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REPORT

on

Operational Support to NCPeH

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LIST OF ABBREVIATIONS

ACRONYM	DEFINITION
BB	Building Block
CBeHIS	Cross Border eHealth Information Services
CEF	Connecting Europe Facility
DSI	Digital Service Infrastructure
EC	European Commission
eHDSI	eHealth Digital Services Infrastructure
eHN	eHealth Network
eHN-LSG	eHealth Network Legal Subgroup
EIF	European Interoperability Framework
eP	electronic Prescription
EU	European Union
IOP	Interoperability
HP	Health Professional
HCP	Healthcare Professional; former term for HP, still found in texts of past projects, such as STORK
JAseHN	Joint Action for support the eHN
LOST	Legal, Organisational, Semantic, Technical
MLA	Multilateral Legal Agreement
MS	Member States (of EU)
NCP	National Contact Point for cross border
NCPeH	National Contact Point for eHealth
NI	National Infrastructure
OFW	Organisational Framework
OFW-NCPeH	Organisational Framework for eHealth National Contact Point
PARENT JA	Patient Registries Joint Action
PoC	Point of Care
PS	Patient Summary
QA	Quality Assurance
ReEIF	Refined eHealth European Interoperability Framework

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1. Introduction

1.1 Purpose of this Document

The purpose of this report is to support monitoring and assessment of the usage and impact of Cross-Border eHealth Information Services (CBeHIS) deployed under the Connecting Europe Facility (CEF), from 2015 to 2017. During 2015 the implementation of CBeHIS has been in a planning and preparation phase.

1.2 Scope

The scope of this document is the description of CBeHIS deployment under CEF eHealth Digital Service Infrastructure (DSI), namely Patient Summary and ePrescription (including eDispensation).

Those services have not yet been deployed in 2015. The document provides an insight into key CBeHIS initiatives that have occurred in the last two years and into Member States' (MS) intentions towards the provision of these services in the years to come.

For these reasons, this report presents not only the current usage of the eHealth National Contact Points (NCPeH), but also a retrospective and a prospective approach on the usage of this asset. However, at this stage, it is not yet an operational report on CBeHIS deployed under CEF eHealth DSI.

This document is structured in a way to:

- i) describe relevant projects related to the NCPeH, their background, and relation to the NCPeH;
- ii) describe the known usage of the NCP reference implementation in 2015, whether by a MS or for another purpose;
- iii) provide an insight in the methodology to assess the usage of NCPeH in the coming years.

1.3 Objectives

The objective of this report is to introduce a tool to the eHN, CEF eHealth DSI and the future OpenNCP Community Governance structure in order to:

- Understand the nature and level of CBeHIS usage of NCPeHs for Patient Summary (PS) and ePrescription (eP) across Europe;
- Gather evidences to support an assessment on the impact of CBeHIS on quality of care; e.g.:
    - Key Performance Indicators (KPI);
    - Number of NCPeH deployed;
    - Number of encounters;
    - Number of PS exchanged;
    - Number of dispensed prescriptions;
    - Others.

As stated above there were no CEF services in place in 2015, thus this deliverable aims to:

- Describe the state-of-play of the countries collaborating in JAseHN regarding their usage of NCPeH;
- Describe the usage of NCP in other contexts;

- Propose a Template for the Operational Support monitoring in 2016 and 2017;

- Gather relevant recommendations from the eHN to consider for future reports to be submitted by the eHMSEG.

2. Background

The operation support to OpenNCP usage during 2015 should be seen as a description of ongoing and finished project landscape as well as the promised mechanisms that may be provided by the CEF eHealth DSI for 2016 and after. Therefore, this chapter describes the main projects and activities relevant for this report.

2.1 epSOS Large Scale Pilots

The epSOS Project is intrinsically related to the history and background of the OpenNCP. epSOS - *Smart Open Services for European Patients* (1) was a Large-Scale Pilot (LSP) project with a duration of 6 years. It started at 1st July 2008.

epSOS aimed to design, build and evaluate a service infrastructure that demonstrates cross-border interoperability between electronic health record systems in Europe (2). The initial goal of epSOS was to develop and test ("pilot") the following use-cases (3):

a. ePrescription - enable patients to receive medication when they are in another European country;

b. Patient Summary - permit health professionals to receive the relevant, translated clinical information stored in the patient's home country ("Patient Summary"). This was only possible in the case of consultation and when the patient gives his/her consent.

For these use-cases, the following services were developed (4):

- Identification Service
- Patient Service
- Order Service
- Dispensation Service
- Consent Service

Later, other services were planned:

- Patient Access
- Health Care Encounter Report (HCER)
- Medical Related Overview (MRO)

The consortium of the epSOS project was composed of 45 members from 22 EU member states and 3 non-EU member states (5).

The initial goal of epSOS was cross-border access to Patient Summary data sets and ePrescriptions; the project had a strong legal and technical focus. Technically, it was based on a service-oriented paradigm. The communication between service consumer and service provider was designed to be always initiated by the service consumer. So, one of the key asset developed in epSOS was an interface, the NCP, enabling the connection between Participating Nations (PNs), and allow them to exchange information.

2.2 The OpenNCP Community and The OpenNCP Technology

In the epSOS project, the NCP was defined as follows (3):

"...A national contact point is an entity in each participating country to act as a bidirectional technical, organisational and legal interface between the existing different national functions and infrastructures. The NCP is legally competent to contract with other organizations on its territory in order to provide the necessary services which are needed to fulfill the business use-cases and support services and processes. The epSOS NCP is identifiable in both the epSOS domain and in its national domain and acts as a communication gateway and establishes trust in the Trusted Domain. As such a NCP is an active part of the epSOS environment if and only if it is compliant to normative epSOS interfaces in terms of structure, behavior and security policies. The epSOS NCP also acts as a mediator as far as the legal and regulatory aspects are concerned…" (…) "The NCP creates the conditions (by supporting trust, data protection and privacy) for a trusted relationship with other countries' NCPs..."

With this asset, each Participating Nation (PN) was intended to have these services through their own NCP acting as a service provider to other PNs and as a gateway for service consumers.

According to epSOS, the NCP is the fulcrum of cross-border interoperability, exploiting the role of connecting the PN to the European Level environment. It had a role in legal aspects in that it (6):

- Gathers all the legal supporting NCP structure;
- Controls the flow of information to and from the PN.
- Has a role at Technical level:
    - Acts as an entry/exit point for a national eHealth infrastructure;
    - Handles semantic and technical adaptations of eHealth applications;
    - Is built from components delivered by the project.

During epSOS, there were evolutions of this NCP solution. The initial solution was the FET Solution (*Fraunhofer Elga Tiani* Solution - epSOS induced), developed by the consortium of beneficiaries and industry team, resulting in a proprietary software solution. A second implementation of the NCP was a country independent initiative with epSOS open common components (SRDC, from Turkey). The third and most recent evolution induced by epSOS is the OpenNCP, a full set of open-source components ready to use by each country. The latter was thought to be a solution for epSOS and beyond, with the help and support of an open community: The OpenNCP Community (7) (8).

The vision of OpenNCP is to:

"*...design and develop a set of Open Source Components (OpenNCP) that can be adopted by Participating Nation, to build their local implementation of the epSOS NCP...*"

This has been supported until now by an open community: The OpenNCP Community is an:

"*...Open group of people orchestrated by an agile software development methodology conducting effort on designing, coding, testing and delivering OpenNCP technology...*"

The Community is based on willing people with common needs that have the skills and expertise, and the motivation and culture to support the OpenNCP technology in the European environment.

OpenNCP is a reference implementation from epSOS specifications that are still under development taking input from international eHealth projects (e.g. e-SENS, Trillium Bridge and STORK innovations - described

in the next sub-chapters). The specification evolution influences the OpenNCP Technology Roadmap so that beyond maintenance and support, the community also devotes efforts for development and integration activities.

The OpenNCP Community is currently active, and structured under a Governance Model (9).

The structure is composed of a Steering Committee, a Technical Committee and the Development Team. The communication between the team and the committees is currently made through conference-call meetings, and all the related information on current activities can be consulted in the OpenNCP Knowledge Platform (10).

2.3 EXPAND Technical Maintenance Shop

EXPAND – Expanding Health Data Interoperability Services (11) - in its own definition, is a (…) "*Thematic Network which main goal is to progress towards an environment of sustainable cross-border eHealth services, established at EU level by the Connecting Europe Facility (CEF) and at national level, through the deployment of suitable national infrastructures and services.*"

Project funded by the European Commission Competitiveness and Innovation Programme (CIP) within the ICT Policy Support Programme. The project started in January 2014 and ended Dec 2015. The Thematic Network counted with 17 countries as partners of and 24 beneficiaries as active collaborators.

EXPAND maintained, updated and upraised epSOS assets and prepared them for their handover to CEF, and beyond, engage other projects and initiatives, exploring new opportunities and assets, while maintaining them in line with the Directive 2011/24/EU (11).

Until end 2015 EXPAND was the owner of the OpenNCP Technology and Community assets (12), and one of the goals was to:

"*...follow up on relevant recommendations and decisions taken by the eHN and support the subgroup of MS for the upkeep of epSOS services primarily through sustaining the operation of common services and maintaining the open NCP community...*"

The work of this project was organized in five work-packages (WPs):

- WP 1 – Project Coordination;
- WP 2 – Dissemination;
- WP 3 – eHealth Interoperability Assets;
- WP 4 – Assessment Model;
- WP 5 – Moving to CEF.

The WP 5 aimed to move assets from epSOS (and other project and initiatives) into an interoperability assets information repository. Also this WP aimed to describe a sustainable system that could be implemented for the benefit of CEF (11).

