Aachen university hospitals	Formal legally and non-legally binding agreements	N/A	Yes, Interreg i, ii and iii	Agreements focused on professional mobility, either based on hourly rates or employment at both hospitals
Malta – UK	Specialist care for rare diseases	Since 1975	Health authorities in UK and Malta	Formal agreement	N/A	No	According to UK law; agreement includes quota, additional expenses for exceeding quota

Dialysis services in the Veneto region (IT/EU tourists)	Dialysis for tourists	N/A	Hospital in Jesolo and outpatient centre in Bibione, which subcontract services provider in high season (all IT)	None	Additional funding by Veneto region	No	EHIC or private according to official Italian diagnosis-related group costs
Orthopaedic care in Hungary (HU/neighbouring countries)	Orthopaedic care for patients	N/A	None	None	N/A	No	None; OOP payments
Cross-border dental care (SE/FI)	Joint dental clinic	Since 2002	Finnish and Swedish authorities	Formal agreement	30 % Sweden, 10 % Finland with EU funding; 75 % Finland, 25 % Sweden*	Yes, Interreg iii a (60 % – € 100 000)	Finnish patients according to Finnish law, Swedish patients according to Swedish law
Telepom (Telemedicine Euroregion Pomerania)	Telemedicine solution for information transfer, diagnosis and treatment	2002-2006; 2007-2013	38 hospitals	N/A	N/A	Yes, Interreg iv 2007-2013 (€ 12 024 316 including ERDF contribution of € 10 088 374)	N/A
Forbach – Völklingen cardiology partnership(DE/FR)	Joint supply of cardiovascular care	2007-2013	2 hospitals, 7 partners	Formal agreement within a CB framework agreement	€ 525 851	Yes, Interreg iv 2007-2013 (ERDF contribution of € 236 633)	N/A
IZOM	Support patient mobility in the Meuse-Rhine region	1997-2017	13 partners	Formal agreement	€ 2 723 702	Yes, Interreg ii and iii 1994-2006 (ERDF contribution of € 1 361 019)	Reimbursement is managed through vouchers that are issued by domestic health insurers upon application by patients. Those vouchers are then presented to foreign doctors and they are accepted by foreign health insurers

N/A: information not available; *depending on proportion of patients

Sources: [9, 11, 109, 110, 112, 115, 117, 125, 126, 140, 141]

6.5.6.2 Circumstances for successful CBHC collaboration

Table 46 provides an overview of circumstances that need to be kept in mind by users when planning a cross-border collaboration project in the field of Treatment and Diagnostics, since the findings suggest that these might be crucial for the success of future collaboration projects.

Table 46: What to keep in mind when starting a collaboration project in the field of *Treatment and Diagnostics*

	Project characteristics
*What were **incentives** for the collaboration?*	• Bad weather conditions, which make access to care difficult • Lack of healthcare provision on one side of the border • Waiting times and travel/transportation distances • Accessibility and quality of care • Optimising the organisation of healthcare provision by facilitating use or sharing • Lack of healthcare personnel
*What were **enabling factors** for the collaboration?*	• Acceptance among medical staff and most importantly among outpatient doctors • Available technical equipment and ICT infrastructure • Collaboration in line with local/national healthcare planning • Proximity of hospitals • Imbalance in employment levels of geographically close healthcare institutions • Medical protocols: either joint medical protocols or agreement on the use of national medical protocols of one country/region involved • Imbalance of resources on either side of the border • Personal initiative of involved/affected individuals
*What were **challenges** for the collaboration?*	• Recruitment of staff due to high requirements (professional skills, language skills) and lack of attractiveness of the location • Cultural differences • Structural differences • Coordination of the actors • Differences between national healthcare systems • Lack of information among healthcare actors about the existence and content of an agreement • Safe travel for sick patients • Low patient numbers • Resistance of hospital staff to technology and digitalisation • Reimbursement of telemedicine services • Imbalance of contracting parties (i.e. negotiating power)
*How to **measure success***	• Number of treated patients • Waiting time for treatment and diagnostic procedures • Utilisation rate of hospital beds or equipment • Cost per case (for individual treatment and diagnostic procedures) • Patient satisfaction with the conventional service • Patient satisfaction with the collaborative services • Disease-specific mortality rates • Number of medical findings sent electronically • Number of videoconferences held • Number of similar projects launched later that follow the 'role model'

Source: GOE FP

6.5.6.3 Radiotherapy Flensburg

Example for a business-case of CBHC collaboration in the field of *Treatment and Diagnostics*

Objective: Radiotherapy for Danish patients

Key dates: starting 1998; formal agreement 2001- 2017

Borders: Denmark - Germany

Organisational make-up of the framework agreement

The cross-border collaboration resulted from undercapacities for radiotherapy in Denmark and started after one Danish patient searched for alternative hospitals to receive radiotherapy, discovering the Malteser St. Franziskus hospital in Flensburg, Germany. Utilization of national radiation therapy might require travel distances of 100 km or more from Danish patients living in the region of Southern Denmark. The aim of the cooperation was to reduce waiting and travel times for Danish patients resulting from national undercapacities for radiotherapy, resulting in improved access to radiotherapy.

The organisational make-up of the cross-border collaboration required coordination and agreement on several administrative and operational aspects between the Malteser St Franziskus Hospital (DE) and the county of Southern Jutland (DK). In 2001, both parties signed a formal agreement for cross-border treatment for Danish cancer patients and set a maximum treatment volume of 100 patients per year (later expanded to 300 patients per year). Therein, treatment provided at the Malteser hospital has to comply with Danish clinical and safety guidelines. The formal agreement covered curative and palliative treatment for various types of cancer. In 2006, the contract was extended for another 5 years and treatment options were made available to patients from all over Denmark, not just the population of the region of Southern Denmark. Due to the increased number of Danish patients treated at the Malteser hospital in Flensburg, facilities were expanded, including technical equipment and personnel. The agreement included that physicians in Flensburg have a good understanding of the health systems, quality standards and treatment guidelines of both countries. The health workforce at the Malteser hospital was specially trained, e.g. Danish language training, to ensure best possible treatment for Danish patients.

In order to avoid liability issues, patient-relevant documents were exchanged before, during and after treatment in the national language of the issuing hospital in Denmark with the Malteser hospital in Germany. If a patient decided to receive treatment at the hospital in Flensburg, the referring hospital checked capacities for treatment, directly assigned patients to the hospital and submitted all necessary documents (i.e. examination and surgical records). After treatment, the hospital in Flensburg provided the referring hospital in Denmark with a final report, including diagnosis, tumour stage and a radiotherapy record. Radiation therapy was primarily performed as an outpatient service and follow-up was covered by Danish physicians.

Even though capacities in Denmark for radiotherapy were expanded in the course of the cooperation, the collaboration continued and offered patients mainly social benefits like reduced travel and waiting time along with high quality treatment.

Economic and social benefits

The cross-border initiative did not require initial funding as Danish patients travelled to Germany using existing structures for radiotherapy and to receive respective treatment. These circumstances required agreement on the reimbursement for performed health services. The reimbursement for treating Danish cancer patients was based on a fee-for-service scheme. Reimbursement was covered by the region of Southern Denmark. Fees for radiotherapy charged by the German Malteser hospital were 10% lower compared to the Danish DRG (diagnosis-related group) rates but seemed rather marginal. [9, 159]

In the course of the cooperation costs were incurred through the expansion of facilities at the hospital in Flensburg and amounted for EUR 3 million. The increased number of Danish patients increased resource demands on the Malteser hospital to ensure treatment. The Federal State of Schleswig-Holstein (DE) subsidised the expansion with EUR 2.35 million, the region of Southern Denmark financed a new linear accelerator (EUR 500 000) and EUR 700 000 were financed through stakeholder equity of the Malteser St Franziskus hospital in Flensburg. Economic benefits for Denmark may become apparent through potential cost savings resulting from slightly lower service fees charged by the German hospital. Nonetheless, effects of the lower service fees were estimated to be rather marginal. Economic benefits for Germany might result from the increased number of patients. In order to receive a reliable estimate for economic benefits for German stakeholders, revenues and expenses for infrastructure, personnel and technical equipment need to be assessed [9].

The specific cross-border collaboration *Breast Health* (2007-2013) was conducted in the framework of the overall cooperation between Flensburg and the region of Southern Denmark and included measures for prevention, examination and therapy of breast cancer patients. The total budget of the project amounted for EUR 1 257 929 with a share of EUR 446 825 EU funding [9].

Besides economic factors, the collaboration offered numerous social benefits. At the latest when Denmark expanded its national infrastructure for radiotherapy, only social benefits for the patients were relevant. Social benefits are shorter travel times, quicker access to treatment and associated increased patient satisfaction, besides the general high patient satisfaction with the treatment provided and received across the border in Germany. The improved well-being of patients due to the social benefits are difficult to assess in monetary terms [9].

Challenges and success factors

The discontinuation of the cross-border cooperation between Germany and Denmark seemed to fail because parties involved did not achieve a mutually satisfactory consensus. The background was that Danish patients travelled to Germany to receive radiotherapy for many years, even when expanding Danish infrastructure for radiotherapy. After expansion of the infrastructure, Danish stakeholders estimated potential cost savings if Danish patients were treated in Danish facilities. Therefore, Danish stakeholders requested from German stakeholders to either receive a reduction of costs or to balance patient flows between the two countries. Germany did not engage in the proposed balance of patient flows, sending German patients for treatment to Danish facilities. Consequently, Denmark quit the cross-border collaboration in January 2017.

In the beginning of the collaboration, potential cost savings might have occurred due to undercapacities in Denmark and the delay of expanding national infrastructure. However, since the expansion of the national infrastructure for radiotherapy, no economic advantages for Danish public authorities occurred that could potentially translate into cost savings. After discontinuation of the project, the infrastructure of Malteser St Franziskus hospital including

technical equipment and personnel is laid out for a higher number of patients compared to the actual number of patients treated.

Challenges mainly arise for Danish patients in the future, specifically patients living in the border region of Southern Denmark, who are faced with longer travel distances within the country to receive radiotherapy.

7 Fraud and fraud mitigation in cross-border healthcare

We investigate to what extent the fraud patterns in healthcare listed in

Table 47 are applicable to cross-border healthcare, what is the evidence about their magnitude and effective mitigation.

Table 47 is thus the concept framework for our investigation. We expect that the same healthcare actors are involved in cross-border healthcare fraud, and the same problems of inappropriate services and inappropriate billing distort the cross-border healthcare provision. We also expect more evidence on fraud in cross-border healthcare for well-monitored healthcare systems of Western European EU Member States, even though fraud in cross-border healthcare, might be more prevalent in Central, Eastern and Southern European EU Member States due to weak healthcare governance, limited knowledge of patterns and examples of fraudulent behaviour and hence, muted social resistance against illegalities, which factors provide opportunities for fraud [16].

Table 47: Fraud dimensions including potential topics for further investigation

Types of fraud by healthcare actors
Fraud by healthcare professionals/providers
• Falsifying credentials, employment history or registration status; • Billing for services that were never delivered - either by using genuine patient information, perhaps obtained through identity theft, to fabricate entire claims or by padding claims with charges for procedures that did not take place; • Unbundling - billing each step of a procedure as if it were a separate procedure; • Misrepresenting procedures performed to obtain payment for non-covered services (e.g. cosmetic surgery); • Billing for more expensive services or procedures than those that were actually provided; • Falsifying a patient's diagnosis to justify tests or other procedures that are not medically necessary; • Establishing bogus clinics/hospitals in order to bill for treatments that were never provided; • Pharmacists dividing prescriptions into smaller amounts in order to claim additional dispensing fees; • Alteration of prescriptions, claiming reimbursement for work not undertaken, creation of ghost patients and fraudulent claims for out-of-hours treatments; • Clinicians accepting 'kickbacks' for patient referrals; • Risk of organised cartels to restrict treatments or to artificially raise prices; • Ambulance services automatically taking patients to private hospitals where EHIC is not accepted; • Low value invoice fraud (i.e. intended to be of a sufficiently low financial scale to go unnoticed) • Fraudulent overconsumption (unnecessary and /or too expensive healthcare services).
Fraud by patients and the public
• Use of a stolen identity in order to gain entitlement to treatment; • 'Opportunist' fraud (e.g. patient buying cosmetics who submits the pharmacy credit card voucher and claims that it was for a repeat prescription); • Duplication of reimbursement claims to different insurers; • Patient inflating the services represented on a claim; • Wrongful claiming of exemption from fees, alteration of prescriptions or use of aliases to obtain e.g. controlled drugs; • Fraudulent claims for travel costs expenses (for journeys never made or made using an alternative mode of transport) • EHIC, S2 or insurance fraud – i.e. an attempt to claim under the Directive for treatments/items covered by EHIC/S2/insurance.

Fraud by third-party intermediaries

- Falsified claim/application forms;
- Collusion with local clinicians & payment of 'kickbacks' for guaranteed referrals;
- Third party intermediaries;
- False invoices for services not actually provided;
- Inflated prices.

Source: European Commission, DG SANTE

7.1 Online consultation of stakeholders on the topic

The stakeholder panel consisted of 8 country representatives. The panel covered different geographical regions, namely: North-West Europe (Belgium, Germany, and the Netherlands), South-West Europe (Portugal), Central Europe (Hungary), North-East Europe (Latvia) and South-East Europe (Bulgaria and Slovenia). No pretence is made however that the panel is entirely representative for the EU. In the subsequent sections, descriptive statistics complemented with a narrative description and quotations, are used to illustrate the stakeholders' answers.

7.1.1 Existence and magnitude of cross-border healthcare fraud

Table 48 presents the stakeholders' views on the existence and magnitude of cross-border healthcare fraud. As shown in the table, 7 out of 8 stakeholders are convinced that cross-border healthcare fraud exists in their countries. The stakeholder from Bulgaria is however hesitant in confirming the existence of cross-border healthcare fraud because there is still no clear proof. Nevertheless, this stakeholder agrees that '*there are conditions, which can create the possibility for fraud in cross-border healthcare to appear in Bulgaria too*'.

None of the stakeholders has data on the magnitude of cross-border healthcare fraud at a national or EU level. For example, in Slovenia, the fraud size is only known for some cross-border healthcare cases of considerable public interest. With regard to the magnitude of cross-border healthcare fraud in other EU Member States, two stakeholders refer to the EHFCN as the main institution that monitors this phenomenon and can be a potential source of data on cross-border healthcare fraud. Based on this source of data, the stakeholder from Slovenia explained that '*fraudulent behaviour in this field is growing*'.

Table 48: Prevalence and magnitude of cross-border healthcare fraud (N=8)

Question	Answer code	n (%)
Do you think that fraud in cross-border healthcare exists in your country?	Yes No Don't know	7 0 1
Do you have data on the magnitude of fraud in cross-border healthcare in your country?	Yes No Don't know	0 8 0
Do you have data on the magnitude of fraud in cross-border healthcare in other EU Member States?	Yes No Don't know	1 6 1

Sources: Online consultation of stakeholders, July 2017

7.1.2 Link between fraud in cross-border healthcare and fraud in the national healthcare systems

As indicated in Table 49, half of the stakeholders, namely those from Bulgaria, Hungary, the Netherlands and Slovenia, state that cross-border healthcare fraud is related to the general level of fraud in the national healthcare system. The Bulgarian stakeholder even explains this relation with the interconnections between the system of cross-border healthcare and national healthcare systems as these systems belong to the same sector. Both, the Bulgarian and Dutch stakeholders emphasise the importance of distinguishing between different situations when comparing fraud in cross-border healthcare and in the national healthcare systems.

Table 49: Link between fraud in cross-border healthcare and fraud in the national healthcare systems (N=8)

Question	Answer code	n (%)
Do you think that fraud in cross-border healthcare in your country is related to the general level of fraud in the national health system of your country?	Yes No Don't know	4 1 3
Do you think that fraud in cross-border healthcare is more prevalent in EU Member States where healthcare fraud in general is more prevalent?	Yes No Don't know	5 0 3
Do you think that fraud in cross-border healthcare in your country follows the same patterns (forms or types) as fraud in the national health system in your country?	Yes No Don't know	3 3 2
Do you think that fraud in cross-border healthcare in other EU Member States follows the same patterns (forms or types) as fraud in the national health systems in these countries?	Yes No Don't know	2 1 5

Sources: Online consultation of stakeholders, July 2017

As explained by the Dutch stakeholder for the Netherlands, three situations of cross-border healthcare fraud are possible:

- In case of foreign healthcare providers providing services in the Netherlands, the same controlling procedures apply as for Dutch healthcare providers. As a result, the principal systemic mechanisms for controlling and preventing cross-border healthcare fraud are not different from the mechanisms controlling other types of healthcare fraud. Thus, there is indeed a relation between the level of cross-border healthcare fraud on the one hand, and the general level of fraud in the healthcare system on the other hand.
- In case of foreign patients receiving healthcare services in the Netherlands, fraudulent behaviour will abuse the healthcare system of their country where the services are reimbursed. The control mechanisms of foreign insurers may differ from those implemented in the Netherlands, and thus may create differences between the general level of fraud in the Dutch healthcare system and the level of cross-border healthcare fraud. Therefore, this type of fraud may be detected easily because the differences might raise suspicion among public supervisors in the Netherlands, who can inform the foreign public supervisors.
- In case of Dutch patients receiving healthcare services abroad, the risk of fraud will be mitigated by the insurer or generally by party reimbursing the healthcare services. Differences between healthcare services provided in the Netherlands and those provided abroad will exist due to different standards for reporting and describing the healthcare services provided. In addition, the possibilities for Dutch insurers are limited, in comparison with healthcare services provided in the Netherlands, to carry out controls and set-

ting contractual requirements for delivering healthcare services that are necessary and suitable.

The stakeholder from Slovenia further claims that although cross-border healthcare fraud is related to fraud in the national healthcare system, cross-border healthcare fraud might be even more prevalent than the national healthcare fraud due to the lack of auditing and other controlling procedures in cross-border healthcare. On the contrary, the Bulgarian stakeholder suggests that even though connected, the volume of cross-border healthcare fraud could hardly be determined as significant compared with the level of fraud in the national healthcare system: '*Taking into account the number of short-stay country visitors and those who stay longer than 1 month (nationals of EU Member States or of former Russian republics), it is unlikely that any fraud among foreign citizens would significantly increase the level of fraud in healthcare system of Bulgaria.*'

In contrast, the stakeholder from Portugal believes that the issues about fraud in the national healthcare system are different from those in cross-border healthcare. As explained by the stakeholder, fraud in the Portuguese healthcare system is mainly related to the contracting of services and acquisition of healthcare supplies. Examples include fraud at the procurement level, because those are contracts supported by the State and involve a very large amount of money, as well as collusion between healthcare professionals on the one side and pharmaceutical companies (prescription of unneeded medicines), diagnostic laboratories (unnecessary tests) or pharmacies (false prescriptions) on the other side. Cross-border healthcare fraud by either patients or providers has a much smaller financial expression in Portugal with no direct connection to the general type of fraud described above.

The stakeholders from Belgium, Germany and Latvia are uncertain about the relation between the cross-border healthcare fraud and the general fraud in the national healthcare systems mainly because they lack information on fraud in cross-border healthcare.

As also indicated in Table 49, most stakeholders consulted (5 out of 8) agree that fraud in cross-border healthcare is more prevalent in EU Member States where healthcare fraud in general is more prevalent. The rest of the stakeholders, namely those from Germany, Hungary and Portugal, are uncertain about this statement. The most common argument supporting the statement is the fact that the prevalence of healthcare fraud is low in case of effective supervision and when controls are carried out by the national payer, as well as in case of anti-corruption behaviour and culture in the country. In other words, cross-border healthcare fraud is primarily driven by the existence of opportunities to commit fraud and perform corruptive behaviour in a given context. In some countries, fraudulent behaviour may be perceived as more 'normal' than in other countries, and thus less prosecuted. The stakeholder from Latvia thinks that cross-border healthcare fraud could also be based on the features of the public healthcare system and having in place mechanisms for recognising fraudulent activities in general. The stakeholder from the Netherlands adds that if an insurer is effective in its controls on national healthcare services, it will be effective in controlling the use and payment for cross-border healthcare services as well.

Table 49 also outlines the stakeholders' opinion on whether the patterns of cross-border healthcare fraud are related to the patterns of fraud in the national healthcare systems. The table shows that most stakeholders (75%) dispose of information on the patterns of cross-border healthcare fraud and other types of healthcare fraud in their countries. Specifically, the stakeholders from Bulgaria, Hungary and Slovenia claim that cross-border healthcare fraud and healthcare fraud in their national healthcare systems follow the same patterns, while the stakeholders from Belgium, the Netherlands and Portugal disagree with this statement. For Germany and Latvia, no information is provided on this issue because the

stakeholders from these countries have no information about the cross-border healthcare fraud patterns in their countries.

In support of the link between the patterns of cross-border healthcare fraud and the patterns of fraud in the national healthcare systems, the stakeholder from Slovenia explains that the basic types of healthcare fraud can arise in contacts and relations between providers, patients and third party intermediaries:

> '*In case of cross-border healthcare fraud, you have the same situation where possibility of perpetrating different rules concerning (international) relations connected with entitlements of insured (identification), services performed, reimbursements claimed, etc., among patient, provider and payer relation is exactly the same.*' (Stakeholder from Slovenia)

Furthermore, the Bulgarian stakeholder believes that the two types of fraud would also have the same manifestation, regardless of whether the case is about Bulgarian citizens or citizens of other EU Member States:

> '*The mandatory nature of regulations for EU Member States guarantees the identical conditions that they have to create when providing healthcare. Therefore, we could assume that the manifestations of fraud in the healthcare system at international level are similar to those at national level.*' (Stakeholder from Bulgaria)

Those doubting the link between the patterns in cross-border healthcare fraud and the patterns of fraud in the national healthcare systems, explain that the specific patterns of healthcare fraud in their countries differ between cross-border healthcare and country-level healthcare. The Belgian stakeholder believes that:

> '*[...] fraud in the national healthcare system [...] leans more toward intentional abuse and waste, aimed at maximisation of reimbursements per individual case (e.g. up-coding), mostly driven by healthcare providers. In cross-border healthcare fraud, we see more often blatant fraud (e.g. falsifications, alterations, collusion, misrepresentation, double dipping, staging, etc.), by both insured as care provider.*' (Stakeholder from Belgium)

The Dutch stakeholder, also supports this opinion, and adds that:

> '*It may be possible – I don't have evidence in this regard - that specific types of fraud are more common in other countries outside the Netherlands (e.g. healthcare services invoiced by doctors that have not been registered or parties operating in networks linked to other types of violations) and therefore, foreign healthcare services illegally reimbursed by the Dutch insurers may differ from national illegal healthcare services.*'

Table 49 also shows that most of the stakeholders consulted (62.5%) are unable to judge the healthcare fraud patterns in other EU Member States. Only the stakeholders from Belgium, Bulgaria and Slovenia support their opinion also when asked about the healthcare fraud patterns in other EU Member States. Specifically, the Bulgarian stakeholder, who together with the Slovenia stakeholder, supports the link between the two types of fraud, explains: '*if we face a case of fraud of a foreign healthcare provider when being provided to a Bulgarian citizen in an EU Member State, I assume that the act of fraud would have the same components as if in a case of fraud in providing health services to a person who is a national of that EU Member State.*' At the same time, the Belgian stakeholder, who opposes the link between the two types of fraud, believes that in any EU Member State, the general healthcare fraud leans more toward intentional abuse by healthcare providers, while in cross-border healthcare patients are also involved in fraudulent behaviour. The rest of the

stakeholders are uncertain about the healthcare fraud patterns in other countries because there is no data available to provide a base for their opinion.

7.1.3 Types of cross-border healthcare fraud

Below, we summarise the stakeholders' opinions about the relevance of different types of healthcare fraud to cross-border healthcare. The types of fraud discussed with the stakeholders are those listed in the concept framework of the study (see Table 47), i.e. healthcare fraud attributed to healthcare professionals, patients and the public, and third party intermediaries. The stakeholders are also asked to state their opinion about the probability (frequency) of occurrence of a given type of fraud in cross-border healthcare, severity of its consequences (e.g. financial and health damages) and priority level that should be attached to it in policy-making and research. This rating is not done for types of fraud indicated as irrelevant to cross-border healthcare by the stakeholder. During the rating, the stakeholders are asked to take the perspective of their countries.

More than half of the stakeholders indicated that the following types of fraud as relevant to cross-border healthcare:

Healthcare fraud by healthcare professionals:
- Falsifying credentials, employment history or registration status
- Billing for services that were never delivered
- Misrepresenting procedures performed to obtain payment for non-covered services (e.g. cosmetic surgery)
- Billing for more expensive services/procedures than those that were actually provided
- Ambulance services automatically taking patients to private hospitals where EHIC is not accepted
- Fraudulent overconsumption (unnecessary and /or too expensive healthcare services)

Healthcare Fraud by patients and the public:

- Use of a stolen identity in order to gain entitlement to treatment
- Duplication of reimbursement claims to different insurers

Healthcare fraud by third party intermediaries:
- Falsified claim/application forms
- Collusion with local clinicians & payment of 'kickbacks' for guaranteed referrals
- False invoices for services not actually provided
- Inflated prices

According to the stakeholders consulted, the highest priority in policy-making and research in the field of cross-border healthcare should be given to:

Healthcare fraud by healthcare professionals:
- Risk of organised cartels to restrict treatments or to artificially raise prices (median priority ranking 9 on a 10-point scale)
- Fraudulent overconsumption (unnecessary and /or too expensive healthcare services) (median priority ranking 8 on a 10-point scale)
- Billing for more expensive services or procedures than those that were actually provided (median priority ranking 7 on a 10-point scale)
- Misrepresenting procedures performed to obtain payment for non-covered services (e.g. cosmetic surgery) (median priority ranking 6 on a 10-point scale)
- Clinicians accepting 'kickbacks' for patient referrals (median priority ranking 6 on a 10-point scale)

Healthcare fraud by patients and the public:

- Fraudulent claims for travel costs expenses (for journeys never made or made using an alternative mode of transport) (median priority ranking 7 on a 10-point scale)
- EHIC, S2 or insurance fraud – i.e. an attempt to claim treatments/items covered by EHIC/S2/insurance (median priority ranking 7 on a 10-point scale)

Healthcare fraud by third party intermediaries:

- Duplication of reimbursement claims to different insurers (median priority ranking 6 on a 10-point scale)
- False invoices for services not provided (median priority ranking 7 on a 10-point scale)
- Collusion with local clinicians & payment of 'kickbacks' for guaranteed referrals (median priority ranking 6 on a 10-point scale)

All stakeholders are asked whether they are aware of the prevalence of these types of cross-border healthcare frauds in other EU Member States. Seven out of eight stakeholders have no information on this issue. Only the stakeholder from Slovenia claims having information on the types of cross-border fraud in other EU Member States because insurance providers and governmental organisations members of the EHFCN regularly report about these types of cross-border healthcare frauds.

