eHAction

Joint Action supporting the eHealth Network

D8.1 – Report on National eHealth strategies

WP8 – Integration in National Policies and Sustainability

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Acronyms

Acronym	Description
AI	Artificial intelligence
CEF	Connecting Europe Facility
EC	European Commission
EU	European Union
eHN	eHealth Network
EHR	Electronic Health Record
eP	ePrescription
EESSI	Electronic Exchange of Social Security Information
GP	General Practitioner
HP	Health Professional
ICT	Information and Communication Technologies
IT	Information Technology
JAseHN	Joint Action to support the eHealth Network
mHealth	Mobile Health
MoH	Ministry of Health
MWP	Multiannual Work Programme
PS	Patient Summary
WP8	Work Package 8

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1. Introduction

Context

eHAction is a Joint Action which is intended to support the eHealth Network (eHN) on a number of specific objectives. It was agreed by the eHN that the Action would mostly focus on the current Multiannual Work Programme (2018-2021). The main work of eHAction is based on establishing interoperability for enhancing safe cross-border exchange of health data between health professionals and healthcare providers. This kind of initiative can generate access for patients to their health data, wherever they are located. It is of utmost importance to be able to sustain a mechanism after the present Joint Action, as well as after the end of relevant Connecting Europe Facility (CEF) funding. Further co-funding mechanisms could be designed and proposed, including those regarding modernisation of digital infrastructures (at European, national or regional level).

Nevertheless, in order to be able to conceive a shared vision on the sustainability of EU interoperability, one of the prerequisites is to have knowledge of the present EU situation, with a clear description of the main initiatives and common obstacles from each Member State (MS). This overview of eHealth strategies in the EU is extremely relevant to design new strategies for eHealth and in order to continue policy cooperation post-2021.

The first step is to gain an understanding of where we are as a group of Member States, in terms of sharing knowledge, cross-border data exchanges, sharing eHealth strategies and best practices. To be able to give an overview at EU level, there is a need to gather the existing landscape about eHealth strategy, derived from the Health strategy in each of the Member States.

To achieve this perspective, Work Package 8 (WP8) aims to support the eHN to enhance the integration of cross-border knowledge via eHealth strategies in Member States. This key knowledge allows to exchange, among countries at EU level, frameworks, rules, principles and best practices.

In order to meet the need to integrate eHealth at the EU level, WP8 is applying key tools to collect and analyse the necessary information. This WP is composed of three tasks:

- T8.1 - *National eHealth strategies*
- T8.2 - *Policy document about technology report*
- T8.3 - *Post-2021 Scenarios for eHealth policy cooperation*

Methodology

As part of the work of Task T8.1, in order to be able to propose some alignment between the Member States eHealth initiatives, it is useful to collate common structures, organisations and initiatives. The initial task was to develop a tool to describe, in a structured way, the national health and eHealth ecosystem, including governance bodies, national health strategies and national eHealth initiatives, to be able to understand and relate the national health system organisation strategies.

This tool was based on the work done in JAseHN (WP7 – D7.1.1). The WP leader (MoH France) has worked to simplify the analysis and ease the completion process to facilitate the data collection by each Member State. This will help to design the post-2021 scenarios for eHealth policy cooperation by proposing a common way in the potential upcoming European scenario.

The simplified tool consists of three parts:

1. A schematic description of the organisation of the health system in each country;
2. The national health programmes landscape and the links with the organisations;
3. A detailed list of the programmes and initiatives included in the national eHealth strategy.

To launch the work of WP8 and the discussions around this tool, France organised a kick-off meeting, which was held on 21st and 22nd February 2019 in Paris.

One of the objectives of the kick-off meeting was to test the tool with some real examples of the knowledge shared, and to share it with all members of this Work Package. This meeting was focused on Task 8.1 and was organised with a mix of plenary sessions and active workshops.

The main objectives of the meeting were to:

- Discuss and revise the simplified tool for describing in a structured way the national health and eHealth ecosystem, including governance bodies, national health strategies, national eHealth experiences and initiatives for each Member State;
- Prepare the work for the deliverable on 'national eHealth strategies' for the eHealth Network meeting of November 2019.

Thanks to the preliminary work and findings of the workshops, the WP leader and co-leader were able to quickly distribute a definitive version of the tool for each country to complete after the kick-off meeting.

Objectives

Work Package 8 is one of the key eHAction Work Packages in the European Commission's work objectives. Its work on 'Integration in National Policies and Sustainability' proposes elements for preparing the continuity post-2021 of the cross-border policy cooperation and integration of its results in national policies.

The overall proposal for Task T8.1 is:

- Collect present and future eHealth strategies and propose a direction to support their alignment;
  - Through the WP8, data will be collected from the Member States about strategies regarding eHealth, as well as information about initiatives and programmes performed in each Member State. These data will be compared to understand the granularity in each Member State, and thus, propose strategies to align the Member States among the EU.
- Present mechanisms on how to follow the evolution of eHealth strategies;
  - It is important to initiate this work in order to have a first version of a database. It is also important to be able to maintain it and be able to update it as new strategies / initiatives are put in place in each country. This will be possible through a platform on which each country can update its information.
- Analyse the collected data in order to propose ways to align strategies and projects in the future.
  - This line of work makes it possible to identify trends and topics that deserve specific attention which may be the subject for further work;

2. Analysis of national eHealth strategies

2.1 Governance

2.1.1. Overview

Based on the analysis of the questionnaire data, in the majority of EU countries, health sector governance is primarily operationalised at the level of national, federal or regional Government. Eight out of ten organisations involved in the governance schemes (80%) are governmental organisations. Of the remaining 20%, a small percentage of schemes (about 2%) are local and 18% are regional. National bodies primarily set and monitor the implementation of national strategies and they also finance the eHealth system and the relevant projects. The regional and local bodies' involvement is limited to strategy execution and coordination.

Interestingly, the data suggests that countries with a decentralised health system structure (i.e. including regional and local governance bodies) tend to sustain a larger number of eHealth initiatives, engaging eHealth stakeholders more actively. More specifically, in cases where the organisational structure of the healthcare system is exclusively national, there is an average of approximately three eHealth initiatives per Member State. This figure almost doubles when the organisational structure involves regional and local authorities.
Finally, eHealth initiatives, in the vast majority, are cooperative projects involving more than one governance "partner", with an average of three partners per project, with the role of the Ministry of Health being most often a leading one.

2.1.2. Main findings

In each Member State the number of national governance bodies that participate in the eHealth strategy is important:

- In 7 out of 19 countries the bodies/organisations that participate in the strategy is only national (Czech, Croatia, Ireland, Malta, Serbia, Cyprus, Estonia);
- In 7 out of 19 countries the bodies/organisations that are involved in the strategy are also regional (Sweden, Spain, Lithuania, Poland, Austria, Germany, Netherlands);
- In 5 out of 19 countries those bodies are also at the local level (France, Greece, Portugal, Slovenia, and Italy).

Most countries have national bodies to design and implement their eHealth strategies. Specifically, the governance bodies that participate in the eHealth strategy framework are described in the following table:

		eHealth Governance Bodies				
	Country	Strategy design	Strategy control	Strategy execution	Funding	Coordination
1	Czech Republic					
2	Sweden	National, Regional	National, Regional	National, Regional	National, Regional	National, Regional
3	Croatia	National	National	National	National	National
4	Ireland	National	National	National	National	National
5	Malta	National	National	National	National	National
6	Spain	National, Regional	National, Regional	National, Regional	National, Regional	National, Regional
7	France	National	National	Regional, Local	Regional, Local	Regional, Local
8	Greece	National	National, Regional	National, Regional, Local	National, Regional	National, Regional
9	Lithuania	National	National	National, Regional	National	National, Regional
10	Poland	National	National	National, Regional	National	National
11	Portugal	National	National	National, Local	National, Regional	National
12	Slovenia	National	National	National	National, Local	National, Local
13	Austria	National, Regional	National, Regional	National, Regional	National, Regional	National, Regional
14	Germany	Federal/National, Regional	Federal/National, Regional	Federal/National, Regional	Federal/National, Regional	Federal/National, Regional
15	Serbia	National	National	National	National	National
16	Netherlands	National	National	National	National	National, Regional
17	Cyprus	National	National	National	National	National
18	Estonia	National	National	National	National	National
19	Italy	National, Regional	Regional	Regional, Local	Regional	Regional

Table 1 - Countries and eHealth governance bodies

Some interesting findings include[1]:

- Strategy design and control is mainly the responsibility of national bodies (14/19 countries);
- Strategy execution is implemented by national bodies in all countries, along with regional bodies in some of them (8/19) and local bodies on others (4/19 countries);
- Funding is driven mostly by national bodies and in some cases (Sweden, Spain, Greece, Portugal, Austria, Germany, Italy) it is also driven by regional bodies;
- Local bodies are involved in the funding scheme only in France and Slovenia;
- Coordination of eHealth policy is mainly at a national level. Sweden, Spain, Greece, Portugal, Austria, Germany and Italy also involve regional bodies in their coordination activities;
- Local bodies are involved in the coordination scheme only in France and Slovenia;
- The bodies that participate in the *implementation phase* of the strategies are not described.

There is great diversity of the governance scheme among countries. However, national bodies like Ministries of Health, national bodies for insurance funds, regional health agencies, and medical councils play an important role in almost all of the countries.

The main findings, as far as the eHealth initiatives of the countries along with their eHealth governance scheme are concerned, are described in the following paragraphs.

[1] For Croatia, the respective Excel sheets were not completed.

The main eHealth initiatives are under national governance bodies in almost all Member States. Such initiatives include cross-border eHealth initiatives for the Patient Summary (PS) and ePrescription (eP). Despite the diversity of the responses from Member States, some key points are:

- About 16% (3 out of 19) countries are involved in eHealth initiatives at a regional level;
- None of the countries included eHealth initiatives at a local level;
- About 10% (2 out of 19) of Member States have not provided any information about any eHealth initiatives in their response.

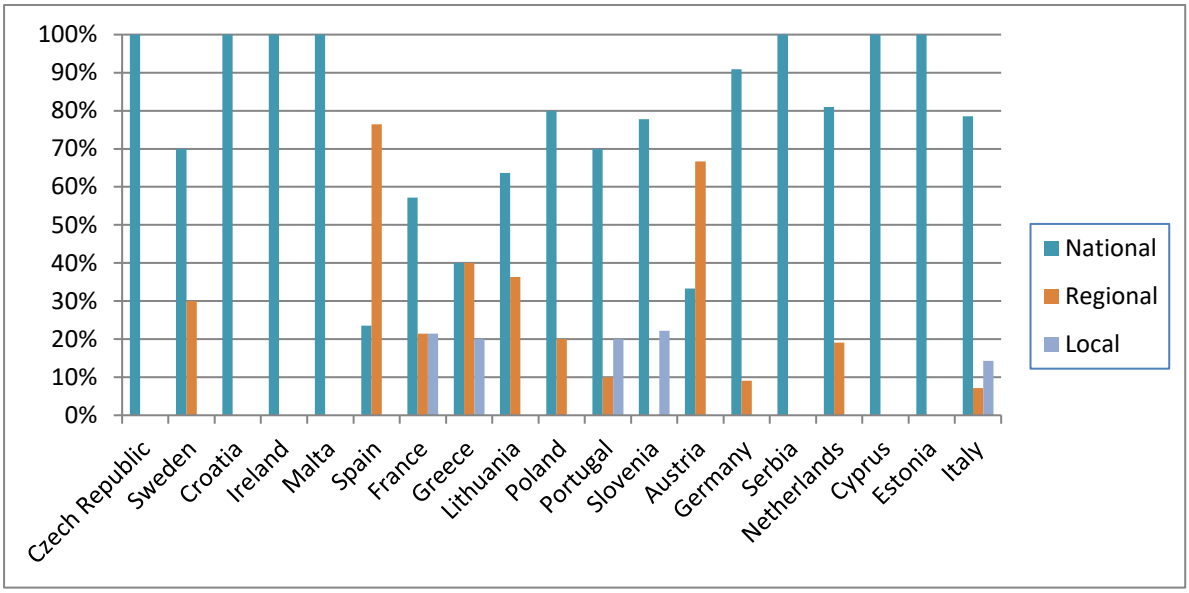
Moreover, summarising the *eHealth initiatives* with the *governance bodies* in Member States gives the following findings:

- France, Greece, Portugal, Slovenia, Italy (5 out of 19 countries) have included local bodies in the eHealth governance bodies. However, these countries did not include any details on eHealth initiatives at a local level.
- Sweden, Estonia, France, Greece, Lithuania, Poland, Portugal, Austria, Germany, Netherlands and Italy (11 out of 19) have included regional bodies in their eHealth governance scheme, however only Estonia, France and Lithuania (3 out of 19) have included any details on eHealth initiatives at a regional level.

