



XpanDH

Expanding Digital Health through a
pan-European EHRxF-based Ecosystem

D7.2 XpanDH Dissemination, Communication, Outreach and Exploitation Report

WP7 – Dissemination and Outreach

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What did this document aim to achieve?	The aim of this document is to present the realisation of the strategy and action plan for the dissemination, communication, outreach and exploitation of the XpanDH project in Y1.	
Present the main methodological approaches in bullet point format	<ul style="list-style-type: none"> - Whole-of ecosystem approach - Outreach beyond the consortium - Creating the momentum and utilising it - Sustainability of the results 	
What were the main findings or take-away messages? What implications does it have for the XpanDH project?	This document reports on the communication, dissemination, outreach and exploitation of the project in Y1 (Jan-Dec 2023). The project is a building stone in the EU's effort to develop and implement the EEHRx. The focus of the communication was to create the visibility of the project and awareness raising about the EEHRx and actions in European Union to consolidate the ecosystem of change makers and doers to support the implementation of the EEHRx.	
Which project stakeholder group would benefit the most from the document and why?	Healthcare Professional	
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	Investors and Funding	
	Patient Organization	
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DISCLAIMERS

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List of abbreviations

Acronym	Description
DCOEP	Dissemination, Communication, Outreach and Exploitation Plan
DCOER	Dissemination, Communication, Outreach and Exploitation Report
EEHRx^F	European Electronic Health Records Exchange Format
XpanDH	Expanding Digital Health through a Pan-European EEHRx ^F Format
SDOs	Standards Developing Organisations
DCOE	Dissemination, Communication, Outreach, and Exploitation
RTOs	Research and Technology Organisations
EU	European Union
SMEs	Small-to-medium sized enterprises
HaDEA	European Health and Digital Executive Agency
TIEs	Thematic innovation ecosystems
EC	European Commission
IT	Information Technology
3Cs-3Ps	3Cs-3Ps community” – Co-creation Community (3Cs) of (3Ps) Patients, Professionals and Programmers (or other ISP developers)

Executive summary

The Dissemination, Communication, Outreach, and Exploitation Report (DCOER) details the publications, presentations, events organized, and outreach and social media activities conducted by the XpanDH project during the 1st project year (Y1), spanning from 1st January to 31st December 2023. The report assesses the impact of these activities and is grounded in the framework outlined in D7.1 – XpanDH Dissemination, Communication, Outreach, and Exploitation Plan.

Throughout Y1, our focus centered on diverse dissemination activities aimed at heightening public awareness of the project. These efforts encompassed the promotion of key events and webinars on the XpanDH website, the development of visual and audio-visual products such as the XpanDH project flyer, and the creation of three podcast episodes, all of which were published on the website. Additionally, special attention was given to activities following XpanDH hosted events, notably the EEHRxF Summit.

The XpanDH project's website serves as the primary repository for all project-related information, including blogs, news, events, webinar recordings, resources (such as flyers), and comprehensive details about the project, including its vision, outcomes, advisory board members, WP team members, and podcast episodes. Regular updates on social media platforms were consistently provided to further enhance awareness of the project.

From the exploitation perspective, this report outlines the plans for sustaining and exploiting the results of the XpanDH project, focusing on three key areas: asset bundles, recommendations, and new adoption domains. The overall goal of these activities is to ensure the long-term impact and sustainability of the XpanDH project's results. By promoting the adoption of asset bundles, providing recommendations, and exploring new domains, the project aims to contribute to the success of the European Health Data Space and improve healthcare interoperability.

This deliverable serves to showcase the advancements realized during Y1.

1 Introduction

1.1 Background

The XpanDH project aims at mobilizing and building capacity in individuals and organisations to create, adapt and explore purposeful use of interoperable digital health

solutions based on a shared adoption of the European Electronic Health Records Exchange format (EEHRx^F) across Europe.

To achieve this main goal, the project is considering the outputs and outcomes of past projects, such as X-eHealth, to develop the specifications to be used on the adoption domains, and further feasibility evaluation, implementation and testing among the project partners and stakeholders.

1.2 Scope and objectives of the deliverable

This document presents the Dissemination, Communication, Outreach and Exploitation Report (DCOER) of the XpanDH project. It reports on the main achievements from Y1 of the project implementation (2023) in relation to the Dissemination, Communication, Outreach and Exploitation Report (DCEOP, D7.1). It also identifies the areas for improvement as well as suggestions for Y2 (2024).