There was a mapping from EXPAND to the eHealth European Interoperability Framework (eHealth EIF) as refined by Antilope (13) (14). This resulted into a division into several Maintenance Shops (MSh): Legal & Organizational, Specifications, Semantic, Technical, Testing, Deployment and Operations (14).

For the purpose of this document, it is considered relevant to briefly describe the scope of three of these MSh:

- Specifications MSh

- Maintain specification assets selected by EXPAND from projects such as epSOS, e-SENS, Trillium Bridge.
- Handle the Change Proposal procedures while keeping aligned with other MSh.

- Testing MSh
  - Maintain the testing strategy and testing tools for the OpenNCP assets and their extension for any component selected by EXPAND (epSOS, e-SENS, Trillium Bridge, etc.).
- Technical MSh
  - Focus on key assets – OpenNCP Community, Technology and epSOS Central Services.
  - Implement changes introduced by specification MSh and perform the tests defined by Testing MSh, having this way an alignment with the other MSh.

2.4 e-SENS eHealth Domain Pilot

e-SENS - *Electronic Simple European Networked Services* (15) is an European Union (EU) co-funded Large Scale Pilot (LSP) project under the Information and Communication Technologies Policy Support Programme (ICT PSP).

e-SENS aims to consolidate, improve, and extend technical solutions to foster electronic interaction with public administrations across the EU, by developing an interoperability digital infrastructure to facilitate access of citizens and businesses to public services across borders, namely:

i) Provide easy access to public administration online;

ii) Use the potential of ICT, to ensure interoperability across different national systems;

iii) Develop generic and re-usable solutions for electronic services in public administration.

e-SENS is a technological pilot-project, based on the purpose of consolidating and improving results of previous or ongoing LSP projects (e.g. epSOS), by aligning common Building Blocks (BBs), transversal to several domains: e-Health, e-Procurement, e-Justice, Business Setup.

The project started in April 2013 with a planned timeframe of 36 months. Meanwhile the project had an extension for further 12 months until March 2017.

e-SENS has adopted e-Health use-cases with direct impact on the reference implementation for cross-border eHealth services: the OpenNCP. These use-cases are:

i) ePrescription/eDispensation;

ii) Patient Summary.

e-SENS proposes to improve eHealth by enhancing the technical infrastructure of the NCP's, with the inclusion of e-SENS BBs, to create an additional secure link with the European infrastructure developed under the project. The eHealth BBs proposed by e-SENS to be integrated in the OpenNCP are described in Chapter 3.

With the inclusion of such BBs, e-SENS intends to improve efficiency, cost-effectiveness, safety and confidence in cross-border health care, in particular:

- Support the delivery of safe and high-quality health care to EU citizens;
- Provide citizens with access to health care abroad;
- Foster reliable, safe and secure cross-border data exchange;
- Improve usability for health professionals.

2.5 Stork 2.0 eHealth Pilot

The eHealth pilot of the LSP STORK 2.0 (16) is aimed at:

- Adapting or extending existing eHealth Services as well as the epSOS NCP using eID for patients and Health Care Professionals (HCPs);
- Allowing online cross-border authentication to patients and duly delegated representatives using an eID credential;
- Enhancing conventional identification processes like those in epSOS. HCPs and patients can access Electronic Health Records regardless of their location through eID authentication.

The pilot is expected to:

- Make the use of eID identification and authentication in the eHealth sector a common practice;
- Support HCPs in cross-border access to patients' medical data.

This pilot in the health sector is based on the assumption that requirements for an electronic identification in eHealth are very similar to those in eGovernment. The use-cases of patients' cross-border access to their personal health data are fully compliant with the EU Directive 2011/24/EU on the application of patients' rights in cross-border health care as well as to the Data Protection Directive, which generally constitutes the right for individuals to have access to their personal health data. Thus, this pilot leverages the existing STORK infrastructure to be used in an area with the highest data protection requirements.

The eHealth pilot provides three use-cases to be applied as a toolset according to national and cross-border requirements. During piloting all three use-cases were implemented in national eHealth services as well as in the OpenNCP.

UC1 - Patient access to electronic health records (EHRs)

The eHealth pilot ensures easy and secure access to medical documentation in foreign countries. Without any interference, citizens can access their health data, authenticating themselves with their domestic eID at a foreign service.

UC2 Representative access to electronic health records

This use-case enhances the use-case above by enabling mandated access to third parties, like family members or HCPs through the use of eID authentication credentials.

UC3 - Health care professional identification via STORK attributes

In this use-case, STORK authentication service solution enables identification of HCPs by providing attributes which indicate the individual's health care related profession.

STORK2.0 officially ended on 30th September 2015. Piloting 'pure' STORK2.0 technology still takes place in Austria with the nationwide Epidemic Surveillance System (all three Use-Cases as Service- and Attribute Provider with level-4-HCP-registry), in Italy in Regional Hospital Milano (Service Provider for use-cases one

and two on level-4, accepting mandates), in Sweden with HCP-registry (Attribute Provider on level-3 in use-case three), and in Turkey with National Vaccination register (use-case one in preproduction)

In addition, the OpenNCP has been enhanced by STORK2.0 eID as a basis for all three use-cases. Piloting in preproduction still takes place in the frame of collaboration between Austria and Switzerland.

The following points can be considered as lessons learnt:

- Use-case 3 needs national HCP-registries as source for Attribute Provision (AP);

- Health sector needs conceptual as well as operational connection to national eGovernment infrastructures.

2.6 Trillium Bridge Experience

The Trillium Bridge Project, a co-funded project by the European Commission, aimed to "(…) support action extends the European Patient Summaries of epSOS and Meaningful Use II, Transitions of Care in the United States to establish an interoperability bridge that will benefit EU and US citizens alike, advancing eHealth innovation and contributing to the triple win: quality care, sustainability and economic growth".

The goal defined in Trillium Bridge was to achieve transatlantic exchange of clinical data for the meaningful exchange of Patient Summaries and Electronic Health Records through an interoperability bridge between the United States (US) and the European Union (EU).

The projected lasted 24 months (17) between July 2013 and June 2015.

Two main use-cases were identified, using patient summaries in an unplanned care setting: a Patient-Mediated scenario, and a Provider-Mediated scenario.

In the current document, it should be presented the real outcomes and achievements of the project and how the OpenNCP Community contributed to them. Due to lack of documentation and liaison with the project members, it must be considered as an improvement point to be addressed in the future.

3. Operational Support to OpenNCP usage during 2015

Since there was no CEF eHealth DSI in place in 2015, this chapter of this report of CEF Operational Support on OpenNCP Usage focuses on the context and status of the cross-border eHealth services currently taking place in the EU, the technical implementation used for this purpose, and the scope of the OpenNCP usage in particular.

3.1 Implementation State of Play

Chapter 2 describes the OpenNCP Technology, its background and the Community supporting it. The technological asset of the NCP is available for those MS interested in the adoption for cross-border eHealth services. It is important to assess MS's utilization of this type of services, and if they are using the OpenNCP reference implementation, or other technological solutions, for this purpose.

OpenNCP

For the purpose of evaluating cross-border eHealth service usage with the OpenNCP reference implementation, a major input was used: data provided by WP6, namely from JAseHN deliverable 6.1.1 - Report on the implementation of the Patient Summary Guideline.

It is important to highlight that this report is based on the usage of OpenNCP for the Patient Summary use-case. However, some MS may have used the OpenNCP or other similar implementations for CBeHIS in

different scenarios, like the eP use-case. Thus the information in this annual report may not be fully accurate. MS may have OpenNCP installed and running for the eP use-case. These situations may be identified in the next report to be submitted by the eHMSEG.

The deliverable 6.1.1 gathered feedback on *Patient Summary Guidelines* with a questionnaire that was answered by each of the MS collaborating in JAseHN.

Some questions from the questionnaire have been used as material for this report, on both levels: i) Organizational Preparedness and Interoperability; ii) Technical Preparedness and Interoperability. The raw data from the following questions was used for the assessment presented in this deliverable 5.6.2.1:

- Question 11. *Does your country have an eHealth National Contact Point (NCP) for the purposes of ensuring interoperability across national borders towards other Member States?*

- Question 27. *Does your country have a standardized software solution supporting cross-border exchange of personal healthcare data, with specifications of protocols, procedures and exchanged documents in place?*

- Question 28. *Does your country make use of the open source components developed in epSOS and released for all in the "JoinUp" EC-supported Open Source Community?*

- Question 29. *Which of the following functionalities apply to your software solution supporting cross-border exchange of personal healthcare data exchange:*

- Question 30. *Did your country establish a software solution supporting cross-border exchange of personal healthcare data in a way that it supports the environments for both interoperability testing, clinical end validation, data quality improvement and the operation environment for patient data exchange?*

Question 11 asked which MS have an entity responsible for the NCPeH role. This question had four distinct possible answers: i) "Yes, the eHealth NCP role is set up and operates as suggested by the Patient Summary guidelines"; ii) "Yes, the eHealth NCP role is set up but does not operate as suggested by the Patient Summary guidelines"; iii) "No"; iv) "I don't know".

Figure 1 provides an estimate on the number of MS with an eHealth NCP role identified. Based on this data 44% of the MS have the eHealth NCP role defined in their countries, while 52% of the MS do not have this role set up.