The results are described in the following table and graph (Table 2, Figure 1).

		Governance bodies			eHealth initiatives		
	Country	National	Regional	Local	National initiatives	Regional initiatives	Local Initiatives
1	Czech Republic	100%	0%	0%	100%	0%	0%
2	Sweden	70%	30%				
3	Croatia	100%			100%	0%	0%
4	Ireland	100%			100%	0%	0%
5	Malta	100%			100%	0%	0%
6	Spain	24%	76%		33%	63%	0%
7	France	57%	21%	21%	91%	9%	0%
8	Greece	40%	40%	20%	100%	0%	0%
9	Lithuania	64%	36%		83%	17%	0%
10	Poland	80%	20%		100%	0%	0%
11	Portugal	70%	10%	20%	100%	0%	0%
12	Slovenia	78%		22%	100%	0%	0%
13	Austria	33%	67%		100%	0%	0%
14	Germany	91%	9%		100%	0%	0%
15	Serbia	100%			100%	0%	0%
16	Netherlands	81%	19%		NA	NA	NA
17	Cyprus	100%			100%	0%	0%
18	Estonia	100%			100%	0%	0%
19	Italy	79%	7%	14%	100%	0%	0%

Table 2 - Countries and initiatives of the eHealth strategy



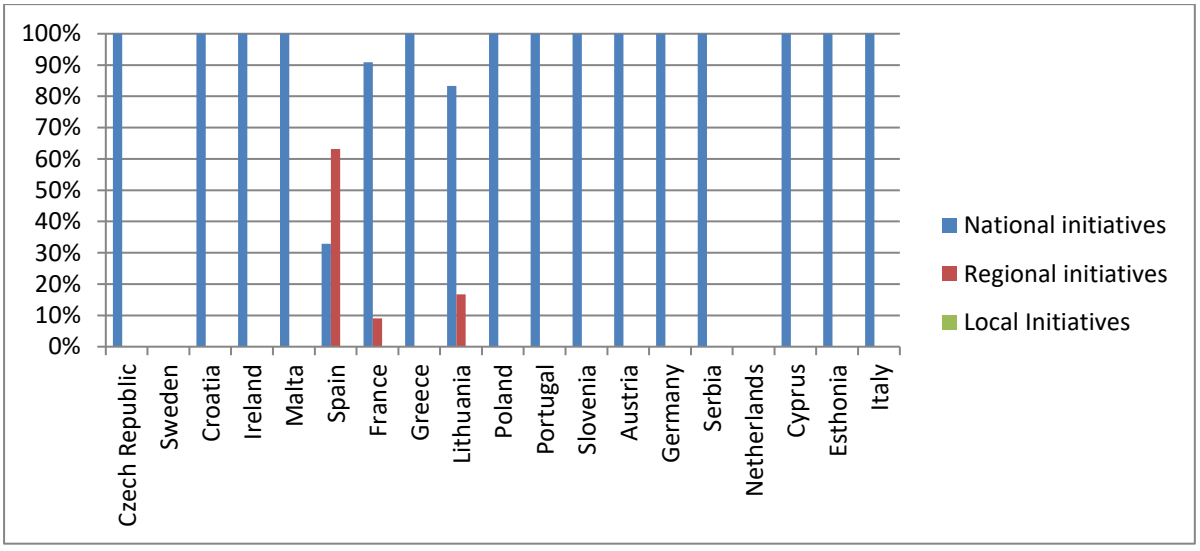


Figure 1 – eHealth governance bodies and initiatives in countries

In summary, almost all of the initiatives are at national level. It is interesting that even in countries where the eHealth governance bodies are at the regional Level, the eHealth initiatives were developed at the national Level. In some cases, the regional bodies participate in the implementation of the eHealth initiatives. The country size – In terms of

population – Is an important factor to be taken into account in the analysis, as small countries would develop initiatives mostly at the national level.

2.2 Programmes landscape

2.2.1 Overview

The programmes listed by each country make up each country's national health and eHealth strategy. These programmes have at least one eHealth component (all programmes dealing with eHealth).

The qualitative analysis considered the responses of 19 Member States (Italy, Austria, Germany, Sweden, Malta, Ireland, Croatia, Spain, Greece, Lithuania, Poland, Portugal, Slovenia, Serbia, Netherlands, Cyprus, Estonia, France, Czech Republic) in the "Programmes Landscapes" and "programmes schemes" of the tool. As this section requires free text responses, the analysis is qualitative and underlines the main ideas of the European strategies.

2.2.2 Main findings

National-level bodies involved

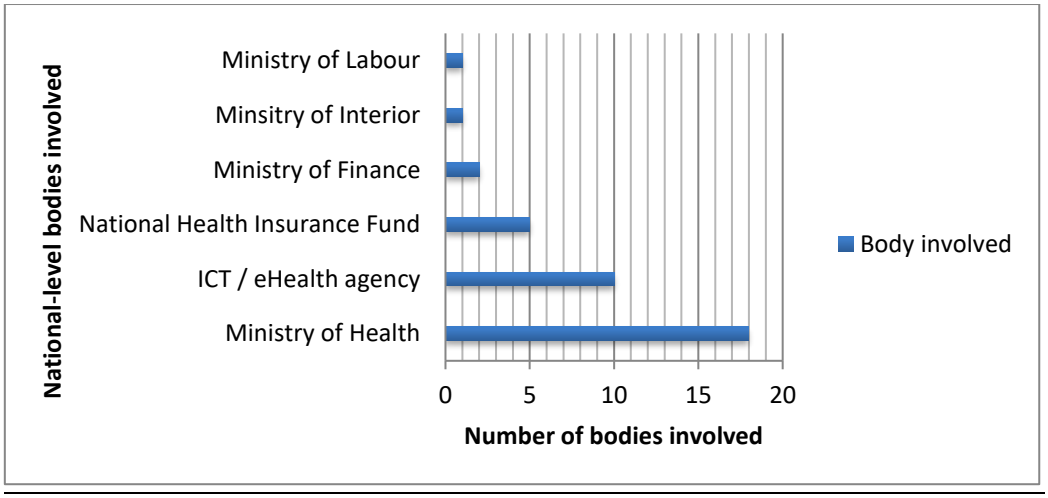


Figure 2 - Bodies involved

Not surprisingly, the main body involved is the Ministry of Health. Other ministries like Labour, Interior and Finance are also represented.

Some countries declare having support from regions (such as Spain, Sweden, Italy, Greece, Netherlands, Czech Republic, Austria) with various degrees of engagement. Indeed, certain countries have a very decentralised health system and, as a consequence, have a lot of regional plans in their eHealth strategies (Spain, Germany). Not all countries have the same typology of institutions involved in their health system (due to healthcare diversity: basic healthcare model, decentralisation, number of national insurance funds, etc.).

Some examples include: universal and public health council of Valencia community (Spain), national organisation for healthcare provision and local health units (Greece), Institute of Public Health of Serbia (Serbia) or state health surveillance system (Czech Republic). An important difference is the number of ICT centres developed for managing eHealth in countries; 10 countries have created agencies specialised in eHealth / ICT.

In Member States, eHealth strategies can be either exclusively health-focused or eHealth is part of an overall digital strategy involving all sectors. Examples for general digitalisation initiatives are: "Health 2020" (Czech Republic) and "Lithuania 2030". The potential relationship or embedding of an eHealth strategy into a broader one and the "work distribution" between both is not the primary target of this task.

Programmes

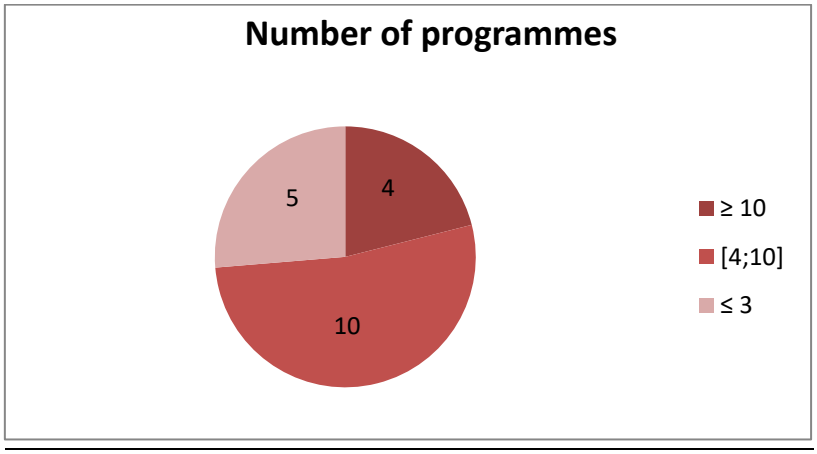


Figure 3 - Number of programmes

Of the 19 participants, 4 have mentioned 10 or more programmes concerning eHealth, with an average of 5.4 programmes, ranging from 1 to 13. One country has not defined any specific eHealth plan but only a health plan (Serbia). The timelines also vary and go back as far as 2001. Most of the time they cover a period of a few years, except one strategy which

has been ongoing since 2001. As part of their strategies, two countries have pointed at European plans, such as "making interoperable Patient Summary and/or ePrescription" for Cyprus, and Italy, which has also mentioned CEF to implement the Italian NCPeH and the EESSI plan (Electronic Exchange of Social Security Information). Plan titles revealed the starting point of their creation.

Table 3 is the result of the analysis performed on the main objectives of each programme described with free text within the tool. It shows the presence of the most frequently highlighted key words in order to enlighten the common objectives between all countries.
This section only reflects the data provided at the programme level. The analysis of the initiative data is made in the following chapters.

Key words	Access, share health information & data transparency	Digitalisation Modernisation Transforming health care	Independence & Involvement of the patient Place the patient in the heart of the system	Quality sustainability of healthcare / services Effectiveness of healthcare	Regulatory, legal framework	Exposing benefits, from the healthcare for the whole population Set objectives for health policies / strategies	Innovation	Improve quality of life
Italy								
Austria								
Germany								
Sweden								
Malta								
Ireland								
Croatia								
Spain								
Greece								
Lithuania								
Poland								
Portugal								
Slovenia								
Serbia								
Netherlands								
Cyprus								
Estonia								
France								
Czech Republic								
Total	11	10	9	6	5	5	2	2

Table 3 - Programme content analysis

Three main objectives in eHealth strategies around the use of data are evident from all Member States. The first objective is the opportunity to access and share health data and information for the whole population and between actors, which is highlighted by 11 countries (Italy, Austria, Germany, Malta, Spain, Poland, Slovenia, Serbia, Netherlands, Cyprus, Czech Republic): "*electronic patient file available at all German university hospitals (until 2025)*" (Germany) or "*access to health information to all participants in the health system in accordance with their rights, roles and responsibilities*" (Serbia). They all wish to improve the cooperation between patients, industries, universities, hospitals and all relevant actors in healthcare.