As a reminder, to increase its outreach and impact, the XpanDH **undertakes the following activities:**

- Developing and implementing communication and dissemination planning to ensure that all project results reach the appropriate audience and achieve the expected impacts.
- Monitoring the impact of dissemination and adapting strategies and methodologies as deemed necessary.
- Defining the roles and responsibilities of project partners to guarantee the smooth running of the dissemination activities in numerous areas.
- Coordinating with external stakeholders (healthcare-related organisations, payers, information technology (IT) developers and academia, and patient groups), as well as other related projects and institutions to ensure a high reach of communication activities.
- Developing the ecosystem of changemakers and doers through the outreach activities.
- Ensuring sustainable uptake of the project's results through exploitation activities,
- This document provides a comprehensive overview of the plans, resources and capabilities involved in DCOEP, as well as operational guidance for raising awareness of XpanDH's achievements, with a view to achieve their sustainability after the end of the project. The strategy will be based on a multi-level and targeted stakeholder framework to ensure that the clear objective of the engagement is achieved.
- The dissemination aims to provide relevant and targeted information to identified stakeholders, opinion leaders and their networks who will disseminate XpanDH's results and key findings to a wider audience.

1.3 Introduction to the Dissemination, Communication, Outreach and Exploitation Report

In line with the XpanDH ambitious core objectives to establish a scalable public infrastructure for digital health innovation; demonstrate real-life interoperable digital solutions for individuals, researchers, health services, and the workforce across borders; establish a Pan-European ecosystem of digital health and create and validate a framework for further exploitation of the public infrastructure for digital health innovation the **DCOEP is guiding the XpanDH consortium in:**

- Supporting the project vision,
- Engaging with the full healthcare ecosystem,
- Gathering support from the full healthcare ecosystem,
- Widely communicating about and disseminating the progress and results of the project to a variety of audiences,
- Maximising uptake and impact of project results,
- Supporting the sustainability of the project.

Thus, this report provides honest insights in into the activities undertaken to support the above-mentioned objectives, as well as reflects on successes and shortcomings. The lessons learned, evaluated by the Communication Lead together with the coordinator and the project consortium, will guide the improvements in the DCOE Strategy in the second year of the project.

2 Methodological Approach

The DCOE Strategy of XpanDH encompasses four stages that strategically guide stakeholder engagement and participation:

1. **Awareness:** In this stage, our objective is to create awareness among stakeholders about the identified need that EEHRxI and XpanDH activities aim to address.
2. **Consideration:** Once stakeholders have become aware of the problem or need, they enter the consideration stage. Here, their focus shifts towards clearly defining their own requirements and determining whether XpanDH's solutions aligns with their needs.
3. **Decision:** At this critical stage, stakeholders have reached a point where they must decide regarding their level of engagement with the XpanDH project. We strategically emphasize the distinct value proposition of our solution, showcasing how it addresses their specific needs and challenges. By effectively communicating the tangible outcomes and potential impact of the project, we seek to inspire stakeholders to actively contribute and support its objectives. This may include encouraging uptake of project outputs or actively participating in the project's activities.

4. **Loyalty:** Once stakeholders have made the decision to engage with the XpanDH project, we aim to foster and maintain their loyalty. We understand that their continued involvement and dedication are key to the project's long-term success. To achieve this, we focus on continually delivering value to stakeholders, offering opportunities for ongoing learning, collaboration, and growth. By nurturing their relationship with the project, we aim to cultivate a community of engaged stakeholders who are invested in the project's success. These loyal stakeholders hold the potential to become advocates, actively promoting and endorsing the XpanDH project within their networks and spheres of influence.

By strategically navigating each of these stages, we can effectively engage stakeholders, drive their commitment and participation, and cultivate a strong and supportive community around the XpanDH project through the following **communication and dissemination mechanisms**:

1. Identification of key messages
2. Use of multi-channels
3. Leverage of XpanDH Partners Networks
4. Monitoring and evaluation
5. Events/workshops
6. Regional collaboration across European initiatives

The strength of the XpanDH mission also lies in the collaboration of its consortium, consisting of 28 partners representing a diverse range of organizations. Each partner brings their extensive expertise, networks, and stakeholder interactions to foster the EEHRxF ecosystem and to ensure XpanDH's success. Leveraging their established communications platforms and channels, including websites, social media accounts, newsletters, and industry connections has been a huge part of the XpanDH communication and dissemination success in Y1, especially when it comes to the promotion of webinars as well as the EEHRxF Expert Summit organised in December in Brussels.

