

Platform for Innovation of Procurement
and Procurement of Innovation

D3.1 Reports on the consultations

PIPPI

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Executive Summary

Healthcare's digital transformation requires collaboration between stakeholders from both the public and private sectors, to co-design and co-create digital solutions that meet clinical demands. The Platform for Innovation of Procurement and Procurement of Innovation (PIPPI) project will create a cross-border Community of Practice and will bring together experts from the demand side to identify common clinical needs that could be addressed using digital healthcare solutions. Based on these identified unmet needs, the Community of Practice will prepare a cross-border pre-commercial procurement (PCP/PPI) for a selected clinical need. At the same time, the Community of Practice will provide tailored assistance on procurement to other hospitals within and outside the member group.

The PIPPI consortium consists of seven leading European university hospitals (K, EMC, HUVH, HUS, MUW, OSR, KCH FT) and AQUAS, a relevant player in the adoption of PCP/PPI procurement instruments, including their affiliated academic institutions and the European University Hospital Alliance - EUHA (www.euhalliance.net), an organization that identifies and collaboratively tackles issues that impede the optimal functioning of healthcare delivery. Consortium members and supporting institutions combine expertise on digital healthcare, patient-centred care and procurement, with a shared goal of solving common challenges. The idea is that creating a cross-border Community of Practice, focusing on procurement of innovation in the short-term, will have a long-term impact on innovation procurement.

The present document belongs to WP3, which aims to develop and establish a cross-border CoP based on collected experiences, best practices and research from the partners in the PIPPI project. This deliverable focuses on understanding what tools and knowledge have been already completed and could be used for forthcoming activities related not only with the CoP, but also with the rest of PIPPI desired goals. This report analyzes the findings discovered after having: (1) performed an environmental scan on international-level knowledge applicable to PIPPI, (2) captured PIPPI internal and external stakeholders to a survey, aimed to capture their knowledge and experience that could contribute to the implementation and development of the PIPPI CoP and (3) broadly examined the interviews aimed to enrich previous analysis and done to three identified experts.

In conclusion the key identified ingredients that could contribute to the success of PIPPI CoP could be: the performance of a strong stakeholder analysis, the identification and attraction of group of people with common interest and level of engagement, the importance to create a comfortable infrastructure to make the participants able to communicate easily among them and to quickly access the information they look for, the usage of different channels to reach the appropriate audience, show tangible results and agree on common messages, the possibility to leverage on existing identified networks and ecosystems to stimulate the collaboration among multidisciplinary and multistakeholder profiles.



List of Abbreviations

AQuAS - Agència de Qualitat i Avaluació Sanitàries de Catalunya

CoP - Community of Practice

D – Deliverable

EMC - Erasmus University Medical Center Rotterdam

EUHA - European University Hospital Alliance

HUVH - Hospital Universitari Vall d'Hebron

HUS - Helsinki University Hospital

MUW - Medizinische Universität Wien

OSR - Ospedale San Raffaele

K - Karolinska University Hospital

KCH FT - King's College Hospital NHS Foundation Trust

PCP- Pre-Commercial Procurement

PPI - Public Procurement of Innovation

T - Task

WP - Work Package



Glossary

Best practices: a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption¹

Clusters: Clusters are a part of the microeconomic business environment of a region. Clusters are shaped by certain almost deterministic forces related to the overall history and culture of a region, the geographical circumstances (access to waterways, how affluent neighbours are etc.), general institutions and regulations, and the overall macroeconomic environment. All clusters within a nation are affected by things such as the exchange rate, colour of the government, and historical and geographical circumstances of the nation or region.²

Community of Practice: gathering of individuals motivated by the desire to cross organizational boundaries, to relate to one another, and to build a body of actionable knowledge through coordination and collaboration. More colloquially, a CoP is a group of people who share a concern or passion for something they do, and learn how to do it better as they interact regularly.³

Ecosystem: a network of digital communities consisting of interconnected, interrelated and interdependent digital species, including stakeholders, institutions and digital devices situated in a digital environment, that interact as a functional unit and are linked together through actions, information and transaction flows.⁴

Guidelines: The European Medicines Agency's Committee for Medicinal Products for Human Use prepares scientific guidelines in consultation with regulatory authorities in the European Union (EU) Member States, to help applicants prepare marketing authorization applications for human medicines. Guidelines reflect a harmonized approach of the EU Member States and the Agency on how to interpret and apply the requirements for the demonstration of quality, safety and efficacy set out in the Community directives⁵

¹ <https://www.merriam-webster.com/dictionary/best%20practice>

² http://publications.europa.eu/resource/cellar/6f14c45f-7d6a-49c7-9bbf-785b313657d4.0001.02/DOC_1

³ <http://documents1.worldbank.org/curated/en/188671504682900121/pdf/119411-REVISED-PUBLIC-Community-Primer-2018-Final-2-21-2018.pdf>

⁴ https://www.researchgate.net/publication/303898601_Digital_Health_Innovation_Ecosystems_From_Systematic_Literature_Review_to_Conceptual_Framework

⁵ <https://www.ema.europa.eu/en/human-regulatory/research-development/scientific-guidelines>



[6]

Network: Organizational structures in the form of a network of shared tangible and intangible resources that are formed to achieve specific or general objectives. These organizations are more horizontally structured based on the relevance of the roles played by the parties in the structure.⁶

PCP: Pre-Commercial Procurement challenges industry from the demand side to develop innovative solutions for public sector needs and it provides a first customer reference that enables companies to create competitive advantage on the market. PCP enables public procurers to compare alternative potential solution approaches and filter out the best possible solutions that the market can deliver to address the public need.⁷

PIPPI Platform: Technical enabler of PiPPI CoP functionalities

PPI: Public Procurement of Innovative solutions facilitates wide diffusion of innovative solutions on the market. PPI provides a large enough demand to incentivise industry to invest in wide commercialisation to bring innovative solutions to the market with the quality and price needed for mass market deployment. This enables the public sector to modernize public services with better value for money solutions and provides growth opportunities for companies.⁸

Unmet Need: means a condition for which there exists no satisfactory method of diagnosis, prevention or treatment authorised in the Community or, even if such a method exists, in relation to which the medicinal product concerned will be of major therapeutic advantage to those affected.⁹

Working groups: A working group will have a common objective, but they are not interdependent. For example, people working for the same company or even the same department within a company are not a team if they do not need each other to complete their jobs or the task at hand. Additionally, the individuals' focus in a working group is on themselves. If this working group is supposed to be a project team, the project manager must clarify the roles of the individual members and explain or demonstrate why they need each other's skills to successfully complete the project.¹⁰

⁶ <https://www.igi-global.com/dictionary/network-organization/20161>

⁷ <https://ec.europa.eu/digital-single-market/en/pre-commercial-procurement>

⁸ <https://ec.europa.eu/digital-single-market/en/public-procurement-innovative-solutions>

⁹ https://ec.europa.eu/health/sites/health/files/eudralex/vol-1/reg_2006_507/reg_2006_507_en.pdf

¹⁰ <https://www.pmi.org/learning/library/team-working-group-located-collection-9296>



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Purpose of document

The following document responds to T3.1 'Collecting and analysing lessons learned from existing toolbox/knowledge developers' of WP3 'Development and establishment of the CoP Development and establishment of the CoP' and aims to understand what tools and knowledge have been already completed internationally and could be used for PiPPI activities, such as the development and establishment of a sustainable CoP, the preparation of a cross-border PCP/PPI and the platform development.

1. Introduction

The PIPPI consortium, supported by hospital management and CEOs from 8 consortium members is, together with relevant partners such as payers, industry, academia, knowledge builders and facilitators, taking a holistic approach to develop a well-functioning toolbox and multi-layered network actively targeting all relevant stakeholders in the EU and to enable innovative procurement to improve outcomes for today and tomorrow's patients. The process of identification and engagement will include an inventory of needs, and will cover a regional, national and European level. By this "multi-level" approach, the partners will define their own "eco-system", whilst also identifying the areas of shared interest, taking into account that there are possibly several types that needs to be defined.