By sharing health information and data with patients, nine countries wish place patients in the heart of the system and/or give them more independence in their own health (Sweden, Malta, Ireland, Croatia, Spain, Greece, Netherlands, France, and Czech Republic). In their own words, countries define this priority in giving the patients keys that make them gain independence and autonomy, as suggested by Malta and the Netherlands respectively:

"*Increasing the involvement of patients in their own care*" and "*the patient more insight into his own care*", "*using the opportunities offered by digitization and eHealth to make it easier for people […] to develop and strengthen their own resources for increased independence and participation in the life of society*" (Sweden).

In being autonomous, patients become actors of their own health which encourages them to improve and keep their health capital through adopting good health behaviour. However, before promoting the use of health data it has been a concern to establish a legal framework that will protect all the actors involved. As a result, five countries mentioned the necessity of elaborating eHealth plans to create or modify existing laws.

Although eHealth strategies are in place in several countries, we noticed only 10 out of 19 countries that established an eHealth plan in order to modernise and digitalise their health system: "*support healthcare system players in the digital transformation*" (France) or "*Transparent, inclusive, modernized Health governance, Health as an investment in human capital…"* (Greece).

Furthermore, 8 out of 10 of the countries that mention their intention to transform and digitalise their healthcare system also wish to empower the patients. The role of the patient has been a key enabler to improving new health strategies such as eHealth and is one of the keys to success in implementing these strategies.

2.3 Initiatives – Macro view

2.3.1 Overview

The strategic programmes on health and eHealth are key to improving the lives of citizens in each Member State. Through these initiatives it is possible to measure the needs of the population and plan the development of health services. The programmes are elaborated to facilitate different levels of need regarding the scope of health and eHealth services and are managed by a single governance body or multiple governance bodies. The diversity of the programmes reported reflects the actual needs of each Member State/country about their health systems and population. The main findings from the information provided by Member States are described below.

2.3.2 Main findings

The Member States/countries reported a diverse number of programmes related to eHealth. Overall, the programmes cover the main health-related areas such as Electronic Health Record (EHR); ePrescription (eP); Electronic Identification (eID); Telemedicine; Research; eHealth Strategy; eGuidelines; Cross-border; and others. Member States that describe a

lower number of programmes represent a larger coverage of areas. The majority of Member States presented the Health Strategy as a programme that involves all eHealth in its scope. The Member States that have a larger number of eHealth programmes present one or two programmes that cover a wide range of areas, while the remaining programmes are specific for one area. This structure of programmes reflects the needs of specific eHealth areas.

Considering the scope of coverage of the programmes, the data indicate that most initiatives have a national scope (91%), followed by regional (7%), with only one programme having a cross-border scope (Figure 4A). The data also indicate a strong demand to improve national programmes overall. Spain has the majority of regional programmes, indicating decentralised governance that acts directly on local needs. Overall programmes indicate a priority for a national approach to their systems before focusing on cross-border programmes. In regard to the scope of action, the majority of programmes focus directly on eHealth (68%) while the other programmes use components of eHealth (Figure 4B), which suggests that Member States/countries drive resources to improve eHealth systems to achieve a well-developed digital health environment.

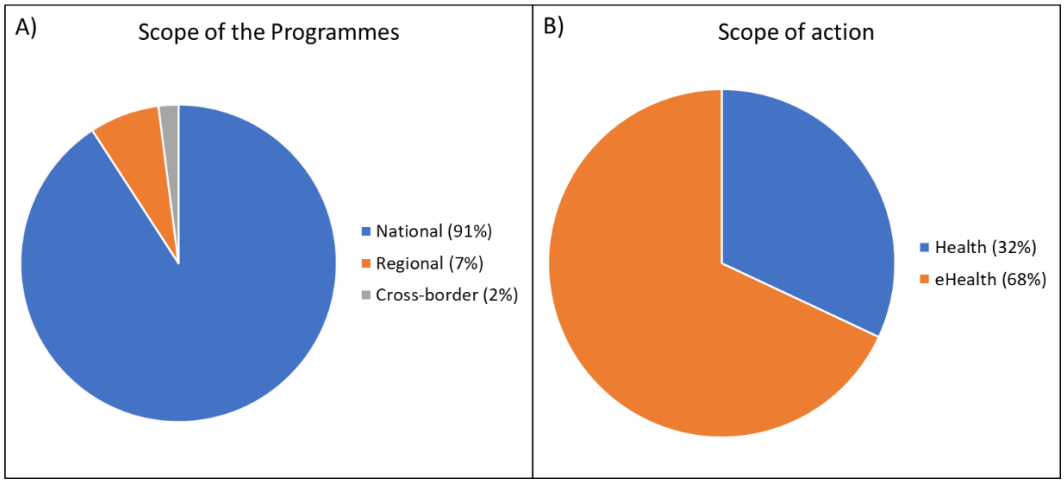


Figure 4 - Scope of the programmes. - A) scope of coverage; B) scope of action

The data also show a diversity of governance bodies involved in eHealth programmes. Most programmes are managed by multiple governance bodies (67%) while 33% of the programmes are managed by only one governance body (Figure 5A). The majority of programmes are governed by the Ministry of Health (MoH) or by a sub-MoH entity. A total of 82 programmes are directly managed by the MoH and 56 by a sub-MoH entity. However, in all programmes, at least one MoH (or sub-MoH) related body is involved. A total of 30 programmes have other ministry bodies involved and 14 have the involvement of another governance body (with no direct relationship to any ministry – like universities, stakeholders, etc.) (Figure 5B). The presence of different governance bodies on the programmes shows how the governance of the eHealth programmes is integrated between health ministries, health sub-ministries, other ministries and other governance bodies.

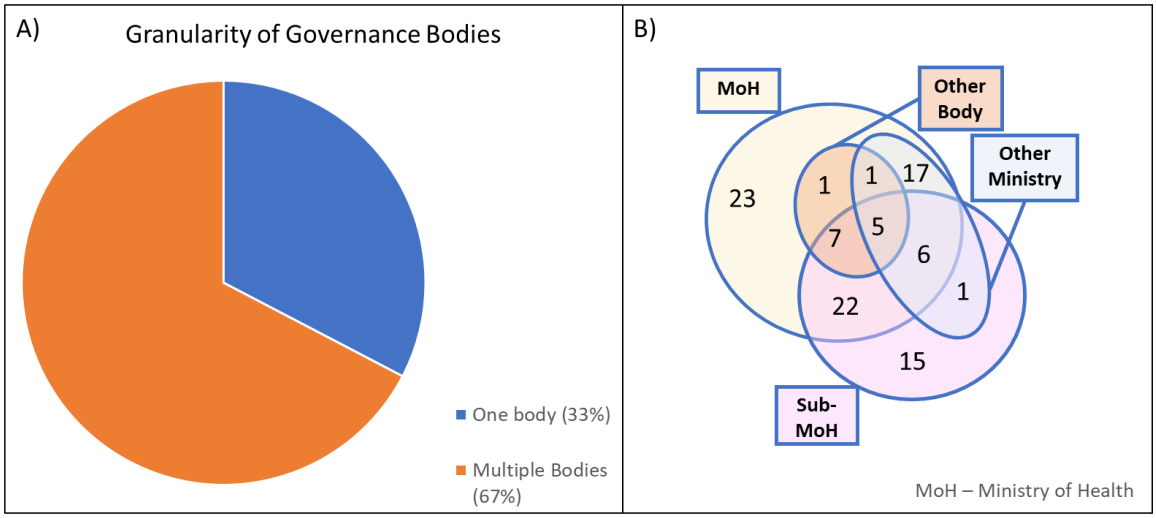


Figure 5 - Figure 5: Scope of the governance bodies

A) *presents the granularity of the governance bodies present in the programmes*

B) presents a Venn diagram with the different types of governance bodies involved in the programmes and the relationships between them

2.4 Initiatives – Priorities

As mentioned above, each country has provided information on its national eHealth strategies by describing initiatives that have been put in place. It is interesting to know if the initiative contributes to the health priorities listed below.

Health Priority	Definition
Improve access to healthcare services	Deliver healthcare services to remote or disadvantaged communities via electronic means. Improve the timeliness and accuracy of healthcare services. Provide patients with better visibility of healthcare provider's location, availability and area of specialisation in order to promote choice and access. Access of patients and healthcare providers to a second opinion from specialists at a distance.
Generate efficiency gains in healthcare services delivery	Improve health workforce productivity due to greater efficiencies related with the use of electronic means to deliver healthcare. Enhance optimisation of patient pathways, of health workforce, of change management, technical and financial resources through the delivery of remote healthcare services, or the reconfiguration of service delivery.

Guarantee quality and safety of care	Improve access of health professionals to decision support tools, best practices and knowledge sources. Improve collaboration and coordination of healthcare delivery with other health professionals via secure and timely electronic information sharing and secure transmission.
Enhance health system organisation	Improve policy on health system organisation, planning, management. Improve access to high-quality data and indicators in order to efficiently manage healthcare services and workforce capacity (monitoring and reporting). Improve workforce capacity, better collaboration (examples: scheduling, shared decision making, voice annotations, automatic documentation, etc.)
Prevent, Protect & Promote	Improve patients' access to trusted and reliable health knowledge sources (examples: medical platforms or applications for health education, awareness, and prevention information, etc.) Improve healthcare providers' access to trusted and reliable health knowledge sources (examples: solutions that make available electronic medical journals, resource collections, national open archives, or eLearning courses for health professionals, etc.)
Finance	Align financing & reimbursement with strategy and goals (KPIs, measures). Align financing and reimbursement with outcome/quality.
Empower patient	Improve patients' access to trusted and reliable health knowledge sources. Improve access to reliable and complete patient health records through electronic means. Provide patients with better visibility of healthcare providers location, availability and area of specialisation in order to promote choice and access.

2.4.1 Overview

The statistical analysis studied the responses of 15 Member States (Austria, Croatia, Cyprus, Czech Republic, France, Greece, Ireland, Italy, Lithuania, Malta, Poland, Serbia, Slovenia, Spain, and Germany) in the "eHealth Initiatives" section of the Tool. The analysis combined the creation of radar charts, one for each country, and a global chart of all countries, with a priority-by-priority and country-by-country comparison of the Member States' responses.

Data processing: Considering that all initiatives have the same weight, the assessment of each main health priority as High/Moderate/Low was converted to 3/2/1, and empty cells to 0. Initiatives that did not address any priorities were not taken into account (6 out of 127).

Radar chart

Averaged assessment values were calculated for each Member State and for each priority. A radar chart for each country is presented in the Annex. For the global radar chart, we calculated the global averaged assessment value (average of all averaged values) for each

priority, reflecting that each country has the same weight regardless of the number of initiatives.