Based on the stakeholders' ratings of the different types of fraud attributed to healthcare professionals, patient and the public, and third party intermediaries, we developed a HELFO risk matrix following Vincke (2013), see Figure 22. On this matrix, the fraud types are plotted based on the mean stakeholder' rating of probability of occurrence in cross-border healthcare, and the mean stakeholder' rating of severity of consequences.

Items that appear in the upper right corner of the matrix should be prioritised. In our HELFO risk matrix, these are mostly types of healthcare fraud by healthcare professionals:

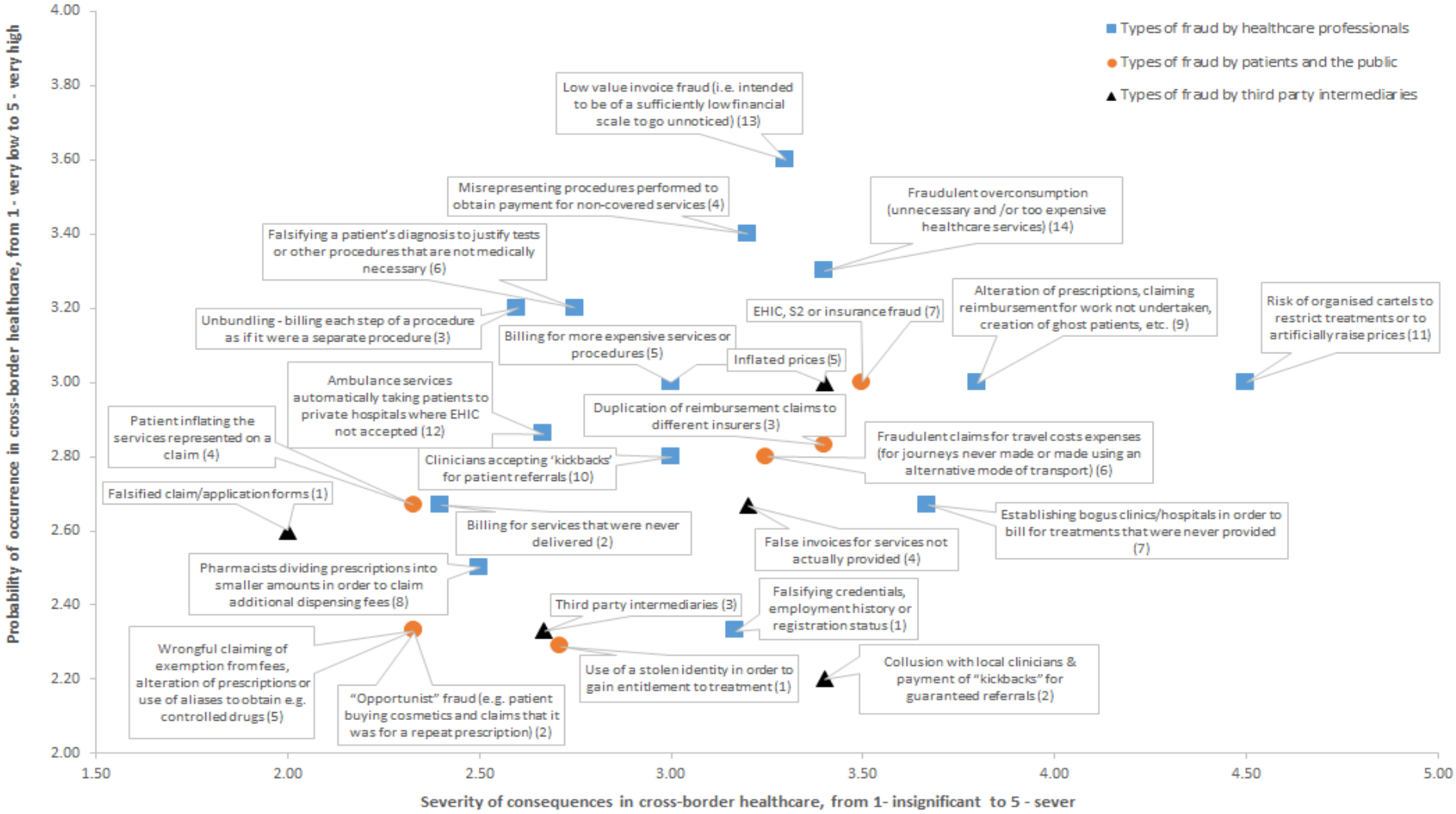
- Risk of organised cartels to restrict treatments or to artificially raise prices
- Fraudulent overconsumption (unnecessary and /or too expensive healthcare services)
- Misrepresenting procedures performed to obtain payment for non-covered services (e.g. cosmetic surgery)
- Alteration of prescriptions, claiming reimbursement for work not undertaken, creation of ghost patients and fraudulent claims for out-of-hours treatments
- Low value invoice fraud (i.e. intended to be of a sufficiently low scale to go unnoticed)

The first three fraud types in the list above also have a high priority level according to the stakeholders.

Regarding fraud types attributed to patient and the public, and third party intermediaries, the HELFO risk matrix suggests priority for EHIC, S2 or insurance fraud by patients, and inflated prices fraud by third party intermediaries. The former has a high priority level according to the stakeholders as well but not the latter fraud type.

It should be noted however that we do not have any fraud type in the HELFO risk matrix associated with a high priority (very high probability of occurrence in cross-border healthcare and sever consequences). And we also have no fraud types associated with a low priority (very low probability of occurrence in cross-border healthcare and insignificant consequences). The priority level for most cross-border fraud types, according to HELFO risk matrix, is between medium low to medium high.

Figure 22: HELFO risk matrix developed based on Vincke (2013).



Sources: Online consultation of stakeholders, July 2017

7.1.4 Mitigation of cross-border healthcare fraud

Table 50 summarises the responses on the mitigation strategies in cross-border healthcare. As shown in the table, almost all stakeholders consulted (75%) state that they are aware of such strategies in their countries. The stakeholders from Belgium and Hungary have no information on this. Only three stakeholders (those from Bulgaria, Latvia and Slovenia) have information on mitigation strategies in cross-border healthcare in other EU Member States.

Table 50: Mitigation of cross-border healthcare fraud (N=8)

Question	Answer code	n (%)
Are you aware of any fraud mitigation mechanisms implemented or proposed for implementation to combat fraud in cross-border healthcare in your country?	Yes No Don't know	6 2 0
Are you aware of such fraud mitigation mechanisms implemented or proposed for implementation in cross-border healthcare in other EU Member States?	Yes No Don't know	3 5 0

Sources: Online consultation of stakeholders, July 2017

The following fraud mitigation mechanisms are implemented or proposed for implementation in EU Member States according to the stakeholders consulted:

- Related to healthcare professionals:
  - No reimbursement of healthcare professionals, only of insured persons when they use services in another EU Member State (Slovenia)
  - Clear internal rules for validating payments and reimbursements (Portugal)
  - Mechanisms for exchanging of crucial information between the EU Member States with the aim to prevent or identify fraudulent activities (Latvia)
  - Spreading information about cross-border healthcare fraud among healthcare providers via leaflets/brochures (Germany)
  - Website for healthcare providers with special information about medical treatment of patients who are insured in other EU Member State (Germany)
  - Internal Market Information System to exchange information on disciplinary measures and judicial convictions regarding medical professionals (the Netherlands)
  - Control and supervision mechanisms to combat fraud in cross-border healthcare (Bulgaria)
- Related to patients and the public:
  - In case of reimbursement of claims for cross-border healthcare, requesting the whole (medical) documentation related to treatment abroad to be examined by internal control mechanisms (Slovenia, Germany, Latvia, Bulgaria)
  - Using the NCPs in the EU Member States to make information available for patients and the public regarding healthcare services, prices, reimbursement and necessary procedures to be better informed and not become subjects to fraudulent activity (Germany, Latvia)
  - Providing information on the EHIC use to insured persons through insurers' and other websites and by means of brochures/guides/leaflets/flyers, which information channels can be used to explain how to obtain healthcare abroad and avoid fraud (Germany, Portugal)
  - Using a non-competitive platform, such as *eu-patienten.de*, to inform patients (and healthcare providers) about cross-border healthcare and the risks of cross-border healthcare fraud (Germany)
  - Stronger cooperation in the field of healthcare fraud in the EU, and especially to sanction and prevent abuse of the EHIC (the Netherlands)
- Related to third party intermediaries:

- No reimbursement of third party intermediaries, only of insured persons (Slovenia)
- Requiring a validation by the Regulator responsible for authorising new pharmaceutical or medical devices (Portugal)

The Bulgarian stakeholder also refers to a system of penalties and civil law as a possible fraud mitigation mechanism although its implementation would require further deliberations.

An interesting case related to cross-border healthcare fraud mitigation is shared by the Dutch stakeholder:

> '*Internal Market Information System: in the framework of Directive2013/55/EU (regarding the recognition of professional qualifications) a warning mechanism (by means of the Internal Market Information System) was created (in Article 56 bis). The information system that has entered into force on 16 January 2016, provides the possibility for EU Member States to exchange information on disciplinary measures and judicial convictions regarding medical professions. In the Netherlands, the obligation to provide information on healthcare service providers that have received disciplinary measures or a judicial sentence, is carried out by the Dutch Register on Professions in Healthcare (BIG Register). This register is accessible to the public.*' (Stakeholder from the Netherlands)

The three stakeholders (from Bulgaria, Latvia and Slovenia) who state having information on mitigation strategies regarding cross-border healthcare fraud in other EU Member States, mostly refer to cooperation and exchange of fraud-related information between the EU Member States, as well as to the important role that the EHFCN plays in collecting and distributing such information:

> '*Cooperation mechanisms of the competent institutions of the EU Member States, which allow for exchange of crucial information (such as person's identity data, insurance information, information about cross-border healthcare documents issued to the person, employment and social security data, information on state funded healthcare, benefits in kind, healthcare services provided to the person, etc.) to prevent or identify fraudulent activity.*' (Stakeholder from Slovenia)

> '*EHFCN provides its members with a platform to exchange information and tools, best practices and ideas, promotes the development of common working standards through education and events, etc. [...] Thanks to European Waste Typology Matrix the communication between EHFCN members will improve and better target aims will be set.*' (Stakeholder from Bulgaria)

The stakeholders consulted also indicate several factors that can make a fraud mitigation strategy in cross-border healthcare effective. Specifically, the stakeholders from Slovenia and Latvia suggest that permanent and regular communication between competent institutions is needed. In addition, the establishment of competent international auditing group to investigate such cases is of great importance.

Further, the stakeholders from Belgium and Portugal indicate that an important factor in the fight against cross-border healthcare fraud would be a strong and smart detection system (IT applications) run by an experienced team of fraud fighters. It is also important to have a functioning awareness system for all healthcare actors on the existence and impact of cross-border healthcare fraud, as well as a strong control environment.

The Dutch stakeholder adds that legal competences and human resources as well as promoting correct billing and best practices will help in reducing (undetected) cross-border healthcare fraud. An atmosphere should be created among healthcare providers where fraudulent behaviour is generally condemned.

The stakeholders also indicate several risks and benefits involved in developing and implementing strategies for mitigating cross-border healthcare fraud:

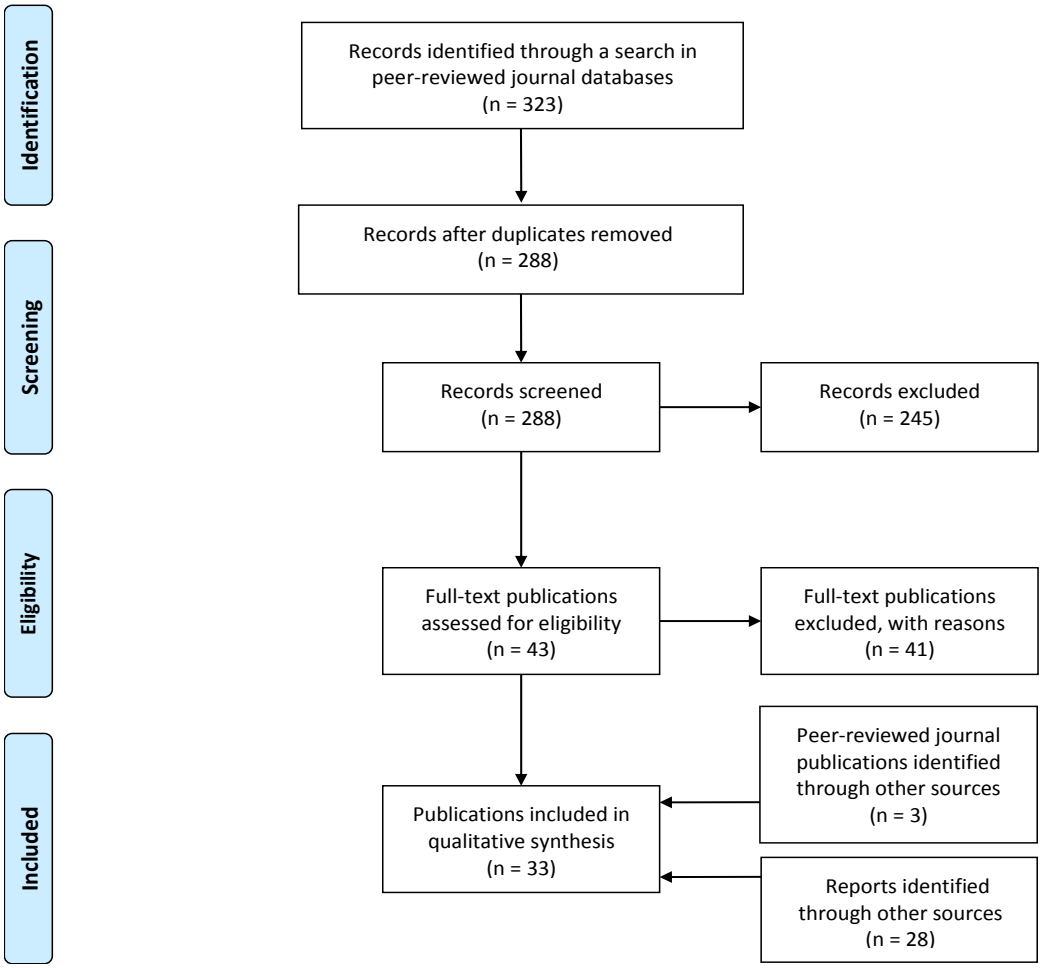
- Benefits of mitigating cross-border healthcare fraud:
  - Direct financial benefits by reducing unnecessary healthcare costs
  - Avoiding pay-and-chase and therefore mitigate financial risk
  - Indirectly, increased compliance by healthcare providers (preventive effect)
  - Increased legitimacy and clearness of the system (preventive effect)
  - A wider level of social compliance (preventive effect)
  - Increased transparency and empowerment of the patient
  - Effective and proportionate sanctioning and cooperation between stakeholders
- Risks in mitigating cross-border healthcare fraud:
  - Finding proof of intentional errors/fraudulent behaviour
  - Time, resources and investments are necessary but perhaps not available
  - No immediate return of investments and limited visible short term effects
  - The administration and evaluation will reduce possible gain/profit
  - Waiting period for patients to obtain the documents or healthcare services
  - Legal procedures, which may include legal scrutiny
  - Possibly deprivation of civil rights, e.g. the free movement of EU citizens
  - Opposition of various actors rejecting proposals for change in healthcare
  - Legal questions on competences, e.g. who should investigate the fraud cases

The stakeholders consulted proposed various methods to raise the awareness of fraud mitigation strategies amongst key healthcare actors: disseminating brochures, videos, and web-posts with information on what fraud is, what the consequences are for the victims and perpetrators, as well as what mechanisms for reporting fraud exist. Essential here would be the cooperation between institutions on national and international level for an effective exchange of information and promotion of best practices. Scientific research should be stimulated and supported, and it is necessary to invest in professionalisation of staff to enable effective investigations and policymaking. Courses on correct billing should be made part of the academic curriculum to raise awareness from the start.

7.2 Systematic literature review and 'grey' literature

The systematic literature search resulted in 323 publications in total. All 323 publications (peer-reviewed articles) identified during the systematic literature search were organised in an Endnote® file. After checking for duplicates and removing non-peer-reviewed papers, 288 papers remained for selection. Depending on relevance the non-peer-reviewed publications, which were excluded in this process, were included in the grey literature file (see below). Figure 23 depicts the publication selection process. The review of the reference lists of the two articles did not provide any additional relevant publications.

Figure 23: PRISMA flow diagram of the publications selection



Source: Maastricht University

The hand search of 'grey' literature resulted in 28 relevant publications included in the review. Thereby, a wide range of publications types was covered, including PowerPoint presentations, web blogs, web articles from a variety of websites, web non-peer reviewed journal publications, various governmental and non-governmental reports, books and other sources.

A description of the peer-reviewed articles and 'grey' literature sources can be found in Annex V. The following sections present a narrative description of their findings related to fraud and fraud mitigation in cross-border healthcare.

7.2.1 Types of fraud in cross-border healthcare in the EU

Various types of cross-border healthcare fraud are discussed in the literature. This includes fraud committed by patients, healthcare professionals/providers as well as third-party intermediaries, manufacturers and suppliers.

Attention to cross-border healthcare fraud is gradually gaining as it is shown by the increase in the number of grey-literature publications on the topic. Even when fraud is well defined and separated from corruption on the EU, areas for interpretation remain across the EU Member States.

Fraudsters often cross the border to avoid a legal system or to benefit from regulatory loopholes [144]. For instance, an uninsured person commits identity fraud in order to obtain reimbursement for healthcare received and paid for abroad, healthcare for which

(s)he would otherwise not be entitled to or would have to pay the (full) cost. Similarly, a healthcare provider may submit false claims; up-code medical bills or provide foreign patients with unnecessary healthcare services. Evidence suggests a risk of fraud related to the European Health Insurance Card (EHIC), especially when it is used for services other than emergency and unplanned care. Furthermore, counterfeit or unlicensed pharmaceuticals and medical devices is a common type of fraud and cross-border phenomenon. This type of fraud is difficult to combat and especially challenging because of sales via internet [16].

These and other types of fraud are described in the results section below. They deal with the actors involved, and address the question of what types of fraud these actors commit as well as why and how these types of fraud are committed. Finally, a sub-section on fraud mitigation outlines the existing evidence on fraud mitigation.

7.2.2 Patterns of fraud in cross-border healthcare and their scale

No country can claim to be entirely free of healthcare fraud. It exists everywhere, only its scale and scope vary across different countries [145]. However, free movement of patients, professionals and capital as well as the freedom in provision of services also means that healthcare fraud is crossing borders [146, 147]. Fraud thrives on a lack of transparency. With the increase in the complexities of the healthcare system – among others due to decentralisation with limited oversight - the opportunities to commit fraud increase [16]. Despite this, healthcare fraud in general and cross-border healthcare fraud in particular has been often side-lined and is not followed as closely as it should be [148]. While the Directive 2011/24/EU and Regulation (EC) 883/2004 on cross-border healthcare may reduce the risk of high payments for patients, fraud problems and fraud control are not addressed by the existing legislation on cross-border healthcare [147, 149]. Furthermore, fear of fraud being involved in treatment abroad appears to be an obstacle that discourages some patients to seek treatment in another EU Member State [150].

In order to detect and overcome cross-border healthcare fraud, it is important that the EU is aware of this problem in the first place. The presence of fraud in the context of cross-border healthcare is likely to grow with the enlargement of the EU, the increase in regulation within healthcare systems, and the increase in free movement of people, services and goods, but also with globalisation[146, 151]. Differences and increases in healthcare regulation between and within countries, as well as in national benefits and entitlements contribute to cross-border healthcare fraud. Some healthcare providers exploit this situation and attract patients who are willing to cross-border for healthcare by claiming higher quality, more affordable and more readily available treatment. Commercial healthcare providers try to attract patients from abroad. The advertised treatment abroad may or may not be fraudulent while the increase in the mobility of patients, healthcare providers and healthcare goods from non-EU countries to EU Member States also add to the cross-border fraud problem[146].

Differences in privacy regulation and data protection rules in the EU restrict sharing of patient records and other personal information between different parties. Because of this, opportunities to commit fraudulent acts in the field of cross-border healthcare are given to parties involved in receiving, providing, billing or regulating healthcare[146]. In 2009, EHFCN indicated that 'there are neither protocols nor common standards of gathering and exchanging (criminal, civil and disciplinary) evidence in matters related to fraud and corruption in cross-border healthcare'. This has changed in 2016 and is addressed below in the results subsection focusing on cross-border healthcare fraud mitigation [146].

A rough estimate in 2010 indicated that €56 billion each year were wasted because of general healthcare fraud in the EU. This estimate might be only the visible peak of the iceberg and hence make up for only part of the total healthcare fraud in the EU. As is commonly known and somewhat paradoxical, the amount of fraud detected increases with the attention being paid to detection and prosecuting of fraud. Therefore, if more

attention for the detection of fraud would mean that the amount of detected fraud increases, it could mean that there is more fraud committed or that fraud detection has become more successful [152]. Furthermore, evidence suggests that Europe generates 30% losses due to wasteful spending and inefficiencies in general while healthcare fraud is estimate to waste on average 6.5% of healthcare budgets[16, 153].

According to a study on general healthcare fraud in other EU Member States, France managed to recover €200 million , Germany €43 million, Belgium €6.8 million, Greece: €0.3 million, Portugal €4.6 million and the UK £11.9 million in 2014 [13]. However, the exact damage done by fraud in cross-border healthcare in the EU is unknown [144]. Only for the Netherlands, some indicative data could be found. There it shows that the use of cross-border healthcare is modest and mostly consists of healthcare use in neighbouring countries and in holiday country destinations. Data from 2016 shows that out of €43.3 milliard declared healthcare costs, only 1% corresponds to cross-border healthcare. However, detected fraud of incorrect billing in cross-border healthcare fraud accounts for 3% of all healthcare fraud committed in the Netherlands, which is about €11 million [154]. These figures either indicate that cross-border healthcare fraud in the Netherlands is proportionally higher than the average fraud committed, and/or that the chance of fraud detection is higher than average.

The pharmaceutical field appears to be sensitive to cross-border fraud. Of all the losses, counterfeit medicine costs the EU pharmaceutical industry more than €10 billion each year, which is 4.4% of their total sales. It additionally results in 38.000 direct job losses in the EU only. Broader and indirect effects of counterfeit pharmaceuticals in the EU result in more than €17 billion and 90,000 job losses [155]. Most importantly, counterfeit pharmaceuticals may be harmful for patients and cause health damage and loss of lives. The amount of these health losses due to counterfeit pharmaceuticals is unknown, however. The total volume of cross-border prescriptions in the EU is estimated to be between 1.1 million and 8 million each year, which is only 0.02% to 0.04% of all prescription in the EU [156].

This adds to what was already mentioned above that cross-border healthcare is a rather small proportion of the total healthcare expenditure. Therefore, the absolute size of cross-border fraud might also be relatively small. However, there is no evidence that cross-border healthcare fraud is proportional to fraud committed on a national level. The little piece of evidence for the Netherlands described above suggests that fraud in cross-border healthcare is more prevalent than in healthcare in general. In fact, there is a total absence of measuring fraud in cross-border healthcare [153]. The measures of healthcare fraud presented above are an estimate of the existing healthcare fraud in EU Member States, which may or may not include the detected cross-border cases. Even though cross-border healthcare fraud might be a relatively small and ignored problem in comparison to national healthcare fraud, studies on the prevalence of healthcare fraud suggest that the return on investment to detect and combat the fraud might still pay off [13]. The potential for cross-border healthcare fraud is there, wherever people spend money on cross-border health in both the private and public sector. Therefore, fraud in relation to cross-border healthcare needs to be looked at from all angles [148].

7.2.3 Fraud by patients and the public

Cross-border healthcare fraud is tied to cross-border healthcare use. Only when patients use cross-border healthcare, the risk of patients committing cross-border healthcare fraud arises [148]. The fraud committed by patients might remain undetected because of the frequently relatively low total costs of cross-border healthcare use which may not warrant the investment in fraud detection and prosecution. Also the relative unimportance of cross-border healthcare and fraud may make that it does not receive a lot of attention in the media and by fraud detection agencies [16]. Further, the high level of personal data protection in the EU might enable some patients, who commit cross-border healthcare fraud, to remain undetected. Better monitoring mechanisms may change that.

Those who succeed however may continue carrying out the same activities further, e.g. in another EU Member State [146, 157].

A type of fraud that was evident in the literature, but falls outside the list of frauds provided in Table 3, is submitting false claims for treatment that was never received. The box below outlines an example of how patients have abused their freedom to use cross-border healthcare by providing a false residency in order to be entitled free healthcare.