The present deliverable will provide answer to the T3.1, which aims to understand what tools and knowledge have been already completed and could be used for PIPPI activities. It directly responds to the second main objective of the PIPPI project, which aims to *establish, leverage, and scale a shared set of tools and practices for the common benefit of healthcare providers, patients/citizens, private sector, and policy-maker.*

The identification of these tools and practices will straightly contribute to the rest of PIPPI main objectives stated below:

1. Establish an eco-system of stakeholders and partners, with aligned purposes and incentives to improve health care, by enabling & growing the use of value-based innovation procurement.
2. Establish an open access web-platform for multi stakeholder communication and collaboration.
3. Complete a feasibility study and preparation of a cross-border PCP(Pre-Commercial Procurement)/PPI for digital health services, based on identified health care needs.
4. Establish an implementation & maintenance plan and development of structures and processes to ensure that the value of the PIPPI activities continues after the duration of the project. This includes the validation of a working business plan & model to ensure a wide dissemination, exploitation and sustainable results.

The first part of the document focuses on the identification of existing networks/organizations with open resources that could be of interest for PiPPI. Once identified, a comprehensive study was performed to understand how these will contribute to achieve PiPPI goals. On the second part, PiPPI partners, as well as identified key suitable stakeholders and identified experts provided feedback on their individual/organizational experiences in their innovation ecosystems that can contribute to the implementation and development of the future PiPPI CoP.



2. Scope and Methodology

Two different activities divide the document:

- i) Environmental Scan on international-level knowledge applicable to PiPPI goals.
- ii) Knowledge and experience that can contribute to the implementation and development of the future PiPPI CoP captured through surveys and interviews

2.1 Environmental Scan on International-level knowledge applicable to PiPPI

The performed environmental scan aims to collect and analyse the experiences and learned lessons from existing toolbox/ knowledge developers that can be applicable to PiPPI goals and activities. The environmental scan can be a vital tool in public health practice, since it can help in identifying areas to immediate focus on and providing information to guide the overall strategic direction of the project development¹¹. In this case, it was performed to identify existing networks/organizations with knowledge on digital health and innovation procurement, as well as stakeholder engagement and CoP establishment. Although European-level scope was first prioritised, an international organization from Ontario (Canada) was also included in the research. The inclusion criteria was based on their potential contribution to PiPPI set of goals:

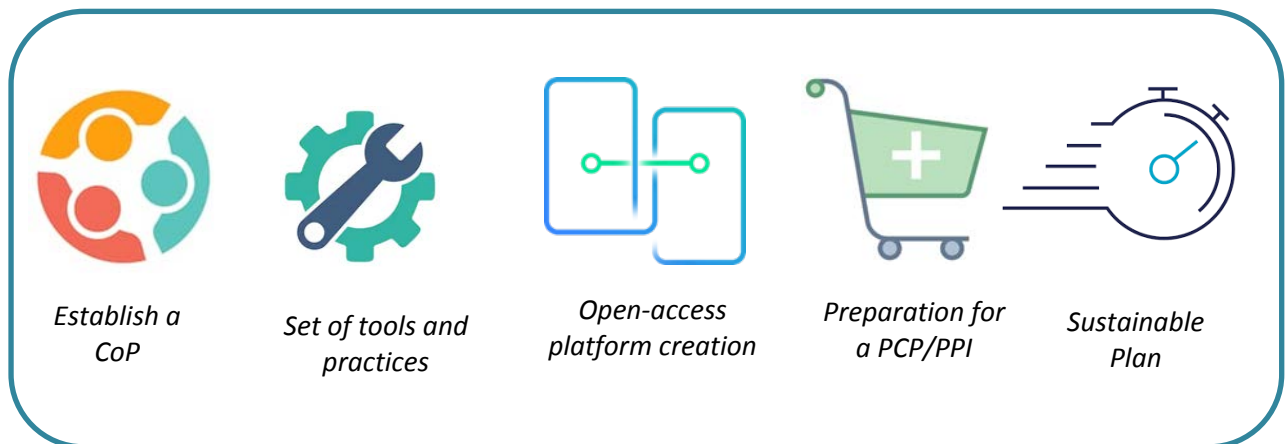


Figure 1 - PiPPI project main objectives

¹¹ Rowel R, Moore ND, Nowrojee S, Memiah P, Bronner Y. The Utility of the Environmental Scan for Public Health Practice : Lessons from an Urban Program to Increase Cancer Screening. 2005;(443):527–34.

The inclusion criteria was based on the objectives collected in PiPPi Document of Action:


<p>Establish a CoP</p> 	<p>Establish an eco-system of stakeholders and partners, with aligned purposes and incentives to improve health care, by enabling & growing the use of value-based innovation procurement</p>
<p>Set of tools and practices</p> 	<p>Establish, leverage, and scale a shared set of tools and practices for the common benefit of healthcare providers, patients/citizens, private sector, and policy-makers.</p>
<p>Open-access platform creation</p> 	<p>Establish an open access web-platform for multi stakeholder communication and collaboration.</p>
<p>Preparation for a PCP/PPI</p> 	<p>Complete a feasibility study and preparation of a cross-border PCP (Pre-Commercial Procurement) for digital health services, based on identified health care needs.</p>
<p>Sustainable Plan</p> 	<p>Establish an implementation & maintenance plan and development of structures and processes to ensure that the value of the PIPPI activities continues after the duration of the project. This includes the validation of a working business plan & model to ensure a wide dissemination, exploitation and sustainable results.</p>

Table 1 - Objectives of PiPPi

Focused on the health sector, the research looked for a variety of resources that could be considered depending on the type of documents available, such as:

- Web pages
- Policies
- Tools/Guidance
- Case Studies
- Projects
- Reports
- Criteria

Eighteen organisations/networks were identified as potential bodies with useful and applicable information that could contribute and be leveraged to PIPPI activities, defined under the PIPPI project objectives:

1. [European Assistance For Innovation Procurement \(EAFIP\)](#)
2. [European Procurement Platform – eHealth](#)
3. [E-Health Hub](#)
4. [European Institute of Innovation & Technology \(EIT\) –Health](#)
5. [Innovation Procurement Platform \(IPP\)](#)
6. [European Innovation Partnership on Active and Healthy Ageing \(EIP on AHA\)](#)
7. [Aging Well in the Digital World](#)
8. [European Network of living Labs \(ENoLL\)](#)
9. [International Network Supporting Procurement of Innovation via Resources and Education \(INSPIRE\)](#)
10. [Health Quality Ontario \(HQO\)](#)
11. [Global Digital Health Network](#)
12. [Trillium II \(IPS global CoP for e-health innovation\)](#)
13. [HOBE+](#)
14. [SBRI Health Programme](#)
15. [Digital Health Innovation Platform](#)
16. [InDemand](#)
17. [European Connected Health Alliance \(ECHA\)](#)
18. [World Bank Group](#)

For each of the identified networks/organisations, a set of features were remarked:

- i) Name of the organisation;
- ii) Their mission;
- iii) Type of resources;
- iv) Description of the resources;
- v) PIPPI objectives the resources contributes to; and
- vi) How the identified knowledge can contribute to PiPPi objectives.

After this exercise was conducted for the identified 18 organisations, a summary table was completed to study, for each PiPPi objective, what knowledge and/or tools were available. This environmental scan provides PiPPi consortium with a better scope of resources and methodologies used by networks/organisations in establishing CoP or valuable knowledge regarding this topic.

2.2 Knowledge and experience that can contribute to the implementation and development of the future PiPPi CoP

PiPPi members were asked to look for both internal and external stakeholders to respond a questionnaire with the aim to provide feedback on their individual/organisational experiences in ecosystems/CoPs/working groups that, even if they were not focused on CoP establishment, could contribute to the implementation and development of the future PiPPi CoP.

In a CoP, participants share their knowledge, collaborate on projects to generate new knowledge, and develop lasting relationships with other participants. Thus, overall the participation in a CoP could be one of the supporting factors to improve quality of care. The knowledge that is shared within a CoP might include ideas, innovative practices or best practices, or tools and resources. Particularly valuable is the ability for members to share practical, how-to advice based on their lived experiences in similar contexts.