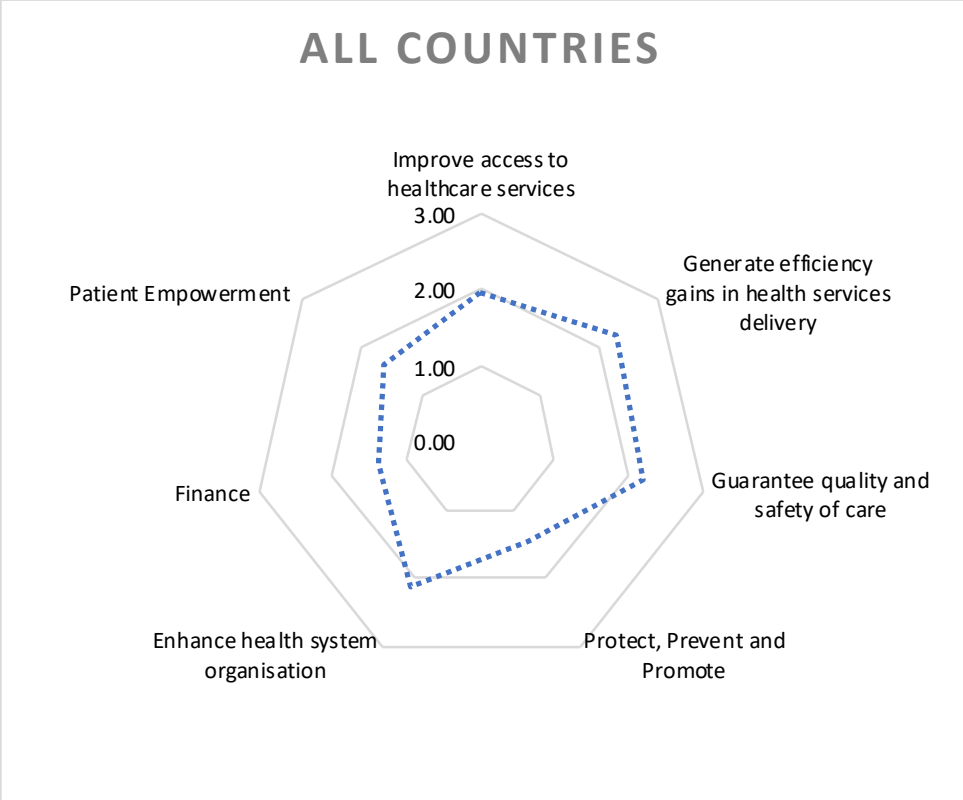


Figure 6 - Priorities – average assessment value

The global radar chart of the main priorities currently addressed by the eHealth Initiatives of all countries indicates that *efficiency in health services delivery*, *quality and safety of care* as well as *health system organisation enhancement* is of "moderate" importance for the majority of the countries. While *patient empowerment* and *improving access to healthcare services* is of moderate-to-low importance, *finance* is of very low importance.

2.4.2 Main findings

Overall assessment

		Improve access to healthcare services	Generate efficiency gains in health services delivery	Guarantee quality and safety of care	Protect, Prevent and Promote	Enhance health system organisation	Finance	Patient Empowerment	OVERALL
1	**Slovenia**	1.43	2.14	2.43	1.29	2.57	2.14	1.29	1.90
2	**Poland**	2.00	2.00	2.00	1.40	1.80	1.40	2.40	1.86
3	**Lithuania**	2.50	2.67	2.17	1.17	2.17	0.00	1.17	1.69
4	**Greece**	1.75	2.50	1.25	1.00	2.25	1.50	2.00	1.75
5	**France**	1.36	2.00	1.82	1.82	1.45	0.00	1.09	1.36
6	**Spain**	0.58	0.37	2.00	0.16	0.42	0.16	0.00	0.53
7	**Malta**	1.60	2.80	2.80	2.40	3.00	1.20	2.40	2.31
8	**Ireland**	3.00	3.00	3.00	3.00	3.00	1.18	1.91	2.58
9	**Croatia**	2.50	1.50	1.50	1.00	1.00	1.00	1.00	1.36
10	**Czech Republic**	2.25	2.06	2.13	1.69	1.69	2.19	1.75	1.96
11	**Italy**	0.91	2.18	1.18	0.82	2.73	1.73	1.09	1.52
12	**Cyprus**	2.25	2.25	2.25	2.50	2.25	1.25	1.75	2.07
13	**Serbia**	3.00	3.00	2.00	1.00	3.00	3.00	3.00	2.57
14	**Austria**	2.00	2.64	2.71	1.50	2.50	2.21	2.14	2.24
15	**Germany**	2.75	2.75	2.75	2.25	2.75	1.50	2.25	2.43
16	**Portugal**	1.33	2.44	2.89	0.56	1.44	1.67	0.78	1.59

Table 4 - Averaged assessment value for each priority

Table 4 demonstrates the averaged assessment values of the Member State responses for the Health Priorities. The colouring of the cells indicates with red the lowest values, with yellow the moderate values, and with green the highest values.

Observations:

- Malta, Ireland, Serbia, Austria, and Germany have high values for most of the priorities. This can be seen by the green colour in the corresponding priorities cells as well as the overall assessment value of the country.
- Spain has very low values in 6 out of 7 priorities.
- *Finance* is not addressed at all by the eHealth initiatives of Lithuania and France.
- *Patient Empowerment* is not addressed at all by the eHealth initiatives of Spain. This means that initiatives listed by Spain don't answer to this priority.

Priority analysis

To better understand how the Member States address the seven Health Priorities, we calculated the total percentage of the Member State responses for each priority (Table 5). For each country we counted the number of low/moderate/high/no-response in their responses, and then, for each priority, we calculated the total percentage of the responses.

As the numbers in the table suggest, substantial numbers of the initiatives do not address the priorities *Finance* (34%) and *Patient Empowerment* (29%). The rest of the priorities are

addressed by the eHealth initiatives, with a total percentage greater than 75%. Furthermore, priorities *Improve access to healthcare services*, *Generate efficiency gains in health services delivery*, *Guarantee quality and safety of care*, and *Enhance health system organisation* are highly addressed by the Member State initiatives with the percentages for the "High" response being 36%, 47%, 46% and 44% respectively.

	Improve access to healthcare services	Generate efficiency gains in health services delivery	Guarantee quality and safety of care	Protect, Prevent and Promote	Enhance health system organisation	Finance	Patient Empowerment
Low	15%	8%	6%	26%	9%	22%	21%
Moderate	24%	27%	34%	26%	28%	26%	24%
High	37%	49%	49%	20%	43%	18%	24%
No-response	24%	16%	11%	28%	19%	33%	32%

Table 5 - Distribution of low/moderate/high/no-response

Country analysis

In addition to the priority analysis, it is interesting to inspect the in-country variability of the responses between the eHealth Initiatives. Table Y demonstrates for each country the percentage of the initiatives that address a priority. For this analysis, all eHealth Initiatives were taken into account.

		Improve access to healthcare services	Generate efficiency gains in health services delivery	Guarantee quality and safety of care	Protect, Prevent and Promote	Enhance health system organisation	Finance	Patient Empowerment	Priority Transversality
1	**Slovenia**	100%	100%	100%	100%	100%	100%	100%	**100%**
2	**Poland**	100%	100%	100%	100%	100%	100%	100%	**100%**
3	**Lithuania**	100%	100%	100%	67%	83%	0%	50%	**71%**
4	**Greece**	75%	100%	100%	100%	100%	100%	100%	**96%**
5	**France**	55%	73%	73%	73%	73%	0%	45%	**56%**
6	**Spain**	32%	21%	79%	11%	16%	5%	0%	**23%**
7	**Malta**	100%	100%	100%	100%	100%	100%	100%	**100%**
8	**Ireland**	100%	100%	100%	100%	100%	100%	100%	**100%**
9	**Croatia**	40%	20%	20%	20%	20%	20%	20%	**23%**
10	**Czech Republic**	100%	100%	100%	100%	100%	100%	100%	**100%**
11	**Italy**	36%	91%	45%	36%	100%	64%	45%	**60%**
12	**Cyprus**	100%	100%	100%	100%	100%	100%	100%	**100%**
13	**Serbia**	67%	67%	67%	67%	67%	67%	67%	**67%**
14	**Austria**	100%	100%	100%	100%	100%	100%	100%	**100%**
15	**Germany**	100%	100%	100%	100%	100%	75%	100%	**96%**
16	**Portugal**	44%	89%	100%	33%	56%	78%	33%	**62%**

Table 6 - Percentage of initiatives per priority

The last column in the table, named "Priority Transversality", is a score that reflects the overall contribution of a Member State initiative to the Health Priorities.

It is important to notice that 7 out of 15 countries defined initiatives that address all of the Health Priorities (score: 100%). Moreover, 6 out of the 15 countries listed initiatives that

address most of the Health Priorities with a score greater than 50%. Finally, only 2 Member States specified initiatives that address Priorities with a very low percentage of ~23%.

2.5 Initiatives - Enablers

2.5.1 Overview

Each country for each initiative description provided information on the applicable means for each enabler: "Standards & interoperability", "Infrastructure & building blocks", "Innovation", "Legislation & Policy" and "International Cross-Border".

2.5.2 Main findings

Governance

The programmes landscape is represented in the following graph (Figure 7). It is interesting that the programmes landscape in Member States is mainly at a national level (19/19), followed by national and regional levels (7/19 countries). Very few of the reported Member State eHealth programmes are at a local level (4/19).

Most of the countries implement eHealth Programmes under their national bodies (17 out of 19), only some Member States (7 out of 19) implement these under their national and regional bodies and no country reported implementing its eHealth Programmes at a local level.

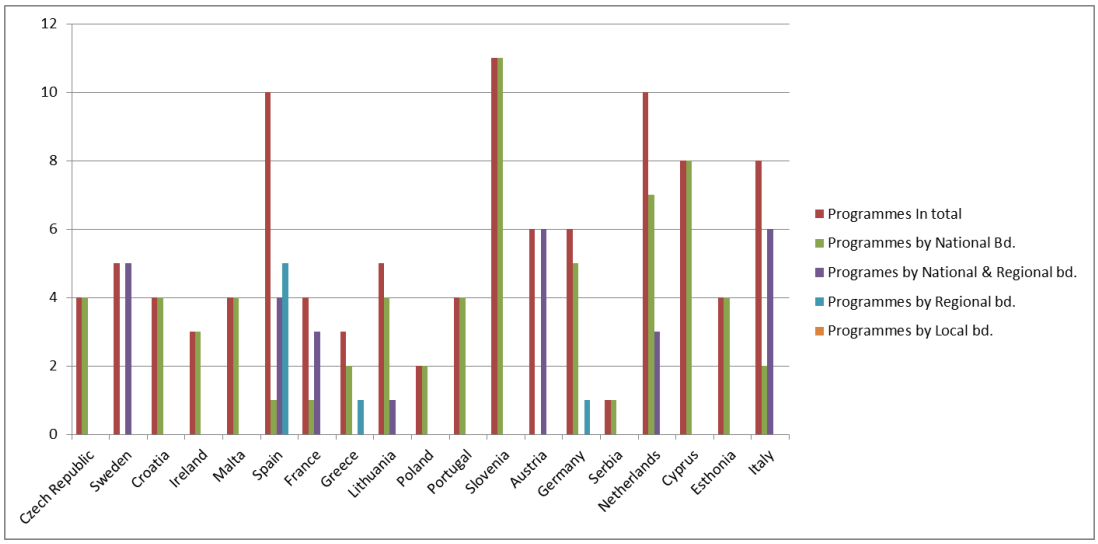


Figure 7 - Countries and eHealth Programmes

Standards & interoperability

Description

For this enabler it was expected that Member States would name and, if necessary, describe the standards (international or national) that enable consistent and accurate collection and exchange of health information across health systems and services (technical, semantic, organisational, and linked to certification and accreditation of software).

Most of the information that has been collected is data corresponding to technical and semantic standards.