Box 1: Case on identity fraud in Ireland

'Examples included people from the Republic of Ireland accessing free healthcare services designated for Northern Ireland residents by claiming false addresses or a French patient living in Belgium who claimed €9,000 a month for expensive treatment for 20 years whilst living in a home for elderly without receiving treatment.' [152].

Another way how patients can abuse the cross-border healthcare system is to commit identity fraud, as previous experience shows. This occurs when someone is trying to obtain treatment using the identity of another person entitled to that specific treatment. The underlying cause of this type of fraud is the fear of refusal or the fees to be paid for treatment or pharmaceuticals as an 'outsider' [148]. Furthermore, evidence suggests that also non-EU patients commit fraud by using a stolen identity to gain treatment within the EU [148].

Another example of cross-border fraud by patients is submitting false claims for treatments that have never been received [152]. These individuals tend to travel to another EU Member State and upon returning submit false claims from hospitals, doctors or clinics that may or may not even exist [158]. One case dealing with false claims was related to long-term care between France and Belgium, where a French patient living in an elderly home in Belgium claimed €9000 a month for expensive treatment, which was never obtained [152]. However, as long-term care is outside the scope of Directive 2011/24/EU it could not be considered for this review [149]. Nevertheless, the French-Belgian case is an indicator that EU patients receiving treatment outside their home country may submit false claims for cross-border treatment. EHFCN explained that such fraudulent activities are often left undetected due to the lack of cooperation between customs, the police and healthcare organisations in exchanging sensitive information[152].

Abuse of EHIC by patients is an issue that concerns all EU Member States. However, the ability to overcome the issue of EHIC fraud may conflict with data protection and the willingness to exchange and share the sensitive information [147]. 'EHIC enables card holding insured individuals to receive any necessary medical treatment *'that [their] state of health requires in order [...] to be able to continue [their] stay under safe medical conditions'* during a temporary stay abroad. Individuals that are covered by EU state or insurance are able to request EHIC, which is valid for obtaining care anywhere in the EU and the European Economic Area (EEA) in general [16, 159]. Evidence from 2009 shows that patients have travelled from Belgium to the Netherlands using the EHIC in order to obtain medicines they are not entitled to in their home country [148].

The box below outlines an example for EHIC related fraud. This case refers to Belgian patients who shopped for medications abroad using EHIC. The case indicates that there might be other patients within the EU that regularly 'shop' for medications in another country using their EHIC to avoid any additional payments they might need to contribute with in their own country. In this case, by abusing EHIC, Belgian patient managed to avoid €495 co-payments. Intentional visit abroad for regular 'shopping' of medications by using EHIC is a fraudulent act since it the EHIC should be used for urgent and non-planned situations only [147].

Box 2: Case on EHIC abuse in Belgium

'Belgian patients have been found to regularly 'shop' in Dutch pharmacies for medication worth thousands of euros (1,554 prescriptions in January 2008 for an amount of €152,109). By presenting their EHIC patients are exempt of paying the co-payment amount they normally pay in Belgium. The Belgian health insurance service reimburses the total amount of the medication to its Dutch counterpart, often at a higher price than in Belgium [147].

Similarly, another type of fraud related to EHIC illustrates that between 2011 and 2015 UK and Dutch patients (131 detected patients) have used their EHIC for planned care (e.g. knee and hip replacements). NCPs for cross-border healthcare as mentioned in Directive 2011/24/EU should be informed of such cases, but did not receive any information of this kind of fraud cases being detected, which indicates there still is a week cooperation and transparency on cross-border healthcare fraud in the EU [147].

7.2.4 Fraud by healthcare professionals/providers

Fraud that healthcare providers commit within their country of practice is likely to be performed also across the borders, if such providers are planning to practice in another EU Member State, especially if there is an opportunity to take advantage of the system [148]. Providers can be involved in cross-border fraud either by crossing country borders themselves or by providing fraudulent services to foreign patients within their country of residence. The chance of unscrupulous practitioners crossing borders is increased by a high level of data protection. Since they can no longer practice in their home country, they might escape the ban by setting up a practice in another country [146, 148, 158].

Also, medical prescriptions may be issued by unauthorised individuals. However, it is challenging to detect such medical prescriptions in cross-border healthcare and to verify the prescriber. Prescriptions that are presented in an unfamiliar language or missing information, have a higher risk of being fraudulent. Electronic registers of authentic prescribers might therefore be a solution. However, cross-border prescriptions make a minor part to the total prescription within the EU, which is why cost-proportionality of investing in such authentication might be an issue in this respect [156]. Suggestions for solving this, have already been done in 2007, but 'from 18 January 2016 on, healthcare regulators across the EU have to warn all other EU Member States when a health professional is banned or their practice is restricted' [147, 157]. In practice, however, this alert mechanism remains restricted, due to the lack of information exchange among the EU Member States, which is the reason why the recent case (see the box below) occurred where French practitioner moved to Belgium to set up a new practice due to a fraud-related ban of practicing in France.

Box 3: Case on illicit practice by French and Belgium doctors

'A French practitioner could move to Belgium and set up a new practice even though he had been sanctioned for defrauding the French healthcare system without disciplinary consequences' [147].
'A Belgian orthopaedic surgeon, after practicing in the UK, could start over again in Belgium although he had been sanctioned for defrauding a private health insurer in the UK' [147].

Besides this case, also a fraudulent Belgian orthopaedic surgeon returned to Belgium to set up a practice due to being banned from practicing license in the UK. In both, the UK and France case, no information was shared with other EU Member States of such detected fraud. The French-Belgian case is a real eye opener of the current state of information exchange and fraud detection in the EU, because a bilateral agreement on information sharing in such cases between these two countries was concluded in May 2014 [147].

A common type of fraud performed by healthcare providers is false billing. It involves bills for services not performed or overprovision of services or treatments patients not

necessarily needed. For instance, a case in the Netherlands involves a collusion between a patient and a provider in order to invoice non-provided services received abroad [146, 151]. Kickbacks received from pharmaceutical manufacturers and hospitals refer to another common type of fraud on healthcare provider side. This shows that these healthcare providers are willing to risk the health of their patients and place welfare system in jeopardy [146, 151].

7.2.5 Fraud by third-party intermediaries

In addition to cross-border healthcare fraud committed by patients and healthcare providers, different third-party intermediaries may also be involved in cross-border healthcare fraud. The first three types of fraud from the concept framework (see Table 47) were found to be prevalent. We found examples in the literature on collusion, which occurred between a pharmacist and a patient. The collusion and kickbacks concerns also EU tenders for cross-border projects in the field of healthcare. We did not find examples on the last type of fraud mentioned in the concept framework 'inflated prices', however, hospitals did extra billing for services or medical products. Similarly, hospitals were found to up-code and up-bill for services provided to foreign patients. Nevertheless, suppliers and manufacturers were found to be involved in the development and sales of counterfeit pharmaceuticals, medical devices and substandard quality medical devices.

'Pharmaceutical companies have not always been walking the straight line and the fact that 10 of the largest pharma companies have been named and shamed in the media between 2007 and 2015 and had to pay millions, in some cases billions of dollars in settlements, has added to what can be called at least 'the perception' that the industry is walking a thin line' [153]. Besides these big cases concerning the pharmaceutical industry, a pharmacist in France asked for reimbursement for medication he had not sold. In fact, this pharmacist colluded with patients who were offered a bribe to add pharmaceuticals to their prescription. Thus, a patient got corrupted so that the pharmacist could commit the false billing fraud. Even though this particular case occurred within a country, it could as likely be done in a cross-border case.

An illustration of another type of fraud is in a Belgian hospital, which billed for more substance use than they had originally purchased and had in stock. Hospitals in various countries are billing for more medications than initially administered to patients, which suggests that extra-billing for services and medical products is a common type of fraud on national and cross-border level. The examples here did not specifically outline cross-border cases, but they were also not excluded. If the extra-billing is prevalent on national level, there exists even a higher risk for cross-border cases due to data-protection and insufficient transparency of information shared. Thus, there might be a smaller chance of detecting such fraud [153].

Medical tourism adds to the existing cross-border healthcare problem. A case about a German hospital and an Arab medical tourism agency illustrates that such types of fraud like up-coding and up-billing for services that Arab patients had to pay for their treatment in Germany are crossing also EU borders [153]. Thus, to protect the EU healthcare from fraud, we have kept in mind that fraud does not have borders and also international cases between EU Member States and non-EU countries can affect the budget of EU Member States.

Fraud in cross-border healthcare committed by suppliers and manufacturers commonly involves legal or illegal counterfeit pharmaceuticals, which are finding their way to the patient via internet and other paths [145, 153]. These drugs are often produced in one country and then imported and sold to patients in another country circumventing authorisation procedures [145, 158]. Out of 40.000 pharmaceutical enterprises in EU Member States, 3.000 are manufacturers and the rest are wholesalers. Germany is the biggest producer of pharmaceuticals in the EU (€41 billion revenue) while Ireland, France and Italy were following with a revenue of €20-25 billion. These countries are also contributing with a €25 billion trade balance from Germany and €14 billion from Ireland

while the total scale of the EU export to third countries is €54 billion. Counterfeiting affects the pharmaceutical industry by lost sales while the illegal nature of counterfeit pharmaceuticals affects government tax revenues. Most importantly, such pharmaceuticals may endanger the health of patients who are using these drugs, leading to a loss of health and life years. Counterfeit medications can be non-effective or even toxic and dangerous a patient. The case below (see the box below) shows that a patient who bought the medication to fight cancer at a German pharmacy was counterfeit.

Box 4: Case on counterfeit Sutent medication

'Orifarm is the largest supplier of parallel imported medicine in Europe. A pharmacy in Hamburg was contacted by a patient in May 2014. The patient had purchased a package of Sutent (used for treatment of certain cancers) from that pharmacy, but brought it back because it seemed to him that it did not contain the genuine medication. After consultations between Orifarm, which had supplied the medication, and the authorities, it was decided to recall 64 packages of Sutent from that particular batch. The fake Sutent originated from a Romanian supplier. As a consequence of this incident, Orifarm blacklisted that supplier. Another German importer, CC Pharma, had also unwittingly purchased counterfeit Sutent from a Romanian supplier in the autumn of 2013 and had completely stopped sourcing Sutent in Romania. In addition, CC Pharma had also blacklisted Sutent suppliers from Bulgaria, Hungary and Poland for the same reason' [155].

The counterfeit medication was imported from a Romanian supplier turning this into a cross-border fraud case. After this incident, the supplier company Orifarm along with other suppliers in the EU blacklisted this Romanian supplier [155].

Besides pharmaceuticals and healthcare facilities, cross-border fraud also concerns the sale of medical devices. 'Medical and healthcare devices are not always licensed for use in all countries. However, these devices can often be purchased and distributed using the internet' or even through national suppliers. Similarly, also counterfeit devices make their way across the borders and into the hands of a patient [158]. One of such cases concerns a Spanish company, which was delivering inferior quality wheelchairs to patients. The brand of these wheelchairs differed from the one prescribed and ordered initially by the doctor, however, they pushed these wheelchairs in the market by offering a discount to the patients [16].

The European Anti-Fraud Office commonly known as OLAF is concerned with cross-border procurement fraud within the EU, which also relates to healthcare sector. Recent evidence concerns cross-border projects in healthcare field involving kickbacks. Actors involved in such case (see the box below) were a freelance consultant in healthcare and various companies that applied to participate in this EU tender.

Box 5: Case on large health project in Romania that involves kickbacks

This case involves a 'large health project in Romania funded by several donors including the European Investment Bank. Consultant had identified companies likely to bid for the different lots and had formally agreed with each of them that he would receive 5% of the value of any contracts awarded. The consultant then distorted the international tender process to ensure that his favoured clients won and that he got his 5% kickback. Olaf and the national prosecution service identified compelling evidence using a variety of both administrative and criminal investigation techniques' [160].

This consultant manipulated the cross-border tender by abusing the power of his position. The tender candidates were individuals who were likely to offer kickbacks to this particular consultant in case of wining the tender. As a result, the favoured client offering the highest kickback won the international tender competition. After this illegal and fraudulent act, the freelance consultant received the agreed 5% in kickback [160]. This case illustrates that even cross-border projects and research are not free from fraud and affect the European budget.

7.2.6 Mitigation of cross-border healthcare fraud

Fraud control is a real challenge in a healthcare environment that changes rapidly and is driven by technology and globalised market of medical products and services [153]. It is also a 'miserable business', because what you see is never the problem and the available performance indicators are at best ambiguous [36]. Furthermore, there is way too little transparency within this field, stakeholders in (cross-border) healthcare are organised in powerful lobbies and there is still a strong tendency to avoid the word 'Fraud' [153]. OLAF informs that at the moment, we are still applying a national approach to fight the cross-border fraud [160].

The prevention, detection and investigation of fraud in cross-border healthcare require cooperation and a systematic exchange of information (including personal information) between national operational entities. The networking of detected fraud records should make it possible to prevent further fraud being committed by the same offenders in European cross-border area. Although EU citizens have the right to privacy protection, patient safety and the public interest (correct allocation of healthcare budgets) should allow a restricted and regulated exchange of sensitive personal data between competent authorities of the EU Member States [146, 152].

The problems of data protection are related to the lack of transparency across the EU. Patients find it difficult to find information about doctors and their qualifications as well as clinical standards before opting for care across the borders. Therefore, a reliable exchange of information and interinstitutional cooperation between EU Member States and healthcare parties on all aspects of healthcare and its providers is one of fraud mitigation strategies [147, 148, 161].

Distribution of an Europe-wide Health Professional Card with a unique identification number and central malpractice register was suggested already in 2007 to protect patients and ensure that there is no illicit medical practice [157]. Further, 'solid cooperation is needed between EU Member States and European Institutions to develop a user-friendly communication platform and warning system, which would allow patients to be informed correctly before choosing healthcare services in another EU country' [150]. To improve transparency of information with regards to medical prescription authenticity, electronic registers of authentic prescribers might be a solution. However, the problem to implement fraud-proof prescriber authentication in cross-border context are the high costs and administrative burden involved in developing and maintaining it. Nevertheless, in order to correct fraudulent International Money transfers and establish consequent fines, cases where foreign patients are involved should be investigated [162].

A case that concerns transparency and patients being misled involves a fraudulent website called 'Health-tourism.com', which was claimed to be 'a guide for medical tourism, bringing you reliable, objective and useful information that will help you plan your medical travel' [163]. It was a false self-created medical tourism transparency award, which was created to guide patient through websites of medical tourism providers that meet 'the criteria'. The discovery of such fraudulent act indicated that transparency in medical tourism and cross-border healthcare is at risk and there might be more than only this misleading website that may affect people health by falsely promoting certain services. This, however, is a clear message for medical tourists and cross-border healthcare seekers who are using the web to research healthcare services to look extra carefully before they leap [163].

EHFCN back in 2009 suggested having bilateral agreements between competent authorities of EU Member States that would help in investigating cross-border fraud cases. Further, various publications suggest developing a separate EU central coordinating institution that deals with information exchange related to fraud and corruption in cross-border healthcare and a better inter-sectoral cooperation as another anti-fraud measure [146, 147, 152]. OLAF adds that European justice and integration is necessary – a body that would not only prevent, but also investigate and prosecute cross-border frauds, for

which various EU Member States need to be in a direct contact and support each other in eliminating the blind spots of cross-border healthcare fraud on the EU map [147]. This may be helpful, but in many cases healthcare fraud is never brought to justice and people engaging in fraudulent behaviour are only requested to return the illegally obtained gains. Furthermore, due to the vast number of parties involved in the healthcare sector and the subsequent potential complexity of fraud schemes, fraud detectors should be professionals already working in healthcare who would carry out investigations into bills, patient notes and medication receipts [152]. This approach would lead us to a powerful, well-resourced counter fraud infrastructure that entails a 2-pronged approach: by being proactive and seeking the fraud and by investigating and prosecuting major frauds [164].

All in all, EHFCN suggests 5 guiding principles to fight cross-border healthcare fraud: sharing anti-fraud information between all competent authorities, data consolidation and real time data analysis, pre-payment reviews and audits, fraudulent healthcare providers should be accordingly sanctioned and investment in innovative fraud prevention/detection programs [22, 36]. However, it is necessary to collect and review what cross-border healthcare fraud measures have already been implemented within the EU. An example of the suggested bilateral shows France and Belgium where they agreed on exchange of personal data cases of suspected fraud in healthcare [146]. Another anti-fraud measure in Belgium (see the box below) involves healthcare professionals carrying out judicial checks on providers' behaviour, with citizens being assigned a single 'unique bar code' so as to render the task of detecting fraud [152].

Box 6: Case of information control and evaluation in Belgium

'The Belgian strategy of 'information control and evaluation' founded by Dr Bernard Hepp involves healthcare professionals carrying out judicial checks on providers' behaviour with citizens being assigned a single 'unique bar code' for all social security benefits so as to render the task of detecting fraud feasible' [152].

As of 2015, the Netherlands has implemented a healthcare fraud mitigation strategy that concerns illicit billing (up-coding, billing for non-provided care). Even though it is a single country approach it also helps in detecting cross-border fraud between the Netherlands and any other EU Member State. All nine health insurers in the Netherlands have invested in manpower and expertise to better detect fraud. Furthermore, the Netherlands Care Authority (NZa) has investigated the prevalence and the extent of healthcare fraud. The NZa also monitors whether the health insurers provide enough effort to ensure correct billing by healthcare providers and patients. All in all, this has resulted in increased awareness of fraud, some cases of fraud detection and 'naming and shaming' of healthcare providers engaging in fraudulent behaviour that hopefully will deter other providers from engaging in the same behaviour. The increased attention being paid to healthcare fraud has also resulted in an increase in the amount of fraud being detected. Besides the Dutch national strategy, as of 2017 the Netherlands, Belgium and Luxembourg (Benelux) established an expert group to identify the fraud, provide solutions to combat it and create a joint information system. State Secretary of the Netherlands calls it 'crucial' to tackle the cross-border fraud together aiming for a clampdown of fraud and improper use in healthcare [144].

In 2005, the EHFCN was established to combat healthcare fraud and corruption. At the moment, it is the main institution within the EU in this area and a network that helps improving European healthcare systems by reducing losses of fraud. One of their achievements is the participation in developing 'The Performant health fraud hub'. It is an initiative to connect health insurers and health organisations across different countries providing contacts, techniques and high risk entity information to prevent fraud [36]. Furthermore, the EHFCN has developed a 'risk matrix', which is a 'tool to assess and identify the most important obstacles that organisations are likely to encounter in their work of prevention, detection and sanctioning of fraud in a cross-border context' [161]. These are various areas and aspects of healthcare, which are classified among 4 risk categories related to fraud occurrence: critical, high, moderate and low [36]. After the

'risk matrix', the EHFCN has come up with a 'waste typology matrix' – a tool to define and describe various types of healthcare fraud. This tool aims to overcome the fraud related terminology that differs across the EU and to unify the terminology used for a better inter-country comparison [22].

Cross-border fraud within the EU is being further addressed by the national contact points that in 2011 were introduced by the Decision H5 of Administrative Commission for the Coordination of Social Security Systems (AC). The purpose of the national contact points in each EU Member State (N.B. not to be confused with the National Contact Points established under Article 6 of Directive 2011/24/EU) is to facilitate the exchange of information between competent authorities and institutions concerning the risks of cross-border healthcare fraud. Since these antennae did not function properly, Belgium and the Netherlands in 2012 launched a project entitled 'H5NCP'. It aimed to improve and stimulate the work and cooperation among the NCPs. It resulted in an electronic platform where all national contact points can exchange information, which improves communication among them and other involved stakeholders. However, no personal information can be shared on this platform. Further, the project developed clear guidelines that give national contact points and other stakeholders a common understanding of the former's role and tasks [165, 166]. Another step towards fraud reduction is supported by OLAF's encouragement for various EU Member State authorities to send and share information of complex cross-border cases where OLAF could help [160].

Attempts to combat cross-border healthcare fraud on a broader scale involve the development of Global Health Care Anti-Fraud Network (GHCAN), which promotes partnerships and communications between international organisations and aims to minimise and eliminate healthcare fraud globally. Among the main activities of GHCAN is to raise the awareness about healthcare fraud that knows no borders. Once fraud patterns are identified, then they are easier detect and successful practices as well as information on fraud can then be disseminated among the different countries [158]. Furthermore, the anti-cancer fund is 'quack busting' and detecting the fraudsters who seek to abuse vulnerable cancer patients seeking for 'miracle cures'. They have detected a group of individuals in Europe selling false cure of cancer called GcMAF (Gc protein-derived macrophage activating factor). The anti-cancer fund worked on disseminating information and actively informing the responsible authorities about the detected fraud [167].

With respect to future developments in addressing the cross-border healthcare fraud, the EHFCN, in a recently published a book in 2017 'Healthcare fraud, corruption and waste in Europe' proposes to monitor and map closely the potential for cross-border fraud. Further, the EHFCN is planning to expand their network aiming for a better communication on the EU level and a more effective fight against cross-border fraud. The 'waste typology matrix' will be further promoted to use by all EU Member States to achieve a uniform reporting and understanding of cross-border healthcare fraud. Overall, good governance is a key requirement for a well-functioning healthcare system and future improvements to prevent and detect fraud. The future aim of preventing the healthcare fraud is also to continue raising the awareness of cross-border fraud, the cooperation between the different institutions and countries, modernising information exchange and improving transparency of health services that involve patients as key stakeholders [22].

8 PaSQ take-up evaluation

In order to answer the research questions listed under section 1.1, a conceptual framework was developed.

A project overview (see Annex VII) provides the essential basic information on PaSQ. Within the four core work packages (WP4-7) six main 'activities and mechanisms' were identified:

- Patient Safety Practices (PSP): PSP were collected from participating partners and presented on the interactive web tool after undergoing rounds of quality control (see Wiki), where they were classified as (potentially) safe, not proven effective, not evaluated or not implemented.
- Good Organisational Practices (GOP): GOP are practices (plans, strategies, or programmes) that are aimed at improving healthcare, including patient safety and involvement at the national or regional levels. They should reflect principles of good quality management in healthcare. GOP were also collected in the Wiki (see above) after a validation process.
- PaSQ network: European Network of National Networks. It had been the long-term aim of PaSQ to establish a permanent network.
- Implementation projects: four Safe Clinical Practices were selected (WHO Surgical Safety Checklist, medication reconciliation, multimodal intervention to increase hand hygiene and Paediatric Early Warning Scores); Member States were asked to choose one to four practices for implementation.
- Exchange Events: defined as a 'mechanism for sharing, learning and exchanging information, knowledge, skills and experiences related to Patient Safety Practices and Good Organisational Practices' (e.g. meetings, workshops, webinars, study tours and databases).
- PaSQ online Wiki and website: the website was designed to be the central platform for the dissemination of PaSQ-related information among partners and interested parties. The online 'Wiki' provided the link to the database where projects related to patient safety (GCP, GOP see below) were listed.

Based on those 'mechanisms and activities', we aim to summarise the magnitude of take up of PaSQ. In addition, we will gather information on enabling factors, challenges and lessons learned. Based on these results of thebase on these research findings future options will be derived.

The magnitude of take-up will be analysed by investigating the following:

a. Output generated during PaSQ at national/regional/local levels

This will be identified by means of the available documents, which were generated throughout the project itself (referred to as PaSQ reporting throughout the report). Since PaSQ set up a concomitant formative evaluation, which included various surveys, those results will be taken into consideration.

b. Take-up after PaSQ at the national/regional/local level

Based on the findings of the desk-based research on PaSQ reporting, a survey of PaSQ-related National Contact Points was conducted with the aim of identifying take-up of PaSQ after completion of the project.

Table 51 provides examples of assessment criteria for defining the magnitude of output and take-up.

Future options
Building on the findings, options for stakeholders at the EU, national, regional and local level were drafted.

During the drafting, the time-dependency of the options and stakeholder needs will be taken into account. The options will be based on the findings of the study and input from the study's stakeholder panel.

It should be noted that in the past a variety of measures with similar strategic priorities regarding patient safety were conducted at various levels. It is very difficult to attribute effects in the field of patient safety specifically to PaSQ.

Table 51: Examples of assessment criteria for the PaSQ evaluation (output and take-up)

	Output and take-up measures
Patient Safety Good Clinical Practices	• Online Wiki listing practices: classification of transferability, HCAI • Exchange Events • Reports • Number of PSP entered into the PaSQ Wiki • Number of GOP entered into the Wiki during PaSQ • Number of projects related to HCAI and AMR that were entered into the PaSQ database • Number of national/regional/local patient safety strategies developed during the duration of PaSQ or after the completion of the project
Patient Safety Initiatives Implementation	• Number of implementation projects (WP5 of the Joint Action), categorised by national/regional/local level, that were initiated during PaSQ • Number of implementation projects that ended due to the end of PaSQ, categorised by national/regional/local level • Number of implementation projects (WP5 of the Joint Action), categorised by national/regional/local level, that are being continued after the completion of PaSQ • Number of national/regional/local networks that were established during PaSQ • Number of tools from the PaSQ-generated toolbox that were used during the project • Download frequency of tools • Number of tools that were downloaded after the project ended • Number of implementation projects (WP5 of the Joint Action), categorised by national/regional/local level, that are being continued after the completion of PaSQ

Source: GÖ-FP

8.1 Exchange Events

8.1.1 Summary of project-related reporting

During the run time of PaSQ (April 2012 to March 2016), 38 Exchange Events were organised by 18 PaSQ partners [28]. As described previously, the organisation of exchange events was one of the main mechanisms of PaSQ, which was established to facilitate the exchange of expertise that was gathered by means of the project. It was obligatory for an event to involve at least two PaSQ partners from two different Member States and address at least one GOP/PSP, which was entered into the online Wikipedia.