By harnessing the collective strength of our partners' communication resources, we can create significant awareness, drive engagement, and maximize the impact of XpanDH.

Overall, the methodological approach set in the Description of Action as well as DCOEP proved to be relevant one for the project as broad and as significant as XpanDH. This approach will be continued in Y2.

2.1 Allocation of responsibilities

The XpanDH consortium defined and allocated DCOE core activities and corresponding responsibilities across all the partners involved in WP7 Dissemination and Outreach accordingly the **Error! Reference source not found.**:

Table 1: DCOE core activities and responsibilities

Activity	Responsible partner(s)
Dissemination, communication and stakeholder’s engagement planning and reporting. Production of corresponding deliverables	ECHAlliance
Website design, update and maintenance	ECHAlliance, ISCTE
Design and production of the XpanDH visual identity and dissemination materials (flyer, poster, roll up, banners, visuals and infographics)	ECHAlliance with support of Tech4Life
XpanDH social media management	ECHAlliance
Newsletter design, content curation and subscription database management	ECHAlliance with support of Tech4Life
Press releases: 1) Writing and editing in English 2) Translation and adaptation in national language 3) Posting in relevant national press outlets	1) ECHAlliance 2) All partners 3) All partners
Webinars: 1) Scouting the topic 2) Identifying and contacting the speakers 3) Webinar set-up 4) Promotion	1) ECHAlliance, ISCTE, all partners 2) EHMA, all partners 3) EHMA 4) ECHAlliance, all partners
Podcasts: Production of podcasts based on the webinar recordings	ECHAlliance
News:	ECHAlliance

Collection from partners, English revision and publication on the project website	
<p>Publications:</p> <ol style="list-style-type: none"> 1) Writing, editing and manuscript submission 2) Coordination and compliance with the rules settled in the XpanDH Grant Agreement and Consortium Agreement 3) Writing of publishable summaries suitable for general public communications to be uploaded on the website and production related social media posts 	<ol style="list-style-type: none"> 1) Partners involved in the related WPs, tasks and activities 2) ISCTE 3) ECHAlliance
<p>Publication of non-indexed articles, grey literature pieces, interviews, and commentaries on magazines, websites of relevant associations and networks:</p> <ol style="list-style-type: none"> 1) Identification of the topic, the suitable channel for the publication and writing in English 2) Review, editing, if necessary, check of formal communication requirements (logos, colour palette, style, format, etc.) 	<ol style="list-style-type: none"> 1) Partners involved in the relevant WPs, tasks or activities 2) ECHAlliance
<p>Organisation of project's internal events:</p> <ol style="list-style-type: none"> 1) Concept, agenda, content and speakers 2) Logistic and technical support 	<ol style="list-style-type: none"> 1) Partners involved in the relevant WPs, tasks or activities 2) Partner responsible for the organisation if live events or ECHAlliance if online

3 Stakeholder identification and mapping

The XpanDH project encompasses a diverse and interdisciplinary group of individuals and organizations with a shared interest in digital health, interoperability, and the European Electronic Health Record Exchange Format (EEHRx^F). It encompasses non-profit organisations, small-to-medium sized enterprises (SMEs), public bodies, Higher Education Establishments, and research organizations who are enthusiastic about demonstrating real-life interoperable digital solutions.

XpanDH stakeholders include:

1. **Policy makers**, for example, European Commission regulators, Member States, Regional Governments, and Health Authorities;
2. **Healthcare-related organisations**, for example, hospitals, management, professionals and associations, public health organisations, healthcare service providers, patient and caregiver organisations and healthcare workforce unions;
3. **Payers**, for example, insurance companies, public insurance funds and funding organisations;
4. **Technology providers**, for example, tech companies, start-ups, spin-off and RTOs, large tech and pharmaceutical industry, privacy, security and legal agencies;
5. **Academia**, for example, academic communities and researchers;
6. **Society as a whole**, for example, patient organisations, patients, informal healthcare providers, citizens and non-specialised media.

3.1 Activities towards primary stakeholders

Primary stakeholders refer to the individuals, groups, and organizations that hold a significant interest and influence on the XpanDH project. These stakeholders are considered vital because they have a prominent role in the success or outcomes of the project and play a crucial role in shaping its direction, decision-making, and overall success.