Country	Standards & Interoperability	Comments
Austria	HL7 CDA (Release 2) standard for documentation. Data is exchanged at regional level (within XDS affinity domains) using the IHE Cross-Enterprise Document Sharing (XDS) standard. For country-wide requests beyond XDS affinity domains, the IHE profile Cross Community Access (XCA) is used.	Follow a framework directive for IT infrastructure on telemonitoring
Cyprus	HL7, IHE profiles , DICOM, ATC Pharmaceutical, LOINC (Universal Laboratory Order Codes)	
Estonia	IHE: XCPD, XCA, XDR HL7: CDA	
Germany	(HL7 FHIR, SNOMED CT, LOINC)	
Greece	HL7 CDA, IHE profiles.	The proposed project will consist of the Interoperability Infrastructure and the central point of reference for citizens of the main existing health information system
Lithuania	DICOM, HL7 v3, HL7 v3 CDA, HL7 FHIR, IHE XDS integration profile, SNOMED CT, SOAP, REST.	The national patient registration system is part of the ESPBI IS (National eHealth system)
Malta	HL7, XML, RESTful web services; Classifications: ICD-10, ICD-9-CM, ATC, EDQM, UCUM, LOINC; Clinical terminology: SNOMED CT; Data structuring: openEHR	
Poland	HL7 CDA – setting the structure of medical documents	

	IHE Profiles (PRE, DIS) – implemented within e-Prescription IHE Profiles (XDS.b, ATNA, XCA, APPC, PIX) – in the process of creating specification; recommended by the Polish Interoperability Council ICD-10, ICD-9 National Contact Point and services: Master ValueSet Catalogue (MVC) and Master Translation Catalogue (MTC) to ensure proper implementation of cross-border e-Prescription service (Wave 3 country) Cross-border Patient Summary (TBD)	
Portugal	HL7 2.5, HL7 FHIR, CDA, CPAL, ArchMate, eCF3.0, EQF, SOA, SOAP, REST	
Serbia	XML based communication	Web based centralised system with support for electronic data exchange based on web services
Slovenia	Telemedicine Services, Continua, IHE, OpenEHR, SNOMED, DICOM	
Spain	IHE: XCPD, XCA, XDR HL7: CDA, V2.X	

Table 7 - Presentation of standards used by different countries

The interoperability of information systems for the different countries is heterogeneous and compartmentalised especially at the semantic level. The technical level shows more convergence with HL7 and IHE standards, but there are clear benefits to work towards developing common enablers to sustain interoperability and enhance sharing.

Innovation

Description

For this enabler it is expected to describe trends that can bring innovation to the entire healthcare sector and improve healthcare delivery (examples: Big data, Open data; Artificial Intelligence; IOT; Blockchain; mHealth, etc.). This includes innovations from other domains that could be transferable to the healthcare sector.

The information is too diverse to compare. However, we can highlight the concepts that each country considers as innovations for each initiative put in place.

Main findings

Scandinavian countries are often perceived as being ahead. Estonia is often cited as a reference. In Estonia, after the dematerialisation of banking and administration, health has gone digital with the introduction of an Electronic medical record accessible online by doctors and patients about ten years ago. Estonia already offers a smart identity card that provides access to its medical file and especially: Reports of examinations and hospitalisation; an electronic prescription service, which replaces the paper prescription and lists the treatments and allergies of the patient (launched in 2010), Administrative and reimbursement data by social security, securing data via the blockchain. The patient also chooses who can access his file and in which circumstances, renewable prescriptions without having to go to the doctor.

In Austria, the e-card is the Austrian social and health insurances major digitalisation initiative. What is considered as an innovation in this case is that the e-Card system has enabled a series of evolutions in the administrative processes around health care provision in Austria (citizen identification, ePrescription, etc.)

The central element of the Austrian eHealth strategy is ELGA (Elektronische Gesundheitsakte, electronic health record). ELGA provides the opportunity to add and extend eHealth applications for various health settings. Major benefits of ELGA are safe and reliable information transfer, as well as communication and workflow improvements. Patients' health information (e.g. medical examinations, prescriptions and medication, allergy tests, blood group, laboratory and radiology tests) is made available to both patients and eligible providers in a highly structured manner and provides a full picture of a patient's treatment pathway. This helps to avoid duplication of medical tests and to improve quality of care, patient safety, patient-centred care and ultimately patient empowerment. The limited liability company ELGA (GmbH) is responsible for the development of the national eHealth infrastructure and the coordination of all relevant activities necessary to roll out the electronic health record.

In conclusion, the digital players are extremely present and dynamic. The observed services correspond to numerous initiatives aimed at patients and health professionals. The exponential number of partnerships between very different players, stemming from business sectors which are *a priori* divergent, is proof of the very strong dynamism of the digital health sector.

We can note a fragmentation of the initiatives: digitalisation of fragments of care pathways, limited to the prevention or the management of certain chronic pathologies (diabetes, hypertension ...), some patients, living in a defined territory, rarely taking into account a global digitalisation.

The rise of many digital players in eHealth highlights the very high diversity of the fields concerned (genomics, artificial intelligence, big data, e-mobility, computer security, etc.)

Infrastructure & building blocks or services

Description

For this enabler it was expected to describe the foundations for electronic information exchange across geographical and health-sector boundaries. This includes the physical infrastructure (e.g. networks), building blocks (e.g. national registers), security of data and services (e.g. ePrescription) that support a national eHealth environment

Main findings

Innovative tools and applications are aimed at patients and more specifically in the areas of prevention and use of the Electronic Health Record (EHR). Patients have more and more the opportunity to manage their own medical records. These tools enable drug monitoring, disease management and medical research support.
The tools and innovative applications are intended for health professionals and in particular help with diagnosis and medical decisions or the monitoring of changes in the state of health.
It is now a question of exchanging with patients by creating tools to listen and advise them, to accompany patients in their treatment thanks to applications and to propose more effective treatments combining medicine and digital tools (solutions combining medical devices, software and treatments to facilitate the management of patients).

Even though countries have implemented interesting measures, it is difficult to know whether these new technological innovations are actually used.

In Germany, the public authorities are partly taking the lead. Several major initiatives are identified:

- The electronic health card: since 2011, the insured, healthcare professionals, pharmacists, hospitals and medical insurers are interconnected by a smart card designed to ensure efficient and secure interoperability. It includes information such as social and mutual security reimbursements and a medical history.
- The shared medical file, whose application allows patients to create their digital health record to preserve and secure their health information.
- The Big Data Project, that attempts to provide aggregated data on health care.
- The digital strategy in Nordrhein-Westfalen, with the aim of promoting digital health care in the state. It involves connecting a telematics infrastructure to health actors (12,000 practitioners, 4,400 pharmacists and 350 hospitals). The aim is to improve interoperability between all actors in the health system.

Spain's national healthcare system is highly decentralised and the Ministry of Health – which belongs to Spain's central administration – has been developing and coordinating large

eHealth interoperability projects for the past 10+ years. Currently, the national eHealth interoperability framework has a very high degree of maturity; it is based upon three main projects coordinated by the Ministry of Health, with full national coverage (46.6+ million Spanish citizens): unique patient identification; electronic health records; electronic prescription and dispensation. Spain is also in the process of implementing several other digital health initiatives at the regional level for chronic disease management, telemedicine, big data, Internet of Things (IoT) and Artificial Intelligence (AI).

One of the initiatives and services we find for most countries is the electronic patient record. Thanks to the generalisation of the electronic patient record, a major change is coming for doctors: think about the "care pathway".

2.6 Initiatives - Stakeholders

2.6.1 Overview

This analysis is based on information gathered through the specially created tool which describes, in a structured way, the national health and eHealth ecosystem including governance bodies, national health strategies, national eHealth experiences and initiatives for each Member State.

The objective of the stakeholder analysis is to identify stakeholders in Member States involved in the Joint Action (JA) eHAction, and to assess their relationship to main programmes and initiatives of their national eHealth strategies. Nineteen countries submitted data using the overall tool, but only 17 completed the part concerning the stakeholders and were included in this analysis. Programmes and initiatives that did not have information in the initiatives for any of the nine stakeholders were excluded. The stakeholders were divided into nine groups:

1. Legislators / Healthcare authorities,
2. Professional groups – Associations,
3. Primary care healthcare providers / Pharmacies,
4. Hospitals – Clinics,
5. Patients,
6. Research institutes – Universities,
7. ICT industry,
8. Pharmacy, and
9. Health Insurance.

For this analysis it has been considered that each initiative has the same weight.

2.6.2 Main findings

The analysis of Member State data showed that, in relation to 160 different eHealth initiatives, 15 of the 160 did not have any data on stakeholders and thus were not analysed, leaving a total number of 145 initiatives for analysis.

Figure 8 - Number of initiatives

The total number of stakeholder groups represented across all initiatives in Member States is 745. The largest representation of stakeholder groups across all eHealth initiatives is in Ireland (144) and smallest is in Serbia (13) (Table 8).

The analysis of the data from Member States shows that, in relation to the representation of all stakeholder groups across different initiatives, the smallest average number of initiatives reported per all stakeholder groups (i.e. n/9) is in the orange group of countries made up of Serbia (1.44), Lithuania (1.88), Cyprus (2.44), Poland (2.77) and Czech Republic (2.77). In the blue group of countries are Germany (3), Malta (3), Greece (3.33), Slovenia (3.77), Italy (4.44), Estonia (4.44) and Spain (4.77). In the grey group of countries are Portugal (5.88), Croatia (6.55) and France (7.11). The largest number of initiatives per all stakeholder groups is in the green group: Austria (9.11) and Ireland (16).

	Country	Legislators / Healthcare authorities		Professional groups - Associations		Primary care healthcare providers / Pharmacies		Hospitals - Clinics		Patients		Research institutes - Universities		ICT industry		Pharmacy		Health Insurance		Total		Legend
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	
1	Ireland	15	10.42	19	13.19	19	13.19	19	13.19	18	12.50	0	0.00	19	13.19	17	11.81	18	12.50	144	100.00	> 101
2	Austria	13	15.85	12	14.63	11	13.41	12	14.63	12	14.63	4	4.88	3	3.66	5	6.10	10	12.20	82	100.00	76 to 100
3	France	8	12.50	8	12.50	8	12.50	10	15.63	7	10.94	5	7.81	6	9.38	6	9.38	6	9.38	64	100.00	
4	Croatia	8	13.56	8	13.56	8	13.56	6	10.17	7	11.86	6	10.17	7	11.86	4	6.78	5	8.47	59	100.00	51 to 75
5	Portugal	9	16.98	6	11.32	9	16.98	9	16.98	6	11.32	6	11.32	8	15.09	0	0.00	0	0.00	53	100.00	
6	Spain	18	41.86	6	13.95	4	9.30	7	16.28	1	2.33	5	11.63	1	2.33	1	2.33	0	0.00	43	100.00	26 to 50
7	Estonia	0	0.00	5	12.50	5	12.50	5	12.50	5	12.50	5	12.50	5	12.50	5	12.50	5	12.50	40	100.00	
8	Italy	2	5.00	5	12.50	10	25.00	8	20.00	10	25.00	1	2.50	2	5.00	2	5.00	0	0.00	40	100.00	
9	Slovenia	7	20.59	4	11.76	6	17.65	5	14.71	3	8.82	2	5.88	2	5.88	1	2.94	4	11.76	34	100.00	
10	Greece	4	13.33	4	13.33	4	13.33	4	13.33	3	10.00	3	10.00	4	13.33	2	6.67	2	6.67	30	100.00	
11	Malta	5	18.52	4	14.81	4	14.81	3	11.11	4	14.81	1	3.70	2	7.41	3	11.11	1	3.70	27	100.00	
12	Germany	3	11.11	3	11.11	3	11.11	3	11.11	3	11.11	3	11.11	3	11.11	3	11.11	3	11.11	27	100.00	
13	Czech Republic	15	60.00	4	16.00	1	4.00	1	4.00	1	4.00	1	4.00	0	0.00	0	0.00	2	8.00	25	100.00	1 to 25
14	Poland	5	20.00	4	16.00	3	12.00	4	16.00	4	16.00	3	12.00	0	0.00	1	4.00	1	4.00	25	100.00	
15	Cyprus	3	13.64	1	4.55	3	13.64	3	13.64	3	13.64	3	13.64	3	13.64	1	4.55	2	9.09	22	100.00	
16	Lithuania	0	0.00	0	0.00	5	29.41	4	23.53	5	29.41	2	11.76	0	0.00	1	5.88	0	0.00	17	100.00	
17	Serbia	2	15.38	0	0.00	2	15.38	2	15.38	2	15.38	0	0.00	2	15.38	1	7.69	2	15.38	13	100.00	
18	Sweden																					No Data
19	Netherlands																					
	Total	117	15.70	93	12.48	105	14.09	105	14.09	94	12.62	50	6.71	67	8.99	53	7.11	61	8.19	745	100	