		Answers			
		Yes, the eHealth NCP role is set up and operates as suggested by the Patient Summary guidelines	Yes, the eHealth NCP role is set up but does not operate as suggested by the Patient Summary guidelines	No	I don't know
Countries	Austria	x			
	Denmark		x		
	Malta			x	
	Italy			x	
	Bulgaria			x	
	Portugal	x			
	Norway			x	
	Luxembourg	x			
	Estonia				x
	Finland		x		
	Romania			x	
	Czech Republic			x	
	Hungary		x		
	Greece			x	
	France			x	
	Spain		x		
	Belgium			x	
	Cyprus			x	
	Lithuania	x			
	United Kingdom		x		
	Latvia			x	
	Ireland			x	

Figure 1 - Answers from MS to Question 11.

The remaining questions provide a more clear insight on a level of technical implementations throughout the MS. From the answers to Question 27, it is possible to find out which type of technological solutions are adopted to support cross-border exchange of health care data. The MS had six possible answers for this question:

Question 27. Does your country have a standardized software solution supporting cross-border exchange of personal healthcare data, with specifications of protocols, procedures and exchanged documents in place?

Countries	Answers: Yes, an OpenNCP Portal solution	Yes, an epSOS-Web solution	Yes, a national solution based on epSOS functional specifications	Nothing from the above	I don't know	N/A
Austria	x					
Denmark		x				
Malta	x					
Italy						x
Bulgaria				x		
Portugal	x		x			
Norway						x
Luxembourg	x					
Estonia			x			
Finland	x	x				
Romania				x		
Czech Republic					x	
Hungary						x
Greece	x	x				
France				x		
Spain			x			
Belgium				x		
Cyprus					x	
Lithuania			x			
United Kingdom			x			
Latvia						x
Ireland				x		
Germany						x
Croatia	x					
Sweden						x

Figure 2 - Answers from MS to Question 27

i) "Yes, an OpenNCP Portal solution"; ii) "Yes, an epSOS-Web solution"; iii) "Yes, a national solution based on epSOS functional specifications"; iv) "Nothing from the above"; v) "I don't know"; vi) "N/A". Figure 2 shows the answers to this question. Austria, Malta, Portugal, Luxembourg, Finland, Greece and Croatia reported to have an OpenNCP Portal solution (28%), while Denmark, Finland and Greece report to have an epSOS Web solution (12%). Some countries reported to have a National Solution based on epSOS functional specifications: Portugal, Estonia, Spain, Lithuania and United Kingdom (20%). Other countries stated that the solution was none of the options given: Bulgaria, Romania, France, Belgium and Ireland (20%). It cannot be concluded which type of solutions are used for this purpose in this situation. Czech Republic and Cyprus answered "I don't know" (8%), while Italy, Hungary, Norway, Latvia, Germany and Sweden answered "N/A" (20%). No conclusions can be made from these three last answers so far. It is possible that a clearer perception about the solutions on these countries will be made in the D 5.6.2.2, the Annual Report on the

OpenNCP usage of 2016.

		Answers			
		Yes	No	I don't know	N/A
Countries	Austria	x			
	Denmark	x			
	Malta	x			
	Italy				x
	Bulgaria		x		
	Portugal	x			
	Norway		x		
	Luxembourg	x			
	Estonia			x	
	Finland	x			
	Romania			x	
	Czech Republic		x		
	Hungary		x		
	Greece	x			
	France		x		
	Spain	x			
	Belgium		x		
	Cyprus			x	
	Lithuania	x			
	United Kingdom		x		
	Latvia				x
	Ireland		x		
	Germany		x		
	Croatia	x			
	Sweden	x			

Figure 3 - Answers from MS to Question 28.

Moving to the assessment of the usage of the OpenNCP open-source components available in the EC's JoinUp (18), from the

Question 28. Does your country make use of the open source components developed in epSOS and released for all in the "JoinUp" EC-supported Open Source Community?

…Figure 3, it is possible to observe which 11 of the 25 MS answered positively (44%). On the other hand, 9 MS replied negatively (36%). 3 MS answered "I don't know", while 2 MS answered "N/A". As in the last question, no conclusions can be made from these two last answers.

It is also important to understand the functionalities used by each MS in their technical implementation for cross-border eHealth services. The Question 29 from the deliverable 6.1.1 intends to assess these functionalities.

Question 29. Which of the following functionalities apply to your software solution supporting cross-border exchange of personal healthcare data exchange

The MS could answer to one or more options from the following: i) "Security management"; ii) "Health professional authentication"; iii) "Patient identification"; iv) "Consent management"; v) "Document exchange"; vi) "Audit logging"; vii) "Documenting of the semantic transformation between national structure, adopted coding systems and language and the document interchange format of the "pivot document""; viii) "Nothing from the above"; ix) "I don't know"; x) "N/A"; xi) "Other".

Figure 4 represents the functionalities used by the technological solutions from each MS.

It is possible to understand that the main functionalities used are the Patient Identification and Document

	Answers										
	Security management	Health professional authentication	Patient identification	Consent management	Document exchange	Audit logging	Documenting of the semantic transformation between national structure, adopted coding systems and language and the document interchange format of the "pivot document"	Nothing from the above	I don't know	N/A	Other
Austria	x	x	x	x	x	x	x				
Denmark	x	x	x		x	x					
Malta	x	x	x	x	x	x	x				
Italy										x	
Bulgaria								x			
Portugal		x	x	x	x		x				
Norway										x	
Luxembourg	x	x	x	x	x	x	x				
Estonia	x	x	x	x	x	x					
Finland	x	x	x	x	x	x	x				
Romania								x			
Czech Republic										x	
Hungary										x	
Greece	x	x	x	x	x	x	x				
France	x	x	x	x	x	x					
Spain	x	x	x		x	x	x				
Belgium								x			
Cyprus									x		
Lithuania			x		x						
United Kingdom	x		x	x	x						
Latvia										x	
Ireland										x	
Germany										x	
Croatia	x	x	x	x	x	x	x				
Sweden	x		x		x	x	x				

Figure 4 - Answers from MS to Question 29.

Exchange (14 MS, 56%); Security Management (12 MS, 48%); Health Professional Identification and Audit Logging (11 MS, 44%); Consent Management (10 MS, 40%); Documenting of the semantic transformation between national structure, adopted coding systems and language and the document interchange format of the "pivot document" (9 MS, 36%). 3 of the MS stated that the functionalities were not in the option list provided, while 1 MS answered "I don't know". 7 MS answered "N/A".

To extend the overview of each MS status regarding the technological solutions available, Question 30 from deliverable 6.1.1 was also considered.

Question 30. Did your country establish a software solution supporting cross-border exchange of personal healthcare data in a way that it supports the environments for both interoperability testing, clinical end validation, data quality improvement and the operation environment for patient data exchange?

	Answers						
	Yes, with an interoperability testing environment	Yes, with a clinical end validation environment	Yes, with data quality improvement environment	Yes, with operation environment	Nothing from the above	I don't know	N/A
Austria						x	
Denmark	x			x			
Malta	x	x	x				
Italy							x
Bulgaria					x		
Portugal	x						
Norway							x
Luxembourg	x	x	x	x			
Estonia	x	x	x	x			
Finland	x	x		x			
Romania		x	x	x			
Czech Republic					x		
Hungary	x						
Greece	x						
France	x						
Spain	x	x	x	x			
Belgium					x		
Cyprus					x		
Lithuania	x		x				
United Kingdom	x	x					
Latvia							x
Ireland					x		
Germany							x
Croatia	x	x	x				
Sweden							x

Figure 5 - Answers from MS to Question 30.

This question aims to understand if the solutions "*support the environments for both interoperability testing, clinical end validation, data quality improvement and the operation environment for patient data exchange*". The MS had the possibility to choose one or more of the following seven answers: i) "Yes, with an interoperability testing environment"; ii) "Yes, with a clinical end validation environment"; iii) "Yes, with data quality improvement environment"; iv) "Yes, with operation environment"; v) "Nothing from the above"; vi) "I don't know"; vii) "N/A".

The results of these questions can be observed in Figure 5. It can be highlighted that 6 (24%) of the MS stated that their solution for cross-border exchange of health information supports an Operation Environment. 13 MS (52%) state that their solution supports an environment for interoperability testing. 8 MS (32%) state that the solution supports a clinical end validation environment, while 7 MS (28%) refer having a quality improvement environment. 5 MS answered "Nothing from the above" (20%), while 1 MS answered "I don't know". 5 MS answered "N/A".

Other implementation

Since this deliverable 5.6.2.1 aims to report the OpenNCP usage, we consider the usage of "other implementations" for eHealth cross-border services out of scope. If considered relevant it may be reported in a future report to be submitted by the eHMSEG.

3.2 Development Activities

The OpenNCP reference implementation has been upgraded with technological inputs from other projects described in Chapter 2. During 2015, the e-SENS and Trillium Bridge promoted some changes that are still being adopted by the OpenNCP Community and adopted by the MS.

The e-SENS project planned to integrate three specific BBs, designed in alignment with eHealth requirements, to the OpenNCP. These BBs are: i) Non-Repudiation (Evidence Emitter); ii) Configuration Services (Refactoring) and Trust Establishment - SMP/SML solution; iii) eID.

In 2015, the OpenNCP has integrated the BB Non-Repudiation (Evidence Emitter), and the eID Level 1[1]. Integration of the Level 2 stage of eID was pursued in 2015. The Configuration Services (Refactoring) and Trust Establishment – SMP/SML solution (service metadata provider / service metadata locator) was being assessed by e-SENS, EXPAND, European Commission (EC) teams, and other interested stakeholders.

In 2015, there were 5 countries piloting the eP/PS use-case with the enhancements achieved from e-SENS: Greece, Italy (through Lombardy Region), Luxembourg, Portugal, and Spain.

These countries adopted the new versions of the OpenNCP, and set up their Pre-Production Testing (PPT) Environments for enabling the exchange of information between them.