Effectively engaging and communicating with primary stakeholders is essential for ensuring their support, involvement, and alignment with XpanDH's goals and objectives.

Error! Reference source not found.. reports on the key messages from XpanDH towards stakeholders as well as key dissemination activities in Y1.

Table 2: Primary stakeholders’ groups, their interests, expected impact and key messages towards them

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
<p> Policymakers, for example, European Commission regulators, Member States, Regional Governments, and Health Authorities;</p>	<p> Their increased understanding of the policy and practical implementation of EEHRxF will be crucial for future success of the EHDS.</p>	<p> XpanDH will inform policy makers and the eHealth Network about the EEHRxF and how it can be extended to other use cases. This will be done through the Policy Board, which will work with partners and liaise with decision makers. By leveraging XpanDH's insights, policymakers gain a deeper understanding of the benefits, challenges, and implications of expanding the EEHRxF framework.</p>	<p> XpanDH's aim is to ensure safe and secure data sharing, in compliance with GDPR regulations, fostering innovation and generating employment opportunities. Our project is fully aligned with the proposed European Health Data Space regulation, contributing to the advancement of healthcare through responsible and impactful data utilization.</p>	<p>Policy briefs: In Y1, XpanDH hosted several on-site and virtual events including the European EHR Exchange Format Expert Summit in December 2023 hosted in collaboration with the European Commission. This event will form the basis of a report published in Y2 via the XpanDH website which is intended to disseminate informative policy highlights from the event and the potential impact of the project.</p> <p>Communication of key messages from the XpanDH policy board: XpanDH will create a policy board in Y2, and thereafter communication and dissemination of key messages will be shared via XpanDH's website and social media channels (Linkedin and Twitter/X).</p> <p>Webinars, events, XpanDH Forum: In Y1, XpanDH hosted 4 webinars related to the EHDS, EEHRxF, e-health and interoperability. Key messages from webinar speakers were published on XpanDH's X/Twitter channel in real-time. 4 news articles were published on the website, and a dedicated 'XpanDH webinar recording' webpage was created to promote the video recordings during the sessions. Other events were promoted via XpanDH's LinkedIn channel and via XpanDH's website such as attendance at the IHE-Connectathon (as one example).</p> <p>Facilitated discussions and disseminated key messages to provide updates on potential policy implications in the EEHRxF domain: XpanDH facilitated discussions and disseminated key</p>

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
				<p>messages to provide updates on potential policy implications in the EEHRxP domain, including advisory board meetings, XpanDH leadership council meetings, and meetings with X-Bubbles.</p> <p>Dissemination of materials through social media, newsletter, publications and audio-visual products: In Y1, XpanDH disseminated its promotional flyer and various audio-visual materials, including webinar recordings and excerpts from three podcast episodes sourced from the project’s webinars.</p> <p>Disseminated topics, events, articles and resources emphasizing the impact of policy development on EEHRxP: Specifically tailored for policymakers, XpanDH’s dissemination included highlights from the European EHR Exchange Format Expert Summit, along with news pertaining to the European Parliament’s endorsement of the EU Health Data Space initiative. Additionally, we featured an article on XpanDH from the health management website.</p>
Healthcare-related organisations, for example, hospitals, management, professionals and associations, public health organisations, healthcare service providers, patient and	<p>1. Health systems’ organisations and professionals will ultimately be users of the EEHRxP daily and will benefit from improved data interoperability for the efficiency of prevention, diagnostics and treatments.</p> <p>2. Reducing clinician burden in relation to</p>	XpanDH will support diverse target populations, including healthcare professionals and individuals with training materials, specialized tools, guidelines, mentorship programs, and	The aim of XpanDH is to empower healthcare-related organizations, including hospitals, management professionals, public health organizations, healthcare service providers, patient and caregiver organizations, and healthcare workforce unions, by facilitating their access to valuable health data. XpanDH recognizes the importance of data-driven	Webinars, events, XpanDH Forum: In Y1, we held a webinar titled ‘Unlocking the real-world applications of the European EHRxP’ which invited speakers from the European Cancer Patient Coalition and DIGITALEUROPE. In XpanDH’s website and via social media, the communications team shared key points discussing how EEHRxP patient safety, patient records and the collaboration needed among clinicians. From a healthcare aspect, During XpanDH’s European EHR Exchange Format Expert Summit on 12 December 2023, we held a session titled "Plenary I: Development of Patient Summary, ePrescription/eDispensation" where discussions covered EU, national, and industry initiatives developing EEHRxP specifications. The session included insights on the developments and use of Patient Summary from the Swedish eHealth Agency,