Content experts and champions can guide others as they adopt new innovations and ideas; these new adopters, in turn, can begin to act as champions to further spread the innovation. CoPs may also provide a forum for addressing inconsistent practice and variation in outcomes.¹² In order to obtain accurate information from stakeholders with knowledge on the field, questionnaires were structured based on the Health Quality Ontario guidelines, focused on *How to Build and Sustain a Community of Practice*. Guidelines recommend a stepwise process that should be followed in order to develop a

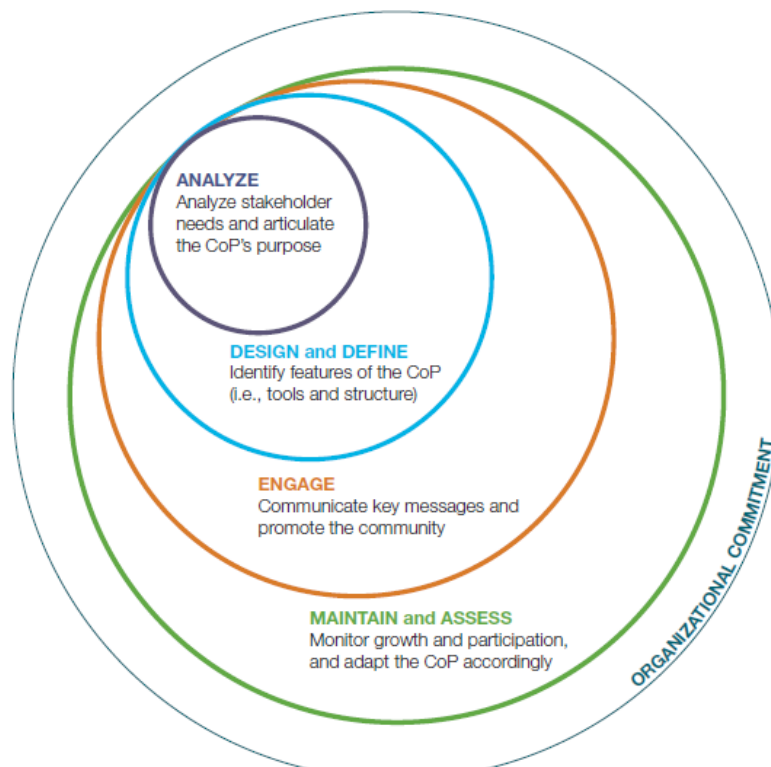


Figure 2 - CoP development framework

¹² The Health Foundation. Effective networks for improvement. March, 2014
<https://www.health.org.uk/publications/effective-networks-for-improvement>

sustainable CoP. As shown in Figure 2, the first phase of the process involves conducting a thorough **analysis of the needs** of the stakeholders to identify the underlying purpose of the CoP, followed by **identification of the features** (i.e., the supporting structure and tools) needed to fulfill these needs.

Once the purpose and features of the CoP have been defined, it is important to **devise a communication strategy** to promote the CoP to potential participants. Attention should then shift towards converting registrants into active participants. By **monitoring growth and activity** on an ongoing basis, the features of the CoP can be adapted to meet the evolving needs of existing and new participants. A sustainable CoP requires strong organizational commitment (such as human and financial resources) from the CoP's inception and throughout its life cycle.

The purpose of the employed questionnaire is to gather both knowledge and experiences from suitable stakeholders on outlined phases and subphases illustrated in Figure 3. Respondents were first asked whether they had conducted any activity related to each subphase. In so, they were asked to reflect the methods used on each of the conducted subphase. Finally, they were queried to state the identified barriers and lessons learnt from these activities. Complete questionnaire can be shown on [Annex I](#).

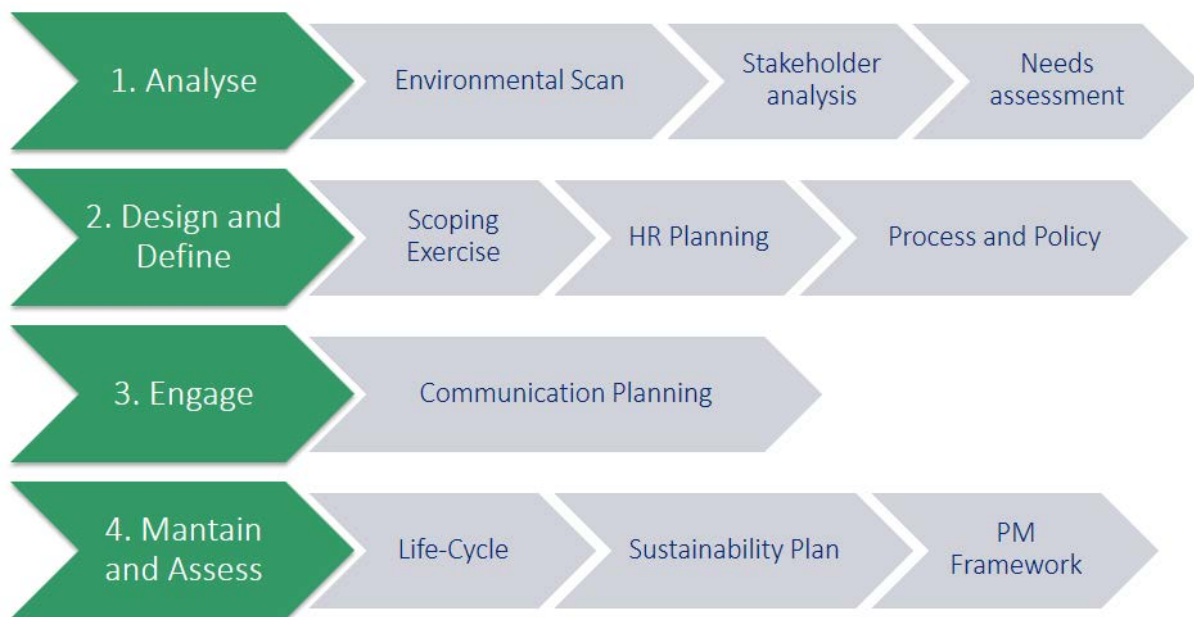


Figure 3 - CoP Framework's phases and subphases

Furthermore, interviews with experts were an opportunity to gather more information and insights for different profiles and experiences. Using the same script as the questionnaire, the interview detailed additional insights and particular processes for setting up a Community of Practice.

Limitations on the methodology

As main limitation, due to COVID 19 pandemic outbreak during the deliverable development, partners found it difficult to engage specific stakeholders such as healthcare professionals (e.g., clinicians and nurses) and/or hospital unit managers that could respond to the questionnaire. Given the complexity,

each of the PiPPi partners took upon themselves the responsibility to assess what stakeholder profiles could be appropriate and reachable. Profiles with experience in ecosystems/CoPs/working groups/clusters were considered suitable to participate in the questionnaire (e.g., innovation managers, procurement managers, R&D managers, researchers and/or academics).

3. Findings

3.1 Environmental Scan on International-level knowledge applicable to PiPPi

First activity carried out was a comprehensive study on networks/organizations with knowledge on digital health and innovation procurement. Eighteen organizations/networks were identified to be part of the study and a summary table. The study looked out within European borders and also beyond them.

For each of the identified networks/organisations, a set of features were remarked:

- i) Name of the organisation: **European Assistance For Innovation Procurement (EAFIP)**
- ii) Their mission: Promote good practices and reinforce the evidence base on completed innovation procurements across Europe.
- iii) Type of resources: It could provide Tools/Guidance and Assistance.
- iv) Description of the resources: In terms of Tools/Guidance, its toolkit is divided in three modules. First, the strategic module, addressed to policy makers, providing economic and case evidence about the impacts and benefits of PCP and PPI, together with concredited guidance on how to embed PCP and PPI into innovation strategies. Second, the operational module, addressed to public procurers, which aims to clarifying the pre-requisites and key steps to design and implement an innovation procurement process (PCP and PPI). Third, the legal/operational module addressed to legal services aimed at clarifying legal issues and providing practical “how-to” guidelines, supported by templates.
In terms of assistance, EAFIP provides local assistance to selected public procurers in the preparation and implementation of a PCP or PPI procurement, covering:
 - Scoping an identified procurement need that can be tackled with innovative solutions
 - Preparing and conducting an EU wide published open market consultation
 - Drafting tendering documents
 - Launching an EU wide published call for tender
 - Answering questions from potential tenderers at any time during the process
 - Signature of contracts with selected vendor(s), taking into account the relevant provisions under European and national legislation governing public procurement.
- v) PIPPi objectives the resources contributes to: It would fit with PiPPi objective of a preparation for a PCP/PPI.