Table 52: Type of Exchange Events conducted during PaSQ

Type of EM	No Exchange Events
Information and discussion meetings	17
Workshop	7
Webinar	6
Study tour	5
Collaboration	3

Source: [48]

Table 53: Topics that Exchange Events dealt with during PaSQ

Type of EM	No Exchange Events
Accreditation	6
Patient safety system	6
Reporting and learning systems	3
Infection control/prevention of surgical site infections	2
Quality improvement project	2
Medication/IV fluids	2
Programme on quality and safety	2
Quality indicators	3
Hand hygiene	1
Diagnostics	1
Patient safety culture/patient safety climate	1
Violence against healthcare professionals	1
Communication	1
Clinical risk management	1
Clinical guidelines or pathways	1
Incident reporting and learning systems	1
Implementation of patient safety initiatives/activities	1
Audit system	1
Patient falls	1
Early warning	1

Source: [28, 48]

Between July 2013 and December 2014, 34 Exchange Events took place, in which around 1409 persons participated. No further information on attending people (i.e. junior, mid, senior level) could be identified to present it here. Those were analysed and evaluated throughout the project. In total, the evaluation was based on the responses of 176 participants (12 % of all participants). 89 % of respondents stated that they either strongly agreed or agreed that they were satisfied with the overall quality of the event. 77 % declared that their knowledge of *Quality and Safety Improvement* had improved (4 or 5 on a 5-point scale) and 80 % were satisfied with the networking possibilities [48].

Almost all of the events that had been scheduled to take place throughout the project actually took place (34 of 35). Only one partner institution, which would have had a dedicated budget to promote such events, did not host one. No institution without a budget hosted an event. In terms of participation, only 61 % of partners with a budget to promote the participation of healthcare professionals in Exchange Events actually made use of it (19 of 31) [44].

8.1.2 Survey results

Related question(s): Q6

The aim of correlating survey questions was to establish whether exchange events that were initiated during PaSQ were continued or institutionalised after the completion of PaSQ. 3 participants, 2 of which had not been involved, were unable to answer the question.

Table 54: Continuation of exchange events after PaSQ (Q6)

Yes	3 respondents state that PaSQ inspired them to establish further events on related topics *'…there were a lot of conference and discussion about infection control take place after the completion of PaSQ - discussion and reports meeting in different forms'; 'spreading the results from the project, mission many institution (Medical audit, BDA and others)'* *'plans to organize national conference on Patient Safety once per year last in 2016'* *'In … we have organised an exchange event on professional's resistance to quality improvement (including safety aspects) and this has been continued by encouraging the implementation of the curriculum on patient safety in multi professional undergraduates in … Medical Schools.'*

No	9 participants stated '*no*', but 4 of them explicitly referred to other aspects of PaSQ (e.g. safe clinical practices, good organisational practices and surgical checklists) that were being continued. 2 respondents stated that they had already had exchange events before PaSQ, which they continued during and after PaSQ. *'had regular 5 patient safety forums per year before PaSQ, continued them'* *'We have had national meetings and events before PaSQ and we are still having these meetings. There has been no change since the PaSQ Project ended.'*

Source: FÖ FP

8.2 PaSQ Wiki and PaSQ website

8.2.1 Summary of project-related reporting

As part of the project-related communication activities, a website was developed during PaSQ, namely www.pasq.eu. It was designed to be the central platform for the dissemination of PaSQ-related information among partners and interested parties [28, 44].

One of its central components for the presentation of relevant information and material was its online 'Wiki'. That Wiki provided the link to the database, where patient safety-related projects from all participating Member States were listed (WP4 & WP6). Furthermore, it included a calendar listing the Exchange Events that were conducted as part of PaSQ. Healthcare institutions in charge of the implementation of safe clinical practices could retrieve information about the various safe clinical practices that were selected (WP5) [28].

The maintenance of the PaSQ database for reporting Good Organisational Practices and Patient Safety Practices was listed as an objective in the proposal for a permanent network, which was developed during the project as a means for mutual learning. The aim for the Wiki was to be sustained after the completion of PaSQ as part of a permanent network.

Figure 24: Screenshot of PaSQ Wikipedia (www.pasq.eu)

Source: [28]

Due to the set-up of the PaSQ project, it was necessary for participating institutions that had a dedicated budget for the implementation of safe clinical practices and were holding exchange events to actively make use of the PaSQ website and especially the PaSQ Wiki.

Between 1 October 2012 and 31 March 2016, the PaSQ website attracted 44,506 new users. Most new users were from Spain (with 11,033 new users), ahead of Croatia and the United Kingdom, as shown in Table 55. That reflects the fact that Spain engaged very actively in the PaSQ project during various activities.

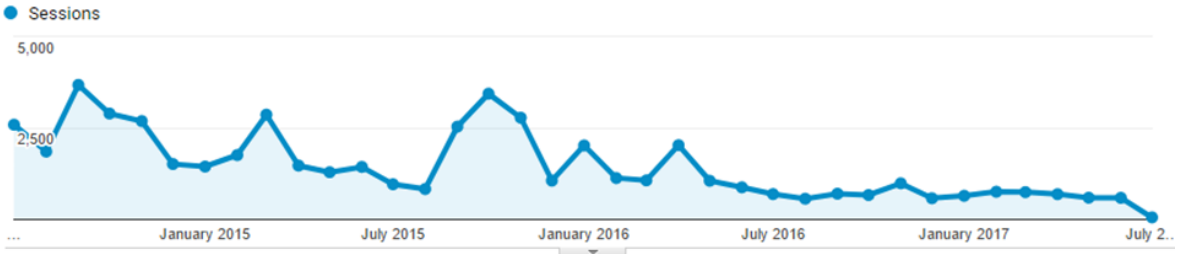
Table 55: Access statistics for the PaSQ website www.pasq.eu

Country	Sessions	% new sessions	New users	Bounce rate[1]
Spain	19528	56.50 %	11033	34.55 %
Croatia	11917	48.42 %	5770	37.89 %
United Kingdom	6780	82.36 %	5584	53.61 %
Italy	4643	45.85 %	2129	33.06 %
Belgium	4462	46.06 %	2055	34.45 %
Germany	4314	58.04 %	2504	41.03 %
United States	3956	93.55 %	3701	66.63 %
Ireland	3098	53.74 %	1665	29.41 %
Denmark	2667	46.68 %	1245	32.92 %
France	2100	68.10 %	1430	43.76 %
Slovakia	1787	25.63 %	458	23.06 %
Netherlands	1754	59.92 %	1051	34.78 %
Austria	1373	48.14 %	661	35.11 %
Hungary	1139	47.59 %	542	39.68 %
Finland	969	54.80 %	531	34.78 %
Romania	928	36.10 %	335	36.42 %
Portugal	866	75.98 %	658	42.49 %
Canada	834	81.29 %	678	57.91 %
Norway	808	49.26 %	398	41.71 %
Australia	656	89.02 %	584	58.99 %
Poland	632	36.08 %	228	51.42 %
Latvia	594	30.13 %	179	28.62 %
Greece	539	44.90 %	242	30.61 %
India	505	89.11 %	450	76.04 %

Source: personal communication with WP2 lead, based on [28]

Since April 2016, when the PaSQ project was finally completed, 8643 new users visited the website. Table 55 shows that bounce rates[24] rose and the number of visitors continuously sank. Figure 25 also illustrates the declining number of sessions.

Figure 25: Sessions on the PaSQ website (2015-17)



Source: personal communication with WP2 lead, based on [28]

8.2.2 Survey results

Related questions: Q15, Q16, Q17

The aim of correlating survey questions was to establish whether National Contact Points thought that a web-based Wiki was useful for the exchange of information at the various levels and whether it should be maintained and promoted in the future.

The usefulness of the PaSQ Wiki was considered to be highest (but still modest, see Table 56) at the national and at the local level of the healthcare providers. The greatest uncertainty remained at the regional level (almost 40 % of the respondents did not know).

[24] Bounce rate is the percentage of visitors to a particular website who navigate away from the site after viewing only one page

Table 56: Usefulness of the PaSQ Wiki (Q15)

Do you believe that the PaSQ web-based Wiki was useful for the exchange of information on the topic of patient safety in general in your country? Please rate how useful it was.	(fairly) high	(fairly) low	none	don´t know
at the national level (n=16)	9(56 %)	4(25 %)	1(6 %)	2(13 %)
at the regional level (n=13)	4(31 %)	2(16 %)	2(16 %)	5(38 %)
at the level of the healthcare providers (n=15)	8(54 %)	2(13 %)	1(7 %)	4(27 %)

Source: GÖ FP

According to the survey results (n=16), 56 % of the responding National Contact Points accessed the PaSQ website more often than once a week and 19 % did so more often than once a month during PaSQ. Those high access rates dropped considerably after completion of the PaSQ project (see Table 57).

Table 57: PaSQ website access (Q17)

	> once a week	> once a month	> once a year	never	don't know
During PaSQ (n=16)	9(56 %)	3(19 %)	1(6 %)	2(13 %)	1(6 %)
After PaSQ (n=16)	0(0 %)	7(44 %)	31 %	3(19 %)	1(6 %)

Source: GÖ FP

Endorsement of the need for a (similar) Wiki in the future was unequivocally high (at the national/local level). A total of 87 % and 75 % of respondents rated the added value that it would offer in the future as (rather) high.

Table 58: Future value of infrastructure (Q16)

Do you believe that a similar Wiki, listing Patient Safety Practices/Good Organisational Practices, would offer added value in the future?	(fairly) high	(fairly) low	None	don't know
at the national level (n=16)	14(87 %)	2(13 %)	0(0 %)	0(0 %)
at the regional level (n=14)	8(57 %)	3(21 %)	1(7 %)	2(14 %)
at the level of the healthcare providers (n=16)	12(75 %)	4(25 %)	0(0 %)	0(0 %)

Source: GÖ FP

8.3 Patient Safety Good Clinical Practices and Good Organisational Practices

8.3.1 Summary of project-related reporting

During PaSQ, 'European Patient Safety Practices' at the clinical level and 'European Good Organisational Practices' at the European, national or regional level were collected. Results were fed into the online database, which could be accessed via the online PaSQ Wiki.

Patient Safety Practices at the local, clinical level

Currently (August 2017) the database contains 508 entries listing Patient Safety Practices (PSP). Of those, 314 are defined as clinical practices – where patients are directly affected – and 194 are classified as Clinical Risk Management Practices – where patients are indirectly affected. Most PSP were reported by Italy (36 %), Spain (32 %), Croatia (6 %), Denmark (5 %) and Germany (4 %). No practices were reported by Cyprus, the Czech Republic, Estonia, Greece, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Slovenia or Sweden [28].

In terms of topics, the clinical practices most frequently concerned communication (24 %), medication/IV fluids (18 %), patient identification (17 %), surgical/invasive procedures (15 %), infection control/prevention of surgical site infections (15 %) and documentation (15 %).[28]

The clinical risk management practices that were entered into the Wiki most often focussed on the implementation of patient safety initiatives/activities (34 %), identification of risk and harm (31 %) and analysis of risk and harm (24 %).[28]

According to PaSQ reporting, 70 PSP were considered safe and transferable, meaning that the practice has already been implemented and its effectiveness has been proven by comparing baseline and result measurements (37 Clinical Practices and 33 Clinical Risk Management Practices).[28]

Good Organisational Practices at the national/regional level

As of August 2017, 160 Good Organisational Practices (GOP) are listed in the PaSQ Wiki, which were provided by organisations from 20 European countries. The highest numbers of GOP were reported by Spain (48 %), Ireland (10 %), United Kingdom (6 %), Netherlands (4 %) and Italy (4 %), comprising 72 % of all submissions.[28]

The final WP6 report (February 2015) lists 146 GOP, of which 74 were submitted by national organisations, 48 by regional bodies and 24 by involved stakeholders.[47]

According to the final WP6 report, the topics that were most often covered in the scope of the GOP were general quality improvement projects (17 %), clinical guidelines or pathways (10 %), accreditation (10 %), patient safety systems (8 %), incident reporting and learning systems (8 %) and clinical risk management (8 %). 56.2 % of the projects were implemented at the national level, 34.2 % at the regional level and 9.6 % only at the local level [47].

The mostly frequently cited **implementation barriers** that respondents encountered during implementation of GOP were funding, budget and resource constraints and resistance to change or lack of motivation of staff. Analysis of whether certain patient safety or quality of care topics face more barriers during implementation than other topics revealed that to be the case for GOP concerning incident reporting and learning systems or patient safety systems. GOP concerning patient complaint mechanisms, peer review, audit systems or inspection were attributed the least number of implementation barriers [47].

8.3.2 Survey results

Related questions: Q1 – Q5; Q7

The aim of the survey was to analyse the impact of the exchange of expertise that PaSQ brought about. That was done by analysing the following impact dimensions:

- Impact in terms of the perception of patient safety
- Impact in terms of acceptance of the relevance of patient safety
- Impact in terms of political processes
- Impact in terms of specific decisions
- Impact in terms of its influence on common practice
- Impact in terms of specific final outcomes

The survey participants saw the main impact of the gathered expertise in terms of the (increased) perception of patient safety as a topic and the acceptance of its relevance, at the national and regional level and especially at the level of the healthcare providers. The remaining answers suggest that political processes, specific decisions and specific final outcomes were not influenced. The Wiki´s influence on common practice could be seen

as the only additional impact, but only at the level of healthcare providers (see Table 59).

Table 59: Impact of the Wiki at the national, regional and healthcare provider levels (Q1-3)

	strong & fairly strong	fairly low & low	none	don´t know
Impact at the national level regarding (n=16)				
Perception of patient safety	6(38 %)	8(50 %)	0(0 %)	2(13 %)
Acceptance of the relevance of patient safety	8(50 %)	5(31 %)	1(6 %)	2(13 %)
Political processes	6(38 %)	6(38 %)	1(6 %)	3(19 %)
Specific decisions	4(25 %)	8(50 %)	0(0 %)	4(25 %)
Influence on common practice	4(25 %)	8(50 %)	4(25 %)	3(19 %)
Specific final outcomes	2(13 %)	6(38 %)	1(6 %)	7(44 %)
Impact at the regional level regarding (n=13)				
Perception of patient safety	5(38 %)	3(23 %)	2(15 %)	3(23 %)
Acceptance of the relevance of patient safety	6(46 %)	2(15 %)	2(15 %)	3(23 %)
Political processes	3(23 %)	2(15 %)	3(23 %)	5(38 %)
Specific decisions	2(15 %)	1(8 %)	3(23 %)	7(54 %)
Influence on common practice	4(31 %)	1(8 %)	3(23 %)	5(38 %)
Specific final outcomes	3(23 %)	1(8 %)	3(23 %)	6(46 %)
Impact at the level of the healthcare providers regarding (n=16)				
Perception of patient safety	8(50 %)	5(31 %)	1(6 %)	2(13 %)
Acceptance of the relevance of patient safety	7(44 %)	6(38 %)	1(6 %)	2(13 %)
Political processes	3(19 %)	6(38 %)	1(6 %)	6(38 %)
Specific decisions	5(31 %)	5(31 %)	1(6 %)	5(31 %)
Influence on common practice	7(44 %)	5(31 %)	1(6 %)	3(19 %)
Specific final outcomes	4(25 %)	6(38 %)	1(6 %)	5(31 %)

Source: GÖ FP

When asked to specify the **impact at the national level**, the survey participants mentioned some aspects that could be grouped into the following four impact areas (for details, see Table 60):

Influence on
- the development of national health strategies and prioritisation of topics
- legislation (after PaSQ)
- national networks
- information transfer.

Other participants rated the impact as low because of an absence (e.g. there is not yet a patient safety strategy) or, on the contrary, due to pre-existing work (before PaSQ; e.g. pre-existing national legislation and initiatives or pre-existing expertise). One participant stated that the impact was hard to assess because of having only a personal viewpoint and the project having ended one and a half years ago.

Table 60: Impact at the national, regional and local level

Impact at the national level	In detail:
Influence on the development of national health strategies and prioritisation of topics	• Knowledge from the practices had been considered in the development of national strategies • Knowledge from the practices had been considered when topics and priorities for further work were defined • Recognition of potential opportunities to improve patient safety and quality of healthcare at the national level • Patient safety recognised as a priority within the general national health policy • Patient safety issue became the focus of new healthcare strategies
Influence on legislation (after PaSQ)	• Introduction of a National Observatory on patient safety • Ongoing work on legislation on patient safety and quality
Influence on national networks	• National patient safety network of MoH, universities, patient organisations, healthcare providers and other national stakeholders has been developed parallel to PaSQ
Influence on information transfer	• Linking of information via website, online communication to hospitals and talks • Forwarding of information about PaSQ-related activities to the decision-makers and healthcare providers • Alignment of the pre-existing database with the PaSQ Wiki

Source: GÖ FP

When asked to specify the **impact at the regional level**, the survey participants mentioned only 3 aspects as having a potential impact (Table 18).

Table 61: Impact at the regional level

Impact at the regional level in detail:
• information about the PaSQ practices had been received at the regional level with interest (but impact on decisions unknown) • involvement of regions in the collection and exchange of safe practices led to raised awareness about the role of the safe practices in improving patient safety • impact on researchers and clinicians at the regional level (but probably not as a direct effort or work with the PaSQ system)

Source: GÖ FP

One participant stated the insufficient involvement of stakeholders, healthcare professional associations and health insurance funds at the regional level as a barrier to regional impact. 3 participants stated that the question was not applicable (small countries without a 'regional level' or a centralised health system). One participant stated that the impact was difficult for her/him to assess.

When asked to specify the **impact at the level of the healthcare providers**, the survey participants mentioned some aspects that could be grouped into the following four impact areas: perception, engagement and involvement, communication and continuing education (for details, see Table 62)

Table 62: Impact at the level of healthcare providers

Impact at the level of healthcare providers	In detail:
Perception	• Recognition of potential opportunities to improve patient safety and quality of healthcare at the clinical level • Healthcare providers increased the perception of the importance of reporting Patient Safety Practices to be shared at the international level
Engagement and involvement	• High engagement from healthcare providers to take part in the Network • Involvement of healthcare professionals in the development and implementation of GOP (increased acceptance)
Communication	• Information had been linked to hospitals via website, online communication and face to face talks • Comprehensive strategy (meetings, letters, e-mail, workshops, phone calls, reports)
Continuing education	• Patient safety issues have been presented to healthcare professionals mainly using national accreditation programmes as platform for information transfer.

Source: GÖ FP

Other survey participants stated pre-existing national programmes or initiatives or a pre-existing high perception of patient safety at all levels as reasons for the limited or absent impact of PaSQ. One respondent stated that PaSQ had not been intended to increase the perception of patient safety. Others stated that the impact was not known, because it had never been assessed or that they personally did not know the potential impact (the question should be addressed to healthcare providers).

According to the survey participants, the following patient safety topics profited most from the expertise gathered through the **Patient Safety Practices** listed in the Wiki

- Surgical/safe surgery checklist (n=6)
- Hand hygiene (n=4)
- Medical errors/reporting and learning systems (n=4)
- Medication reconciliation (n=3)
- Healthcare-associated /nosocomial infections (n=3)
- Patient safety culture (n=3)

A total of 20 other topics were mentioned by a single participant only (fall or pressure injuries, PEW, quality improvement or indicators, mechanical restraint in psychiatry, education and training, implementation of patient safety initiatives and activities, accreditation system, patient handbook, training, patient control, national antimicrobial susceptibility, patient safety in fertilisation or radiotherapy or in foods and others, transfusion supervision in microbiology laboratories, dental care, pharmacovigilance, new terminology).

However, participants qualified their arguments, noting that

- the impact of parallel initiatives (e.g. PaSQ and WHO) cannot be measured separately
- the question might be answered differently by different individuals
- the National Contact Point should manage the project and is therefore not necessarily the content expert on the various PSP and GOP

One distinct barrier was identified by a survey participant:

- *The PSP listed on the Wiki have not been thoroughly examined and considered for adoption in local healthcare settings due to the language barrier.*

2 participants stated that they were not able to answer the question (answer not known by the collaborating partner or not known due to non-involvement). One participant

answered the question of which patient safety topics profited most from the gathered Patient Safety Practices with 'none' (while one participant listed 20 (!) different topics).

When asked to list the patient safety topics that profited most from the **Good Organisational Practices** listed in the Wiki, the answers differed more than above. The only topic listed by more than 2 respondents was 'reporting and learning systems' (n=5). 2 participants each mentioned 'audits/visits' and 'accreditation'. Patient surveys and tools to evaluate patient safety and 'reporting patient safety incidents/medical errors' were topics at least mentioned by 2 participants. All other topics were only mentioned once (integrated care; quality management system, patient empowerment, leadership, patient safety culture, HAI, hand hygiene, surgical checklists, ICPS, system patient identification, stakeholder engagement, medication reconciliation, professional skills, human factor in work, transfer intervention, patient safety culture, falls in patients and training).

As above, 2 participants stated that they were not able to answer the question (answer not known by the collaborating partner or not known due to non-involvement). One participant answered the question of which patient safety topics profited most from the organisational practices gathered with 'none', because 'the Wiki was not known nor used'.

When asked which **(additional) expertise** the Wiki had provided, 63 % stated that the country had gathered new expertise in general and 56 % that additional expertise had been provided on the topic of HAI (19 % disagreed, 19 % and 25 % respectively did not know). However, 81 % also agreed that information on patient safety was also obtained from other sources (6 % disagreed, 13 % did not know). All respondents agreed that there is a **need for the sharing of expertise** on patient safety and quality of care at the national level and the local level of the healthcare providers (87 % agreement on the regional level, because the remaining participants did not know).

Table 63: Additional expertise gained via the Wiki and further need for sharing expertise (Q7)

n=16	Strongly agree/agree	Rather disagree/disagree	Don't know
My country gathered new expertise via the Wiki platform.	10 (63 %)	3(19 %)	3(19 %)
My country gathers information on patient safety expertise through other sources than the Wiki.	13(81 %)	1(6 %)	2(13 %)
The PaSQ Wiki offered additional expertise in regard to the topic of Healthcare-Associated Infections.	9(56 %)	3 (19 %)	4(25 %)
There is need for the sharing of expertise on patient safety and quality of care at the national level	16(100 %)	0(0 %)	0(0 %)
There is need for the sharing of expertise on patient safety and quality of care at the regional level	14(87 %)	0(0 %)	2(13 %)
There is need for the sharing of expertise on patient safety and quality of care at the local level of the healthcare providers	16(100 %)	0(0 %)	0(0 %)

Source: GÖ FP

8.4 PaSQ network

8.4.1 Summary of project-related reporting

Establishing a permanent network for patient safety and quality of care was the main long-term aim of PaSQ. That collaboration should include EU Member States, international organisations and EU stakeholders. At the Member State level it should include representatives from national, regional and local levels.

PaSQ National Contact Points were asked to act as the link to responsible national stakeholders, such as healthcare professionals, central/regional/local administrations and patient representatives.

PaSQ's Network Sustainability Report describes the PaSQ Network as a European Network of National Networks. The overall establishment of a network was supposed to be achieved by means of the cumulative effect of all measures, mechanisms and activities that were conducted during PaSQ.

Currently the PaSQ website lists 29 National Contact Points in all EU member states and Norway. Furthermore 11 European stakeholders and 4 international organisations were involved [28]. Annex VII gives an overview of all the institutions involved. 220 healthcare institutions were involved in the project through participation in the WP5 implementation of Safe Clinical Practices and around 1400 persons participated in the Exchange Events.

During PaSQ, three national PaSQ networks were described and analysed as examples (see Table 64) in order to identify general mechanisms, drivers and barriers for such collaboration. The three chosen networks were Denmark, Slovakia and Spain due to their extensive number of representatives on the PaSQ contact list (PaSQ's e-mail distribution list) [43].

Table 64: Description of the networks of three countries during PaSQ (including drivers and barriers)

Country examples	Summary of experience
Denmark	Due to its experience in stakeholder engagement, Demark appointed the Danish Society for Patient Safety to act as a PaSQ National Contact Point. Public authorities (Ministry of Health and Prevention, Danish Regions and local governments, the National Health and Medicines Authority, the National Agency for Patients' Rights and Complaints, the Danish Healthcare Quality Programme, the Secretariat for the Danish National Healthcare Databases and the Danish Society for Patient Safety) were involved as part of the Coordination Committee. Further stakeholders, such as researchers and risk managers, were recruited to join the e-mail distribution list, which provided information about related information and activities. The Coordination Committee convened twice a year. The Ministry of Health chaired the meeting and had the final say on decisions. The Network was also used for other general patient safety activities that needed to be coordinated e.g. the EU Patient Safety and Quality of Care Working Group. Denmark concluded that it is of 'utmost importance to have contact and dialogue with national stakeholders'.
Slovakia	In Slovakia the Ministry of Health of the Slovak Republic acted as the National Contact Point and the Healthcare Surveillance Authority acted as the Associated Partner. The greater Slovakian Network consists of representatives from the central administration, local/regional administrations, healthcare professionals, patients, consumers, healthcare organisations, research organisations and teaching organisations. The main coordinator and organiser of the programme was the Ministry of Health in cooperation with the Healthcare Surveillance Authority and the five national coordinators of the PaSQ implementation projects. Members of the aforementioned main PaSQ team participated in the PaSQ coordination meetings and PaSQ Exchange Events etc. The main driver for the collaboration was support from the Ministry of Health and other important stakeholders in the national network. Insufficient involvement of hospital leaders, healthcare professional associations and health insurance funds and staff changes at the level of the NCP were listed as barriers. The easy accessibility of measures for the exchange of information and knowledge regarding patient safety (exchange mechanism) were seen as the main advantage of the PaSQ network. The limitation to four specific topics for safe implementation of clinical practices was seen as a disadvantage of the project.
Spain	In Spain an extensive national network dealing with patient safety has existed since 2005 following the establishment of a national patient safety strategy. The network consists of representatives from the national and regional administrations, healthcare professionals, patients, healthcare organisations, research organisations and universities. The objective was to promote collaboration in Spain's public healthcare system. The main activities were the creation of a training programme on patient safety for professionals, a national reporting and learning system, annual meetings with the regional coordinators about the deployment of the patient safety strategy, annual conferences on patient safety at the national level, information support (IT, newsletter), a website and e-rooms. In their experience, specified drivers for the successful functioning of the network were:

	• the presence of a strong national network with the participation of health regions and stakeholders • a national platform with a specific website, newsletter and blog • deployment of the national patient safety strategy at the regional level • political support at the national and regional level • the development of functional risk management units at hospitals and in primary care • the existence of professional networks for specific projects on implementation of safe clinical practices • identification and measurement of processes, output and outcome indicators at the national level • the existence of a specific budget Specified barriers were: • lack of budget (since 2011 in Spain) • scarce participation of professionals • lack of participation of patients • lack of leadership at various levels • lack of patient safety culture It is noted that the main advantage of the network was having a structure to strengthen the collaboration in Spain's national health system on issues related to patient safety. The downside was that the coordination of the network required a lot of work and resources.