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
<p>caregiver organisations and healthcare workforce unions</p>	<p>recording patient health data</p> <p>3. Compliance with new and emerging rules (legislation/policies).</p> <p>4. Integrating digital health tools within the Electronic Health Records system.</p> <p>5. Stakeholders in EU healthcare are eagerly awaiting agreements on common definitions, reference implementations and interoperability assets to enable flexible and European-wide healthcare solutions that support the Digital Single Market and EU citizen mobility.</p> <p>6. Care to patients will be better informed by access to more completed EHRs and care decisions will be better supported by</p>	<p>collaboration initiatives.</p>	<p>decision-making and the transformative potential of health data in driving improvements across the healthcare sector. By enabling these organizations to securely access and utilize health data, XpanDH seeks to foster collaboration, innovation, and evidence-based practices that can enhance patient care, optimize healthcare delivery, and contribute to the overall advancement of the healthcare ecosystem.</p>	<p>and updates on ePrescription & eDispensation. A speaker from the University College London & i~HD, explored challenges and opportunities for the adoption of Patient Summary, ePrescription, and eDispensation in learning health systems.</p> <p>Dissemination materials through social media, website, newsletter, publications and audio-visual products: In Y1, our focus was on facilitating discussions and disseminating key messages to provide updates on potential implications in the healthcare sector. One notable initiative involved sharing a blog piece regarding the commencement of work by the eHealth Network (eHN) in early 2023. The eHN undertook the development of a guideline for Hospital Discharge Reports (HDR). The semantic subgroup, consisting of 115 invited members, previously contributed to guidelines such as Patient Summary, e-prescribing, Medical Imaging, and more.</p>

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
	smart applications taking advantage of interoperability and real-time value from structured and coded information that has already been captured.			
Payers, for example, insurance companies, public insurance funds and funding organisations.	Regional and national healthcare financing organizations are interested in the XpanDH project due to its potential to improve data interoperability and drive the widespread adoption of the EEHRx. Their engagement in the project, active participation in capacity building, and understanding of the opportunities offered by enhanced data interoperability can generate support for the EEHRx and expedite its implementation.	By 2028, XpanDH aims to achieve several outcomes, including the contribution to improved and interoperable cross-border digital health solutions, enhanced accessibility and control of health data, evidence-based healthcare practices, lower costs of standards adoption, improved datasets for the academic community, better-informed policy and decision makers, more engaged and	By leveraging innovative strategies and approaches, XpanDH aims to address the evolving needs of users and drive positive impacts in population health and care management. XpanDH will create and validate a framework for further exploitation of the public infrastructure for digital health innovation.	<p>Webinars, events, XpanDH Forum: In Y1, XpanDH’s webinar on 30 June 2023, titled "Unlocking the Benefits: Real-World Applications of the European EHRx" aimed to explore the practical applications of the European EHRx. The webinar addressed key questions, including the potential gap between EEHRx developments and patients, the benefits for patients, healthcare providers, and the healthcare system, challenges in transferring EEHRx technologies to the industry. During XpanDH’s European EHR Exchange Format Expert Summit on 12 December 2023, we held a session titled We conducted a session on "A Roadmap & EEHRx Co-creation Model for eHealth in the EU," emphasizing its potential impact on all stakeholders including those of funding organisations.</p> <p>Dissemination materials through social media, website, newsletter, publications and audio-visual products: In Y1, XpanDH produced a podcast episode published on its website, delving into the implications of the European Health Data Space Regulation. This framework, considered the second pillar of data within the European Health Data Space, facilitates research, innovation, public health, policymaking, regulatory activities, and personalized medicine. The episode featured insights from Dr. Niklas Blomberg, Director of Elixir, providing perspectives on this landmark regulation.</p>