Greece piloted the eP use-case as country B (eP-B), and aiming for the PS as country A (PS-A). Italy piloted eP-A and PS-A, while the PS-B remained as a possibility. Luxembourg piloted PS-B, and Portugal the full PS use-case: acting both as country A and B. Spain intended to pilot the PS-A, keeping the possibility of PS-B.

Besides e-SENS, Trillium Bridge also promoted some changes in the OpenNCP. These changes were mainly at its OpenNCP Portal Level, to enable the exchange of Patient Summaries and Electronic Health Records between the European reference implementation OpenNCP and the USA infrastructure.

The Trillium Bridge had in its Consortium the presence of industry partners, Standardization Organizations and European MS Health Ministries, namely: Italy, Portugal and Spain.

The STORK project was also part of the OpenNCP developments of year 2015, with, for instance, a new plugin enhancement made available within an OpenNCP release.

The community also tried to improve the NCP by making new developments or providing support when issues were found by any of the interested parties adopting the OpenNCP. The new developments/bug fixes were included in the new releases of the OpenNCP software solution, and made them available after QA processes.

In 2015, the OpenNCP saw one Release (2.2.0) and three Release-Candidates (2.2.0 RC-1,2,3). A fourth release was targeted before the hand-over to CEF.

[1] The eHealth eID BB proposed within e-SENS is divided into different levels of complexity and dependencies from other projects (like STORK 2.0, and the different status of the National Infrastructures of each Participating Nation).

3.3 Testing Activities

The OpenNCP Technology was used for interoperability testing in the IHE 2015's Connectathon in Luxembourg. This type of event intends to test the interoperability of products in a structured environment with peer vendors. In IHE Connectathons, participants test against multiple vendors using real world clinical scenarios following IHE Integration Profiles specifications.

IHE Connectathon is a connectivity testing marathon with several benefits for the companies or MS, allowing the test of products' developed and implemented with IHE profiles.

Besides testing solutions for IT Infrastructure, Radiology, Cardiology, Patient Care Coordination, Pathology, Laboratory, Pharmacy, Patient Care Devices and Dental domains, IHE also allows the opportunity for European Projects to test their solutions (19).

In 2015, some MS participated in this event: i) Luxembourg; Portugal; GNOMON (Greece); Croatia; the European Commission.

In this event, amongst other aspects, the conformance of the IHE profiles used by the OpenNCP solution was tested, as well as the Non-Repudiation (Evidence Emitter) BB from e-SENS integrated within the OpenNCP.

3.4 EXPANDATHON

EXPAND project organized a final event that took place in Lisbon, from 11th of December 2015 with a parallel a technical event – the EXPANDathon (a Connectathon of EXPAND).

The remainder of this section is a content reproduction of sections *2.2.4 Member State readiness assessment* and *2.2.5 Member State readiness questionnaire* of D1.7 *Report on MS activities and usage of assets – Year 2*, Revision 1.0 of 25 February 2016, produced by EXPAND project in the scope of project commitments with EC (Grant Agreement) and submitted to the Project Officer for Project Final Review. EXPAND D1.7 is public and can be found at EXPAND website (www.expandproject.eu).

One of the aims of this technical event was to give participating MS the opportunity to assess their readiness for deployment of cross-border eHealth services.

In practice MS were invited to participate (as service providers or observers) and assess their NCPeH communication gateway readiness for service operation.

During this event, it was important to collect more information on:

- Which Members States are technically ready;
    - What is the state of POT (Pre-Operation Testing) and OP (Operation) environments;
    - For testers, what is the state of National Infrastructure;
- Which Members States participated in the event as observers;
    - For observers, which are their intentions;
    - For observers, which are their stress points;

The EXPANDathon event, supported and enhanced by EXPAND and IHE, gathered some countries in the same room for testing their NCPeH solutions according to IHE profiles, in a similar environment as a usual Connectathon.

In Lisbon, the countries that tested their NCPeH were divided into two sub-groups: i) testers; ii) observers.

The countries were[2]:

- Portugal
- Luxembourg
- Italy (Lombardy)
- Greece
- Austria
- Switzerland
- Croatia
- Malta
- Cyprus
- Sweden (observers)
- United Kingdom (observers)
- France (observers)
- Germany (observers)
- Bulgaria (observers)
- Slovenia (observers)
- European Commission (observers + monitors)

A questionnaire was created to gather information about the Open NCP and the intentions from each country for the near future about this technological solution and the use-cases to be followed.

The questionnaire was shared during day three of EXPANDathon, to minimize the impact of the work being performed by both testers and observers during the event.

The questionnaire was made publically available through a Google Forms page:

https://docs.google.com/forms/d/1D5DIBdLvSdYLYmHeVjSo_jrsHvNBZ3XTvOJshm4RYuc/

The questionnaire intended to cover:

- State of play of the NCPeH in each country, in POT (Pre-Operation Testing Environment) and in OP (Operation Environment);
- Use-cases enabled by the NCPeH in such environments;
- Usage of the NCPeH for cross-border exchange of information in OP environment;
- Intention of installing the NCPeH in the near future, and use-cases to pursue;
- Level of the main constraints identified by the countries.

The list of questions present in the questionnaire were:

- Identification:
    - Name;
    - Representing the Country;
    - Company;
    - Role in the Company/Country;

[2] List provided by EXPAND.

- Questions:

1. Do you have a NCPeH (NCP for eHealth) installed in your country?
2. Is your NCPeH based on the OpenNCP reference implementation?
3. Is your NCPeH installed and ready to use in POT (Pre-Operation Pilot)?
4. Is your NCPeH installed and ready to use in OP (Operation)?
5. Which are the use-cases the NCPeH enables in your country (both for POT or OP)?
6. Do you have real patient's clinical data exchange with other countries (OP) using your NCPeH?
7. Is your country's intention to have an NCPeH installed and ready to use in 2016?
8. If yes, which use-cases do you intend to follow?
9. What do you consider to be the nature of the main constraints to deploy such kind of services?
10. What is the state of your National Infrastructure?
11. (For observers) What are your intentions and expectations as observers?
12. (For observers) What do you consider to be the stress points?
13. Observations / Notes

Answers from 11 countries were obtained: Portugal, Luxembourg, Italy (Lombardy), Greece, Austria, Switzerland, Croatia, Malta, Sweden, United Kingdom, France.

The question 1, "*Do you have a NCPeH (NCP for eHealth) installed in your country?*" intends to assess the presence of the NCPeH in each country. Figure 6 represents the answers obtained.

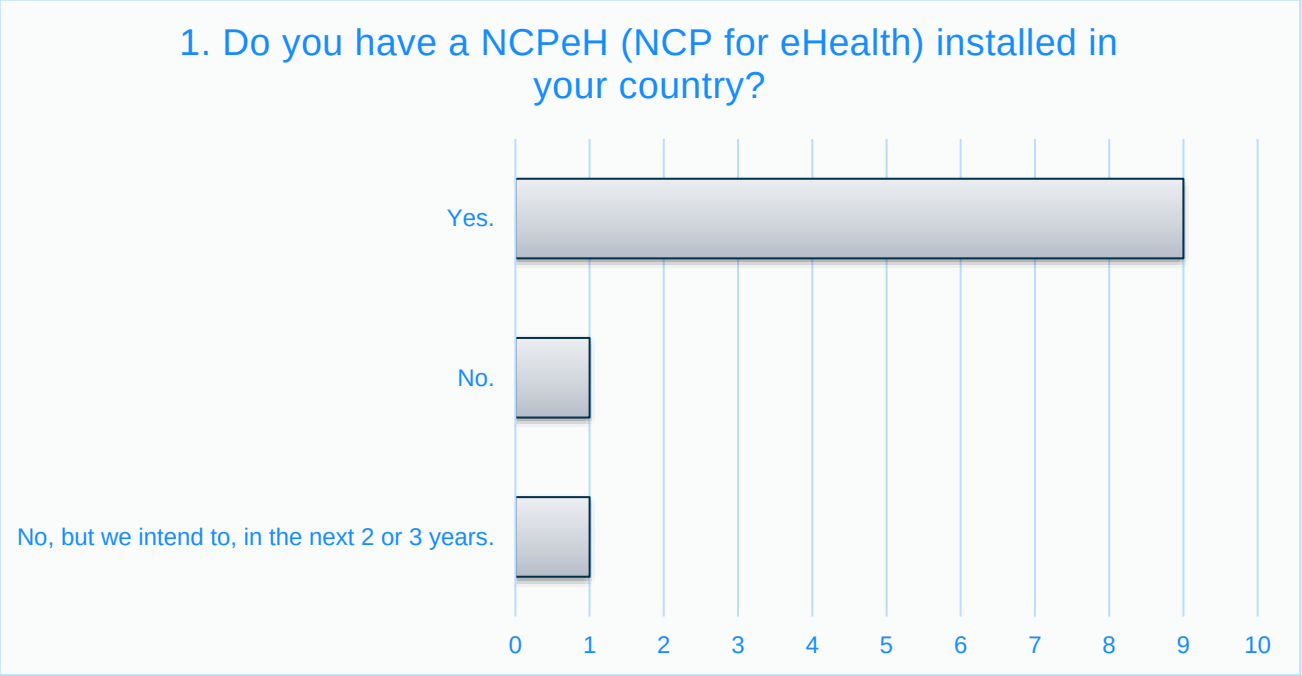

Figure 6 -

Figure 6. Answers from countries to EXPANDathon Questionnaire: Question 1.