Source: [43]

Drivers and barriers for networks were already assessed during PaSQ. The network sustainability final report provides an overview of general drivers and barriers. A survey of all involved partners (n=60) was conducted (42 responded) [43] (see Table 65).

Table 65: Drivers and barriers for a sustainable network

Drivers	Barriers
General statement in the final network sustainability report:	
• History of collaboration among Member States and stakeholders • Effective, continuous and committed leadership • Membership diversity • Collaborative steering committee representing different professions • Resource diversity (multiple funding resources) • Sustainability plans • Community buy-in • Patients/citizens participation in the coalition	• Loose organisation of coalition with voluntary participation, different goals and interests • Lack of funding • Unclear roles and responsibilities in the coalition • Turf battles • Leader turnover • Shifting priorities
Results of survey of involved partners during PaSQ (42 respondents); most frequently selected:	
• Policy support (71 %) • Resources (62 %) • Involvement of professionals (60 %) • Selected knowledge sharing (57 %) • Country networks (42 %) • Leadership (40 %) • Involvement of patients (26 %)	• Resources (86 %), • Policy support (52 %) • Communication/information transfer to clinical levels (52 %)

Source: [43]

Another PaSQ survey with answers from 21 NCPs and 4 EU stakeholders showed that patient empowerment/involvement, reporting and learning systems, medication safety and safety practices in general were listed as high-priority patient safety issues. In terms of **adequate tools** to address those issues between Member States, face-to-face interaction (14/25) and web-based tools (8/24) were selected most frequently. Regarding the role of the European Commission, the respondents indicated that they believe it should take on a coordination/leadership role and should facilitate the sharing of good practices and the further development of exchange mechanisms [43].

When asked about **necessary steps** that need to be undertaken at the country level in order to support a sustainable network, measures for Member States and EU stakeholders were suggested (see Table 66).

Table 66: Suggested necessary steps to be undertaken at the country level in order to support a sustainable network

Measures for Member States	Measures for EU stakeholders
At the strategic level, the report states that policy support needs to be ensured, resources need to be made available, relevant national stakeholders need to be included, results need to be disseminated adequately and support between stakeholders needs to be established. At the operational level, further measures were stated: the development of policies and regulations, strategies for patient safety and quality of care, incident reporting and learning systems, patient safety measures and standards; networking in the field of patient safety; the establishment of information sharing and knowledge transfer mechanisms, training courses, conferences, the implementation of selected good practices in clinical settings, the involvement of all stakeholders.	At the strategic level, the report states that the impact of the proposed collaboration needs to be analysed in order to determine its value, necessary resources need to be identified, advocacy with Member States needs to be conducted and information needs to be disseminated to their respective networks. At the operational level, EU stakeholders need to engage with their member associations at the national levels and, furthermore, they should provide the collective expertise of their large and diverse networks. It is noted that an international network on patient safety is favoured over the establishment of compulsory regulation by the European Commission. European cooperation, however, is seen as an important driver to make countries take action to implement patient safety and quality of care initiatives

Source: [43]

During a survey of all PaSQ partners, the respondents were asked whether the involved country, institutions or organisations they represent would support a proposal to develop a sustainable permanent collaboration for implementing the Council recommendation. 97.6 % (41/42) of respondents answered yes and only one institution responded no. [43]

8.4.2 Survey results

Related questions: Q8-Q10

88 % of the respondents agreed that PaSQ strengthened cooperation in relation to patient safety between EU Member States, international organisations and EU stakeholders (none said no, 12 % did not know).

When asked to specify the cooperation, the answers could be grouped into four areas (for details, see Table 67):

10. Know whom to ask
11. Informal contacts/networking
12. Information exchange
13. (Different kinds of) exchange events

One respondent stated that she/he did not know, because she/he was not involved.

Table 67: How PaSQ strengthened cooperation in relation to patient safety (Q8)

Cooperation	In detail:
Know whom to ask	• direct contact with experts on PS from various countries and institutions • Wiki platform contains relevant contact details (opportunities for future collaboration) • a network (database) of 700 national stakeholders has been developed • network of responsible authorities, where questions can be asked concerning special topics • still refer to the PaSQ consortium for any initiative (project, event) we organise on patient safety (after PaSQ)
Informal contacts/networking	• on a personal basis, networking with others • personal contacts with counterparts in other countries • informal knowledge exchange • you know whom to contact and informal exchange is much easier now • informal knowledge network rather than formal and continuous cooperation (after PaSQ)
Information exchange	• information about new achievements and developments in the field of PS • meet experts and policymakers to share information and knowledge • enhanced correspondence between participants • knowledge sharing • provided examples for others to learn from • international exchange with so many partners/other organisations • without the continuation of the EU working group on patient safety, it is harder to keep up/relies on personal initiative (after PaSQ) • not established and maintained any cooperation or networking with any EU Member State after completion of the project (after PaSQ) • had already established contacts with countries ahead of us on the topic (before PaSQ)
(different kinds of) Exchange events	• face-to-face interactions • international meetings • workshops • webinars, learning, web-based tools • study tours • publications/bulletins • international conferences • participation in working groups

Source: GÖ FP

When asked if the respondent´s country (still) has **active networks** dealing with patient safety, 81 % agreed at the national, 56 % at the regional and 63 % at the healthcare provider level. Only 6 % stated that they did not have any networks dealing with patient safety (Q9, multiple answers were allowed).

The findings were mixed with respect to the question about **PaSQ´s influence on those networks**. Half of the respondents disagreed that PaSQ had helped establish networks on patient safety in the country, while 63 % agreed that PaSQ had strengthened the country´s national network on patient safety. Half of the respondents stated that PaSQ had led to an expansion of the network and 44 % agreed on the increased visibility of the country's national network (13 %-31 % of respondents did not know – see Table 68).

The high level of agreement on the need for further support of the country's national network on patient safety (88 %) seems to be in conflict with the ambiguous assessment of national activity after PaSQ (44 % agreed that the country's network was less active, while 50 % disagreed).

Table 68: PaSQ´s influence on networks (Q10)

n=16	Strongly agree/agree	Disa-gree/strongly disagree	Don't know
PaSQ helped establish networks on patient safety in my country	5(31 %)	8(50 %)	3 (19 %)
PaSQ strengthened my country´s national network on patient safety	10(63 %)	4(25 %)	2(13 %)
PaSQ increased the visibility of my country's national network on patient safety	7(44 %)	4(25 %)	5(31 %)
There is need for further support of my country's national network on patient safety	14(81 %)	3 (19 %)	0(0 %)
PaSQ led to the expansion of my country's national network on patient safety	8(50 %)	6(38 %)	2(13 %)
My country's network has been less active since the completion of PaSQ	7(44 %)	8(50 %)	1(6 %)

Source: GÖ FP

8.5 PaSQ implementation projects

8.5.1 Summary of project-related reporting

18 PaSQ Member States chose at least one of the four selected Safe Clinical Practices for implementation (see Table 69).

Table 69: PaSQ Member States and implementation of selected SCP

Country	WHO Surgical Safety Checklist	Medication reconciliation	Multimodal intervention to increase hand hygiene compliance	Paediatric Early Warning Scores
Austria	X	X		
Bulgaria	X	X	X	
Croatia	X	X		
Finland		X	X	
France	X			
Germany		X		
Greece	X			
Hungary	X	X	X	
Ireland		X	X	X
Italy	X	X	X	
Latvia	X		X	
Lithuania	X	X	X	
Netherlands		X	X	X
Norway	X			
Poland	X		X	
Slovakia	X		X	
Spain	X	X	X	X
United Kingdom				X

Source: [41]

220 healthcare institutions participated in implementation of the SCP. Of those 106 implemented medication reconciliation, 86 implemented WHO Surgical Safety Checklists, 81 implemented multimodal intervention to increase hand hygiene compliance and 35 implemented Paediatric Early Warning Scores. Participating institutions were provided toolboxes for each SCP, which could be accessed via the PaSQ website. Here they could find information about the innovator of the SCP and country of origin, a short description of the SCP and information on its implementation, a stepwise guide for implementation, information on needed resources, a summary of evidence for its effectiveness and references. In addition, webinars were held, giving professionals the opportunity to exchange related knowledge and experiences. During the course of the project, six webinars were held involving 252 experts. In order to document impacts and develop-

ments a baseline survey (September 2013) and an endline (September 2014) survey were carried out. Details regarding that analysis can be found in the respective final report of the work packages. Only aspects related to take-up are summarised here.

8.5.2 WHO Surgical Safety Checklist (WHO SSC)

8.5.2.1 Summary of project-related reporting

As stated above, 86 healthcare institutions in 13 countries implemented the WHO Surgical Safety Checklist during PaSQ. 76 healthcare coordinators participated in the baseline survey and 72 took part in the endline survey. 62 healthcare organisations were identified as having taken part in both surveys and form the basis for the analysis that took place during PaSQ.

According to the results, before starting the implementation activities 79 % of coordinators participating in the baseline survey responded that the WHO SSC had already been in use at their healthcare institutions, while 21 % stated that it had not been in use. During the final survey, all responding coordinators stated that it was in use. When focussing on the precise fields of implementation, it can be seen that 84% of the healthcare institutions that had already implemented the WHO SSC stated that this was the case for all departments. 87 % of respondents stated that they adapted the WHO SSC to their local requirements.

During the PaSQ endline survey, HCO coordinators were requested to select applicable **facilitators, success factors, challenges or barriers** that were relevant to their institutions during the implementation of surgical checklists. The answers that were most frequently selected as barriers or challenges were [41]:

- Resistance of healthcare professionals to change (69 %)
- Insufficient involvement of staff (45 %)
- Lack of patient safety culture (42 %)

The three most frequently selected success facilitators or success factors were

- Leadership support (68 %)
- Provision of adequate resources (45 %)
- Involvement of staff (42 %)

When comparing the baseline results with this PaSQ endline survey, it was also assessed whether the expectations of HCO coordinators were met. During the baseline survey 79 % indicated that they hoped that the participation in PaSQ would help improve the compliance of healthcare workers with regard to implementation of the practice at their respective healthcare institution. During the endline survey only 52 % indicated that this was achieved. Generally, it can be seen that PaSQ exceeded expectations that PaSQ would help get implementation of the practice started at HCOs and extension of the practice at healthcare institutions. However, when it comes to improving the compliance of healthcare workers and improving leadership commitment with regard to the practice, the toolboxes and the benefit of international exchange, PaSQ did not live up to expectations [41].

8.5.2.2 Survey results

Related questions: Q13a-Q13e

7 of 13 (54 %) countries that had implemented '**surgical checklists**' by means of PaSQ gave feedback on its take up. 4 stated that there were still ongoing projects in their countries (between 1-5 projects each). (2 did not know and 1 gave an implausible answer). The question on reasons for potential discontinuation of the project(s) seemed not to be applicable to the implementation of surgical checklists (no answers).

The impact on the country's corresponding policies was rated as (fairly) strong at the national (71 %, n=7), regional (60 %, n=4) and healthcare provider level (57 %, n=7).

6 of 7 respondents (86 %) rated the impact on the perception of surgical checklists and on acceptance of the relevance of the topic as strong or fairly strong. The impact on specific decisions was rated as (fairly) strong by 5 of 7 respondents (1 did not know). 4 of 7 respondents (57 %) saw a strong or fairly strong impact on political processes, common practice and on specific final outcomes (the remaining respondents saw a (fairly) low impact or did not know).

All 7 respondents (strongly) agreed, that surgical checklists were a very important topic for their country and that PaSQ had provided important information with respect to the topic. 6 of 7 respondents (86 %) stated that it was important for the EU to promote the implementation of corresponding initiatives in Member States and that their country would benefit from additional international best practise expertise in the field of surgical checklists (1 did not know). On the other hand, the majority (5 of 7) of respondents (strongly) disagreed that there was no need for the topic of surgical checklists to be promoted by the EU or that there was no discussion about the relevance of the topic in their country (1 did not know and 1 strongly agreed).

8.5.3 Medication reconciliation

8.5.3.1 Summary of project-related reporting

106 HCO in 11 countries implemented medication reconciliation during PaSQ. 115 healthcare coordinators participated in the baseline survey and 104 took part in the endline survey. 95 HCO were identified as having taken part in both surveys and form the basis for the analysis that took place during PaSQ.

30 % of respondents stated that medication reconciliation had been in use before the start of PaSQ at their respective healthcare institutions. 78 % indicated that it was in use after the completion of PaSQ. At the time of the baseline survey, only 28 % of respondents indicated that medication reconciliation had been implemented in all areas of their healthcare institutions. 23 % of respondents stated that the medication reconciliation process had been expanded to at least one further area, another type of patient group or another transition point.

With regard to the usability of the toolbox, which was offered as assistance for implementation, 40 % indicated that they made use of the START tool (screening tool to alert doctors to the right treatment) and 38 % made use of the STOPP tool (screening tool for elderly people's prescriptions), which were listed as specific tools in the toolbox.[41]

During the PaSQ endline survey, HCO coordinators were requested to select applicable facilitators, success factors, challenges or barriers that were relevant to their institutions during the implementation of medication reconciliation. The answers that were most frequently selected as barriers or challenges were [41]:

- Lack of resources (68 %)
- Resistance of healthcare professionals to change (44 %)
- Lack of patient safety culture (39 %)

The three most frequently selected success facilitators or success factors were

- Leadership support (47 %)
- Good communication and information flow within the team applying the practice (43 %)
- Involvement of staff (37 %)

The analysis of whether the expectations of the HCO coordinators were met yielded the following results: during the baseline survey 69 % indicated that they hoped that

participation in PaSQ would help to get the practice started at their healthcare organisations. A total of 57 % indicated that this was actually achieved during the course of the project. The greatest divergence between expectations and actual results concerned the hope that 'exchanging implementation experiences with other HCOs nationally and internationally will assist/assisted us in our implementation of the practice.' Here 56 % hoped that this would be achieved, while only 29 % indicated that this was the case [41].

8.5.3.2 Survey results

Related questions: Q11a-Q11e

4 of 11 (36 %) countries that had implemented 'medication reconciliation' by means of PaSQ gave feedback on its take-up. 3 stated that related projects were still ongoing in their countries. 2 respondents provided reasons for potential discontinuation of the project(s): one referred to a lack of 'evidence for good outcomes', while the other shared general experiences on barriers to implementation of recommendations ('cognitive-behavioural factors (professionals' resistance to changes) and structural (lack of technological, human and economic resources)').

In the 4 countries that implemented medication reconciliation, the impact on the country's corresponding policies was rated as (fairly) strong at the national, regional and healthcare provider levels by 3 of 4 participants (one rated it as fairly low at the national level, while another did not know at the regional and provider level).

All 4 respondents rated the impact on the perception of medication reconciliation, on acceptance of the relevance of the topic and on political processes as strong or fairly strong. The results with respect to rating of the impact on specific decisions were contradictory (2 rated it as (fairly) strong and 2 rated it as (fairly) low). Its influence on common practice was seen as slightly positive (2 rated it as fairly strong, 1 rated it as fairly low and 1 did not know), whereas the influence on specific final outcomes was viewed more pessimistically (1 rated it as 'fairly strong', 1 rated it as 'fairly low', 1 did not know and 1 even stated 'none').

All 4 respondents (strongly) agreed that medication reconciliation was a very important topic for their country, that it was important for the EU to promote the implementation of corresponding initiatives in Member States, and that PaSQ had provided important information with respect to the topic of medication reconciliation. 3 of 4 respondents (strongly) agreed that their country would benefit from additional international best practice expertise in the field of medication reconciliation (1 respondent disagreed). Wheras, 3 of 4 respondents (strongly) disagreed that there was no need for the topic of medication reconciliation to be promoted by the EU or that there was no discussion about the relevance of the topic in their country (1 respondent strongly agreed).

8.5.4 Multimodal intervention to increase hand hygiene compliance

8.5.4.1 Summary of project-related reporting

81 healthcare institutions in 11 countries implemented multimodal intervention to increase hand hygiene compliance during PaSQ. 105 healthcare coordinators participated in the baseline survey and 54 took part in the endline survey that was conducted during the project. 48 healthcare organisations were identified as having taken part in both surveys and form the basis for the analysis that took place during PaSQ.

82 % of respondents stated during the survey that this practice had been in use before the start of PaSQ at their respective healthcare institutions. 98 % indicated that it was in use after the completion of PaSQ. 23 % of respondents stated that the medication reconciliation process has been expanded to at least one further area, another type of patient group or another transition point.

During the PaSQ endline survey, HCO coordinators were requested to select applicable facilitators, success factors, challenges or barriers that were relevant to their institutions during the implementation of multimodal intervention to increase hand hygiene compliance. The answers that were most frequently selected as barriers or challenges were [41]:

- Resistance of healthcare professionals to change (63 %)
- Insufficient involvement of staff (42 %)
- Lack of patient safety culture (42 %)

The three most frequently selected success facilitators or success factors were

- Leadership support (67 %)
- Provision of training (65 %)
- Involvement of staff (54 %)

Expectations of HCO coordinators at baseline were partially met (according to this endline survey). During the baseline survey 10 % indicated that they hoped that the participation in PaSQ would help to get the practice started at their healthcare organisations. 23 % indicated that this was actually achieved. The greatest divergence between expectations and actual results concerned the hope that 'exchanging implementation experiences with other HCOs nationally and internationally will assist/assisted us in our implementation of the practice.' Here 75 % hoped that this would be achieved, but only 42 % indicated that this was the case [41].

8.5.4.2 Survey results

Related questions: Q12a-Q12e

4 of 11 (36 %) countries that had implemented '**multimodal intervention to increase hand hygiene compliance**' by means of PaSQ gave feedback on its take-up.

2 explicitly stated that the projects initiated under PaSQ were still ongoing. 1 country added that related seminars/campaigns were still ongoing. 1 did not know. Only 1 respondent provided reasons for potential discontinuation of the project(s) (general experience of barriers to implementation of recommendations; see medication reconciliation)

In the 4 countries that implemented interventions to increase hand hygiene, the impact on the country's corresponding policies was rated as (fairly) strong at the national and healthcare provider levels by 3 of 4 participants, its influence at the regional level was viewed less optimistically (2 of 3 respondents perceived a '(fairly) low' impact).

All 4 respondents rated the impact on the perception of multimodal intervention to increase hand hygiene and on acceptance of the relevance of the topic as strong or fairly strong. The results were contradictory with respect to rating of its impact on political processes, on specific decisions and its influence on common practice (2 (fairly) strong, 2 (fairly) low). Its influence on specific final outcomes was estimated slightly optimistically (2 '(fairly) strong', 1 'fairly low', 1 did not know).

All 4 respondents (strongly) agreed that multimodal intervention to increase hand hygiene was a very important topic for their country, that it was important for the EU to promote the implementation of corresponding initiatives in Member States, that PaSQ had offered important information with respect to the topic of hand hygiene and that their country would benefit from additional international best practice expertise in the field of hand hygiene. Whereas, 3 of 4 respondents (strongly) disagreed that there was no need for the topic of hand hygiene to be promoted by the EU. Half of the respondents agreed, while the other half disagreed that there was no discussion about the relevance of the topic in their country.

8.5.5 Paediatric Early Warning Scores

8.5.5.1 Summary of project-related reporting

A total of 35 healthcare institutions in 4 countries implemented multimodal intervention to increase hand hygiene compliance during PaSQ. 33 Healthcare coordinators participated in the baseline survey and 16 took part in the endline survey that was conducted during the project. 15 healthcare organisations were identified as having taken part in both surveys and form the basis for the analysis that took place during PaSQ.

Only 7 % of respondents during the survey stated that this practice had been in use before the start of PaSQ at their respective healthcare institutions. 67 % indicated that it was in use after the completion of PaSQ. During the PaSQ endline survey, HCO coordinators were requested to select applicable facilitators, success factors, challenges or barriers that were relevant to their institutions during the implementation of Paediatric Early Warning Scores. The answers that were most frequently selected as barriers or challenges were [41]:Insufficient involvement of staff (67 %)

- Resistance of healthcare professionals to change (53 %)

The three most frequently selected success facilitators or success factors were

- Leadership support (53 %)
- Involvement of staff (47 %)
- Good communication and information flow within the team applying the practice (40 %)
- Established patient safety culture (40 %)

In comparison with the baseline results, the experiences stated in this endline survey showed which expectations of HCO coordinators have or have not been met. During the baseline survey, 80 % indicated that they hoped that participation in PaSQ would help to get the practice started at their healthcare organisations. A total of 67 % indicated that this was actually achieved. The greatest divergence between expectations and actual results concerned the hope that 'exchanging implementation experiences with other HCOs nationally and internationally will assist/assisted us in our implementation of the practice.' Here 53 % hoped that this would be achieved, while 73 % indicated that this was the case [41].

8.5.5.2 Survey results

Related questions: Q14a-Q14e

1 of 4 (25 %) countries that had implemented 'Paediatric Early Warning Scores' by means of PaSQ gave feedback on its take-up.

The respondent stated that one project was still ongoing

The impact on the country's corresponding policies was rated as fairly low at the national and provider level (no answer was provided for the regional level). The same rating was given for its impact in various 'categories' (perception, acceptance, specific decisions, political processes, common practice and specific final outcomes).

The respondent agreed that Paediatric Early Warning Scores was a very important topic for his country, that it was important for the EU to promote the implementation of corresponding initiatives in Member States, that PaSQ had provided important information with regard to the topic and that his country would benefit from additional international best practice expertise in the field of Paediatric Early Warning Scores. He also agreed there was no discussion about the relevance of the topic in his country and he strongly disagreed that there was no need for the topic to be promoted by the EU.

8.6 General survey results

8.6.1 Patient safety topics

Related Questions: Q18-20

One part of the questionnaire focussed on **current prioritised patient safety topics**. 8 topics were mentioned by more than one respondent. The remaining answers could be grouped into five categories (see Table 70)

Table 70: Patient safety priorities (Q18)

Groups of further prioritised topics	In detail:
Most often stated patient safety priorities	• Medication safety/medical reconciliation (n=8) • Health-associated infections (n=7) • Reporting and learning systems (n=7) • Education and training (n=4) • Patient safety culture (n=3) • Antimicrobial resistance (AMR) (n=3) • Patient identification (n=2) • Leadership (n=2)
Groups of other prioritised topics:	
Specific topics	• Chronic diseases, hand hygiene/hygiene, identification of sepsis and response to deterioration, mechanical restraint, Surgical Safety Checklist
General considerations	• Patient safety, injuries related to diagnostic errors, patient involvement and patient-centred care, appropriate care (overuse, underuse, misuse) with focus on prescription of medicines and medical imaging exams)
Quality improvement	• Implementation of quality standards, introduce clinical quality registries, Increasing our understanding of what goes wrong in healthcare (better measures, metrics, evaluations
Organisational aspects	• Patient pathways and transitions, handover, transfer of critical patient information and safety, working environment
Safety assessment	• Introduce the licensing system for the generic safety assessment; supervision/inspection, measurement and monitoring of patient safety, patient safety data and indicators

Source: GOE FP

Survey participants were asked to state **how patient safety topics have been prioritised** and were asked to provide reasons for the prioritisation (see Table 71)

Table 71: Prioritisation mechanisms and reasons for prioritising patient safety topics (Q19)

	In detail:
Prioritisation mechanisms	• *Political/government decisions/committees (n=3)* • *Law/legal framework (e.g. law on quality; n=3)* • *(As part of) strategies/plans (e.g. National Healthcare Strategy, plan on quality and patient safety for hospitals; topic-specific: national action plan (HAI and AMR), national programme for appropriate care (overuse, underuse, misuse) with focus on prescription of medicines and medical imaging exams; n=4)* • *Projects (e.g. project funded by the EU and the government for the development of the patient safety culture (project design based on PaSQ methodology), project aimed at establishing quality indicators for the healthcare system; n=2)* • *As a priority topic of the EU presidency (chronic diseases, n=1)* • *Rated important by a leadership group (of healthcare organisations)/mapping of patient safety initiatives (n=1)*
Reasons for the prioritisation of specific topics	• For RLS/errors/harm/adverse events: *still need to focus on reporting as part of patient safety culture; diagnostic errors need to be defined and*

	specific indicators specified; medication-related harm is a global pandemic that has been documented for 60 years and continues to cause illness among patients; underestimation of numbers of adverse events (incl. caused by using medications and inappropriate patient/surgical site identification); medication safety due to safety problem (n=5) • For HAI, microbial (antibiotic) resistance and infections: *clinical importance, significant burden of disease due to HAI, largest group of healthcare-related injuries and high consumption of antibiotics, problem with the registration of infections)* (n=4)

Source: GOE FP

Survey participants were asked to name three priority fields for patient safety in their country in which best practices (still) need to be implemented (see Table 72)

Table 72: Priority fields in which best practices still need to be implemented (Q20)

	In detail:
Topics mentioned by more than one respondent	• *Medication safety/reconciliation (one participant also mentioned the use of e-health solutions in this context) (n=8)* • *Integrated/continuity of care and patient and information transfer (n=5)* • *HAI (n=3) & AMR (n=1)* • *RLS/registration of adverse events/surgical complications (n=3)* • *Safety culture (n=2)*
Remaining topics grouped into….	
Specific topics	• *Hygiene, chronic diseases, transfusion safety and patient blood management, identification of sepsis and response to deterioration*
General considerations	• *Patient-centred care, patient involvement, development of a national strategy on patient safety*
Quality improvement	• *Clinical quality registries and clinical audit, understanding of what goes wrong in healthcare*
Organisational aspects	• *Education on patient safety*

Source: GOE FP

2 respondents answered 'all' or 'more than three' without providing specific examples.