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
		empowered citizens, and support for capacity building efforts.		
Technology providers, for example, tech companies, start-ups, spin-off and RTOs, large tech and pharmaceutical industry, privacy, security and legal agencies;	<p>1. Well-defined interoperable services supported by harmonized asset can support the reduction in the cost of adopting standards.</p> <p>2. Organizations engaged in technology innovation, research, and business activities in the healthcare value chain, as well as technology providers, are highly interested in the application of digital health technologies. They actively seek resources and collaborate to create joint services based on the EEHRxP.</p>	XpanDH aims to engage key stakeholders in scaling up and achieving pan-European impact, while enhancing capacity and readiness in the application of digital health technologies. These stakeholders will actively contribute to the co-definition of X-Bundle readiness models for utilizing the EEHRxP and play a vital role in the maturation of the project's ecosystem activities in WP5.	XpanDH aims to improve cross-border digital health solutions in the EU by developing technical resources and promoting the use of standardized technical specifications for specific use cases.	<p>Webinars, events, XpanDH Forum: XpanDH's 2nd webinar on 28 June 2023 highlighted key strategies for driving healthcare interoperability. Emphasizing clear market signals, incentives for digital health investment, and robust specifications, the discussion underscored the importance of testing mechanisms to ensure compatibility of interoperable solutions. Key discussion points were shared virtually with attendees and disseminated online through social media and the website.</p> <p>Dissemination materials through social media, website, newsletter, publications and audio-visual products: XpanDH was featured at the Digital Health Society Summit from 14 – 15 November 2023 with a dedicated virtual booth that attracted tech providers as part of the audience. The summit, themed "Connecting the Dots for Sustainable Healthcare: Powered by Health Data & Digital," served as a platform to showcase innovation, research, and address the latest challenges in digital health.</p>
Academia, for example,	Academia is interested in the XpanDH project	Organisations involved in	With MetabERN, XpanDH will develop new use cases where	Webinars, events, XpanDH Forum:

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
academic communities and researchers.	due to its potential for research collaboration, access to improved datasets, and contributions to advancements in digital health and data interoperability.	research contributions are highly relevant to the application of digital health technologies in the healthcare value chain and in finding resources and creating joint services based on the EEHRx.	cross-border health data donation and data altruism can be used for multisite research.	<p>In Lisbon, on 20 November 2023, XpanDH attended the on-site inauguration event of ISCTE – Instituto Universitário de Lisboa – Knowledge and Innovation Production Units to share project flyers and speak about the project to academic communities, researchers and invited guests. The event guest list also included Prime Minister António Costa, Ministers Elvira Fortunato and Ana Abrunhosa, and Mayor Carlos Moedas. At XpanDH's Summit on 12 December 2023, a session on "Alignment for Real-World Evidence (RWE) & Clinical Research" was conducted. Diogo Martins Branco, Medical Oncologist from ESMO's Real World Data and Digital Health Working Group, led the discussion. Additionally, another session was dedicated to "PATHeD and the European Digital Identity Wallet," led by Zoltán Tibor Lantos from the Faculty of Health Sciences at Semmelweis University.</p> <p>Dissemination materials through social media, website, newsletter, publications and audio-visual products: Key messages from XpanDH's 3rd webinar on 20 September 2023 were disseminated via the website. A news article featured speakers discussing the growing importance of access to primary health data for secondary research purposes. Key messages underscored challenges in mobilizing valuable healthcare data, specifically in human genomics for personalized medicine and rare disease diagnosis. Emphasizing collaboration needs, the discussion highlighted the importance of diverse organizations in making data accessible while maintaining trust among patients, citizens, and institutions.</p>
Society as a whole for example, patient organisations,	How can society as a whole address the inequity in access to healthcare and ensure	XpanDH aims to have one million exchanges using the European	XpanDH aims to foster a common understanding among the general public and patients about the benefits	Webinars, events, XpanDH Forum: In Y1 XpanDH's quarterly interoperability webinars, European EHR Format Expert Summit, and participation in the IHE-Connectathon were synonymous with disseminating key messages to society as a whole.

Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Key dissemination activities in Y1
patients, informal healthcare providers, citizens and non-specialised media.	that people receive better and more personalized healthcare services.	Electronic Health Record exchange format (EEHRxF) through 300 organizations by 2028, benefiting citizens, patients, healthcare professionals, and researchers with personalized actions.	of EEHRxF, data interoperability, data access, control, and sharing for improved health outcomes. XpanDH aims to empower individuals to become informal ambassadors for EEHRxF, spreading awareness and advocating for the adoption of interoperable health data standards.	Dissemination materials through social media, website, newsletter, publications and audio-visual products: In Y1, XpanDH have engaged with its audience by sharing over 70 messages on various social media platforms, particularly LinkedIn. These messages span a range of activities, including events, webinars, and podcasts, ensuring that our stakeholders and the wider community stay informed and connected with the progress and insights from our project.