It is possible to see that 9 countries already have an NCPeH in their own national environment (regardless of POT or OP environment), and one intends to have in the next 2 or 3 years. Portugal, Luxembourg, Italy (Lombardy), Greece, Austria, Croatia, Malta, Sweden and Switzerland answered 'Yes' to this question, France answered 'No, but we intend to, in the next 2 or 3 years', and the UK answered 'No'. The percentage of answers is shown in Figure 7.

Question 2 from this questionnaire was: "*Is your NCPeH based on the OpenNCP reference implementation?*". This

Figure 7. Answers from countries to EXPANDathon Questionnaire: Question 1, in percentages.

question intended to be answered only for the countries who answered 'Yes' to Question 1 (9). Figure 8 demonstrates a graphical overview of the answers provided, to assess the type of NCPeH in each country.

It is possible to observe that 7 from 9 countries have an NCPeH based on the OpenNCP reference software provided by the OpenNCP Community and updated in the previous year, while 2 other countries have an NCPeH based on the reference implementation but not updated in the past year (2015).

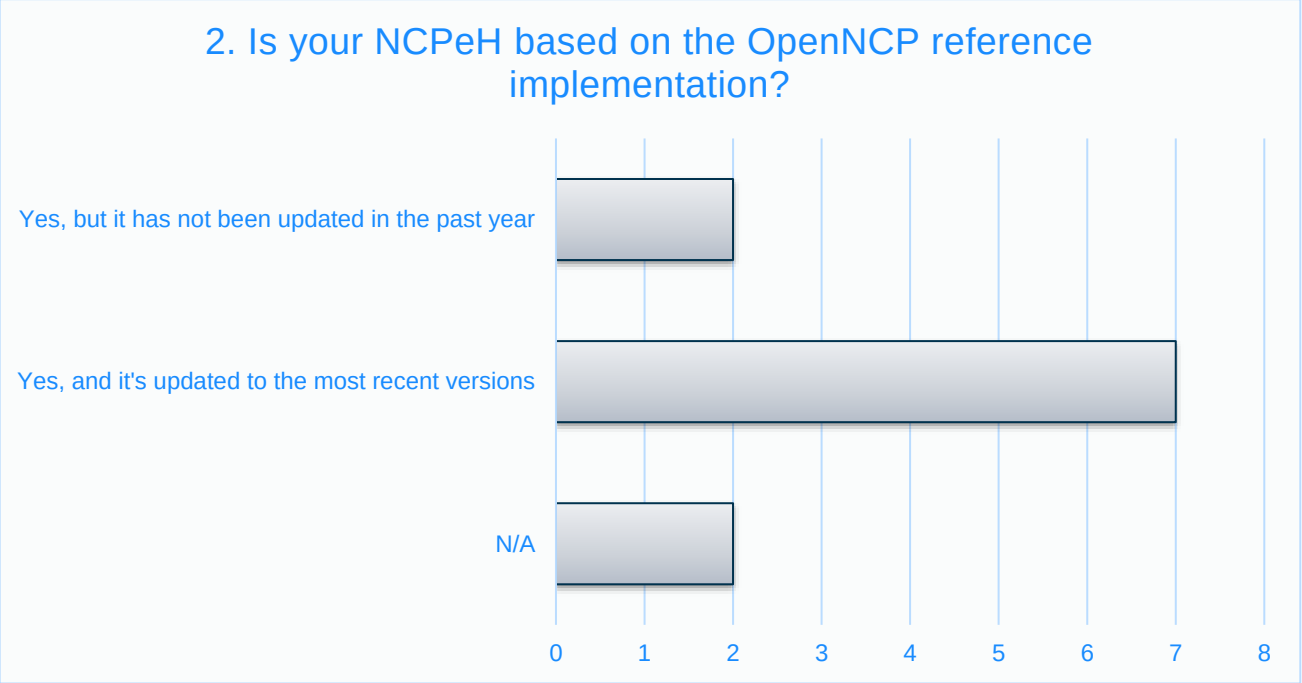

Figure 8. Answers from countries to EXPANDathon Questionnaire: Question 2.

Figure 9 represents the answers obtained to Question 3: "*Is your NCPeH installed and ready to use in POT (Pre-Operation Pilot)?*". This question, as well as Question 4: "*Is your NCPeH installed and ready to use in OP (Operation)?"* intend to observe the readiness of the NCPeH in bot POT and OP scenarios.

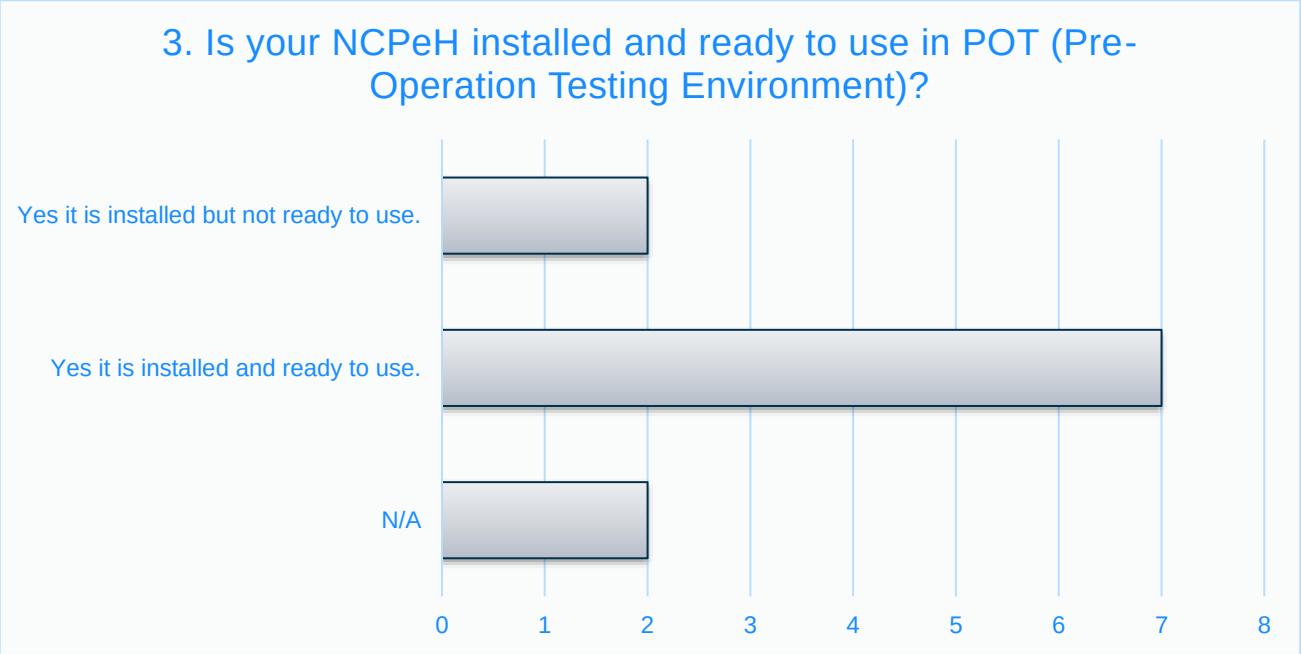

Figure 9. Answers from countries to EXPANDathon Questionnaire: Question 3.

7 of the 9 countries stated that the NCPeH is installed and ready to use in POT environment, and 2 countries – Sweden and Austria – reported their NCPeH is installed but not ready to use in such environment, although an observation has been made from Austria in the Observations section: "*Which POT? Which Pilot? It is unclear from the form*".

Concerning OP environment, Figure 10 shows a perspective of the technical readiness of the NCPeH (Question 4).

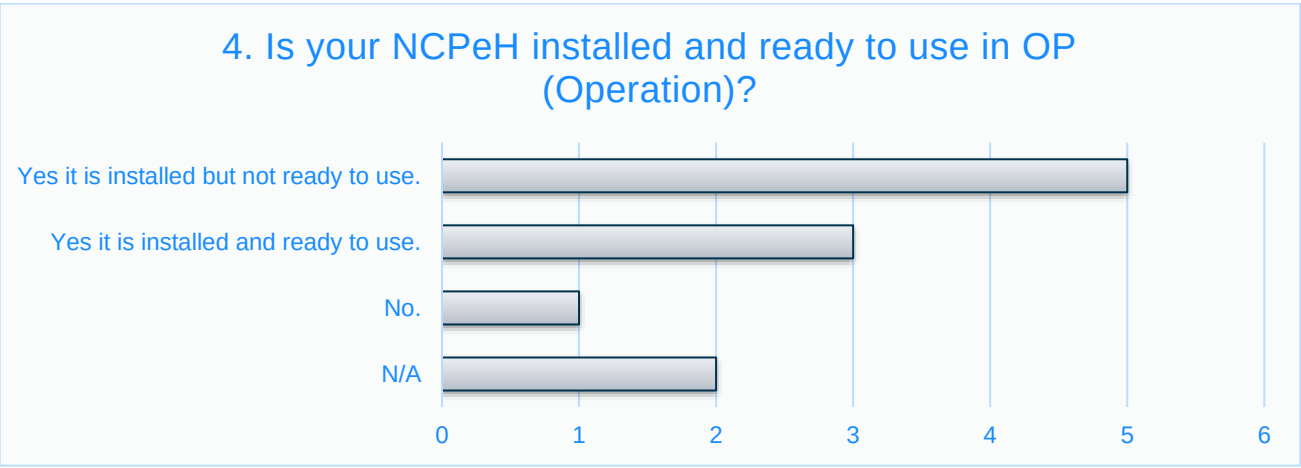

Figure 10. Answers from countries to EXPANDathon Questionnaire: Question 4

The answers for this question show that most of the countries participating in EXPANDathon have the NCPeH installed but not ready to use in OP environment (5 countries – Portugal, Luxembourg, Greece, Austria, Croatia). Portugal added an observation about this question: "*Not ready to use because it lacks the last technical updates and certificates, as well as the correct legal arrangements for exchange health data in cross-border contact*". To the opposite, 3 countries state they have their NCPeH installed and ready to use in OP: Italy (Lombardy), Switzerland and Malta. 1 country does not have the NCPeH in OP environment set up: Sweden.