- vi) How the identified knowledge can contribute to PiPPI objectives: EAFIP Toolkit can enable PiPPI consortium to complete a feasibility study and preparation of a cross-border PCP/PPI for digital health services. In case needed, module 1 can provide evidence to PiPPI partners in case additional actions from the decision-makers are needed to proceed with PCP/PPI procedures. Module 2 will contribute to PiPPI CoP procurers to plan the overall procurement process, as well as guide on the steps to take on each phase. Lastly, Module 3 will provide guidelines to the procurers' legal departments to be able to face with strong guarantees the procurement procedure. In case it is considered that an extra effort is needed in any of the PCP/PPI defined steps, PiPPI can consider to apply for EAFIP assistance.
- i) Name of the organisation: **European Procurement Platform – eHealth (EPP–eHealth)**
- ii) Their mission: Highlight the importance of a more pro-innovation approach to procurement based on pooling the demand of eHealth solutions and encouraging potential suppliers to offer eHealth novel solutions to address healthcare challenges rather than the lowest price for old solution.
- iii) Type of resources: Tools/Guidance; Projects; Funding opportunities
- iv) Description of the resources:
- Tools/Guidance: Guidance and recommended methodologies to proceed with activities related with e-Health focused innovation procurement:
- Define a Joint Statement of Unmet Needs
 - Completion of the Prior Information Notice (PIN)
 - Completion of the Call for Tender
- Projects: EPP e-Health focused PCP and PPI projects' experiences. Moreover, there is a section available with 6 Unmet Needs Proposals for e-Health.
- Funding Opportunities: Currently existing funding opportunities on e-Health field, focused on both PCP and/or PPI. Potential interested entities' list is also available in order to make Consortium on potential joint/coordinated procurement.
- v) PiPPI objectives the resources contribute to: Tools/Guidance and Projects will help on Preparation for a PCP/PPI, whilst Funding opportunities resources would help on Open-access platform creation.
- vi) How to identified knowledge can contribute to PiPPI objectives? EPP-eHealth platform can enable PiPPI to gather information on already existing experiences/projects on e-Health related innovation procurement. Guidance and recommended methodologies are available on multiple phases of the procurement process. Indeed, a list of already existing genuine unmet needs received from EPP-eHealth network Participants is available. Furthermore, a list of potential interested partners on the field is provided in order to

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foster collaboration on potential innovation procurements on e-Health. Additionally, as a public platform, it can provide valuable input on the open-access platform development.

- i) **Name of the organisation: e-Health hub (eHH)**
 - ii) **Their mission:** eHealth Hub's goal is to provide high-quality, vertically-focused and business-oriented services tailored to the needs of European eHealth SMEs and stakeholders, and to secure their continuation after the project end via a sustainable support structure.
 - iii) **Type of resources:** Tools/Guidance
 - iv) **Description of the resources:** e-health HUB provides smart guides for SMEs on different topics (e.g., Smart engagement, effective commercialization, legal guidance, and business model and investment).
 - v) **PiPPi objectives the resources contribute to:** Establish a CoP; Sustainable Plan; Preparation of a PCP/PPI.
 - vi) **How the identified knowledge can contribute to PiPPi objective:** eHH can contribute to engage industry stakeholders focused on e-Health in the future PiPPi CoP. In the same way, it can contribute to engage companies during both the Open Market Consultation procedure and the Call for Tender by disseminating PiPPi procurement process. This will enable PiPPi CoP to have a better feedback of the defined requirements, as well as increase the number of offers during the Call for Tender procedure. Lastly, it can support the development of a business plan for the sustainability of both Community of Practice and the Open Access platform creation
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- i) **Name of the organisation: European Institute of Innovation & Technology (EIT) – Health (EIT – Health)**
 - ii) **Their mission:** The goal of EIT Health is to contribute to increasing the competitiveness of European industry, improve the quality of life of Europe's citizens and the sustainability of healthcare systems.
 - iii) **Type of resources:** Case Studies; Funding Opportunities
 - iv) **Description of the resources:**
Case Studies: EIT-Health has a several number of case studies trying to respond to some of the most pressing health care needs across Europe.

Funding Opportunities: There are opportunities for healthcare providers that want to work alongside the EIT Health community to shape the future of healthcare delivery and transform services to drive efficiency and sustainability across Europe.



- v) PiPPI objectives the resources contributes to: Establish a CoP; Preparation for a PCP/PPI
- vi) How the identified knowledge can contribute to PiPPI objectives: PiPPI can take advantage from the EIT Health 150 leading organisations from the worlds of business, education, research and health service delivery in order to find suitable stakeholders in its Community of Practice. In the same way, EIT Health organisations can take part in PiPPI CoP procurement processes, either as procurers, supporting entities and/or solution providers.

- i) Name of the organisation: **Innovation Procurement Platform (IPP)**
- ii) Their mission: Provide guidelines and best practices on procurement of innovation.
- iii) Type of resources: Tools/Guidance; Case Studies; Forum
- iv) Description of the resources: IPP provides different type of resources, including guidelines and case studies, in order to get well prepared for the procurement of innovation.
- v) PiPPI objectives the resources contributes to: Establish CoP; Preparation for a PCP/PPI; Open-access platform creation
- vi) How the identified knowledge can contribute to PiPPI objectives: PPI platform's guidelines will help PiPPI journey to purchasing innovative goods and services. In addition, it collaborates closely with Procurement Forum (<https://procurement-forum.eu>), which connects procurement organisations with same interests. As an open access platform, they can provide input, if needed, in the development of intended PiPPI Open Access platform.

- i) Name of the organisation: **European Innovation Partnership on Active and Healthy Ageing (EIP on AHA)**
- ii) Their mission: Communication and information hub for all actors involved in Active and Healthy Ageing through Europe. It is the place to encourage partner engagement, promote news and events, meet and exchange ideas with peers, and look for potential partners on innovative projects.
- iii) Type of resources: Case Studies; Funding Opportunities; Forum
- iv) Description of the resources:
Case Studies: The Repository of innovative practices is the basis for the European scaling up strategy. The scaling up strategy constitutes another step in the development of the EIP on AHA to mobilise sufficient resources and expertise, which combined with the collection of innovative practices will ensure implementation of innovative solutions for active and healthy ageing on a European scale. This could help to establish a CoP



Funding Opportunities: This funding instruments catalogue has been developed to facilitate the potentially interested applicants of the quadruple helix model (academia/research, public bodies, private entities, and civil society organisations) to understand the landscape of available funding programmes and provide them with orientation to the best fitting instrument to their profile, needs and ideas. This could help to elaborate a Sustainable Plan.

Forum: Forums and references sites are regions, cities, integrated hospitals or care organisations that focus on a comprehensive, innovation-based approach to active and healthy ageing. PiPPi. This could help to establish an Open-access platform creation

Criteria/Standards: Overview of the present situation of European and International standardization in the topics related to Active and Healthy Ageing (AHA), covering standards, technical reports and technical specifications, but also guidance documents, industry standards, databases and scientific methodologies and tools. This could help to set a Preparation for a PCP/PPI

- v) PIPPi objectives the resources contributes to: Establish a CoP; Sustainable Plan; Open-access platform creation; Preparation for a PCP/PPI

- vi) How the identified knowledge can contribute to PiPPi objectives: Given that EIP on AHA brings together all the relevant actors at EU, national and regional levels across different policy areas to handle a specific societal challenge and involve all the innovation chain levels, it can help PiPPi to identify stakeholders with interest on the field to be part of either the PiPPi CoP or a potential procurement procedure. Additionally, as an open-access platform, EIP-AHA can provide input with experienced barriers and recommendations in order to proceed with a Sustainable Plan for both the CoP and Open-access Platform.

- i) Name of the organisation: **Aging Well in the Digital World (AGE)**

- ii) Their mission: AGE Platform Europe is a European network of non-profit organisations of and for people aged 50+, which aims to voice and promote the interests of the 200 million citizens aged 50+ in the European Union (Eurostat, 2018) and to raise awareness on the issues that concern them most.