8.6.2 Obstacles encountered during the transfer of international best practices

Related question: Q 21

5 obstacles were mentioned by more than 1 respondent:

- Lack of resources
- (Lack of) communication, information and understanding
- Language barriers/(lack of) translation of tools
- Lack of political support or inappropriate political attitude
- Resistance to participation/change

The remaining obstacles were each stated by single survey participants. One respondent stated that obstacles were drawn from best practice implementation other than PaSQ (because no PaSQ-specific best practice had been implemented). Another respondent stated that the mentioned obstacles were not 'specific', but apply to all efforts to transfer safe practices from one setting to another. Only 3 respondents answered the question on how the country was able to (or tries to) overcome such obstacles (for details, see Table 73).

Table 73: Obstacles encountered in transferring international best practices (Q21)

	In detail:
Obstacles mentioned by more than one respondent	• *Lack of resources (not further specified or no examples given: economic, human, technological, time resources) (n=9) ;* • *(Lack of) communication, information and understanding (n= 5) (communication to all stakeholders, including healthcare professionals, communication transfer to clinical levels, different level of awareness regarding patient safety and maturity of patient safety culture, different level of knowledge regarding patient safety, lack of information and understanding among healthcare professionals) and (lack of) safety culture (n=1)* • *Language barriers/(lack of) translation of tools (n=4)* • *Lack of political support or inappropriate political attitude (policy support; top-down leadership and orders to work with the patient safety programme and other patient safety measures) (n=2)* • *Resistance to participation/change (find clinical leaders and management who adhere and are willing to participate; cognitive-behavioural factors (resistance of professionals to change)) (n=2)*
Remaining obstacles	• *Lack of evidence (low confidence that the best practice is truly 'best'; testing in small pilot projects before larger implementation)* • *Limited transferability of best practice examples (between countries and between settings within a country)* • *Lack of nationwide electronic systems* • *Lack of reliable data* • *Lack of patient involvement* • *Fragmented competencies*
Measures to overcome obstacles	• *Counting on policy support/getting strong political commitments* • *Counting on resources* • *Ensuring the involvement of relevant stakeholders (clinicians, patients, managers) through the establishment of national networking to engage stakeholders and clinicians and including the collective expertise of a large and diverse membership* • *Using routine data for quality initiatives also* • *Convincing the healthcare providers*

Source: GOE FP

8.6.3 Tools that could assist in transferring international best practices

Related question: Q 22

Survey participants were asked to name **tools** that could **assist** them when **transferring international best practices** to their country in the future.

Almost all respondents (n=13) suggested exchange events/mechanisms as a helpful tool and many (n=7) highlighted the necessity of information exchange in general. 7 participants pointed out that the measurement (of safety/quality, e.g. by using defined indicators) was seen as helpful. (Political) commitment, strategic communication and information/tools in the local language were named by 2-3 participants each.

4 participants stated suggestions for the continuation of PaSQ: one would welcome the funding of its continuation, while another would welcome a 'PaSQ Part III' in general. One participant would optimise the composition of sub-groups, while another proposed a 'rigid evaluation and cyclic assessment of the validity of Wiki content' (which implies the need for resources beyond those required for setting up the database) (for details, see Table 74)

Table 74: Tools that could assist in transferring international best practices (Q22)

	In detail:
Exchange events/mechanisms	• *Exchange mechanisms, face-to-face information and discussion meetings, workshops, international conferences, inter-regional workshop, expert study/exchange visits focussed on a given topic; collaboration, WEB – database and other information exchange, DEVELOPMENT EM.WIKI PLATFORM; websites, meetings, a network for exchanging practical questions with other countries; international and national network of good transferable practices (n=13)*
Exchange of information/knowledge/expertise	• *Exchange of information, knowledge and experience; best practice sharing; sharing knowledge regarding the implementation of such practices (toolboxes, methodological guidance); international expertise; good expertise of centres that apply with their safe practice; find international clinical communities that provide local experts or champions to implement new practices: very important to have an effect on clinicians; build relationship between experts, health professionals, decision-makers that is focussed on implementation in various settings (n=7)*
Safety/quality measurement	• *Indicators; measuring patient safety indicators with OECD encouraged systematic quality improvement; creating simulative measures for HCPs that successfully implement best practices undertaken in the framework of PaSQ; Nationwide Electronic Systems (e.g. for surveillance of NI), peer reviews, on-site visits, benchmarking programmes (n=7)*
Commitment	• *Strong commitment from stakeholders (initiatives at the international level can be helpful in that respect); embed best practice in national policy; active involvement of national health authorities (n=3*
Strategic Communication	• *Communication plans; nomination of the responsible institution for dissemination of the related information to healthcare providers (n=2)*
Translation	• *(Translations into national languages (2 out of 3 languages); availability of the information in my local language) (n=2)*
Suggestions for PaSQ 'continuation'	• *PART 3 – PaSQ; funding for maintenance of the network and knowledge sharing; it may be necessary to adjust how the sub-groups are structured so that the people in the groups have similar aspirations and the groups are of a comparable size. Otherwise there is a risk that the matters being discussed are too ambitious for half the group and too basic for the other half; rigid evaluation and cyclic assessment of the validity of Wiki content – that requires resources not only for maintaining the platform, but also for keeping it active, exciting and up-to-date (n=4)*

Source: GOE FP

8.7 Good practices for preventing healthcare-associated infections and antimicrobial resistance (AMR)

Of the 37 good practices (28 PSP, 6 GOP), 25 PSP and 5 GOP met the inclusion criteria and could therefore be included in the study. The majority of good practices were applied in hospitals and nursing facilities and primary care was less common. Frequently mentioned target groups were health professionals, including doctors, nurses, pharmacists and management staff, including clinical, quality and risk managers, technical support staff, patients and their relatives. None of the identified good practices were explicitly targeted at cross-border patients. However, good practices that are implemented in a specific healthcare setting and are effective in preventing the transfer of healthcare-associated infections and antimicrobial resistance do not distinguish between national patients and cross-border patients, but benefit all patients treated in that setting. Accordingly, for the purpose of this study and in order to answer research question 'g', it is assumed that 'patients' stated as the target group of a good practice include both national and cross-border patients [52].

The good practices that were included covered the topics of quality improvement (n = 11), clinical guidelines and protocols (n = 7), patient safety systems (n = 5), clinical risk management (n = 4) and quality indicators (n = 1).

Besides guidelines and protocols, good practices on information provision and control mechanisms could be identified. Good practice guidelines were either developed for a

laboratory setting or the treatment of antimicrobials in general, including stringent prescription rules and antibiotic audits. Protocols addressed antibiotic prophylaxis and hand hygiene. The use of antibiotics and antimicrobials and hand hygiene are a recurring topic in good practice guidelines and protocols. Guidelines and protocols seem to be a good starting point for the prevention of healthcare-associated infections and antimicrobial resistance. However, a comprehensive strategy that includes informing healthcare staff about the use of antibiotics and control mechanisms for the dispensing of antibiotics seems promising. In addition, continued monitoring needs to be ensured.

Antimicrobial prophylaxis

- In Spain, an antibiotic prophylaxis protocol with hospital-wide validity was developed in order to prevent surgical site infections. Antibiotics are provided 20-60 minutes before the intervention, and stopped in the first 24 hours after the intervention. A document containing the antibiotic that should be used in specific surgical interventions was posted on the hospital's intranet.
- In Italy, based on an analysis of antibiotic prophylaxis performance in one hospital, guidelines were developed and implemented. In addition, a control mechanism based on a mandatory field in the digital surgical report was implemented so that the pharmacist could check which antibiotics were required by the operating rooms of the surgical specialties, blocking all requests that do not comply with the guidelines until such violations were justified.

Good practices collected in the field of quality improvement could be assigned to four major areas: 1.) guidelines, 2.) information provision, 3.) education and training and monitoring/surveillance. As with clinical guidelines and protocols (see above), recurring topics were hand hygiene and antibiotics/antimicrobial treatment, which is the common thread that runs through all good practices on quality improvement. Therefore, quality projects concerning the development process of guidelines related to antibiotics use in surgical prophylaxis as well as hand disinfection. Education and training projects were aimed at improving hand hygiene compliance and antimicrobial prescription practices. The frequency with which good practices are mentioned in the form of multimodal intervention projects, often based on WHO groundwork, is striking. Such interventions covered training (events), provision of information and/or training materials, as well as the (increased) provision of disinfection gel dispensers. Based on the information collected, success factors for good practices in quality improvement relate to the involvement of the target group (i.e. generally healthcare workers and patients), but also, in particular, to the involvement of other groups, such as the infection control team or the quality/risk management team. Further promising elements of good practices relate to the standardisation of feedback on which standardised processes for proactive corrective actions can build on. Another success factor appeared to be the translation of WHO training materials into national languages [52].

Multimodal intervention for improving hand hygiene:

- In one Italian hospital, intervention focussed on a multimodal approach comprising training events for healthcare workers in order to increase compliance with hand hygiene practices. Information/training materials were therefore made available on the organisation's website and WHO guidelines on hand hygiene were translated into Italian and made available in an ad-hoc section of the website. On-the-spot interventions involved increased provision of a wall dispenser for hand rub solution in every patient room and at the bedside, promoting the proper use of gloves and participation in the annual WHO 'Save lives: clean your hands' campaign.
- In a Spanish hospital, a quality improvement intervention was conducted on the basis of a WHO hand hygiene multimodal (five-step) intervention approach, a standardised framework for training observers, performance of surveys and training of healthcare workers. During the project, the provision of disinfection gel dispensers increased from 0.57 dispensers/bed to 1.56, the frequency of audits increased from 25 days to 51 days and audits were spread more evenly over time.

9 Main findings and discussion

9.1 Mapping of healthcare-related cross-border initiatives

This study has provided an overview of EU-funded cross-border collaboration in healthcare and long-term care across EU and EEA countries. Out of 1 167 projects a total of 423 projects were included in the list. It provides a snapshot of EU-funded collaboration initiatives in the period from 2007 to 2016/2017, providing a diverse picture of collaboration in healthcare, social care and public health across the continent. Drawing on the definition of Glinos and colleagues [4], the picture provided is based not only on projects related to patient mobility but also on projects related to workforce mobility, sharing of knowledge and infrastructure and joint investment in medical infrastructure. The findings show that Central and Western European countries continue to be frontrunners with respect to leadership of cross-border care collaboration initiatives, paralleling findings from the HealthACCESS study, which was carried out in the period before 2007 [54]. At the same time, the fact that Romania and Hungary are among the most frequent partners in cross-border care projects merits some attention. On the one hand, these collaboration initiatives could be a legacy from their time before joining the EU, with mutual learning and exchange of good practices triggered by their efforts to join the EU. On the other hand, the case of these two Central Eastern European countries might be worth investigating further, given that other countries in that region are far less active in terms of cross-border collaboration initiatives. Also, a number of projects have not been included in this list as they may take place at the external borders of the EU and thus did not constitute the focus of this study. It would be highly desirable for future work to provide a detailed picture of the role of cross-border care collaboration for non-EU/non-EEA countries.

The majority of collaboration initiatives identified take place between countries with similar welfare traditions, like among Scandinavian countries, or a shared history, such as Italy and Slovenia or Italy and Austria. Others clearly result from geographical drivers, such as in the case of Denmark and Germany or in the case of Spain and France (Pyrenees), where cross-border care collaboration may help to compensate for gaps in regional care provision (see case studies in [11]). Also, the lower cost of service provision may drive collaboration across welfare states, such as in the case of Finland and Estonia [168], and Hungary and Austria for dentistry services [60].

The results also show a tendency for projects to focus on elderly people in cross-border care projects across Europe, which is not surprising in light of demographic challenges in all European countries. In fact, cross-border care may allow for a comprehensive view of the provision of care for elderly people. While the health and social care divide often precludes a comprehensive approach to dealing with elderly people's health and care at national levels, cross-border approaches might be better able to overcome the difficulties in bridging health and social care systems. Further research would be needed to investigate this idea further and identify the potential for integrated approaches to care of elderly people in cross-border settings.

9.2 Foresight exercise

The foresight model on cross-border care cooperation started by identifying potential developments or changes in the environment that may have the potential to affect CBHC policy in the next ten to 15 years ('horizon scanning' with a time horizon of 2030). In a second step, four draft scenarios were developed. These were evaluated in an expert and stakeholder workshop in September 2017. Experts also contributed to rank driving factors according to their predictability (certainty) in the future, and their potential

impact (importance). The ranking subsequently helped refine and further interpret the implications of the four future scenarios.

Driving factors for CBHC mentioned in the literature may be clustered within four dimensions: the geographical/demographic dimension, the cultural/societal dimension, the regulatory dimension, and the economic/technological dimension, from the perspective of actors involved in setting up or implementing cross-border care collaboration initiatives (e.g. regional health authorities). In addition, patients are also influenced by driving factors that tend to be cross-dimensional in nature (e.g. lower out-of-pocket payments abroad, or familiarity with a health care system abroad).

Our results show that the concept of 'fluid borders' remains central in determining CBHC in the EU [12]. As opposed to 'rigid borders', these are easy to pass from the patient's perspective, i.e. there is no or almost no geographical, cultural or administrative barrier present that would prevent patients from seeking healthcare abroad. More specifically, we found that geographical and cultural proximity represent the most important factor driving CBHC initiatives in the EU. Cultural familiarity may be determined, for instance, by a shared language, common habits, practices or history [11, 12, 59]. From the patient's perspective, lack of available healthcare services in the home country also represents an important factor for seeking healthcare abroad. In fact, previous studies confirm this finding, showing that unavailability of healthcare services, low access barriers (e.g. travel cost, travel time) are key elements for patients seeking health services abroad [59, 61]. The existence of fluid borders may also extend to the regulatory dimension, as regionally driven collaboration requires less political commitment or even only a 'handshake' to launch cooperation [7, 32]. In fact, legal/regulatory factors were found to of medium importance in determining CBHC. At the same time, legal concerns were found to be more likely subject to change, making long-term planning of CBHC developments more challenging. Finally, a country's or region's peripherality and relative geographical isolation were also found to be drivers for CBHC, albeit context-specific characteristic are likely to be crucial in determining the type of CBHC initiative developing in peripheral regions. For instance, involvement on behalf of national health authorities may be highly diverse (top-down vs. bottom-up). Also, regions with a higher degree of innovative capacity might be able to compensate geographic disadvantages by showing a higher commitment to e-health technologies.

The four scenarios developed in the study are illustrative visions of potential future settings for CBHC, but are not to be considered mutually exclusive future visions. Rather, they represent different aspects of possible future CBHC collaboration. They display differences particularly with regard to the degree of integration of healthcare across the EU, and with regard to the most important actors involved in setting up and/or implementing CBHC initiatives. For instance, in scenario 3 patient choice is a central factor for CBHC developments, where e-health plays an important role, integration may be quite selective or concern only certain (disease) groups of patients. In scenario 5, payer organisations are central in launching and maintaining CBHC, while in scenario 2 regional and local needs drive CBHC developments. In addition, local and regional key actors are most important for initiating or sustaining CBHC initiatives in scenario 2.

As the SWOT analysis involving experts and stakeholders from different fields and different EU countries clearly highlights, each of the scenarios represents certain equity-efficiency trade-offs. For instance, collaboration at the regional level and strong consideration of local and regional needs (scenario 2) may create economies of scale in border regions, e.g. as regards joint investments or specialised care networks, yet geographical inequities may increase as a consequence. Similarly, while younger or highly informed patients might benefit from online support forums and patient-induced innovations in scenario 3, equity concerns may arise for less well-informed patients or patients with complex care needs.

Given the findings of the horizon scanning, the four developed scenarios may be evaluated as follows. It is likely that those CBHC scenarios will be of most relevance for policy-makers in the next two decades where either (i) geographical and/or cultural proximity play a role, or where (ii) gaps in availability of health care services drives patients to seek care abroad, including patients in peripheral regions in the EU. From this perspective, Scenario 2 appears to be the most realistic scenario, yet the weaknesses highlighted in expert discussions should be kept in consideration too when fostering regional collaborations.

9.3 Cross-border.Care Manual & Tools

The nature of the Cross-border.Care Manual & Tools is to provide practical support for stakeholders (i.e. healthcare providers, payers and national/local authorities), therefore it is itself the main result of this work package. Please see section 6).

9.4 Fraud and fraud mitigation in cross-border healthcare

Virtually all stakeholders consulted in our study, indicate that cross-border healthcare fraud within the EU exists. The literature review also confirms this. There is ground for increased attention of policy-makers and researchers to this cross-border healthcare issue. The problem of cross-border healthcare fraud is gaining recognition among the stakeholders, which is an important pre-requisite for fighting it or at least mitigating its occurrence. In this section, we compare the results of the stakeholder consultation with those of the literature review, and we also interpret the findings in light of the background information on the level and patterns of fraud in the national healthcare systems. The section is structured around the research questions defined in the introduction section and the concept framework that defines the types of healthcare fraud (see Table 47).

Is fraud in cross-border healthcare proportionate to the general level in national social insurance systems and national health systems?

The stakeholders in our study panel do not dispose of objective facts on the scale of cross-border healthcare fraud, neither in their countries nor in other EU Member States. In the 'grey' literature reviewed, we found various attempts to estimate the size of healthcare fraud. However, we did not find any specific data on the magnitude of cross-border healthcare fraud on a national or EU level. Estimates for fraud and (billing) errors do exist in the much broader field of social security than healthcare [169]. We only found some recent estimates for the Netherlands, as presented in the results section. Therefore, we are unable to quantify the fraud in cross-border healthcare in the EU, and we cannot draw conclusions on whether cross-border healthcare fraud is proportional to fraud in the national healthcare systems.

At this point, we are only able to conclude that the prevalence of registered fraud cases in cross-border healthcare differs from country to country. In accordance with our prior expectation (see background section), we mostly found cross-border healthcare fraud reported in Western European countries. Data for Central and Eastern Europe are limited. As explained in the background section, evidence on fraud in general is more available in countries with a well-governed healthcare system, more widely established healthcare regulations and effective monitoring mechanisms. Hence, the country cases presented in the background section come from better monitored healthcare systems in Europe, such as those in Belgium, France, the Netherlands and Spain. In addition, countries with more resources and better perceived treatments, such as countries mentioned above, might be a higher priority for fraudsters (patients and suppliers). In Central and Eastern European EU Member States, the registration and reporting of fraudulent behaviour and other informalities (e.g. informal patient payments) is somewhat less well documented [169] and there is certainly room for improvement. In particular, as indicated by most of the stakeholders consulted, fraud in cross-border healthcare is more prevalent in EU Member

States where healthcare fraud in general is more prevalent. Thus, there are differences between countries in terms of risks and this is related to the nature of the countries (touristic location or not), their location (having borders or not), the type of health system (well-governed or not), and perceived quality of healthcare (adequate or poor quality) is likely to affect the nature and severity of the cross-border fraud.

The lack of information on fraud magnitude is not surprising. Cross-border healthcare fraud, similar to fraud in the national healthcare systems, comprises illegal hidden actions and therefore, it is not easy to detect and measure. Thus, the estimation of the fraud impact even in well-monitored healthcare systems is a challenge, because of its hidden nature [13]. As suggested by the stakeholders, hospital data and electronic health records need to be monitored and systematically analysed to identify fraudulent behaviour. The literature reports such applications within the general healthcare context. The results of such analyses could be used to estimate the fraud size in the national healthcare systems as well as in cross-border healthcare. The stakeholders consulted even suggest the development of a smart detection system (IT applications) run by an experienced team of fraud fighters to detect fraud (including fraud in cross-border healthcare) and to use such IT system to distribute information among the EU Member States. With regards to the electronic information distribution, the EHIC is still a paper document, which cannot be read electronically and does not always show a period of validity. Therefore, it is problematic to monitor the healthcare services provided to patients using the EHIC [169].

The lack of information exchange between the EU Member States and the lack of sharing of personal data is still an obstacle for better cross-border healthcare fraud detection [13, 17, 18]. However, a recent press release suggests that in July 2017, the European Commission has launched an electronic exchange of information through the social security information system. This is an IT platform that aims to electronically connect around 15 000 social security institutions within the EU and EEA by replacing the existing paper-based exchanges with an electronic information exchange by July 2019. This system can help combatting the cross-border healthcare fraud and can ensure a secure, complete and correct exchange of information, within and beyond the EU [170]. Further, differences in language between the various EU Member States as well as differences in reporting and storing medical data is an additional challenge in determining the scale of cross-border healthcare fraud.

Are the fraud patterns followed the same as in general healthcare or specific to cross-border healthcare?

While information of the magnitude of fraud in cross-border healthcare is limited, the patterns of cross-border healthcare fraud are generally known. Given the results of the stakeholder consultation and those of the literature review, we can conclude that cross-border healthcare fraud and fraud in the national healthcare systems do not always follow the same patterns. The existence of similarities depends on the country and the specific form of cross-border healthcare. In Portugal for example, the patterns of cross-border healthcare fraud and fraud in the national healthcare systems differ, while this is not the case in Slovenia. In the Netherlands, such differences are reported in case of patients using healthcare abroad but not in case of foreign providers in the Netherlands. These findings emphasise the importance of further investigating the cross-border healthcare fraud patterns and making the relevant stakeholders in the EU Member States aware of them in order to build adequate anti-fraud measures within the EU.

The examples of cross-border healthcare fraud provided by the stakeholders confirm our prior expectation (see background section) and the literature review results that this type of fraud is committed by patients, healthcare providers and third-party intermediaries, such as manufacturers and suppliers of pharmaceuticals and medical devices [18]. Similar to the common fraud problems in the national healthcare systems outlined in the background section, abuse in terms of inappropriate care and inappropriate billing appear a major problem in cross-border healthcare as well. This also adds to the prevalent

problem of substandard and illicit medical practice already outlined in the background section, which may follow the same patterns on national and cross-border level if a healthcare provider perceives the possibility to stay undetected for practicing illegally or for providing sub-standard care [171].

Examples of healthcare providers sanctioned in one EU Member State while practicing in another EU Member State are found in both the stakeholder consultation and the literature reviewed. While these patterns are relevant to cross-border healthcare, such cases do not only concern cross-border healthcare but also the healthcare provision in the national systems as well as the safety of patients who receive the care [20, 21]. They are important because they emphasise the necessity for an international exchange of information on healthcare providers as well as the care they provide and bill for. Furthermore, our literature review confirmed the views of the stakeholders consulted that the abuse of EHIC as well as counterfeit/illegal pharmaceutical and medical devices are cross-border healthcare fraud patterns as well. These patterns are not likely to follow national patterns based on their use and nature. EHIC is only used in cases of healthcare received abroad while substandard and counterfeit pharmaceuticals/devices due to their hidden nature are usually produced in one country, then imported and sold in another country via internet or other paths.

Most of the types of healthcare fraud indicated in Table 20 are identified as relevant to cross-border healthcare either in the stakeholder consultation and/or in the literature review. This is in accordance with our prior expectation (see background section). It shows that the two fraud phenomena are closely related. Similar to healthcare services provided within the national system, cross-border healthcare is also characterised with uncertainty and asymmetry of information (perhaps even more so), which influence the relations and behaviour of the healthcare actors. As explained in the background section, uncertainty in the health sector is a source of market failure, which creates opportunities for fraudulent behaviour, e.g. in relation to physician moral hazard (supplier-induced demand) and patient moral hazard (misuse of insurance benefits). Both, ex-ante moral hazard, i.e. actors' actions that increase the probability of the loss such as reporting undelivered services, and ex-post moral hazard, i.e. actors' actions that increase the magnitude of the loss such as reporting more expensive services, are found relevant to cross-border healthcare [18, 172].

Regarding the priority that should be given to different types of cross-border healthcare fraud in policy and research, the results of the stakeholder consultation (both, direct stakeholders' opinion and HELFO risk matrix) suggest the following priority areas:

- Organised cartels to restrict treatments or raise prices (healthcare professionals)
- Fraudulent overconsumption (healthcare professionals)
- Misrepresenting procedures performed (healthcare professionals)
- EHIC, S2 or insurance fraud (patients and the public)

It is interesting to mention that although organised cartels to restrict treatments or raise prices do not appear relevant to cross-border healthcare (neither in the stakeholder consultation nor in the literature review), the stakeholders who find this problem relevant assigned a very high priority to it. Apparently, this topic needs to be explored further.