3.2 Activities towards secondary stakeholders

The role of secondary stakeholders in the DCOE is to serve as influencers, amplifiers, and supporters of the project. They help disseminate key messages, raise awareness, and advocate for the importance of data interoperability and digital health solutions. Their engagement is vital in reaching a broader audience, including policymakers who can drive policy changes and allocate resources to support XpanDH's objectives.

Error! Reference source not found. below reports on the key messages from XpanDH towards secondary stakeholders as well as key dissemination activities in Y1.

Table 3: Secondary stakeholders' groups, their interests, expected impact and key messages towards them

Secondary Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Dissemination activities in Y1
Standards Developing Organizations (SDOs)	SDOs demonstrate why standards need financial investment to improve productivity and quality, and how they can provide better support to standards adopters.	SDOs will have greater clarity in how to work better together and produce better harmonised standards.	Standards play a vital role in enhancing productivity and quality, and as their usage expands, it becomes increasingly important to invest in them. Through demonstrating the value of financial investment, SDOs aim to provide improved support to standards adopters and meet the growing need for a broader range of standards	In Y1, XpanDH led impactful initiatives, notably in Work Package 2, resulting in the creation of a comprehensive quality labelling framework for Digital Consumer Health Products (DCHPs) This framework, following a three-layered structure, provides guidelines for manufacturers, aiding in enhancing the quality of DCHPs and facilitating informed decisions for consumers, healthcare professionals, and insurers. This work was promoted and disseminated via XpanDH's website here .
Industry Board Network of Digital Health Industry players (companies, and associations)	The Industry Board Network of Digital Health Industry players, comprising companies and associations, would be interested in the XpanDH project due to the opportunity it presents for contributing to standardized technical specifications and showcasing their expertise in the digital health field. By participating in the project, they can stay at the forefront of digital health advancements, enhance their reputation, and collaborate with other stakeholders in driving interoperability and innovation.	The desired outcome is an increase in the maturity level of organizations benefiting from the X-Bundle Readiness guides, reflected by the number of organizations that have improved their level of EEHRxF maturity and the percentage of improvement in	XpanDH project aims to enhance the maturity level of organizations through the implementation of an EEHRxF Readiness Model and X-Bundle Readiness guides. By providing workshops and resources tailored to developers, healthcare professionals, and patients, the project facilitates growth, collaboration, and improved outcomes in the digital health domain.	<p>Webinars, events, XpanDH Forum: In Y1, during the XpanDH Summit, we held an Introductory Session titled "The EEHRxF: Who is it for, what does it bring to you?" This session aimed to provide insights into the European Electronic Health Record Exchange Format (EEHRxF), including its development process, industry and user engagement. Additionally, a sub-session on "Industry's Role in EHR Innovation" featuring Antoine Praet from EarlyTracks Ltd was conducted, shedding light on the crucial role of the industry in EHR innovation.</p> <p>Dissemination materials through social media, website, newsletter, publications and audio-visual products: In Y1, general messaging was disseminated through XpanDH's social media channels and website to</p>

Secondary Stakeholder group (as identified in D7.1)	Their interest (as identified in D7.1)	Expected impact (as identified in D7.1)	Key messages from XpanDH towards stakeholders	Dissemination activities in Y1
		maturity level.		keep them informed and engaged with XpanDH's latest updates, activities, and insights.

4 Dissemination action and tools

Having reported on the main objectives for a sound DCOE Strategy of XpanDH as well as general activities towards stakeholders, this section presents a more detailed report of actions, techniques, and channels developed and used in Y1 of the project for achieving the goals, considering both traditional communications methods as well as novel digital marketing techniques.

4.1 Ownership

ECHAlliance developed the DCEOP, accepted by the coordinator, WP7, all partners engaged, led by ECHAlliance, weekly check-ins with the coordinator, as well as reports at the bi-weekly WP leaders' meetings and Advisory Group meetings if relevant. The operational part of the Plan is being aligned with the needs of the project and project partners.

For coordination and reporting purposes, the Communication & Dissemination tracker was created on the SharePoint, where all partners are requested to list the dissemination activities they plan to engage in (for promotion) or did engage with (for reporting). This tool is monitored by the WP7 leader regularly.