- iii) Type of resources: Tools/Guidance; Projects

- iv) Description of the resources:

Tools/Guidance: Examples of good practice in diverse areas of interest to older people and the work of AGE Platform Europe. The objective is to collect interesting initiatives and promote the exchange of ideas and experiences within the European Union.



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Projects: Being the largest network representing older people in the EU, AGE is often asked to join EU projects to bring the perspective of their members. They only join European projects where the platform can add value, can bring the viewpoint of older people in the discussion and can support the genuine implementation of the principle of user involvement.

- v) PIPPi objectives the resources contributes to: Establish a CoP /Sustainable Plan; Open-access platform creation; Preparation for a PCP/PPI
- vi) How the identified knowledge can contribute to PiPPi objectives: In the same way as EIP-AHA, as an open-access platform, AGE can provide valuable input with experienced barriers and recommendations to proceed with a Sustainable Plan for the development of an Open-access Platform. Members from the platform can also be of interest to either be part of the CoP and/or recommend Patient Advocates to be part of PiPPi activities, like the user needs identification in the preparation of a PCP/PPI.

- i) Name of the organisation: **European Network of living Labs (ENoLL)**
- ii) Their mission: The European Network of Living Labs (ENoLL) is the international federation of benchmarked Living Labs in Europe and worldwide. ENoLL provides co-creation, user engagement, test and experimentation facilities targeting innovation in many different domains such as energy, media, mobility, healthcare, agrifood, etc.
- iii) Type of resources: Partners
- iv) Description of the resources: Partners: Innovation Partners (previously known as Associated Members) of the European Network of Living Labs are not Living Labs themselves, but are dedicated to support and develop the Living Lab community. They are companies, universities, cities & departments
- v) PIPPi objectives the resources contributes to: Establish a CoP
- vi) How the identified knowledge can contribute to PiPPi objectives: EnoLL can contribute with the identification of partners focused on Living Labs for the future PiPPi CoP. Living Labs provide co-creation, user engagement, test and experimentation facilities, fundamental features aligned with PiPPi CoP activities.

- i) Name of the organisation: **Health Quality Ontario (HQO)**
- ii) Their mission: committed to developing and fostering a culture of quality in Ontario's health care system.
- iii) Type of resources: Partners: Tools/Guidance



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- iv) Description of the resources: HQO has developed a Communities of Practice Toolkit (Improvement Through Collaboration: How to Build and Sustain a Community of Practice) that outlines a process for building a sustainable CoP and provides people who are starting one with the techniques, tools, and resources to do so.
 - v) PIPPi objectives the resources contributes to: Establish a CoP/Sustainable Plan
 - vi) How the identified knowledge can contribute to PIPPI objectives: HQO outlines a process for building a sustainable CoP, and provide people who are starting a CoP with the techniques, tools and resources to do so. Since each community's needs and resources will vary, tools and templates are provided as guidance, with the aim (and encouragement) that PiPPi CoP will adapt these to its own needs.
-
- i) Name of the organisation: **International Network Supporting Procurement of Innovation via Resources and Education (INSPIRE)**
 - ii) Their mission: INSPIRE was conceived as an academia platform capable of inspiring public procurers by encouraging the use of PCP/PPI within the domains of eHealth, active ageing and independent living.
 - iii) Type of resources: Tools/Guidance
 - iv) Description of the resources: Tools/Guidance: The result of these efforts was the creation of several PCP/PPI-related tools, recommendations and models.
 - v) PIPPi objectives the resources contributes to: Preparation for a PCP/PPI
 - vi) How the identified knowledge can contribute to PiPPi objectives: INSPIRE could be a source of knowledge-sharing tools to be used when initiating PCPs/PPIs and more concretely when: assessing unmet needs, planning for open technical dialogues, modelling business cases and defining PCP and PPI tender documentation and contractual agreement.
-
- i) Name of the organisation: **Global Digital Health Network (GDHN)**
 - ii) Their mission: The Global Digital Health Network envisions a world where technical innovation supports improved health and contributes to better quality, accessibility and sustainability of health services and health outcomes, particularly for underserved populations in low resource environments
 - iii) Type of resources: Tools/Guidance; Forum
 - iv) Description of the resources:

Tools/Guidance: repository of literature in mHealth and global Index in Digital Health.



[22]

Forum: the network hosts activities and presentations of members providing space to discuss accomplishment and lessons learned. It also facilitates the possibilities of collaboration for joint actions.

- v) PIPPi objectives the resources contributes to: Preparation of a PCP/PPI
- vi) How the identified knowledge can contribute to PiPPi objectives: the activities and guidance provided by the network can help PIPPI members in identifying needs, meet opportunities of collaboration and set a plan to mobilize resources jointly.

- i) Name of the organisation: **Trillium**
- ii) Their mission: Establishing a global community fostering the practice of digital health innovation.
- iii) Type of resources: Tools/Guidance
- iv) Description of the resources: Tools/Guidance: the Trillium experience had a rich site with examples of educational resources for patients and health professionals.

- v) PIPPi objectives the resources contributes to: Establish a CoP
- vi) How the identified knowledge can contribute to PiPPi objectives: Trillium experience could contribute to PIPPI Community of Practice establishment through their experience in identifying relevant projects and use cases of interest.

- i) Name of the organisation: **HOBE+**
- ii) Their mission: HOBE+ is a VCoP that incorporates innovation management from the generation of ideas to their implementation in primary care practice.
- iii) Type of resources: Case Studies
- iv) Description of the resources:
Case Studies: A case study based on data provided by the technology platform that supports the CoP, both from primary care and from a survey completed by users.

- v) PIPPi objectives the resources contributes to: Establish a CoP
- vi) How the identified knowledge can contribute to PiPPi objectives: HOBE+ project could contribute to PiPPi through their experience in data collection and reporting from users of the unmet needs.

- i) Name of the organisation: **SBRI Healthcare Programme**



[23]

- ii) Their mission: Find solutions for identified healthcare problems, through an agile process that covers the complete innovation cycle.
 - iii) Type of resources: Case Studies; Assistance;
 - iv) Description of the resources:
Assistance: monitoring and helping to development healthcare innovative products. Over 200 companies that match unmet needs of health care services had been funded since 2008.
 - v) PIPPi objectives the resources contributes to: Preparation for a PCP/PPI
 - vi) How the identified knowledge can contribute to PIPPI objectives: SBRI Healthcare Programme gives a portentous insight into a feasibility testing and prototype development.
-
- i) Name of the organisation: **Digital Health Innovation Platform**
 - ii) Their mission: Promote digitalization in medical care through the generation of networks for the definition of ideas at an early stage.
 - iii) Type of resources: Case Studies
 - iv) Description of the resources:

Case Studies: DHIP provide an insight from different innovative process bringing together different actors in the field such as clinicians, technics, economists and companies.
 - v) PIPPi objectives the resources contributes to: Open-access platform creation
 - vi) How the identified knowledge can contribute to PIPPI objectives: DHIP experiences bringing together people can help PiPPi members to identify unmet needs and bring altogether different stakeholders.
-
- i) Name of the organisation: **inDemand**
 - ii) Their mission: a new model where Healthcare organizations and companies co-create eHealth solutions, with the economic support of regional funds. It is an H2020 EU cofounded project.
 - iii) Type of resources: Funding opportunities; Partners
 - iv) Description of the resources:
Funding opportunities: inDemand offers an opportunity to healthcare professionals to present unmet needs in a programme and then launch a call for companies to finance it.