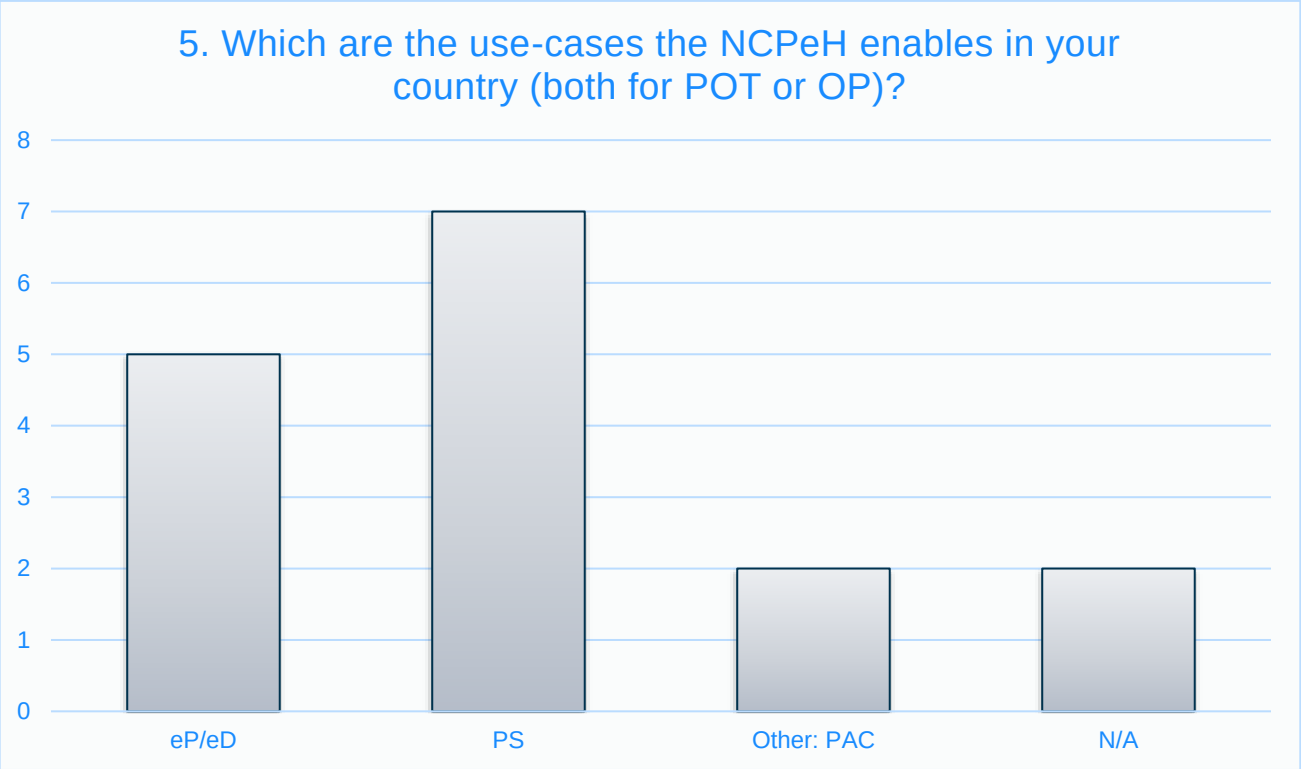

Figure 11. Answers from countries to EXPANDathon Questionnaire: Question 5.

Figure 11 shows the results to question 5, "*Which are the use-cases the NCPeH enables in your country (both for POT or OP*. 7 countries report to have the PS use-case enabled by their NCPeH: Portugal, Luxembourg, Italy (Lombardy), Greece (added an Observation: "*eP only as country B*"), Austria, Malta, Switzerland. 5 countries report having eP/eD enabled by the NCPeH: Italy (Lombardy), Greece, Austria, Croatia (observation added about this question: "*We did PS in PPT as country B. We are interested in the future to have also the other side - country A*") and Sweden. Small remarks to this question were also made by Portugal: "*Currently Patient Summary, but expected ePrescription (eDispensation) during 2016*" and by Switzerland: "*eP/eD may be available by end of 2016 for Geneva region*".

2 countries also stated another use-case enabled by the NCPeH: Patient ACcess (PAC) – Italy (Lombardy) and Greece.

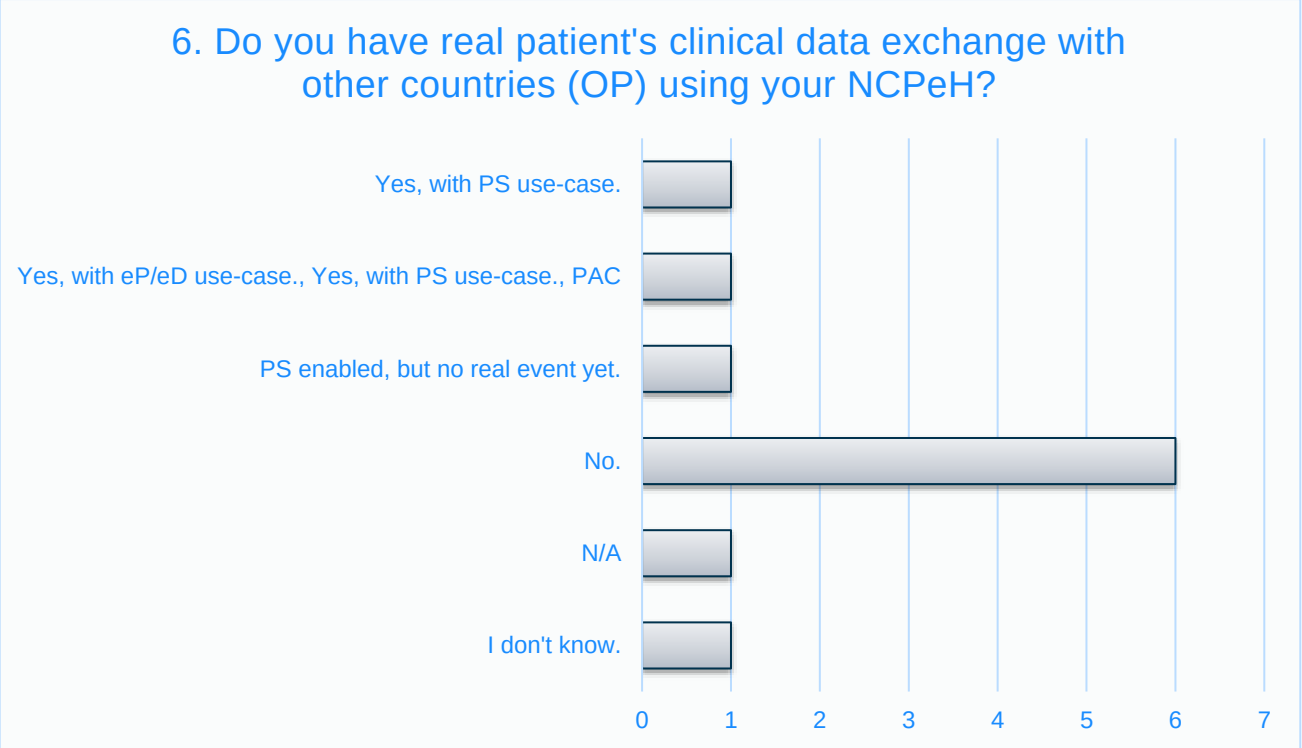

Figure 12. Answers from countries to EXPANDathon Questionnaire: Question 6.

Figure 12 relates to Question 6 aimed to collect information about clinical data exchange in a cross-border scenario in OP environment: "*Do you have real patient's clinical data exchange with other countries (OP) using your NCPeH?*". 11 countries answered this question, and we can observe that this scenario is not verified in most of the countries. 6 countries answered 'No': Portugal, Luxembourg, Greece, Austria, Croatia and the United Kingdom. The 'Yes' number of answers from countries were 3:

- Italy (Lombardy) answered 'Yes, with eP/eD use-case', 'Yes, with PS use-case', and also with PAC (remark added in Observations section about this question – "*Plan to reactivate services in the 1st quarter (Q1) of 2016*");

- Malta answered 'Yes, with PS use-case' and added a remark: "*With Anonymized Data*";

- Switzerland answered 'PS enabled, but no real event yet'.

France did not answered to this question, and Sweden answered 'I don't know'.