We need to also underline that the consultation of stakeholders showed an overall lack of awareness and in-depth information of cross-border healthcare fraud on the EU level and even within the EU Member States. Most stakeholders consulted do not have information on the patterns of cross-border healthcare fraud in other EU Member States, which once again indicates that the information and knowledge is not being widespread and shared among the stakeholders within the EU. The lack of awareness and knowledge is underlined by the lack of literature sources on this issue. Insufficient published evidence was also recognised by the EU stakeholders consulted who overall reported knowing very few or no published sources concerning cross-border healthcare fraud. With respect to this problem, the DG-EMPL has just published a report that summarises the steps undertaken by the EU Member States in 2015 to promote the compliance of institutions and

healthcare providers with the coordination rules and to provide information to citizens in order to combat the cross-border (healthcare) fraud. Best practices regarding the cross-border cooperation and data-exchange between the EU Member States can serve as a good information source for all EU Member States to help addressing the cross-border healthcare fraud [169].

What fraud mitigation mechanisms are implemented or proposed for implementation in relation to cross-border healthcare in EU?

The benefits of fraud mitigation in cross-border healthcare are widely recognised in the literature reviewed as well as by the stakeholders consulted. These benefits may have financial and non-financial nature, e.g. reducing healthcare costs, increasing the compliance by healthcare providers, increasing the transparency, empowering patients, cooperation between healthcare actors. As in the national healthcare systems, the focus of fraud mitigation in cross-border healthcare should be on creating objective rules for medical procedures and discharge, involving patients and physicians in detecting fraudulent behaviour, monitoring the medical claims, need of medical treatments, pharmaceutical use as well as sanctioning the detected fraudulent behaviours.

However, to be successful, the fraud mitigation mechanisms should assure that each group of healthcare actors is properly targeted. This is because cross-border healthcare fraud can be committed by providers, patient and third parties, who have different motivations to engage in such actions. Patients may undertake fraudulent activities to assure healthcare coverage or exemption of costs, receiving extra services or financial gains. Providers and suppliers of pharmaceuticals and medical supplies also have motives to commit fraud, deliberate errors and abuse for financial profits, e.g. generating extra income or being able to practice, but also for non-financial gains, such as job promotion. The fraud mitigation mechanisms need to account for these specificities. Even when the fraud mitigation mechanisms for the different healthcare actors have the same objective, such as spreading information or imposing regulations and control, their format and approach should be tailored to the knowledge and experience of the targeted actors. For example, information on cross-border healthcare procedures and fraud risks should be presented differently for patients and providers. Patients would not easily comprehend highly specialised texts and might avoid using the formal information channels if their key messages are not adequately conveyed. Furthermore, where there is a control mechanism in place, there should be appropriate sanctions for fraud committers. Proper sanctions and a high probability of detection would minimise the motivation to commit cross-border healthcare fraud occurrence. In particular, consideration of sanctions for collusion of healthcare providers and/or suppliers in the healthcare sector is important given the high risks in likelihood and consequences. Sanctions could be in terms of banning companies from undertaking work in the healthcare sector as well as in terms of financial penalties. An appropriate system of sanctions that defines what is criminal in the healthcare sector and what the related penalties are, will also add to the development of a holistic strategy for dealing with cross-border healthcare fraud.

As explained in the background section, factors that make the healthcare systems vulnerable to fraud and corruption include system fragmentation, lack of cooperation, incomplete or vague regulations, inadequate monitoring mechanisms and a lack of transparency[13, 17, 18]. Such conditions increase the uncertainty and asymmetry of information among the healthcare actors and create opportunities for these actors to violate integrity rules in healthcare [13]. The stakeholders in our study support the evidence found in the literature review. This specifically refers to the communication between competent institutions as a key fraud mitigation factor in cross-border healthcare, in addition to a system of monitoring and control (e.g. a competent international auditing group) and adequate legal competences of healthcare professionals. Besides the collaboration on an EU level, single EU Member States should build partnerships to share crucial information and to work on a more transparent exchange of data on cross-border healthcare use. Anti-fraud networks, such as EHFCN or other existing and new networks, could play an important role in addressing the problem of cross-

border healthcare fraud. In addition European bodies, such as Europol and Eurojust, might also be involved in future fraud mitigation in cross-border healthcare to further facilitate the exchange of information and ideas, and to initiate joint mitigation strategies across the EU Member States. This will help to protect the national healthcare systems from cross-border healthcare abuse as well as the health of the patients due to the inappropriate treatment [20, 21]. The absence of such factors combined with other risks (e.g. insufficient time, resources and investments in healthcare) may reduce the effectiveness of fraud mitigation in general and in cross-border healthcare in particular.

The fraud mitigation mechanisms in cross-border healthcare need to account not only for variations in the behaviour of individual healthcare actors and healthcare system differences. They should also consider the broad contextual factors. Although, fraudulent activities can occur in every healthcare system, the extent and nature of fraud depends on the specific institutional structures and relationships in society. Different EU Member States demonstrate specific social perceptions of what is illegal and apply own codes of professional ethics [16]. General anti-fraud social perceptions may help avoiding the opposition of various actors, who otherwise may resist the implementation of fraud mitigation mechanisms. This applies to cross-border healthcare as well. It is therefore important to create an anti-fraud culture across all EU Member States [20].

In addition, it is necessary to assure a clear distinction between fraud, error and corruption in cross-border healthcare for a more unified application that will help to increase the comparability on the EU level. As already mentioned in the literature review results, without awareness of the existence of cross-border healthcare fraud in the EU, fraud cannot be combated. Together with the knowledge on fraud, information dissemination for all parties concerned (e.g. general public, decision makers, healthcare professionals) on the types, patterns, prevalence and consequences of cross-border healthcare fraud would be essential steps in fighting the fraud.

9.5 PaSQ take-up evaluation

Previous sections display the findings of the take-up of PasQ based on PasQ reporting and the subsequently conducted online survey, which are summarised below. As a third pillar of research, the findings were validated by the study's stakeholder panel. In addition, the study's stakeholder panel provided valuable input for drafting the policy options presented in section 11.3.

The analysis of the take-up of the European Joint Action project titled 'European Union Network on Patient Safety and Quality of Care' is a challenging task. First, the Joint Action was one of several international and national activities (some of which aimed to enforce and implement contents of the Council recommendations on patient safety) that have been conducted in recent years. Second, the project addressed different levels of diverse European healthcare systems, where the topic of patient safety and quality of care was and still is being addressed in different ways. That diversity and the fact that the field of patient safety and quality of care comprises a wide range of topics and activities was reflected in a variety of conducted activities and completed deliverables during PaSQ. In accordance with the major aim of PaSQ to strengthen collaboration on the topic of patient safety and quality of care, relevant stakeholders from 29 participating countries (28 EU Member States and Norway) were included.

The infrastructure that was set up (PaSQ Wiki/website and Exchange Events) acted as a facilitator for strengthening international and national networks, enhancing the exchange of patient safety expertise at the clinical and strategic levels and supporting the implementation of specific measures – overall, the 'take up of patient safety'.

In summary, the findings of the project reporting show that the goal of promoting both international and national exchange on the topic of patient safety was achieved during PaSQ.

WIKI and exchange events

In the PaSQ Wiki, Patient Safety Practices (PSP) and Good Organisational Practices (GOP) were collected and presented. The spectrum of topics that were addressed show a broad thematic range. Submitted PSP most frequently dealt with the topic of communication and medication-related topics: patient identification, surgical/invasive procedures, infection control/prevention of surgical site infections and documentation. Most GOP covered the topics of general quality improvement projects, clinical guidelines or path-ways, accreditation, patient safety systems, incident reporting and learning systems and clinical risk management.

Almost two-thirds of our survey respondents stated that the country they responded for had gained new expertise through the Wiki, though 4 of 5 also agreed that information on patient safety was also obtained through other sources. Slightly more than half of the respondents rated the usefulness of the PaSQ Wiki as rather high at the national and at the healthcare provider level. From the respondents´ point of view, the acquired exper-tise mainly impacted the perception of patient safety and the acceptance of its relevance at all levels (at the national, regional and provider level). The impact on the perception of patient safety was rated as surprisingly strong at the provider level, considering the fact that this group might be the hardest to reach during projects conducted at the strategic level. Against the backdrop that gathered expertise can be directly converted into action at the provider level, the rated high impact on the influence of common practice at this level seems more than plausible. However, all ratings of the impact at the provider level must be interpreted with caution, given the fact that National Contact Points (institutions at the national level) provided this feedback. Our results indicate that the impact on political decisions and concrete outcomes was rated as fairly low by almost half of our respondents. An explanation given by some of those respondents refers to a strong commitment to patient safety (pre-existing work) that was already in place before PaSQ. Nevertheless, some survey participants stated that the expertise acquired through the Wiki had an effect on the development of national health strategies and an influence on legislation, national networks and the transfer of information. Countries in which the topic of patient safety was previously a low priority might have benefited especially from the Wiki input. 3 of 4 respondents had accessed the Wiki more than once a week or at least more than once a month during PaSQ.

Those relatively high access rates dropped considerably after completion of the PaSQ project, as assessed by our respondents. That assessment is in line with the objectively observed decline in the website access rates. Against that backdrop, it is not surprising that at least three-quarters of the respondents agreed upon the following:

- ➔ There is a need to share expertise on patient safety and quality of care,
- ➔ There is a need for a (similar) Wiki in the future (at the national and the provider level) and
- ➔ The added value that a (similar) Wiki would provide in the future was rated as (rather) high.

The ‘decline’ in exchange events was not assessed by means of objective figures in our report. However, according to the answers provided by the majority of our survey participants, continuation or institutionalisation of exchange events could not be attained after the discontinuation of PaSQ.

In summary, take-up of the Wiki was rather good during PaSQ, but with limited political impact and limited concrete outcomes. Discontinuation of active maintenance of the infrastructure seemed to have limited the sustainability of take-up. Many of the activities that were initiated during PaSQ had relied to a great extent on the vital infrastructure.

Network

Establishment of the PaSQ project brought about a network of National Contact Points in all participating Member States, the inclusion of 61 partner institutions, European stakeholders and international organisations. According to the answers of 15 of 16 participants, PaSQ had strengthened cooperation in relation to patient safety between EU Member States, international organisations and EU stakeholders. In their personal view, respondents experienced the facilitation of information exchange through networking, exchange events and informal contacts. Some answers can simply be summarised by 'know whom to ask'. PaSQ had also strengthened existing national networks (according to 10 of 16 survey respondents), but had less impact on the establishment of (new national) networks.

In the majority of the respondents' countries, patient safety networks are (still) active. A distinct effect after discontinuation of PaSQ (e.g. being less active) cannot be unequivocally observed in our results. However, there is high agreement (among 14 of 16 respondents) on the need for further support of the country's national network, which is in line with the shared support for the proposal for a permanent network acquired thorugh the PaSQ project.

In summary, during PaSQ, networking was facilitated by the established exchange mechanisms (i.e. exchange events, informal contacts). In addition, (national) networks are still active after the discontinuation of PaSQ.

Implementation projects

During PaSQ, four Safe Clinical Practices were selected for implementation. Two of those, namely 'Safe Surgical Checklists' and 'Multimodal intervention to increase hand hygiene compliance', had already been strongly promoted by the WHO previously. In total, 18 PaSQ Member States and 220 European healthcare institutions participated in those four projects.

The response rate in our survey regarding the sustainability of these four projects was low, ranging from only one answer regarding the implementation of 'PEWS' up to seven answers for 'surgical checklists'. Meaningful interpretation of the survey results regarding the sustainability/extent of take-up after PaSQ is therefore not possible due to the small number of respondents. The results only provide some indication of the estimated impact, which was primarily seen as involving increased sensitivity to the corresponding patient safety topic and acceptance of its relevance. The influence on other impact areas differed slightly by topic and was rated as (slightly) less. (Almost) all respondents agreed that the topics were very important for their country, that PaSQ had provided important information and that the EU should promote the implementation of corresponding initiatives. However, it should be noted that all responses came from countries that had implemented the corresponding projects.

In summary, four implementation projects were conducted with the participation of 18 PaSQ Member States and 220 European healthcare institutions. Due to the small number of respondents that provided information on take-up and sustainability in our survey, the question cannot be answered meaningfully.

Enabling factors for the success of activities or deliverables

The analysis of exchange events showed three potential facilitators: the availability of '**resources**' during PaSQ (almost all partner institutions with a dedicated budget hosted an exchange event), the '**inspiration**' it provided after its discontinuation (some partners had been inspired to continue the events) and '**previous operating experience**' (if countries already had exchange events before PaSQ, they continued them during and after PaSQ).

The '**publicity**' of the Wiki was mentioned as a prerequisite (there must be awareness of the Wiki) for its use. The '**necessity/usefulness/relevance of the content**' seemed to be a major driving factor for access to the website and the Wiki. According to survey responses, **some** PSP or GOP **topics** might have benefited more than others from Wiki expertise (which could be seen indirectly by the volume of some topics). Even if the Wiki itself was not judged an explicit facilitator for PSP and GOP, at least fewer implementation barriers (for some topics) could be observed. That mainly **positive** PaSQ **experience** is still reflected in the optimistic rating of survey participants: the potential '**added value**' of a Wiki for PSP and GOP and the need for sharing expertise are still rated as high.

Several drivers were already identified during PaSQ as facilitators for the PaSQ network (e.g. the availability of **resources/**sustainability plans, **policy/political support and leadership**, the **involvement of various stakeholders** and **knowledge sharing/communication**). Our survey results, which are intended to provide information on the 'way' in which PaSQ strengthened cooperation in relation to patient safety, highlighted the importance of communication. As already mentioned above (under 'take-up'), **information exchange (events), informal contacts and 'know whom to ask'** cannot only be considered results, but also driving factors for networking activities.

At the end of the PaSQ project, success factors for the implementation of the four topic-specific projects (i.e. Surgical Safety Checklists, medication reconciliation, multimodal intervention to increase hand hygiene, Paediatric Early Warning Scores) were analysed. **Leadership support** was mentioned most often as a success factor and the **involvement of staff** was ranked in the top three by the coordinators of healthcare organisations in all 4 project areas. Further main facilitators that were identified relate to **good communication/information**, **provision of resources and training** and an **established patient safety culture**.

When asked about tools that could assist the transfer of international best practices in the future, in line with the aforementioned success factors, **information exchange events and mechanisms** were considered helpful tools by the respondents. In addition, (political) **commitment** and **communication issues** (strategic communication, information/tools in the local language) were considered enabling factors. Not surprisingly some participants also suggested that PaSQ be continued.

Depending on the respective level (national, regional, healthcare provider level), success factors for PaSQ differed. However, some factors seem to be of higher importance as they apply to all the PaSQ activities investigated:

- Availability of financial resources
- Political and leadership support
- Communication and information provision, including knowledge sharing

Challenges for the success of activities or deliverables

Related research question: What were challenges for the success of activities or deliverables?

During PaSQ, no institution **without** a **dedicated budget** for exchange events hosted one. According to our survey results, the sustainability of exchange events after PaSQ was low. Unfortunately, the respondents did not provide any specific reason for that discontinuation.

When asked about potential reasons for a low Wiki impact at the national level (during PaSQ), the **absence of a patient safety strategy** was mentioned. At the regional level, **insufficient involvement of all relevant stakeholders** was seen as an impact obstacle. At the level of healthcare providers, our respondents only mentioned pre-existing work (e.g. programmes/initiatives on patient safety that were already in place and the perception that patient safety was already high) as potential reasons for an

observed low (PaSQ-specific) impact. A total of 14 of 16 of our respondents agreed that they had also gathered information on patient safety expertise through **other sources than the Wiki**, which might be of relevance in this context. We lack explicit explanations for the decline in use of the website/Wiki after PaSQ. However, the aforementioned facilitators (usefulness/relevance of topics) suggest that the loss of up-to-date information (**discontinuation of content and technical maintenance**) might be a major reason.

During PaSQ, several implementation barriers for GOPs had already been identified, namely **resources** (funding, budget and resource constraints), **resistance to change** (or lack of motivation among staff) and **topic -specific constraints** (e.g. GOP dealing with incident reporting and learning systems). Our survey added the **language barrier** as an explanation for the failed consideration/adoption of PSP to those observations made during PaSQ.

Challenges for networks were also already identified by several surveys conducted during PaSQ. They highlighted the following potential barriers, e.g. **lack of resources, lack of policy support** (also: **shifting priorities, leader turnover**), **lack of communication/information transfer to clinical levels** and **unclear roles and responsibilities** in coalitions.

At the end of PaSQ, barriers to the implementation projects were separately assessed for the four topic-specific measures. The **resistance to change** of healthcare professionals was mentioned in all four areas, followed by the **insufficient involvement of staff**, the **lack of a patient safety culture** and the **lack of resources.**

When asked about more general obstacles observed in transferring international best practices, our survey participants seemed to sum up the factors mentioned above: **lack of resources, lack of communication, information and understanding, language barriers/lack of translation of tools, lack of political support or inappropriate political attitude and resistance to participation/change.** The answers given by single survey participants add further aspects like **lack of evidence or reliable data**, the **limited transferability** of best practice examples, **lack of infrastructure** (e.g. nationwide electronic systems), the **lack of patient involvement** and **fragmented competencies.**

As with the enabling factors for PaSQ, challenges also varied across the PaSQ activities investigated. Common challenges observed relate to:

- Lack of resources, including infrastructure
- Deficiencies in communication and information transfer
- Insufficient (political) support, including the involvement of stakeholders and
- Lack of a patient safety strategy and patient safety culture

10 Limitations of the study

10.1 Mapping of healthcare-related cross-border initiatives

The presented analysis does not aim to provide a complete picture of all existing cross-border care initiatives in EU and EEA countries in the investigated period. First, initiatives at an early stage of development that are not yet receiving financial support from EU funds may have been omitted from our analysis. Second, long-standing bilateral collaboration initiatives that no longer require financial support via conventional kick-off funding streams may also not be included in our list of cross-border care projects. In fact, the mapping identified EU-funded projects but may have missed out on other forms of cooperation. Also, some projects may have turned into long-standing cooperation while others may not have. This was, however, not at the centre of our study. Selection criteria applied and search strategies and databases used are presented in as much detail as possible to allow for a sound understanding of potential gaps in our analysis.

As a result, the mapping provides only a snapshot of recent or ongoing projects in Europe, as only projects with at least some degree of EU funding were included. Further research would be greatly needed in order to better understand two important aspects. First, for interpretation of the results presented here better knowledge is needed of which cross-border care projects may have been excluded from this list, either because they have not (yet) applied for EU funding or because they have been successfully transferred to local and regional healthcare systems in a sustainable manner, for instance based on long-standing bilateral agreements. Future research should aim at gaining insight into how EU funding may contribute to creating sustainable collaboration initiatives.

10.2 Foresight exercise

The results of the foresight exercise need to be interpreted in the light of two main limitations. First, while the study is characterised by a high commitment of experts and stakeholders in the field, the survey in which the importance and certainty of driving factors were ranked was filled in by a total of ten respondents only. Respondents came from EU countries in different geographic regions and different welfare settings, and some of the most important expert think tanks in the field of CBHC were involved. However, it would have been desirable to cover all EU countries and allow for a more detailed assessment of CBHC driving factors in different contextual settings. As the results of the 'Mapping of healthcare-related cross-border initiatives' (WP 1a) show, CBHC projects display a large variety, where the relevance of driving factors is likely to differ respectively.

Second, the study did not identify any factors assessed as being of high importance and of high uncertainty, even though these would have lent themselves particularly well for interpreting the developed future scenarios. For example, somewhat surprisingly, technology uptake and innovative capacity were not evaluated as high-impact driving factors for CBHC care in the EU, albeit being evaluated as being among the factors associated with a large degree of unpredictability. Future studies should carry out a more comprehensive evaluation of impact and uncertainty of CBHC drivers in order to verify the potential role of technological developments for future CBHC in further detail.

10.3 Business cases

The identification of and research on business cases included several limitations. Publicly available information on projects in CBHC is very limited in most cases, specifically information on economic aspects including costs and potential savings. In order to receive reliable information and data, a thorough stakeholder consultation is necessary

requiring respective stakeholder commitment to provide the requested data. Publicly available information on business cases showed that a final evaluation of projects in CBHC rather seems to be an exception. However, such information might just not be publicly available. Moreover, in numerous cross-border projects economic aspects are of secondary importance and rather characterised by social benefits, mainly affecting and benefiting patients. Further research on the balance of social and economic benefits is desirable to better understand the relation of economic and social benefits associated with CBHC. The relation of economic and social benefits might also differ for different categories of CBHC. What is more, political commitment of public authorities for CBHC projects is a supporting factor. As some cases show, missing political commitment may lead to a discontinuation of CBHC projects, disregarding patient preferences. Such cases show that it is insufficient to study only successful CBHC projects in greater detail. Lessons learned from cases facing challenges in the course of the cooperation might contribute greater to better understand the mechanisms of CBHC.

10.4 Fraud and fraud mitigation in cross-border healthcare

Our investigation has several limitations that need to be acknowledged. The stakeholder panel involved in the study represented 8 EU Member States only, which is not fully representative for the whole EU region. Most of these EU Member States have an insurance-based healthcare system, therefore we do not have strong assumptions that the same patterns of cross-border healthcare fraud are relevant to all tax-based healthcare systems like for example the systems in the UK or Scandinavian countries. Although the questionnaire used in the stakeholder consultation was discussed with other researchers in the field of cross-border healthcare, no face validity test was carried out with potential respondents. It is therefore unclear if the wording of all questions was adequately interpreted by the stakeholders. Yet, given the responses, no misinterpretation of questions was observed. It should also be considered that we included only one stakeholder per country, which means that diverse opinions within the countries could not be captured. Regarding the literature review, the main limitation was the lack of publications in peer-reviewed academic journals, which are considered to provide higher quality evidence than 'grey' literature reports. The few publications in peer-reviewed academic journals identified as relevant also did not score high according to the quality assessment criteria and the content did not include rich information on cross-border healthcare fraud specifically. Overall, we mentioned a lack of convincing evidence on the topic of cross-border healthcare fraud. Even the evidence in the 'grey' literature sources was limited and scattered. The need of scientific publications was also indicated by one of the stakeholders consulted, which goes in line with another stakeholder stating that due to hardly any literature available on cross-border healthcare fraud, this study may make a valuable contribution in the field. Another positive aspect of our investigation is the fact that no additional relevant publications were suggested by the stakeholders. This is an indication for the comprehensiveness of our literature search. We recognise however that we might have missed relevant information published in local languages as well as evidence in unpublished documents, e.g. national internal insurance or government documents. Nevertheless, the similarities between the results of the stakeholder consultation and those of the literature review, are an indication of the conversion validity of our findings. This provides us with the opportunity to formulate conclusions and recommendations for policy and research.

10.5 PaSQ take-up evaluation

General limitations of the PaSQ take-up evaluation

The study at hand cannot make statements on patient safety as an outcome measure, so no conclusion has been reached regarding PaSQ's impact on patient safety in the countries concerned. That is primarily due to the study focussing instead on how the work of the Joint Action on PaSQ has been taken up at the national, regional and/or local

levels in EU Member States. However, this might be an interesting research question to answer by future research in this field.

Limitations of the overview on previous project reporting

We refrained from conducting a systematic literature search, because we considered that its potential benefit would be low. The presented results of previous project reporting and evaluations were drawn from sources, identified by means of a selective manual search and by contacting the European Commission. That approach allowed for the identification of both published and unpublished reports. It would not have been possible to identify the latter solely by performing a systematic search in literature databases. We believe that all relevant, major reports should have been identified by the non-systematic approach. Nevertheless, we cannot completely rule out the possibility of other information sources. The data extraction was conducted by a single person. The content of the complex narrative reports had to be condensed on a subjective basis.

Limitations of the survey

Representatives from all countries that participated in PaSQ were addressed. In the relative short time, it is noteworthy that 16 duly completed questionnaires were returned, despite intensive efforts (personal calls, e-mail reminders) to motivate NCPs to participate in the survey. Nevertheless, answers submitted by 55% of the addressed contact persons are not representative of the whole sample. Furthermore, answers of the survey participants reflect their personal viewpoints. The possibility cannot therefore be ruled out that different participants might have judged the impact of PaSQ, for example, differently. Respondents from National Contact Points were asked to answer questions on PaSQ's impact at the local level. We did not directly address providers or patient organisations. As a result, the collected answers are assessments of the actual medical care/patient safety situation from the point of view of the National Contact Points. Statements about the sustainability of PaSQ activities primarily depend on the baseline situation (in this case the end of PaSQ), which differed from responding country to responding country. Questions at the regional level (e.g. concerning the impact at the regional level) were not applicable to all countries due to the given country´s size or the structure of its healthcare system. More than a year after completion of PaSQ, some people who originally participated in the project have changed jobs and have been succeeded by other employees who might not be fully aware of previous and ongoing PaSQ-related work. Nevertheless, only two of the respondents clearly stated that they had not been personally involved.

In-depth interviews would have provided additional insight and might have been helpful for interpretation of the results. However, we decided against the conduction of interviews for two reasons. First, our survey results and the results of the stakeholder consultation reflect mainly results already gained in prior evaluations conducted during PaSQ. We included this information on prior evaluations in detail in our study. Therefore, the conclusions drawn in this study, which are not only based on the survey but also on PaSQ reporting and stakeholder input, do not merely depend on the survey results. As a consistency across the results of all different sources has been observed (PaSQ reporting, survey, stakeholder comments), we did not conduct additional interviews for the focus of this report (PaSQ take-up). Second, against the background of the research framework of the Cross-border.Care study in total (whereof the evaluation of the PaSQ take-up was one part) and the allocated resources this was not planned.

11 Conclusions

11.1 Ease of cross-border healthcare collaboration

Cooperation between health systems is complex. Health systems are conceived as closed systems in which service delivery, service use and financing take place within the national territory following the territory principle. CBHC cooperation is the exception to this rule, as it opens up the system to flows of services, patients, professionals and funding. At the same time this gives room to questions about applicable rules and legislation, undesirable effects and competition.