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Partners: a network that helps to provide business advice

- v) PIPPi objectives the resources contributes to: Open-access platform creation; Preparation for a PCP/PPI.
- vi) How the identified knowledge can contribute to PiPPi objectives: inDemand experiences proposes an innovative demand-driven & co-creation approach that can contribute to PiPPi objectives of develop a Community of Practice that can led to a PCP/PPI.
- i) Name of the organisation: **European Connected Health Alliance (ECHA)**
- ii) Their mission: The European Connected Health Alliance (ECHAlliance) is the Global Connector for Digital Health, facilitating multi-stakeholder connections around ecosystems, driving sustainable change and disruption in the delivery of health and social care.
- iii) Type of resources: Forum, Tools/Guidance,
- iv) Description of the resources:
Forum: Their big and strong community provides a unique platform to connect all relevant actors to share their experiences and their knowledge.
Tools/Guidance: the network bring the opportunity to stakeholders to meet, promote and advance in their work, also to share experiences and promote best practices.
- v) PIPPi objectives the resources contributes to: Establish a CoP; Set of tools; Preparation for a PCP/PPI
- vi) How the identified knowledge can contribute to PiPPi objectives: the network created around ECHA can help PiPPi members into connect stakeholders, work together in finding the best solution with shared knowledge.
- i) Name of the organisation: **World Bank Group**
- ii) Their mission: The World Bank Group mission is to reduce poverty, and improve living standards by promoting sustainable growth and investment in people.
- iii) Type of resources: Tools/Guidance
- iv) Description of the resources:
Tools/Guidance: The World Bank Group has a large amount of resources and information regarding establishing a community, especially the document called "Building Community.



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A primer¹³, where defines and comments all the steps needed to establish a Community: define, plan, design, engage, and manage a Community.

- v) *PIPPi objectives the resources contributes to*: Establish a CoP
- vi) *How the identified knowledge can contribute to PiPPi objectives*: The document mentioned above could help PiPPi partners in establishing a CoP, providing useful resources and tools on defining a community, its concepts and meanings, the roles, and more useful tools as planning, designing and others steps. It also provides very rich and useful examples of launching, expanding a community network and managing the day-to-day in a community.

3.2 Knowledge and experience that can contribute to the implementation and development of the future PiPPi CoP

3.2.1. Knowledge experience of PiPPi consortium and network of external stakeholders

With the aim to provide feedback of their individual or organizational experiences, a group of PiPPi consortium members and their external stakeholders were asked to respond a questionnaire. The questionnaire was uploaded in SurveyMonkey platform for a period of 15 days, and participants were asked to respond a core set of questions that can contribute to the implementation and development of the future PiPPi CoP.

In total, 24 people responded to the questionnaire, both internal and external stakeholders of PiPPi consortium:

1. Stakeholders come from different EU countries enrolled in the project: Spain (7), Austria (6), Italy (4), UK (3), Netherlands and Sweden (2 each).
2. Respondents work in different fields such as: Academia (7); Industry (4); Healthcare providers (3); Hospital Management (5); Consultants (2) and Innovation Project Management (3).
Three categories compiling the results can be established when processing the answers: academia/research; industry/providers and managers/innovation from public or private companies.

1. Have you/your organisation conducted any kind of environmental scanning activities?

Total responses: 19. Yes 8; No 11

42.1% of the respondents experienced different environment scan activities. Among them, the totality included meetings and Google search meetings (100%), Key informant reviews (30%) and Systematic

¹³ <http://documents1.worldbank.org/curated/en/188671504682900121/pdf/119411-REVISED-PUBLIC-Community-Primer-2018-Final-2-21-2018.pdf>



[26]

Review (21%). Additionally, checking websites from known stakeholders or similar organizations were also considered as complementary methods.

- What went well** Lot of interesting information could be easily found. Besides, the opportunity of having meetings one-to-one to key informants make the recollection activities easier. The team work and quick access to information was described as main importance.
- What went wrong** Partners considered the time consumption as a main adverse aspect when proceeding with these interactions, and in global meetings the impossibility to get critical information.

2. Have you/your organisation conducted any kind of activities related to the stakeholder analysis?

Total responses: 20. Yes 15; No 5

From those who respond affirmative, at least 94% respondents stated that a list of relevant stakeholders groups by a purpose, also 50% complete a stakeholder map or 46% identify anticipated interest and engagement for each stakeholder.

- What went well** Among the respondents, the possibility to establish new contacts and the capacity of clarification of needs with stakeholders are the main positive aspects
- What went wrong** Not easy to perform in reality and difficulties in engaging stakeholders.

3. Have you/your organisation conducted any kind of activities to proceed with assessment of user needs?

Total responses: 20. Yes 14; No 6

When it comes to assess user needs to establish a CoP, interviews are the most common method. Followed by Focus Groups (50%) and Survey/Questionnaires (42%).

- What went well** Building relationships, user engagement and clarification of their needs.
- What went wrong** The difficult to establish the variety of opinions, and the necessity of further analysis to establish the real needs.

4. Have you/your organisation conducted any kind of activities related to scoping exercise?

Total respondents: 16. Yes 7; No 9

From the positive respondents, most of the activities related to scoping exercise are visual representation of available tools such as in-person meetings, webinars, teleconferences, etc and CoP aspects as geographical dispersion and budget, and mapping between available tools and CoP purposes (70%).

- What went well** Take advantage of these tools and try to mix them thanks to the role of a good facilitator.



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What went wrong It can be an issue that not everybody wants to use new tools, especially if they are digital.

5. Have you/your organisation conducted any kind of activities related to identifying and documenting roles and responsibilities of stakeholders within a working group?

Total respondents: 16. Yes 9; No 7

What went well A good activity to identify and involve all stakeholders, from a bottom-up perspective.

What went wrong It is difficult to represent all interests; sometime there is lack of clarity; and the previous agreements of key stakeholders result to be weak.

6. Have you/your organisation conducted any kind of activities related to process and policy development?

Total respondents: 17. Yes 8; No 9

Activities such as registration process (50%); risks and mitigation definition (62%) or Terms of use definition (50%).

What went well Gaining buy-in from all stakeholders.

What went wrong Not always a consensus is assumed by all participants.

7. Have you/your organisation conducted any kind of activities related to communication strategy?

Total respondents: 17. Yes 14; No 3

Regarding communication strategy and development, almost 82% made any activities in identification of key messages to be communicated; at least 70% did any activity in identification of appropriate channels and 58% worked in activities for identification of associated timelines to the channels.

What went well Should be strongly linked to the stakeholders being addressed; clearly define common channels; creating a detailed map of stakeholders key messages; use of different channels to reach the appropriate audience

What went wrong Difficulties to make communication interactive; lack of active management; coordination among different groups composing the project;

8. Have you/your organisation conducted any kind of activities related to Community Life Cycle Planning?

Total respondents: 16. Yes 2; No 14

Only two respondents confirm that they monitor and observe community growth and activity.

What went well No one provided feedback.

What went wrong No one provided feedback.



9. Have you/your organisation conducted any kind of activities related to Sustainable Planning?

Total respondents: 16. Yes 3; No 13

Regarding the activities to Sustainable Planning, activities such as key factors and consideration definition and Defining leadership and member engagement tactics were carried out.

What went well No one provided feedback.
What went wrong No one provided feedback.

10. Have you/your organisation conducted any kind of activities related to the definition of a performance measurement framework?

Total respondents: 15. Yes 8; No 7

Concerning the definition of a performance measurement framework most of the respondents use metrics definition, collect methods or use dimensions of the definition.

What went well No one provide feedback.
What went wrong Depending on the issue or topic, there are not many metrics available so it can difficult the work.

Have you/your organisation conducted any kind of...	Yes	No	Total
Environmental scanning activities?	8	11	19
Activities related to the stakeholder analysis?	15	5	20
Activities to proceed with assessment of user needs?	14	6	20
Activities related to scoping exercise?	7	9	16
Activities related to identifying and documenting roles and responsibilities of stakeholders within a working group?	9	7	16
Activities related to process and policy development?	8	9	17
Activities related to communication strategy?	14	3	17
Activities related to Community Life Cycle Planning?	2	14	16
Activities related to Sustainable Planning?	3	13	16
Activities related to the definition of a performance measurement framework?	8	7	15

Table 2 - Responses from participants

3.2.2. Knowledge experience of identified experts

In order to provide more feedback on experiences that can help future PiPPi activities, three experts in cross-border CoP and international organizations were contacted:

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- a. **Simon Clement, Senior Coordinator of ICLEI (Local Governments for Sustainability)**
- b. **Brian O'Connor, Chair of the European Connected Health Alliance (ECHA).**
- c. **Jorge Juan Fernandez, Director of Innovation of EIT Health.**

They were interviewed to help us to fill the gaps on establishing a successfully Community of Practice in order to obtain public procurement. Interviews were conducted individually by teleconference with the same script for all participants and were based on a set of questions regarding the phases to establish a CoP defined in CoP framework: 1. ANALYZE; 2. DEFINE AND; 3. ENGAGE; 4. MAINTAIN AND ASSESS.