Table 8 - Initiatives by countries per stakeholder in relation to the total number of Initiatives for all stakeholders

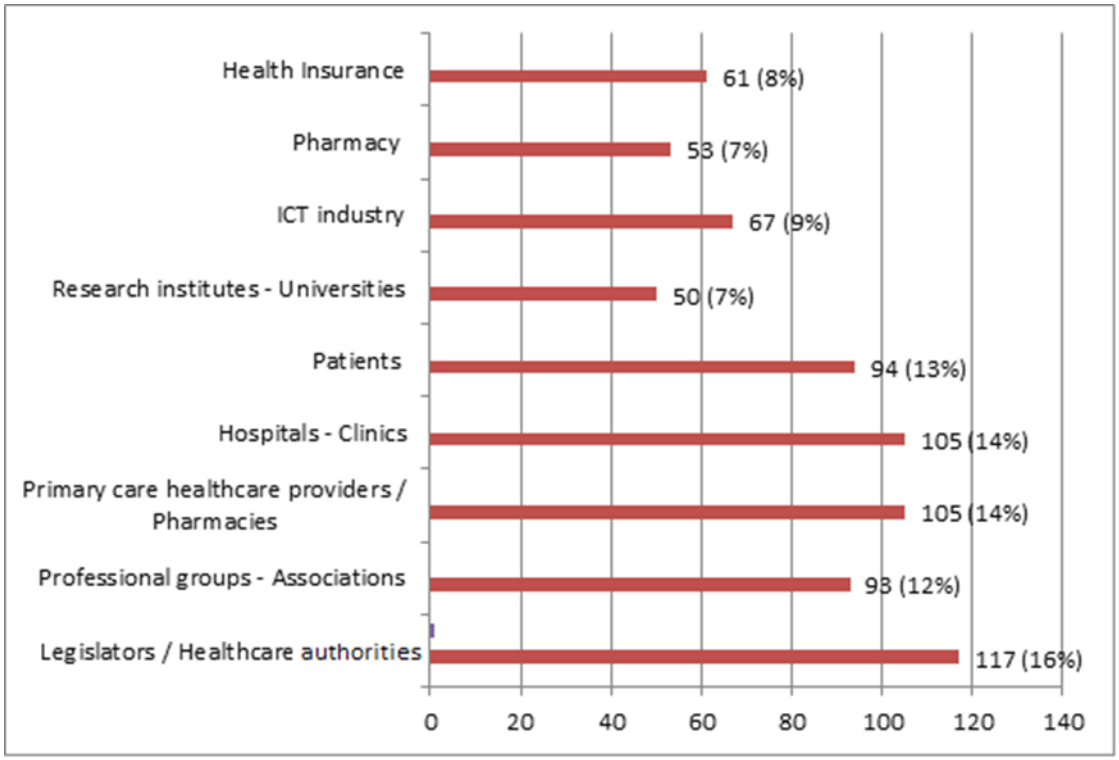


Figure 9 - Number of Initiatives per stakeholder group in relation to the total number of Initiatives for all stakeholders

In relation to the 145 different eHealth initiatives reported by Member States, the categories with the least percentage of stakeholder representation are Research institutes – Universities – 50 (34%), Pharmacy – 53 (37%), Health Insurance – 61 (42%) and ICT industry – 67 (46%). This could be due to these categories of stakeholders having less interest in some eHealth initiatives or that some eHealth initiatives are not of direct benefit to them (for example GP eReferrals to acute hospitals would have little relevance for pharmacists based in the community, whereas ePrescribing would have more relevance for them) or that these categories of stakeholders need to be better informed about how some eHealth initiatives can produce results to their benefit.

The analysis further indicates that the highest percentage of stakeholder representation in eHealth initiatives is among the categories of Legislators / Healthcare authorities level – 117 (81%), Hospitals - Clinics – 105 (72%), Primary care healthcare providers / Pharmacies – 105 (72%), Patients – 94 (65%) and Professional groups - Associations – 93 (64%) (Figure 10).

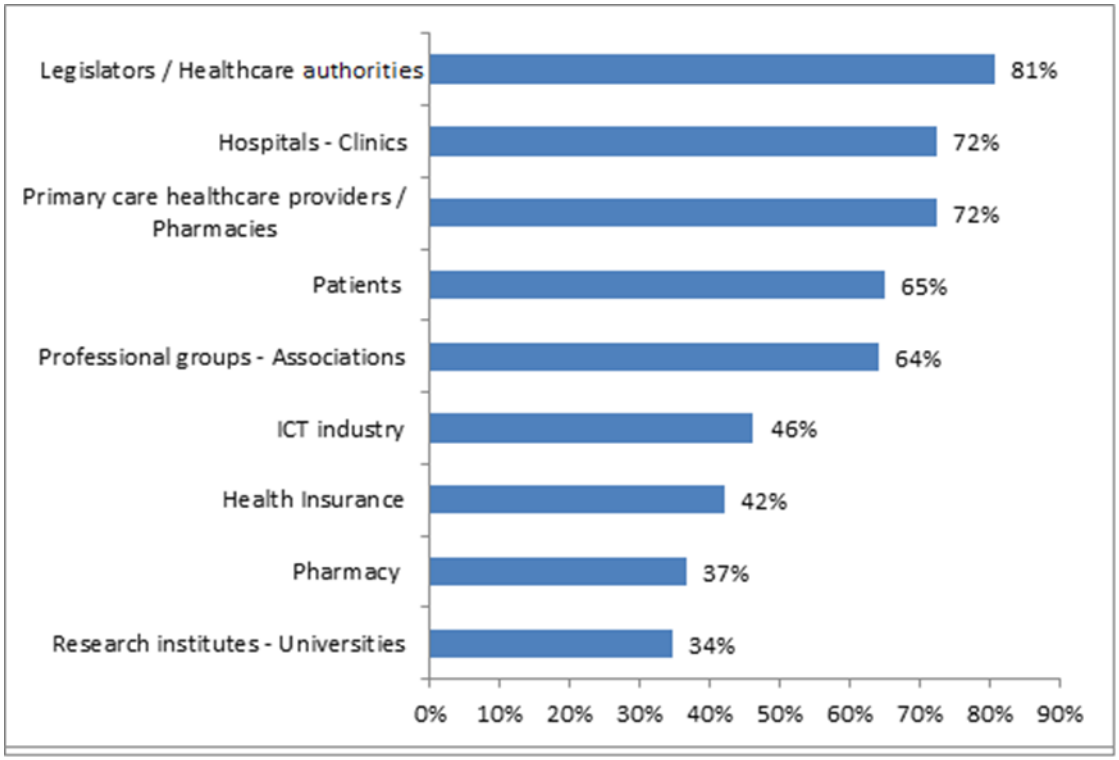


Figure 10 - Percentage of stakeholder groups representation in relation across all reported eHealth initiatives

3. Conclusion

3.1. General conclusions on the document

The objective of the work carried out on this task was to develop a solid base that will be used on the Deliverable 8.3 in order to define a sustainability plan for the exchange of health data among the Member States.
The intention of this task is to provide an overview of the different programmes that make up each country's national health and eHealth strategy. This is proposed in the light of the respective health system organisation and governance bodies in order to describe and understand each national ecosystem.
Results of this work do not reveal unsuspected findings but rationalise some well-known facts:

- Health and eHealth are major concerns in all the countries that responded. The high number of programmes and initiatives to date shows the dynamism of the transformation of the sector.
- Countries share the same priorities. This can be explained by the fact that health sectors are going through the same issues in different EU countries and there has been a realisation that eHealth has the potential to be an important lever to help in overcoming those challenges.
    - *Improve access to healthcare services*, *generate efficiency gains in health services delivery*, *guarantee quality and safety of care*, and *enhance health system organisation* are the top four priorities addressed by countries. These are common axes of objectives that can be observed between the respondents of the survey.
- There is no unique approach in the way the programmes and initiatives interact and are designed. This depends mainly on the political and health organisation of the country and the national priorities.
- Enablers are used in various ways to support the different strategies. Some more common grounds on the enablers are needed to help in reaching the goal of European interoperability.
- *Cross-border/international dimension is not a driver in the strategy design*. There is thus a lot of room for nourishing national concerns with experiences from other countries.

These results were based on the outcome of the Workshop organised as part of Task 8.1. This workshop helped to design the underlying data collecting model and to build a tool for each country to describe, in a structured way, the national health and eHealth ecosystem including governance bodies, national health strategies, and national eHealth initiatives. The WP8 members have worked together to frame the scope, to agree on a methodological approach and to align the requested information.

When trying to synthesise the collected Member States' data, the analysis cannot always go as far as intended, mainly due to the heterogeneous level of granularity of the data provided or sometimes the absence of data.
Overcoming those difficulties would need improvement in the quality of the data collected. This will be possible during a new phase of data updating, through a platform that WP8 leaders are designing together to easily maintain the evolution of each national digital health strategy and to sustainably monitor its progress.

This new platform would also help in identifying and documenting successful strategies, mistakes to avoid and best practices to share. Up-to-date data could then become the starting point for countries seeking information to help them overcome their own challenges. It will also help to highlight the common priorities and actions to feed the sustainability plan.

3.2 Next steps and perspective towards T8.3

The organisation of the first workshop was the essential basis for advancing the work of Task 8.1. This is true in terms of designing models and tools to capture up-to-date reusable information on Member State (e)Health strategies, but also in creating a common ground and community between the participants. So, it is very important to continue working together and to gather all members involved in the eHAction project to propose to the eHN a common vision for the next trajectories.

Task 8.3 can be built upon the results of the D8.1 analysis and D8.2 documents. They can be updated and enriched with progress and evaluation information in order to highlight common features:

- initiatives and priorities,
- opportunities and potential obstacles,
- timeline,
- main challenges.

This recombined landscape based on the eHealth strategies and initiatives in each of the Member States will constitute the baseline to design scenarios to secure the sustainability of personal data exchanges for the benefit of the patient in Europe through the use of the NCPeHs.