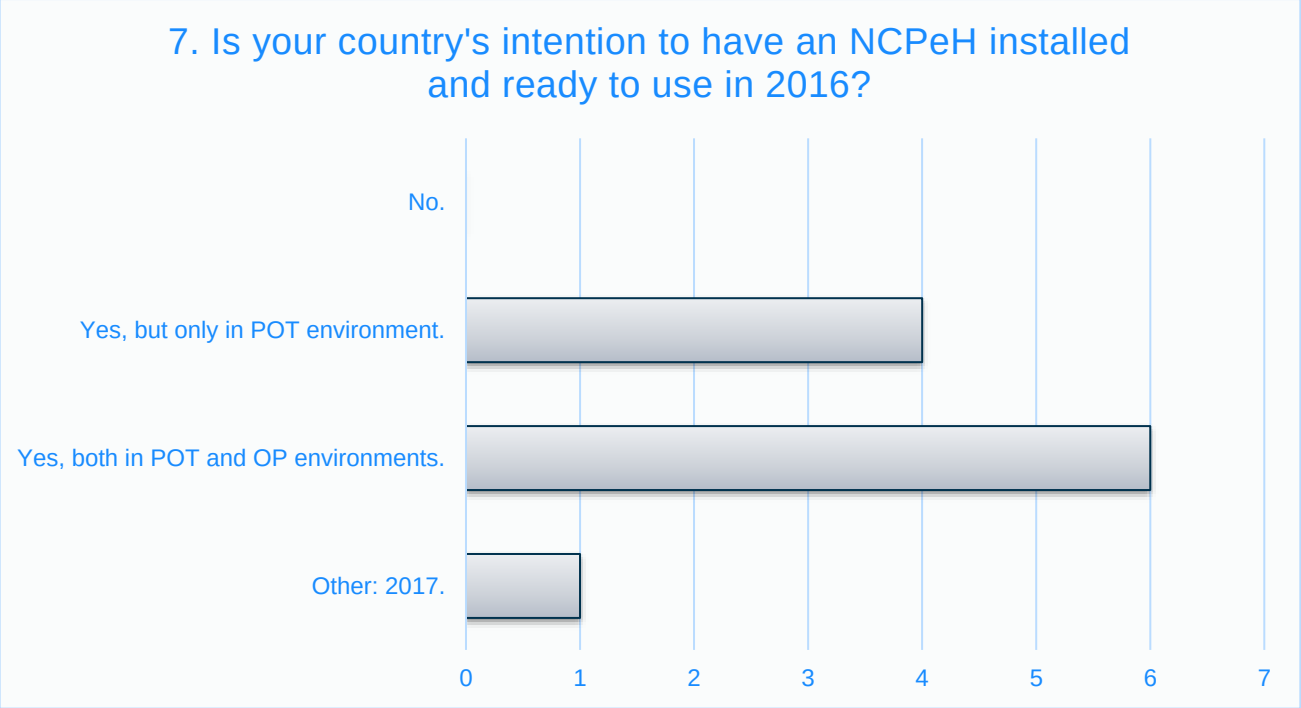

Figure 13. Answers from countries to EXPANDathon Questionnaire: Question 7.

The goal of Question 7, is to gather insights about countries expectations and intentions towards the year 2016 regarding the NCPeH usage "*Is your country's intention to have an NCPeH installed and ready to use in 2016?*".

It is possible to conclude, after the analysis of Figure 13, that 10 of the 11 questioned countries replied 'Yes, …', and only 1 country (France) replied 'Other', stating the intention is targeted for 2017.

From these 10 countries, Austria, Croatia, United Kingdom and Sweden intend to have the NCPeH only in POT environment in 2016, while Portugal, Italy (Lombardy), Luxembourg, Greece, Switzerland and Malta intend to have the NCPeH both in POT and OP environments.

The interviewed representative from the United Kingdom added a comment to this question, stating that this may or may not be compliant with the country's vision because this is not a technical issue. In addition, Luxembourg and Croatia added comments on this question, and both mention the CEF Funding Mechanism. Luxembourg states: "*In Operation, it depends on the CEF Call, and depends on the decision of the Health Ministry. The intention is to be ready for CEF to be in OP for cross-border.*" Croatia also added "*Maybe on the end of 2016 for OP depending on CEF funding.*"

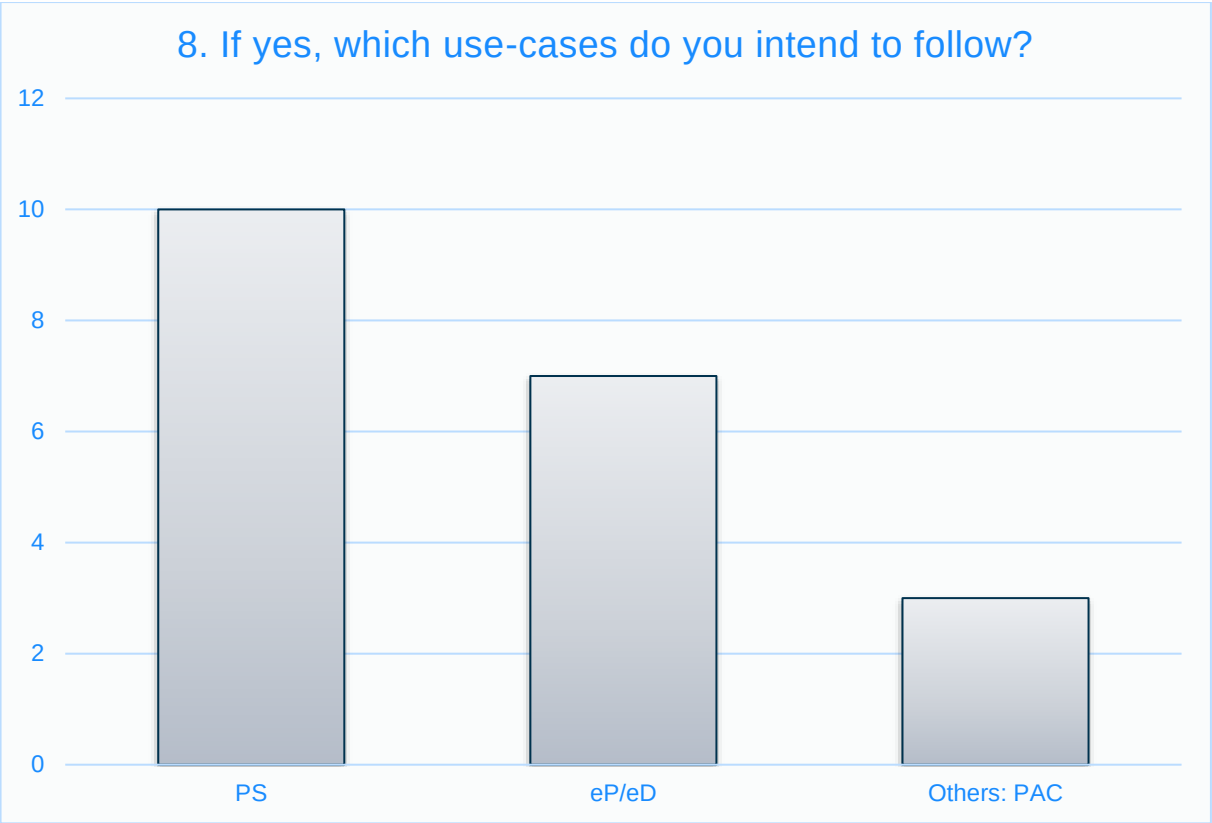

Figure 14. Answers from countries to EXPANDathon Questionnaire: Question 8.

Figure 14 shows answers from Question 8: following Question 7, "…*which use-cases do you intend to follow?*". It is possible to conclude that 10 countries (all but Sweden) will follow the PS use-case, 7 countries (Portugal, Italy (Lombardy), Greece, Austria, Croatia, Switzerland and Sweden) will follow the eP/eD use-case, and 3 countries (Italy (Lombardy), Greece and France) replied following the PAC use-case. A brief remark to this question was made by the United Kingdom, stating again that this is the personal opinion and not a technical question, and from Switzerland about eP/eD: "*Maybe eP/eD (limited)*".

Moving to Question 9: "*What do you consider to be the nature of the main constraints to deploy such kind of services (legal, organizational, technical, semantic, others)?*", Figure 15 represent the answers obtained.

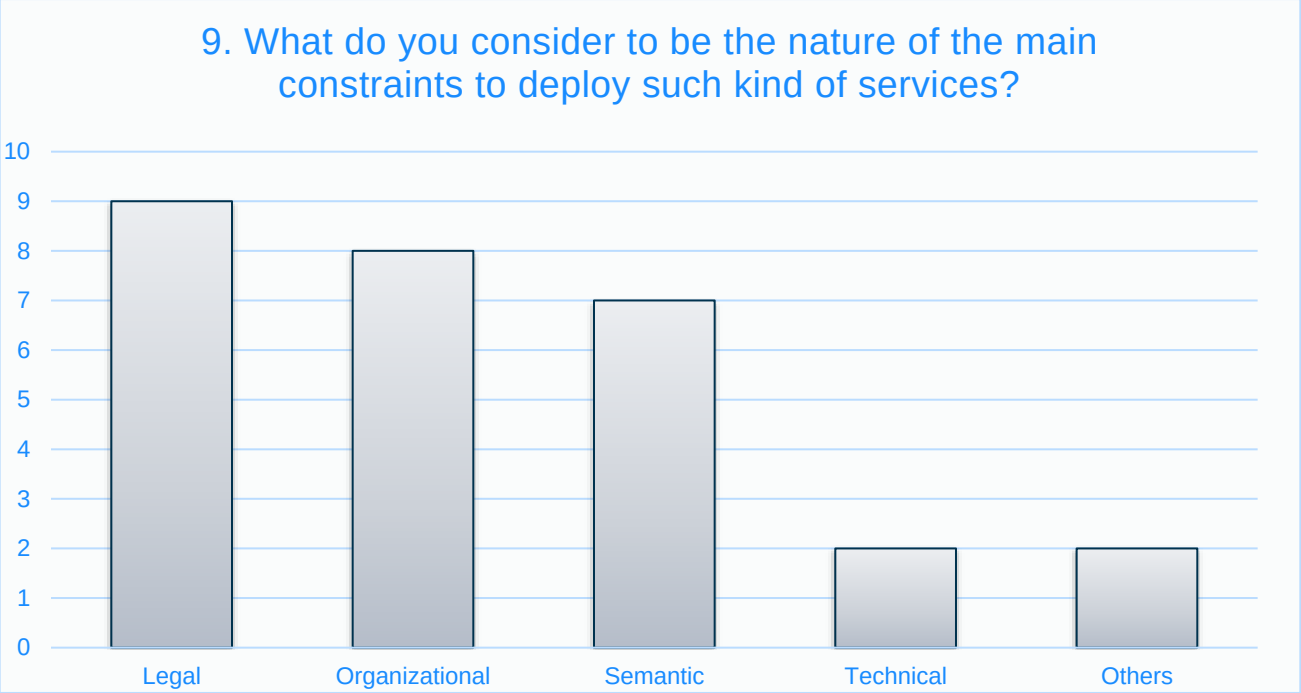

Figure 15. Answers from countries to EXPANDathon Questionnaire: Question 9.