First, **Simon Clement, Senior Coordinator from ICLEI (ICLEI - Local Governments for Sustainability)** was interviewed in order to get more information about establishing a cross-border CoP and the insights of it. Simon Clement pointed out that it could only work with a group of people leading the project with great enthusiasm and with targeted goals.

A strong stakeholder analysis should be made at first: who are the relevant actors for each specific areas on procurement and what they are working on. Secondly, try to carry out activities on specific needs through actors, identify paths that allow different actors to engage. In case of Clement's experiences, no scoping exercise was performed, they used to work with small groups with a common and real target.

Regarding the engagement phase, it is important to work with fixed groups, within small groups of 3-5 people. The most effective tool to engage are physical meetings, create a comfortable space and ecosystem where they can interact with each other and talk, especially care on travel costs covered by the organizer. It is important the role of the moderator and curator to develop a strategy where all members are comfortable and can participate in equal conditions.

The most effective way to engage is to show regular contact, finding relevant events that the results can be presented, in a way to inform stakeholders about the progress and even to obtain new ones.

Last but not least, in terms of maintaining the community, it is important to show tangible results and new ways of collaboration, if not, enthusiasm decrease and the project can run out of steam. This is why is so important to work on the already built relationships and measure the activities outputs or outcomes done to show partners that what has been done is valuable. Maintain a CoP is very costful and stressing so be sure that one organization can make it and should dedicate only to it. So it is better to select the best knowledge and ideas produce in case looking for new opportunities.

The next interviewed was **Brian O'Connor, Chair of the European Connected Health Alliance (ECHA)**. The network has been involved in putting together different actors for the past ten years. In their words, connecting the dots. So at first and probably most important is defining the concepts of who is each actor and break the comfort zone where they are.

A good analysis should include all the actors and design an ecosystem to be opened for all of them, where they can belong and connect relationships. Some features need to be considered: size of the companies (from multinationals to start-ups), profile of healthcare professionals (from managers to doctors and nurses), etc. Always try to enforce leaders to break barriers and work together in common needs, it especially works when leaders are asked what they do and how they do it.



Regarding designing and defining a Community of Practice, a number of tools and techniques should be considered as doing meetings regularly, collecting information of each particular actor and their needs, make a comfortable infrastructure to make them able to communicate, with the organization and with each other.

Also it is important to identify leaders in teams, give them responsibilities, schedules, plans and deadlines so they can act with authority. Always the process goes further without imposing ideas or codes. It is easier way to adapt to actors and roles and help them during the process.

In order to engage and communicate, first and more important it is to work in agreed messages. Consistently try to communicate outside the CoP the progress and importance of the project is vital. Activities such as monthly newsletter and social media can help in spread the message of the project.

In terms of maintaining the activity, both experts Simon Clement and Brian O'Connor admitted that some projects are difficult to extend more in time than the objectives are. But during the interview Brian O'Connor stated: *"It's difficult to maintain but... What happens to the excitement and the efforts done?"* Select the best ideas and inspirations that deserve more interest, and this is fully aligned with what Simon Clement told during the interview. ICLEI and ECH Alliance vision at this respect is fully shared.

Finally, the last expert interviewed was **Jorge Juan Fernandez, Director of Innovation of EIT Health**.

First phase, ANALYZE, the most important thing is to identify the 'right' people. Do a lot of research through possible candidates to participate and make meetings with them: one-to-one meetings and multi-stakeholder meetings.

During the development of phase 2 DEFINE AND DESIGN, in his experience activities of scoping exercise, processes and policy development, or human resources planning are not used. Their activities are led by EIT health members who communicate with each actor and within the community.

Key factor to communicate key messages within the group and outside, plus the promotion of the community is to have a person dedicated to it. This community manager is in charge of every activity and communication, as well to contact new people and to summarize meetings. The role is crucial to the life cycle of the community.

Their experience on maintaining is clear. They used to work by projects, when project has come with outputs or run out of funding, the group disappears. Whenever they finish a project, they do a PostMortem exercise to identify possible mistakes during the process and solve them for future interactions. He is clear in that point: projects have a start and an end. Evaluation and measurement of activities is crucial to solve mistakes of the process and not repeat them in the future.



Relevant conclusions for PIPPI

The performed environmental scan has the potentiality to enable PiPpi consortium to identify experiences and lessons learned from already existing toolbox/ knowledge developers that can be applicable to achieve PIPPI goals. From the identified organizations/networks, resources have been gathered that will meaningfully contribute to the completion of a feasibility study and preparation for a cross-border innovation procurement (either PCP or PPI).

Likewise, knowledge has been also collected in order to help to establish an open access web-platform in PIPPI, as well as an implementation and maintenance plan to ensure that the value of the project activities continue after the duration of the project. Lastly, the toolkit developed by Health Quality Ontario organization provides PiPpi Consortium guidelines on how to build and sustain a Community of Practice (CoP).

	Establish a CoP	Sustainable Plan	Open-access platform creation	Preparation for a PCP/PPI	Set of tools and practices
European Assistance For Innovation Procurement (EAFIP)				✓	✓
European Procurement Platform – eHealth			✓	✓	
E-Health Hub	✓	✓	✓	✓	
Innovative Procurement Platform (IPP)	✓		✓	✓	
European Innovation Partnership on Active and Healthy Ageing (EIP on AHA)	✓	✓	✓	✓	
Aging Well in the Digital World	✓	✓	✓	✓	
European Network of living Labs (ENoLL)	✓		✓		
International Network Supporting Procurement of Innovation via Resources and Education (INSPIRE)				✓	✓
Health Quality Ontario (HQO)	✓	✓			
Global Digital Health Network			✓	✓	
Trillium II	✓		✓		
HOBE+	✓		✓	✓	✓
SBRI Health Programme			✓	✓	
Digital Health Innovation Platform			✓		
InDemand	✓		✓	✓	
European Connected Health Alliance (ECHA)	✓		✓	✓	✓
World Bank Group	✓				✓

Table 3 - Objectives of PiPpi found in environmental scan

The main conclusions from the performed iteration with both internal and external stakeholders are that mostly of them felt comfortable to contribute to the first two phases: 1. ANALYSE and 2. DESIGN AND DEFINE.

While Phases 3 -ENGAGE- and 4 -MAINTAIN AND ASSESS- remained weak and incomplete. Possible considered justifications could be:

- The questions were not clear to the respondents, although no one pointed this out
- Approached participants had not enough knowledge or expertise in the field
- Or experienced participants were not available to complete the questionnaire within the provided deadline.

From the responses of PiPPi consortium and stakeholders gave, it is also possible to deduce that PiPPi consortium:

- can leverage in the experience and knowledge of their internal and external stakeholders in the activities as:
 - The ones related to the stakeholder analysis
 - to proceed with assessment of user needs
 - and the ones related to communication strategy
- while it could be recommendable to explore ways to cover current gaps in activities as:
 - Environmental scanning
 - The ones related to Community Life Cycle Planning
 - And the ones related to Sustainable Planning

Going through the questionnaire responses, both internal and external stakeholders agree in the importance of establishing a good stakeholder analysis, identifying the right people to collaborate with and highlighting as possible difficulty the fact that not all participants are aligned in the different topics.

On another note, a clear definition of target goals and specific needs is considered crucial. Nevertheless, it is important to take into account that, although enthusiasm and leadership is seen as vital, variety of opinions can sometimes slow the pace in moving forward. To ensure a fluid communication strategy, the creation of a platform where members can interact and be informed is considered essential.

Lastly, lack of management is identified as one of main challenges and threats.

To enrich the information retrieved from the surveys, personal interviews were carried out with at least three experts in establishing a cross-border Community of Practice. Their statement was similar to the obtained results with the questionnaires: the main ingredients for a successful CoP are attracting the right people, with common clear targets, agreeing on messages and identifying channels to properly interact with them.