Different stakeholders have different motivations and interests to engage in cross-border cooperation. CBHC cooperation gives the EU the chance to strengthen cohesion between Member States. Additionally, it CBHC cooperation provides the benefit to translate the broad ideals and values of peace and solidarity into concrete advantages for EU citizens. For Member States engaging in CBHC collaboration can be beneficial if cooperation reinforces objectives of national health systems and aligns with ongoing reforms (i.e. increase quality of care, cost containment, etc.). Local actors might benefit the most from CBHC collaboration, however their motives for engagement are most diverse and strongly depend on the specific context and needs. Some objectives are contradictory, such as improved quality of care at higher cost. Thus, the objectives of saving costs, may not be achieved. CBHC cooperation may be also seen as threat, e.g. where patients moving abroad and thus undermine the viability of domestic facilities.

Against the background of these differences in motivations and interests alongside the general complexity of cooperation in health systems, setting up and maintaining a CBHC collaboration is not trivial. 'One size fits it all' solutions do not work in CBHC cooperation, which is also supported by the case studies presented in this report. Of 36 projects investigated and presented in more detail, almost half of those relate to projects conducted and ended in the past. The other CBHC cooperation could be transferred into a sustainable cooperation. Factors frequently mentioned in literature contributing to the establishment of CBHC collaboration relate to the geographical context, habits/culture/language and political and administrative constellation and support.

The results of the mapping exercise and the foresight model, as well as on the discussions hosted at the expert and stakeholder workshop (September 2017) suggest that it is likely that geographical and cultural-societal factors remain decisive for policy-makers to establish and maintain CBHC initiatives [4]. Among more than 400 initiatives analysed in the mapping exercise, the large majority took place between countries with similar welfare traditions. In addition, the expert consultation in the foresight exercise also underlined the high relevance of geographical and cultural determinants. In addition, CBHC may emerge especially in situations where there is a perceived real need for collaboration may also enhance CBHC, such as in the case of peripheral regions or unmet patient needs. Thus, external incentives (e.g. Member States' payer networks) or economic motives are unlikely to represent a crucial driving factor for establishing CBHC initiatives, or – from the patient's perspective – to seek care abroad, except for a small minority [60, 168].

Judging from our findings, it seems reasonable to step up existing efforts to harmonise quality standards in health care across the EU (e.g. *Directive 2005/36/EC on the recognition of professional qualifications*). In addition, steps should be taken to improve health literacy across socio-economic settings in EU countries, in collaboration with NCPs and/or ERNs. These efforts would increase patients' trust in foreign healthcare systems and thus lay the basis for collaborations to the benefit of patients, e.g. in case of unmet needs in a patient's country of origin. Another suggestion emerging from our findings would be to create a CBHC platform where peripheral or underserved regions interested in establishing bilateral or multilateral agreements with other countries or regions may be brought together on a voluntary basis.

As a precondition, data gaps with regard to CBHC need to be addressed if there is a serious interest in improving health care for all patients across the EU, and/or create economies of scale from CBHC collaborations. In fact, currently there is a lack of reliable data as regards systematic knowledge of the existence of bilateral and multilateral agreements across the EU. Related to this point, efforts need to be stepped up to provide a comprehensive and systematic picture on the current situation of cross-border healthcare, including EU-funded and non-EU funded CBHC projects as well as CBHC projects at the external borders of the EU.

While our study provides a comprehensive picture of projects implemented in the period of 2007 to 2017, there is currently little information available as to the sustainability and effectiveness of the projects analysed. As a possible pathway to address this gap, funding of CBHC projects should promote efforts to ensure sustainability and effectiveness of CBHC initiatives. Effectiveness criteria should thereby be defined with a focus on patients' medical needs, while criteria regarding cost-effectiveness from the perspective of for-profit providers should not play a central role for funding decisions. For instance, specific areas could be defined where CBHC can achieve most added value for patients (e.g. in the treatment of rare diseases).

Finally, it cannot be ruled out from our results that technology uptake and innovative capacity in the field of e-health will gain a larger role in the promotion of CBHC in the future, e.g. with the increasing exchange of electronic health records across countries. Also, the promotion of ICT solutions in CBHC may compensate for geographical hurdles, as in the case of telemedicine consultation of specialists. At the same time, potential efficiency gains should be evaluated against equity concerns, as patients with less profound digital skills might be at a disadvantage from certain technological developments (e.g. in the field of m-health).

11.2 Fraud and fraud mitigation in cross-border healthcare

Based on the discussion of our findings related to the research questions, we summarise below the key conclusions and recommendations of our investigation on fraud in cross-border healthcare in the EU.

There are indications that cross-border healthcare fraud exists in the EU, even though some EU Member States might not be fully aware of its existence and magnitude. The problem is being recognised, but there is no exact information on its magnitude and therefore its scale remains unclear at the national level (except for the Netherlands). Moreover, the prevalence of registered healthcare fraud cases is higher in Western European countries, while for Central and Eastern Europe, where many healthcare informalities exist, healthcare fraud data are limited. This might suggest that cross-border healthcare fraud is to a certain extent unregistered and underreported. This precludes the quantification of cross-border healthcare fraud at the EU level at present.

More information is available on the patterns and types of cross-border healthcare fraud. Evidence suggests that similar to fraud in the national healthcare systems, cross-border healthcare fraud is committed by patients, healthcare providers and third-party intermediaries, such as manufacturers and suppliers of pharmaceuticals and medical devices. It concerns abuse in terms of inappropriate care (demand and supply) as well as inappropriate billing. It is also related to healthcare provider's practice in one EU Member State while being sanctioned or barred from practicing in another EU Member State.

While the prevalence of fraud might differ in cross-border healthcare compared with fraud in the national healthcare systems, some fraud patterns and types are attributed to cross-border healthcare only (e.g. abuse of EHIC, fraud in cross-border project tenders, treatments in non-existing clinics abroad and other fraud types specific to differences between the EU healthcare systems). At the same time, many types of healthcare fraud are relevant to cross-border healthcare as well, which shows that the two fraud phenomena are closely related. In particular, they both result from the uncertainty and asym-

metry of information in the healthcare sector, which influence the relations and behaviour of the healthcare actors.

Even though the magnitude of cross-border healthcare fraud in the EU is unclear, fraud mitigation mechanisms should be in place to prevent its occurrence. To be successful, the fraud mitigation mechanisms in cross-border healthcare need to account for the motivations and behaviour of the different healthcare actors, as well as for healthcare system differences. These mechanisms should also consider the broad contextual factors, such as social perceptions of what is illegal, fear from the sanctions and the risk-averse mentality [13]. General anti-fraud social perceptions may help avoiding the opposition of various actors, who otherwise may resist the implementation of fraud mitigation mechanisms. Thus, country-specific and situation-specific fraud mitigation mechanisms that would address both fraud in cross-border healthcare and national healthcare systems are needed.

Since the phenomenon of cross-border healthcare fraud is influenced by the organization and governance of the healthcare sector in the particular country, as well as by context-specific features, we only outline below the possible elements of a fraud mitigation strategy in cross-border healthcare. It is for policy-makers to prioritize these elements when developing a fraud mitigation strategy and to determine their feasibility for the country. Further investigation of the cross-border healthcare fraud topic could be also use to provide evidence for this decision-making process.

Based on the summary and discussion of our results presented in the previous section, we conclude that at present cross-border healthcare fraud is not per se a major problem in the EU. Nevertheless our analysis leads to the following recommendations, which could help to prevent the occurrence of this type of fraud at the national and EU level:

- Monitor cross-border healthcare fraud. Develop a set of reliable measures of cross-border healthcare fraud and use them to regularly measure cross-border healthcare fraud across the EU on a longitudinal basis. Related to this, develop and apply uniform definitions of cross-border healthcare fraud as well as uniformed terms for the different fraud types. In addition, clearly define the rules of how cross-border healthcare should be obtained and delivered, what is illegal in cross-border healthcare.
- Use and support the contacts and infrastructure of the EHFCN - European Healthcare Fraud and Corruption Network for reporting, monitoring and analysing fraudulent behaviour (e.g. substandard and illicit medical practices) in cross-border healthcare and study the effects of its implementation. Make use of Electronic Health Records, which provide possibility for quick and easy data exchange.
- Ensure that there are fraud mitigation mechanisms in place to prevent cross-border healthcare fraud. Focus fraud mitigation in cross-border healthcare on creating objective medical procedures and discharge, involving patient and physician in detecting fraudulent behaviour, monitoring the need of medical treatments and pharmaceutical use. Stimulate anti-fraud culture within EU healthcare systems as well as within societies in general, as well as the establishment a code of professional ethics in healthcare that meet EU-level standards.
- Stimulate research on cross-border healthcare fraud. Invest in scientific follow-up research on the scale, patterns and types of fraud in cross-border healthcare in the EU Member States, as well as on the mitigation of cross-border healthcare fraud using this report as a stepping stone.

11.3 Future options for patient safety

In this section, we propose future options for patient safety. These options base on our findings which we obtained in the course of the PaSQ take-up evaluation, namely through the PaSQ reporting and the online survey (see previous sections). Another important source for drafting these policy options was the input that we received during the

stakeholder consultation process. Options that have already been stated during PaSQ are provided as additional information (see Table 75, Table 76 and Table 77).

When reading the following policy options, readers should keep in mind the limitations of the research stated in section 10.5.

Options at the EU-level

Key message: active maintenance of the interactive web tool supported and facilitated the sharing of experiences and best practices across countries. Its active maintenance could further promote knowledge transfer and support established (inter)national patient safety networks.

Rationale: information exchange – learning and sharing – between countries is a basic European approach. Across all PaSQ evaluations and surveys, the availability of financial resources, including infrastructure, was mentioned as a main factor for the successful implementation and sustainability of the project. Many PaSQ activities relied on the vital infrastructure. According to access data, the sustainability of the rather good take-up of the Wiki platform during PaSQ has been limited by the discontinuation of the infrastructure´s active maintenance. Continuing the network by the internet platform plays a major role in terms of cross-border healthcare cooperation.

Examples of action that is currently being taken at the European level:

- The EU Health Policy Platform (https://webgate.ec.europa.eu/hpf/) is one of the main communication channels among health stakeholders and Commission representatives at the EU level. The interactive Agora network aims to boost discussion among users about key EU health initiatives and sharing of best practices. Specifically, it can host best practices selected by several Joint Actions to overcome the common problem of longer-term maintenance of websites and web-tools that are set up within Joint Actions. That platform could therefore be a possibility for continuing exchange on patient safety too.

For further options (drawn from previous work during PaSQ), see Table 75.

Table 75: Summary of options developed during PaSQ – EU level

Options developed during PaSQ	
Quality management systems	• Encouraging the development of strategies at the EU level for continuing professional development (CPD) to improve the quality of care and patient safety and public trust in the healthcare system [173].
Collaboration and networking	• Using the collected information in PaSQ according to the validity of each good practice for further dissemination and knowledge transfer. The validity shall be assessed according to the impact on quality and patient safety and interest among Member States in their development [173].
	• Further exchange of knowledge and experience about quality management systems, taking into account the information collected in PaSQ, can provide a starting point to learn from countries with more mature systems [173].
	• Promoting peer review within and between countries for improvement of care quality. That will allow review of the organisation and main principles of national or regional quality improvements by peers (national/regional experts who are involved in national or regional care quality improvement in their countries participate in the peer review system) in order to learn from others [173].

Infrastructure and dissemination	• The PaSQ website perfectly played its pivotal role and certainly needs to continue on any future platform, both in terms of 'co-ordinating' action among partners, but also in terms of facilitating further dissemination and promotion of the PaSQ network. It seems advisable to add a more interactive element in the future [44]. • More functional and, thus, more effective dissemination and promotion of PaSQ potential and encouragement to undertake collaboration at the regional or national level seem to be essential in order to enhance and amplify the beneficial effects of the Project. That goal should be pursued on a systematic basis, indicating the need for the development of a formal establishment (to sustain and further expand the beneficial outcomes that have been yielded in the framework of PaSQ) [44].

Options at the national level

Key message: all countries should develop once a Patient Safety Strategy, which should be regularly re-assessed and, where necessary, revised. A patient safety culture should be permanently promoted. Such strategic measures, awareness measures and actual patient safety activities should rely on continuous political and leadership support.

Rationale: the lack of a patient safety strategy, patient safety culture and political/leadership support have been identified as key challenges not only across all PaSQ evaluations, but also in the scope of the current survey and consultations.

Key message: stakeholders at the national level should facilitate communication exchange across all levels and ensure information transfer that reaches those concerned (e.g. providers and patients).

Rationale: deficiencies in communication and information transfer have been identified as a barrier to successful implementation.

Key message: patient safety activities should be accompanied by evaluations to ensure further progress towards successful implementation and enhanced patient safety. Evaluation results should be shared (cf. option concerning IT infrastructure) to avoid redundancy of ineffective or at least inappropriate measures.

Rationale: 'learning from the best' can only be achieved if, among other things, acceptability, feasibility and patient safety outcomes are assessed.

For further options (drawn from previous work), see Table 76

Table 76: Summary of options developed during PaSQ – national level

Options developed during PaSQ	
Patient safety culture	• Promoting education and continuous training for healthcare professionals on patient safety to increase patient safety culture [173].
Quality management systems	• Encouraging the development of strategies (at the national/EU level) for continuing professional development (CPD) to improve quality of care (QC) and patient safety and public trust in the healthcare system. CPD could, for example, provide a positive cultural change in healthcare organisations, improving professional satisfaction and patient care [173].
Empowerment of	• Encouraging the development of incentives (at the national/regional level) for healthcare providers in relation to quality and safety. Valid indicators regarding performance and results should be used to provide those incentives [173].

	• Encouraging clear, transparent and public information on quality of care and patient safety to help patients make informed decisions about their healthcare providers [173].
	• Developing legislation, at the national level, on patients' rights regarding the right to benefit from medical treatment; access to healthcare – preventive, diagnostic and curative treatment regardless of financial means, gender or nationality, in order to satisfy the principles of the Treaty on European Union and of the EU Charter of Fundamental Rights [173].
	• Developing patient involvement initiatives at the national level to increase patients' participation in QC & PS policies [173].
	• Promoting patients' education on patient safety to facilitate their collaboration in the prevention of harm in relation to healthcare and their inclusion as full partners in quality and safety improvements [173].
Collaboration and networks	• Development of national networks with the participation of healthcare authorities, professionals, managers, patients and other stakeholders to promote the collaboration and exchange of knowledge and good practices to improve QC and PS at the national/regional level [173].
	• […] efforts should be made to further disseminate PaSQ's work at the national level. In this context, the role of national authorities is of critical importance, so their participation needs to be strengthened. It is clear that future steps for sustaining the PaSQ platform need to incorporate action for the more active involvement of national health authorities [44].

Options at the regional and local level of healthcare providers

Key message: stakeholders (i.e. patients and providers) should already be involved in the conceptualisation of patient safety activities (express needs) to ensure the acceptability, feasibility and, therefore, the successful implementation of measures.

Rationale: insufficient involvement of stakeholders has been identified as a barrier to successful implementation, so providers' needs should be considered at an early stage.

More specific universal options for the regional/local level do not seem appropriate due to considerable variations in local conditions across countries. For further options (drawn from previous work), see Table 77.

Table 77: Summary of options developed during PaSQ – regional and local level

Options developed during PaSQ	
Patient safety culture	• Promoting education and continuous training for healthcare professionals on patient safety to increase patient safety culture [173].
Quality management systems	• Encouraging the development of incentives at the regional level for healthcare providers in relation to quality and safety. Valid indicators regarding performance and results should be used to provide those incentives [173].
	• Using information from patients (patient questionnaires and/or other methods) to guide quality of healthcare policies at the national/regional level and patient-centred care at the local level [173].
Empowerment of patients/citizens	• Encouraging clear, transparent and public information on quality of care and patient safety to help patients make informed decisions about their healthcare providers [173].
	• Developing patient involvement initiatives at the regional level to increase patients' participation in QC & PS policies [173]. • The importance of patient participation should be stressed and pro-active decision-making (versus reactive decision-making) is expected to be a more effective strategy in any future action [44].
	• Promoting patients' education on patient safety to facilitate their collaboration in the prevention of harm in relation to healthcare and their inclusion as full partners in quality and safety improvements [173].
Transferability	• Transferability seems to be a key aspect to be dealt with and be handled based on the local environment, to enable maximisation of beneficial effects in future. It is clear that more work is needed in future to tackle this complex, multifactorial and critically important issue [44].

General options

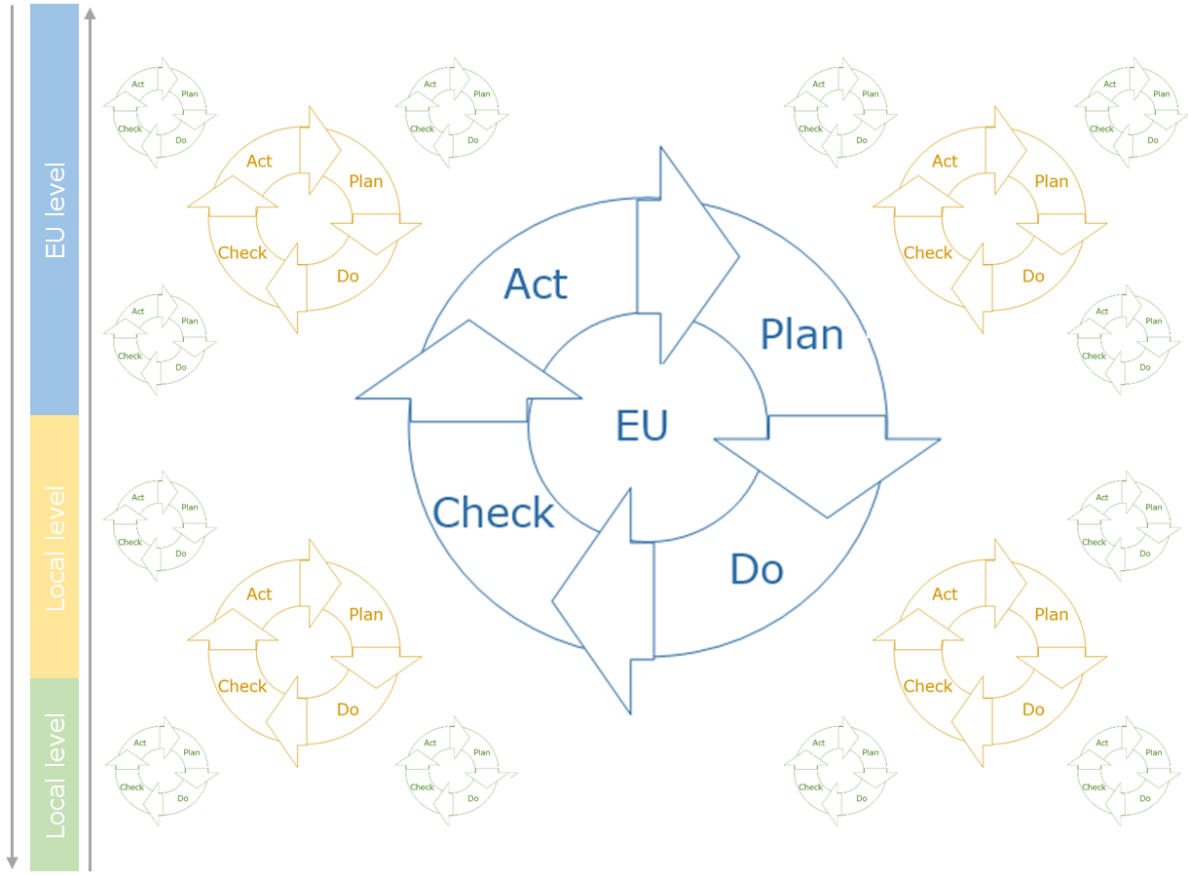
Key message: activities at the European level need to be transferred into action at the local level. Top-down and bottom-up measures should therefore be taken. Their impact should be assessed at the local level.

Rationale: despite European efforts, limited (national/local) action could be at least partly explained by a gap between national and European responsibility in the healthcare sector. All major actors in the field (e.g. healthcare providers) are only directly addressed by national/regional regulations, laws and tariffs. To reach the national and local level, activities at the EU level have to be linked to national and local activities like gear wheels. Information exchange mechanisms across all levels (horizontally, top-down and bottom-up; e.g. via internet platform and exchange events) and stakeholder involvement (e.g. a bottom-up approach to planning specific projects) are two key facilitators that have already been mentioned above. Patients and providers have not been systematically addressed by evaluations (in the context of PaSQ) so far. We therefore lack reliable information about whether the target groups – 'the implementers' and 'the recipients' – have been reached.

Examples of action that is currently being taken at the European level:

- To support the aforementioned transfer from the European to the local level, the Steering Group on Promotion and Prevention[25] is currently not only supporting the Commission in identifying and implementing best practices for increased EU added value in tackling chronic diseases and coordinating expert groups on public health, but also improving collaboration with non-health sectors.
- The European Centre for Disease Control (ECDC) provides resources to increase patient safety and minimise hospital acquired infections[26] (e.g. a directory lists strategies, guidance documents and training courses that are available online on the prevention and control of antimicrobial resistance and healthcare-associated infections)

Figure 26: Mechanisms to transfer European-level activities into the action cycle



Source: GOE FP

Key message: indicators to measure the impact of cooperation should not only focus on the successful establishment of structures (e.g. internet platforms) and processes (exchange mechanisms), but also on specific patient safety outcomes. Appropriate reliable and comparable indicators are a prerequisite for impact assessment studies.

Rationale: the PaSQ Joint Action aimed to support implementation of the Council Recommendations on Patient Safety through cooperation between EU Member States,

[25] http://ec.europa.eu/newsroom/sante/item-detail.cfm?item_id=55918&utm_source=sante_newsroom&utm_medium=Website&utm_campaign=sante&utm_content=Chronic%20diseases%20Steering%20Group%20on%20Promotion%20and%20Prevention%20meets%20today&lang=en.

[26] See: https://ecdc.europa.eu/en/healthcare-associated-infections

international organisations and EU stakeholders in order to share knowledge, experiences and good practices and to contribute to the implementation of selected good practices in Member States. Those PaSQ objectives are directly related to Council recommendations like '*Support the development of national patient safety policies and programmes*' or '*Share knowledge, experience and best practice*'. However, overall, Council Recommendations were formulated to tackle patient safety challenges that had been observed across Member States (noting that Member States were '*at different levels in the development and implementation of effective and comprehensive patient safety strategies*'). Poor patient safety, e.g. the considerable percentage of patients admitted to hospital who suffer from adverse events whilst receiving healthcare or the frequency of healthcare-associated infections during hospitalisation represent a severe public health problem and a high economic burden. That overall aim of improving public health ('Do patients benefit from the measure?') should be kept in mind for all patient safety activities and addressed in evaluations of their impact[27].

Examples of action that is currently being taken at the European level:

- The European Commission promotes and supports the collection of information on patient safety issues and adverse events (in line with the Council's Conclusions of 1 December 2014 on patient safety and quality of care).
- Within the framework of the OECD's Healthcare Quality Indicators, the Commission co-funds ongoing work on patient safety indicators with the objective of consolidating existing indicators, building consensus on additional indicators and improving the capacity of Member States to implement data collection and data production.
- In addition, the Commission collaborates closely with the OECD in its work on patients' experiences, which also includes patient safety elements.

Key message: to assess cross-border patient safety, a safety study focusing on patient outcomes would be needed that is based on reliable data for selected comparable indicators.

Rationale: at present, OECD Healthcare Quality Indicators include rates of retained surgical devices/fragments, post-operative wound dehiscence/pulmonary embolism or deep vein thrombosis/sepsis and obstetric trauma and only a few Member States (are able to) contribute to that comparison. Despite some countries having defined and report further patient safety indicators, more detailed cross-country comparisons are currently lacking due to heterogeneous national approaches.

Information collected by the European Centre for Disease Prevention and Control (ECDC) includes data from most, but not all, Member States on surgical site infections and on infections in intensive care units. ECDC also carries out periodic surveys of healthcare-associated infections in hospitals and in long-term care facilities.

Examples of action that is currently being taken at the European level:

- See above. The work with OECD aims to improve the capacity of Member States to implement data collection and data production.

[27] See Council Recommendation 5b: '…to develop a set of reliable and comparable indicators, to identify safety problems, to evaluate the effectiveness of interventions aimed at improving safety and to facilitate mutual learning between Member States, account should be taken of the work done at national level and of international activities such as the OECD healthcare quality indicators project and the Community Health Indicators project'

12 Conflict of interest

For transparency purposes it is necessary to point out that the Austrian Institute for Quality in Healthcare, one of the divisions of Gesundheit Österreich GmbH (GOEG), was an associated partners within the PaSQ project. The institute was particularly involved in work packages four (Patient Safety Good Clinical Practices), five (Patient Safety Initiatives) and six (EU Collaboration for Healthcare Quality Management Systems). The *Cross-border.Care* team perceives the knowledge acquired during participation in the network as an asset to complete WP2 of the underlying project. Due to the previous involvement we have extensive insight into PaSQ related matters and reporting. Additionally, GOEG has numerous contacts relevant for patient safety matters throughout Europe. This serves as an excellent basis for an efficient utilisation of resources and for the successful completion of this work package. The study *Cross-border.Care* is being carried out by GOE FP another subsidiary of GOEG which was not directly linked to PaSQ. Further, the lead of the *Cross-border.Care* study lies within the Health economics department of GOEG, which was not involved in the PaSQ work packages.
Further, the Austrian National Contact Point for Cross-border Healthcare is located at GOEG. However the responsible person is not part of the *Cross-border.Care* team and was treated like National Contact Points of other Member States. Thus, it was invited to participate in the study's stakeholder panel as well as in the workshop and contribute to the study in this way.

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