9 countries answered 'Legal' constraints in adopting the NCPeH in the forthcoming years, 8 of the 11 countries replied 'Organizational' issues, 'Semantic' option was answered by 7 countries, and only two countries voted for 'Technical' issues. 2 countries identified issues at other levels: Financial (1) and Political (1).

Italy (Lombardy) added some information about this question in the 'Observations' section, in the country's perspective: "*Technical: For Italy-wide deployment, technical issues for the regional EHR interoperability have to be solved (for PS). For eP, the main constraint is to decide if we are pointing to regional repository or to the national repository. Organizational: move the responsibility to the IT MoH.*"

Luxembourg also added in the 'Observations': "*Organizational considering going to Operation*".

Question 10: "*What is the state of your National Infrastructure?*" intended to have a clearer picture on the current state of the National Infrastructures for the deployment of cross-border services using the NCPeH. This was a free-text type of answer. The answers from the countries are listed below:

- The Lombardy Region of Italy: "*It is specified, but still has to be implemented. For PS, the regional infrastructure is operational, nationwide it is tested but not deployed. For eP, some regional and national infrastructure are operational.*"

- The United Kingdom: "*At National level (in England), SPINE service exists which holds demographic data of all residents. It also supports eP and PS at a national level. This could possibly be enhanced to act as NCP. SPINE service also delivers identity and access management for HCP identification/authorization and for access to the rest of the SPINE services.*"

- Luxembourg: "*It is in place, it's a centralized system for EHR for patients. It can be accessed and maintained by the patient himself and has health professional provide and share medical information into the EHR.*"

- Greece: "*It is ready for PS and it will be ready for eP next year.*"

- Croatia: "*eP is in operation nationwide for 4 years. EHR is in pilot currently 1000 patients signed the consent to be part of the pilot in one hospital.*"

- The representative member from Sweden answered: "*I don't know.*"

- France: "*PS - a national EHR but not fully deployed. Concentrating efforts on structuring the PS.*"

- Malta: "*In development.*"

- Portugal: "*There is minimum preparation for both PS and eP. Even so, enhancements must be made in order to achieve high quality on health data exchanged.*"

- Switzerland: "*NCPeH connected to Geneva's regional infrastructure = approximation of the future national one. The national one will not be ready over the whole country before end of 2020 (federal law to enter in force 1.1.2017). However other regions (cantons) may join in the meantime (one is expected in 2016).*"

- Austria: "*Operational, http://www.elga.gv.at*".

Questions 11 and 12 were aiming at 'Observers' at the EXPANDathon event. Question 11 asked "*What are your intentions and expectations as observers?*", and Question 12 asked "*What do you consider to be the stress points?*". United Kingdom, France and Sweden provided some indicators on these questions. The answers for Question 11 were:

- United Kingdom: "*Learn more about the initiative and how currently implemented by other EU countries. Expectation was to understand better the testing strategy that's behind the OpenNCP and OpenNCP community, and tools like Gazelle.*"

- France: "*Idea was to catch up about the last 2 years developments.*"

- Sweden: "*To learn and to do some networking. Intention is to install the most recent version of the OpenNCP. Also to get to know the testing strategy/procedure, and the tools like Gazelle.*"

Regarding Question 12:

- United Kingdom: "I cannot think of any at this point."

- Sweden: "*Testing process is a bit complex. A lot of configuration of the NCP that can go wrong before the tests.*"

4. Operational Support Template for years to come

In order to picture MS's progress an annual questionnaire has been built. On this basis some basic aspects will be covered and combined into a one report to be handed over to eHN. The purpose is to build an understanding on how Member States are progressing in preparing for the implementation of Cross Border Services. It also describes advantages and disadvantages gathered from use. It is suggested that future reports to be submitted by the eHMSEG, the report should focus more on the deployment process, namely by providing a progress report on the efforts and status of service deployment in MS that apply/commit themselves to provide the eHealth Cross-Border Services.

Future reports may include the following chapters:

1. State of the implementation

This chapter gives an overall understanding on how the MS have implemented the services.

a. How many MS are providing services

   i. Patient Summary

   ii. ePrescription

   iii. Reference Networks

   iv. Patient registries

b. Extent of implementation for Cross Border Services

This chapter will describe how the implemented services have been distributed geographically at a European level. Especially in the initial phase the coverage may be smaller. In these cases the MS should report how they have secured good coverage in the selected hotspots. Good areal coverage improves the user experience for customers.

   i. What is the coverage geographically?

   ii. If not full coverage then availability in hot spots

c. What is the status of the MS not providing services?

   i. This chapter will provide an understanding on the situation for the MS not providing services. It will clarify how the MS are preparing for implementation and what their status is in doing so. Which are the MS that are preparing themselves to provide services?

2. Operational environment

This chapter provides information on how the MS have organized their services.

a. How many MS use OpenNCP?

Do the MS use OpenNCP or do they have their own NCPeH solutions?

b. Reliable means for Patient Identification

Do the MS have a solution for reliably digitally identifying patients such as personal smart cards or other strong identification for citizens? If not how do they plan to proceed in the matter?

c. How many MS use a Portal vs. Integrated Services

What is the solution used for eP and PS? Is the common portal used or is there some kind of integration into national services?

d. Status of auditing

An Operational Audit needs to be carried out to provide strong evidence on the Quality and Level of service provided by the countries and central services.

3. Usage (How much have the MS used services?)

This chapter describes the actual number of documents transferred in different services. In addition the usability of the system is assessed from different perspectives.

a. How many documents have been transferred between countries?

b. How many ePrescriptions and eDispensations have been transferred and processed.

4. What is the perceived satisfaction from:
In this chapter MS can report possible studies carried out to clarify user satisfaction.

   i. Citizens?

   ii. Health professionals?

   iii. Healthcare providers?

5. Overall

In this final chapter the findings are summarised. An understanding of the progress made during the year is drawn. Experiences gathered during the year will be translated into advantages and impacts as well as constraints and disadvantages related to the Cross Border Services

a. What is the use percentage (must define compared to what)?

b. Biggest advantages and the impact

c. Biggest constraints

Appendix A: Definitions

CONCEPT	DEFINITION
CBeHIS	Cross Border eHealth Information Services in the scope of the current document, namely Patient Summary and ePrescription (may include eDispensation)
CBeHIS environment	Stakeholders, relations between them and favourable infrastructures to allow the flourishing of CBeHIS.
CEF eHealth DSI	EU financial mechanism (7.5M€ based at the time of call for proposals) launched in November 2015, to be used by MS to support CBeHIS provision (Preparation, Deployment and Operation of NCPeH - meaning generic services in CEF)
Communication Gateway	MS system that manages CBeHIS transactions with other MS and which connects to the NI. It is an entry/exit point from the MS, acting on behalf of a HP and Citizen (at a Point of Care) that assure the exchange of patient's medical data in a controlled environment.
Compliance Establishment Process	A well defined set of activities and evidences used to ensure that NCPeH compliance can be established, maintained and reinforced
Country A	The country of affiliation. This is the country that holds information about a patient, where the patient can be univocally identified and his data may be accessed.
Country B	The country of treatment i.e. where cross-border health care is provided when the patient is seeking care abroad.
Framework	Is a real or conceptual structure intended to serve as a support or guide for the building of something that expands the structure into something useful.
Guideline	A suggested way of compliance when doing something. It is visible to those using or supporting the use of a particular service but there are no sanctions if not followed.
Guideline for Adoption	Intended to present to the eHealth Network's members a clear guideline with the intention for it to be adopted and optionally implemented by the EU MS at

CONCEPT	DEFINITION
	national level in the next step.
National Infrastructure	The healthcare IT infrastructure, which manages patient and HP/HCP[3] identification and health care records in MS
NCP	National Contact Point as referred in Article 6 of the 2011/24/EU Directive
NCPeH	National Contact Point for eHealth, that may act as an organization and technical gateway for the provision of eHealth Cross-Border Information Services
NCPeH Deployment	Set of activities aiming to evidence the NCPeH compliance with the full range of requirements (LOST) established towards CBeHIS provision
NCPeH Implementation	Process of Prepare, Deploy and Operate a NCPeH
NCPeH Operation	Set of activities performed by the MS while providing the service to the citizens and health professionals
NCPeH Preparation	Set of activities aiming to set up an NCPeH
OpenNCP	Cross Border eHealth National Contact Point, open source, reference technological implementation
OpenNCP Community	Open group of people orchestrated by an agile software development methodology conducting effort on designing, coding, testing and delivering OpenNCP software
Organisational Framework	Define core characteristics, duties and responsibilities of a NCPeH
PoC	Is a location where an EU citizen may seek healthcare services. It can be a hospital, a pharmacy or any other point of the healthcare system of Country B.
Requirement	Definition of relevant needs (business, functional, non functional, technical and technological) for system specification and implementation

[3] see Article 3 (f) and (g) of Directive 2011/24/EU

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