In parallel to T8.1, the work developed in the T8.2 could be used as a base to align the WP8 tasks as an example of best practices and development of guidelines. In D8.2.1 the development of the first draft of the Electronic Health Record Exchange Format (EHRxF) was

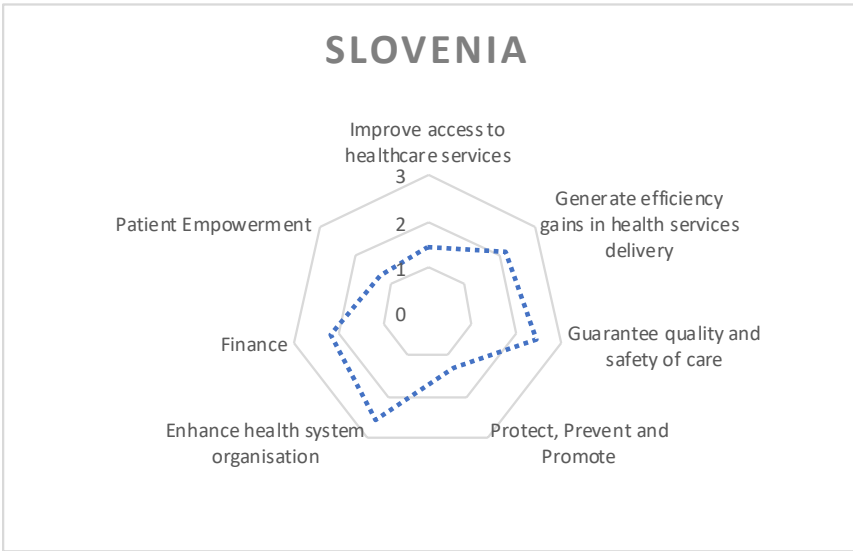
used as a basis for the European Commission published EHRxF recommendation[2] on 6th Feb 2019. D8.2.2 describes the Common Semantic Strategy for Health on EU level, this document intends to drive all semantic strategy in the EU over a period of the next five years. D8.2.3 will describe the Enterprise Architecture for eHealth that could be a very important theme to be included in the eHealth scenario.

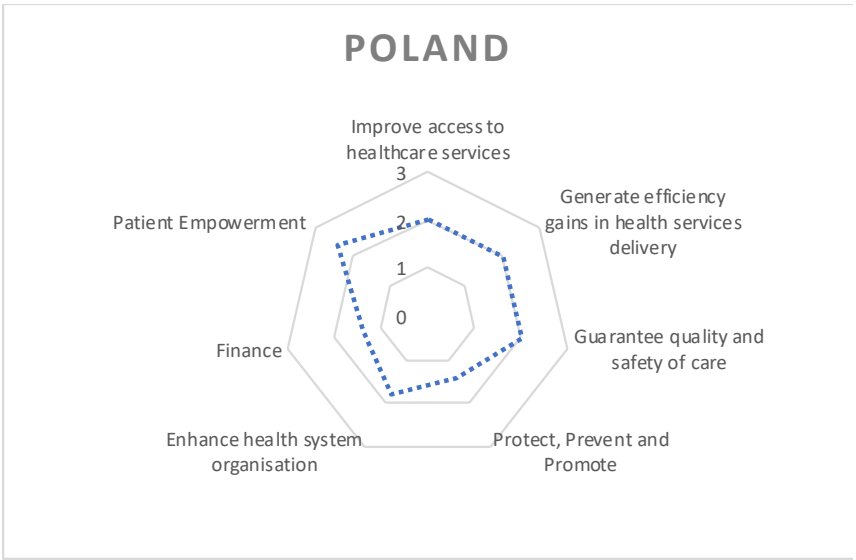
Another important subject that shall be discussed in order to integrate the EU strategies is the "Interoperable eco-system for digital health and investment programmes for a new/updated generation of digital infrastructure in Europe"[3]. This document contains a current overview of the financial instruments and programmes that are proposed under the EU's next multi-annual financial framework 2021-2027. It further proposes a set of recommendations aiming to establish the above mentioned interoperable ecosystem in Europe with public funding coming from the EU Member States and the Commission. It provides an important overview of the future financial programmes to support the introduction of new initiatives in the EU and gives some guidelines for more sustainable investment in the eHealth ecosystem.

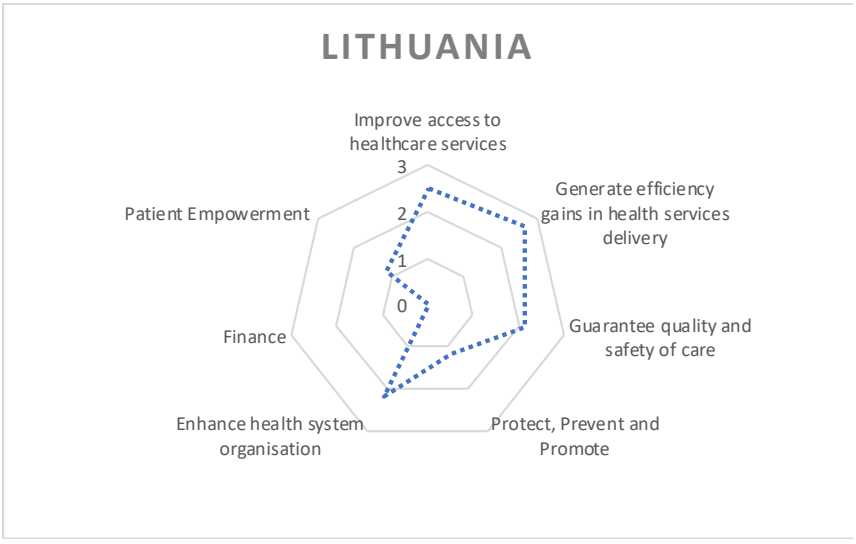
These sustainable scenarios should take into account current and future use cases and highlight the difficulties and reasons which could slow down the usage of cross-border services, and the needed governance to pilot and maintain these services. Through the Member States/countries' alignment towards the same direction, and the use of the recent initiatives, such as EHRxF, CSS, investment programmes and others, it is possible to overcome at least some of these challenges and achieve more interoperable and sustainable eHealth in the European Union.

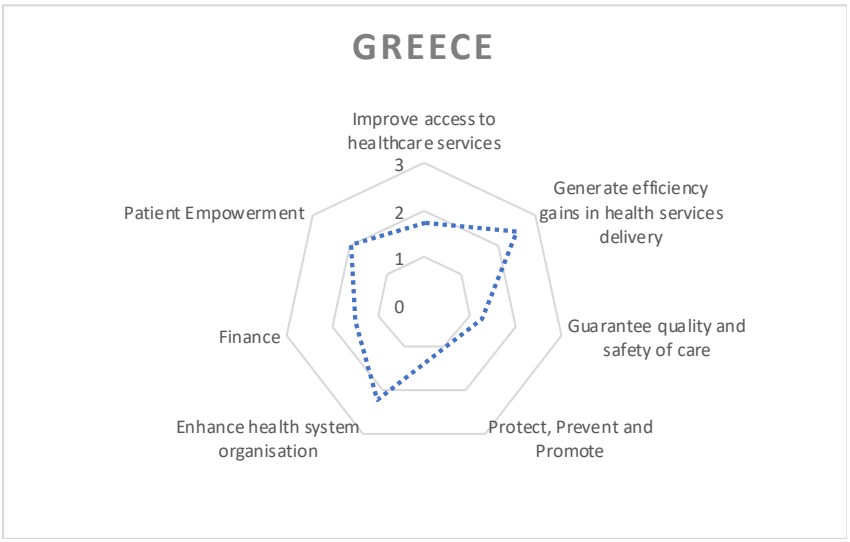
[2] https://ec.europa.eu/digital-single-market/en/news/recommendation-european-electronic-health-record-exchange-format
[3] https://ec.europa.eu/health/sites/health/files/ehealth/docs/ev_20190611_co922_en.pdf

Annex: Initiatives – Priorities, radar charts





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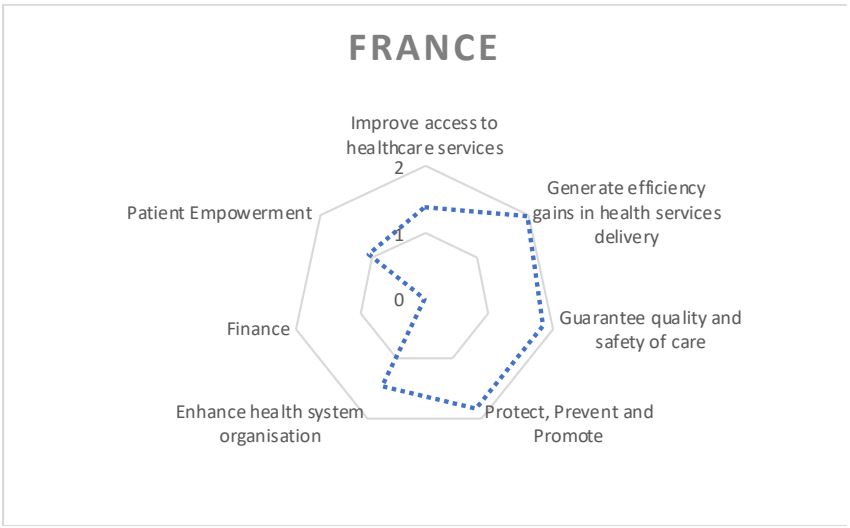
Enhance health system organisation
Finance
Patient Empowerment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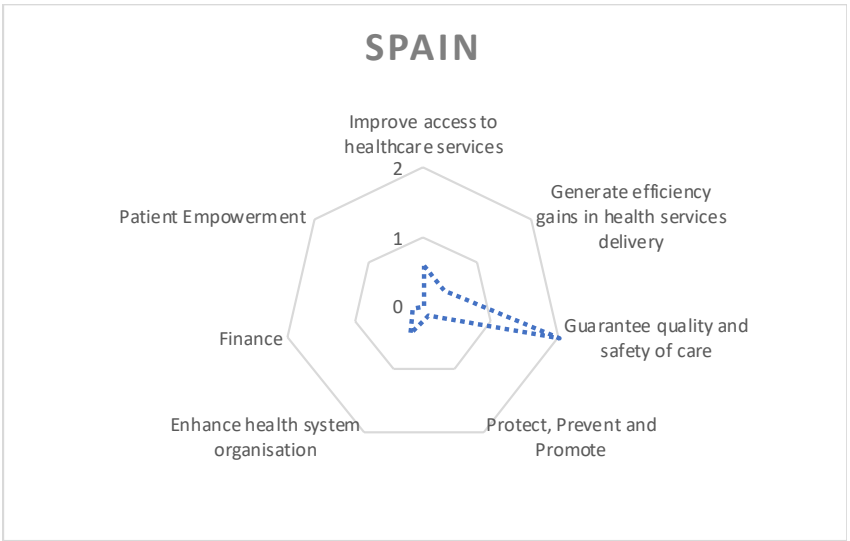
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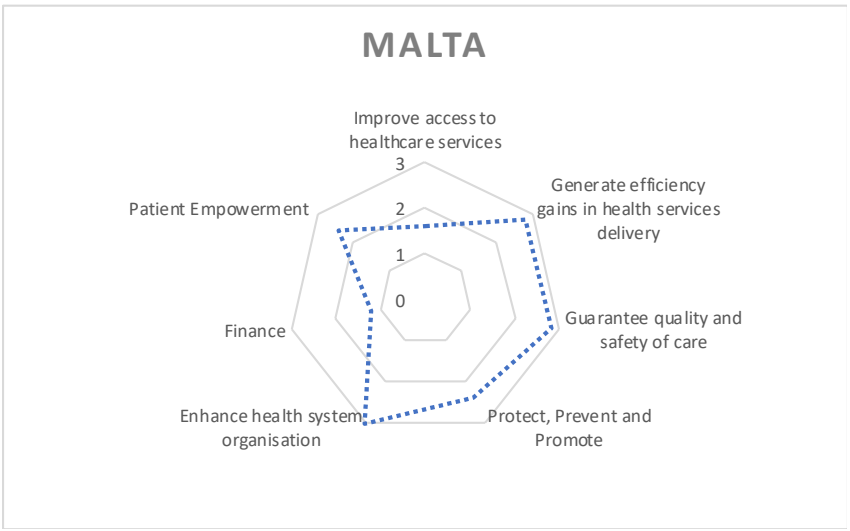
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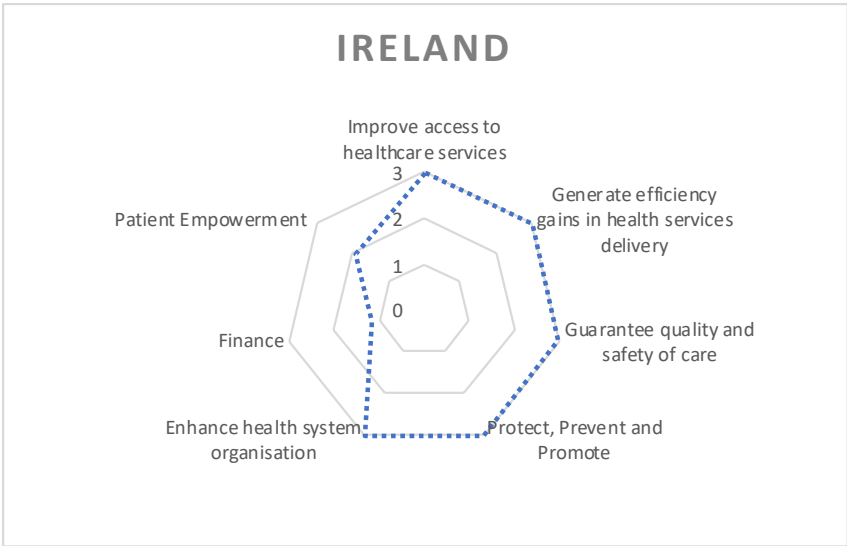
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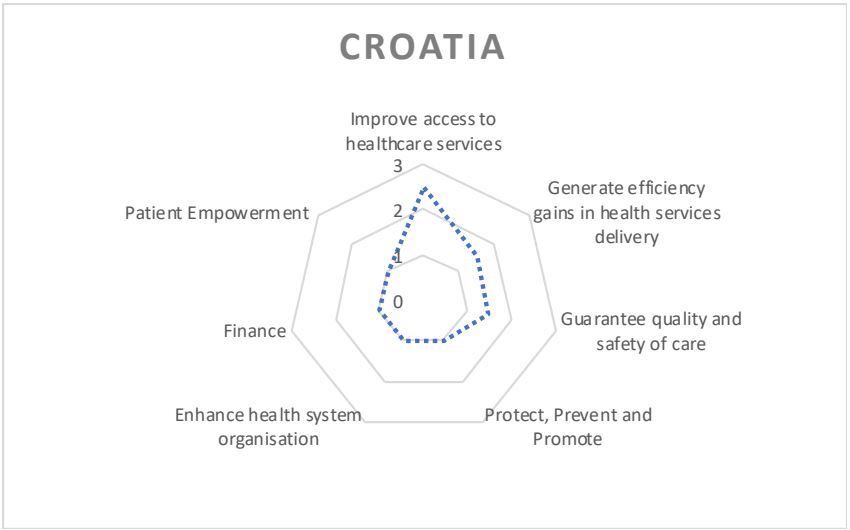
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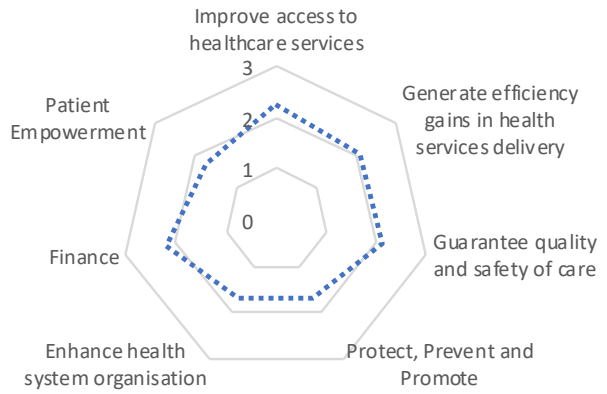