The performed activities will enable PiPPi consortium to identify and make use of available knowledge and/or tools to get to achieve proposed objectives:

<p>Establish a CoP</p> 	<p>Experiences such as Health Quality Ontario Community of Practice Toolkit, EIT Health or living labs as ENoLL can contribute to PiPPI activities with partner's identification as well as experiences on Community of Practice establishment. HOBE+ is also a good and well-documented experience of a successfully community of practice. From theory to practice, targeting the specific needs and a good stakeholder's selection with a bottom-up perspective can build a strong relationship between members. Furthermore, interviewees agreed on the fact that a stakeholders' analysis is crucial to gather different points of view and be open to variety.</p>
<p>Set of tools and practices</p> 	<p>Respondents affirm they share their experience in researching tools and techniques from other stakeholders and networks, although this might be time consuming. Interviewees emphasize this step and on the importance of a good scoping exercise of past experiences, tools and techniques and literature review. A good starting point could be the analysed document "Building Community. A primer" from the World Bank Group.</p>
<p>Open-access platform creation</p> 	<p>EIP-AHA and AGE, as open-access platforms, can bring valuable output to PiPPI members in recommendations to proceed with PiPPI platform creation. The teamwork and quick access to information was described as main importance by respondents. Additionally, interviewees stated that in their experience knowledge and information sharing was crucial to establish common needs.</p>
<p>Preparation for a PCP/PPI</p> 	<p>Tools and guidance from organizations like EAFIP, GDHN, INSPIRE or EPP-eHealth could be of support to PiPPI members when carrying out a feasibility study to plan and execute for a cross-border PCP/PPI.</p> <p>Building relationships, user engagement and a clear definition of buyers' needs are considered key messages from both respondents and interviewees in terms of establishing a good ecosystem and establish a suitable model of governance that will lead to an agreed and common terms for purchasing.</p>
<p>Sustainable Plan</p> 	<p>The Health Quality Ontario provides relevant guidelines on how to monitor the growth of the CoP, as well as adapt it to achieve a sustainable CoP, which will help PiPPI Consortia regarding this goal. Not much feedback was provided by respondents regarding the elaboration of a sustainable plan to ensure the maintenance of PiPPI activities through time. This fact gives us an idea of the limited extent to which activities like this might have been already undertaken in equivalent projects. Despite this fact, relevant input was pulled from the interviews and the importance of selecting the good ideas was identified as a</p>

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key fact in order to bring new opportunities to PiPPi Consortium, as Simon Clement and Brian O'Connor stated.

Table 4 - PiPPi objectives and knowledge gathered



Annex I. CoP Questionnaire

Have you/your organisation conducted any kind of activities to proceed with **assessment of user needs**?

Yes
 No

If YES, which methods did you use to conduct this/these assessment/s?

Interviews
 Focus Groups
 Surveys/Questionnaires
 Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned when **assessing user needs**, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

Thinking thoughtfully, could you please highlight any lesson learned when conducting **environmental scanning**, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

2/ Stakeholder Analysis

The purpose of the stakeholder analysis is to identify not only the intended members within the CoPs/working groups/ecosystems/clusters, but also external stakeholders, in order to consider how to optimize their anticipated levels of interest and engagement with the community.

Have you/your organisation conducted any kind of activities related to the **stakeholder analysis**?

Yes
 No

If YES, which methods did you use to conduct this/these analysis?

List of relevant stakeholder groups, organizations and/or people impacted by your purpose

Identify anticipated interest and engagement for each stakeholder

Complete a stakeholder map (e.g., Length of engagement vs. Level of interest)

Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned when conducting a **stakeholder analysis**, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

3/ User/Participants/Members/Actors' CoP Needs Assessment

The purpose of the user/participants/CoP needs assessment is to better understand how the CoPs/working groups/ecosystems/clusters can support target users. Insights gleaned from these assessments will be key to inform the CoP's mission and design.

If YES, which methods did you use to conduct this/these assessment/s?

Interviews

Focus Groups

Surveys/Questionnaires

Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned when **assessing user needs**, either individually or at your organisation, that might be of interest to share with PiPPi project?

What went well?

What did not work?

PHASE 2. DESIGN AND DEFINE

The purpose of the Design and Define phase is to identify the tools (e.g., in-person meetings, teleconferences, webinars, or discussion forums) and structures (e.g., administration, governance, and policies) that will support the CoP

Tools and Techniques

1/ Scoping Exercise ; 2/ Human Resource Planning; 3/ Process and Policy Development

1/ Scoping Exercise

The purpose of the scoping exercise is to identify the tools that will support the CoPs/working groups/ecosystems/clusters (e.g., In-person meetings, teleconference, webinars, virtual platform...) and will respond to the specific needs of community participants taking into account aspects like the geographical dispersion, budget, desired interaction, tech skills, time commitment and/or available resources.

Have you/your organisation conducted any kind of activities related to **scoping exercise**?

Yes

No

If YES, which methods did you use to conduct this identification of tools?

Visual representation available tools (in-person meetings, webinars, teleconferences, etc.) and CoP aspects (geographical dispersion, budget, desired interaction, etc.)

Mapping between available tools (in-person meetings, webinars, teleconferences, etc.) and CoP purposes (boost learning, knowledge sharing, relationship fostering, etc.)

Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned related to **scoping exercise**, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

PHASE 4. MANTAIN AND ASSESS

The purpose of the Maintain and Assess phase is to monitor growth and participation throughout the community's life cycle, and to adapt the CoP accordingly. This phase also includes establishing criteria for retiring the CoP. Metrics to measure performance should be based on the underlying purpose of the CoP and should be specific to the tools selected to support it.

Tools and Techniques

1/ Community Life Cycle Planning; 2/ Sustainability Planning and 3/ Performance

Management Framework

1/ Community Life Cycle Planning

The purpose of community life cycle planning is to develop a plan that details targeted strategies for building and maintaining a sustainable CoPs/working groups/ecosystems/clusters. These strategies should correspond to the different stages (each with associated management tactics) of the CoP's life cycle. The community life cycle is described in four phases, each with associated characteristics, management tactics and necessary supports.

As such, community life cycle planning involves establishing which stage your CoP is in and then implementing targeted strategies to support it

Have you/your organisation conducted any kind of activities related to **Community Life Cycle Planning** ?

- Yes
- No
- Other (please specify)

If YES, in which activities have you/your organisation been involved in?

- Monitor and observe community growth and activity
- Develop a strategy to recognize members' contributions
- Definition of management strategies associated with each community's stage
- Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned related to **community life cycle planning** definition, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

2/ Sustainability Planning

The purpose of sustainability planning is to identify the factors necessary to create a self-sustaining CoPs/working groups/ecosystems/clusters with minimal administrative supports. Sustainability is defined as "when new ways of working and improved outcomes become the norm." The plan and techniques within will guide the community towards maturity. According to Health Ontario guidelines, examples of the **key factors** could be:

- Clarify what you are sustaining
- Engage leaders
- Involve and support members
- Communicate the benefits
- Embed the process
- Build in ongoing measurement

Have you/your organisation conducted any kind of activities related to **Sustainable Planning** ?

- Yes
- No
- Other (please specify)

If YES, in which activities have you/your organisation been involved in?

Key factors and consideration definition

Define leadership and member engagement tactics

Others (please specify)

Thinking thoughtfully, could you please highlight any lesson learned related to **sustainable planning** definition, either individually or at your organisation, that might be of interest to share with PiPPi project?

What went well?

What did not work?

3/ Performance Measurement Framework

The purpose of the Performance Measurement Framework is to guide the selection of appropriate metrics for tracking the success of the CoPs/working groups/ecosystems/clusters throughout its life cycle. According to Health Ontario guidelines, examples of metrics' dimensions could be: collaboration, value, content and connection.

Have you/your organisation conducted any kind of activities related to the definition of a **performance measurement framework**?

Yes

No

Other (please specify)

If YES, in which activities have you/your organisation been involved in?

Dimensions definition

Metrics definition

Collection methods utilization (survey, interview, literature review,...)

Others (please specify)

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Thinking thoughtfully, could you please highlight any lesson learned related to **performance measurement framework** definition, either individually or at your organisation, that might be of interest to share with PIPPI project?

What went well?

What did not work?