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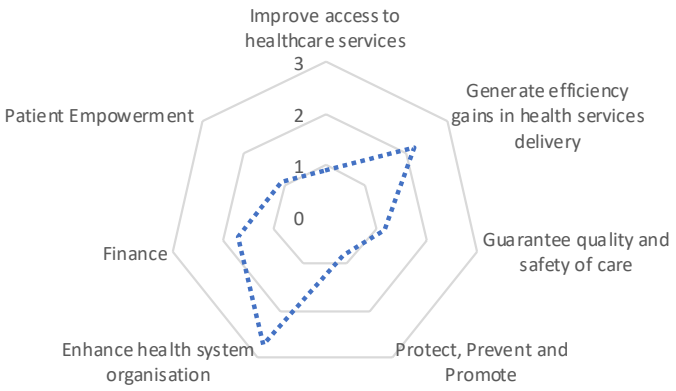

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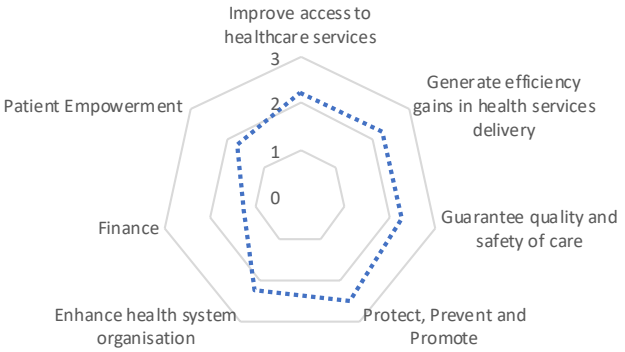

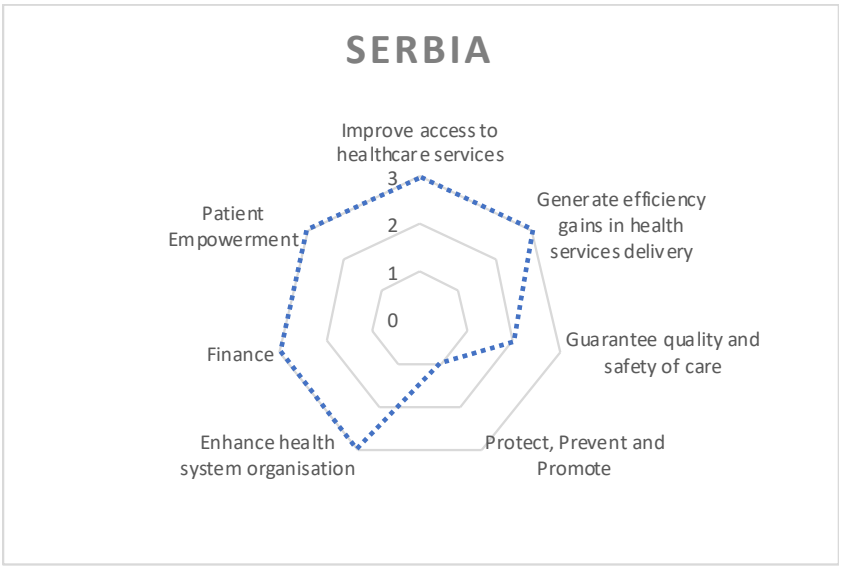
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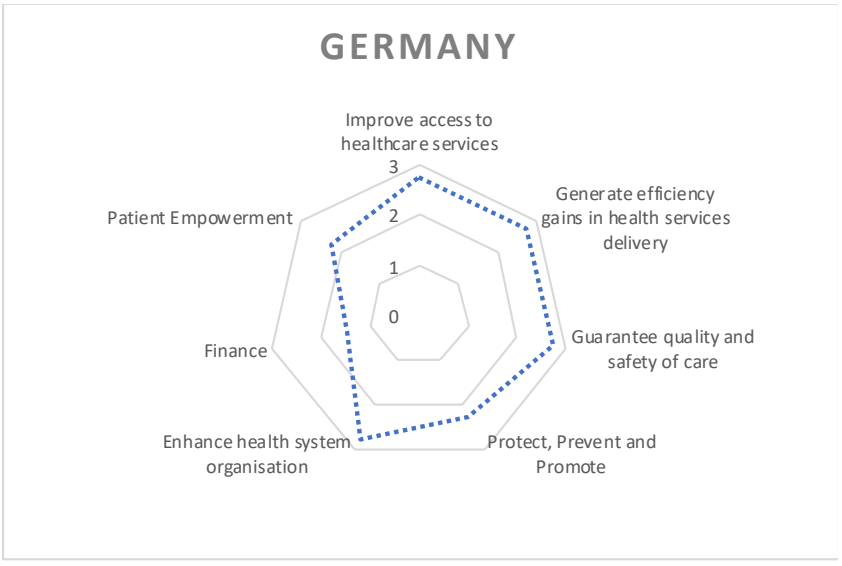
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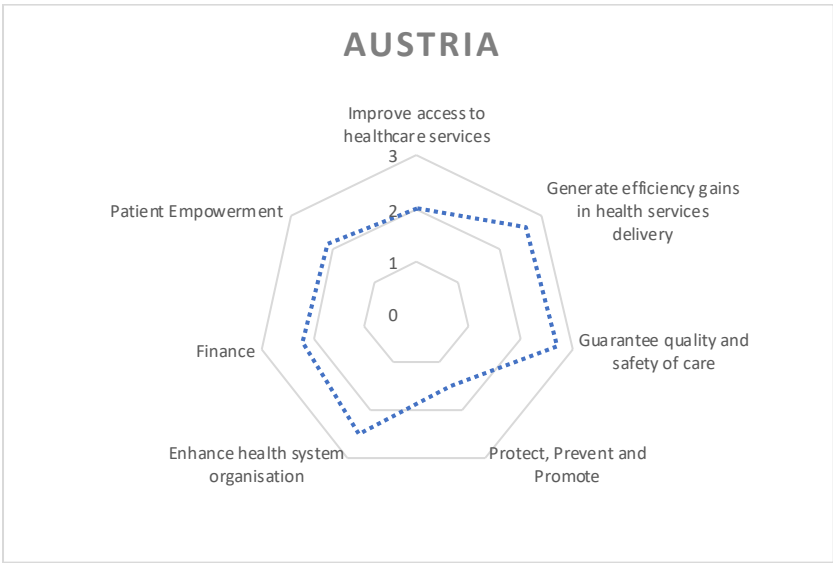
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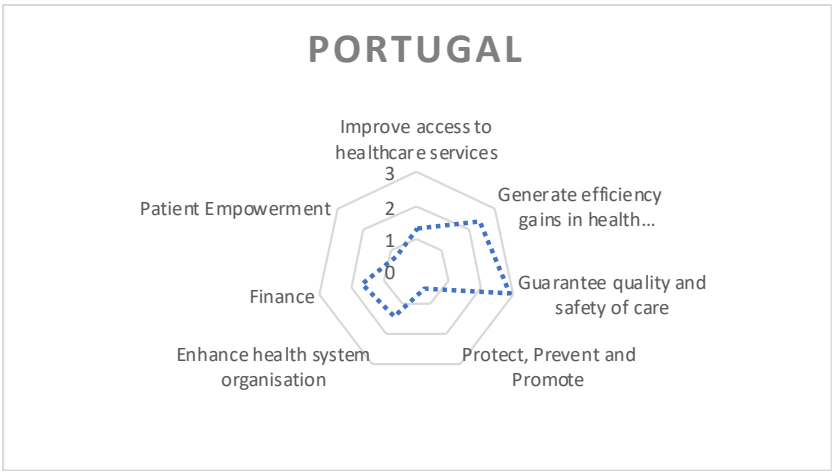
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