4.2 Communication and dissemination KPIs

As of Y1 here are the details and status for the XpanDH Key Performance Indicators (KPIs):

KPI	Detail	Expected Outcome	Status after Y1
KPI9	Number of outreach workshops/ speaking engagements during international events	6	4
KPI12	Number of total quality followers on social media (LinkedIn/Twitter)	900	832 – LinkedIn 124 – X/Twitter
KPI13	Ratio site visits to unique visitors in XpanDH website	2:1	1.799:1
KPI14	N° of XpanDH scientific publications	2 to 5	1
	Branding	Conceptualise and develop the project's visual identity	Completed

KPI	Detail	Expected Outcome	Status after Y1
	Website	First version to be completed by M3-4	Completed
	Blog	Streamlined content strategy that includes blog titbits (monthly) – e.g., SME Highlight of The Week – and topic-focused blog posts (every 2 months) – e.g., Top 3 Challenges in Health Interoperability	4
	Press Release	Launched once a year (and additional, if necessary) to announce major project advances.	1
	Wikipedia	Publish and update the XpanDH Wikipedia page.	To be completed in Y2
	Webinars & Podcasts	Quarterly webinar recordings that invite 3 expert panellists to discuss and present on a topic related to interoperability. Webinar discussions will be released as Podcasts.	4 webinars and 3 podcasts
	Infographic	Prepare 1 eye-catching infographic per year	1 (XpanDH Flyer)
	Outreach events	Workshop and sessions organised in international event (participation: 6)	4
	Participation in TIES	Engaging in TIEs	Expected in Y2
	Events	Participation >4 / year	4
	Workshops	Organise a second (Outreach) workshop during a relevant international event	Expected in Y2
	Collaboration with projects	Relevant projects	8
	Scientific publications	2 to 5	1
	Email campaign	Share specific outputs to targeted stakeholders in synopsis format	Expected in Y2
	QR Code	1	1
	Policy briefs	2	0

Table 4: XpanDH KPIs

4.3 XpanDH website

Just after the project start the WP7 Dissemination and Outreach, leaders, European Connected Health Alliance (EChAlliance) worked together with XpanDH's Project Coordinator (ISCTE) to conceptualise and develop the project's website, as the main communication platform about the project to the external world.

The WP leader intentionally created the XpanDH website (Figure 1) as a page that will be developed over time, as the project activities progress. At this point in time the XpanDH website includes essential 5 elements to communicate about the project:

- About the project
- Communication
- Consortium
- Partners
- Contact us.

In Y1 we strategically incorporated supplementary pages under "About the Project," "Resources" (to optimize the promotion of XpanDH's flyer), and "Calls" which included active calls for associated partners and advisory board members. Moreover, within the communication domain, we expanded the XpanDH website by introducing 1 dynamic new webpage dedicated to XpanDH's podcast episodes.

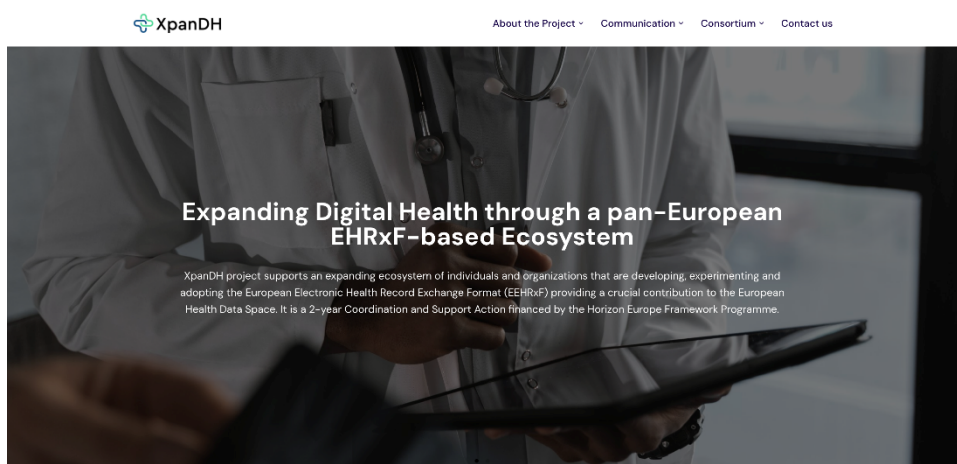


Figure 1: XpanDH Website: <https://xpandh-project.iscte-iul.pt/> (as of January 2024)

After the launch of the website, it has been communicated widely through XpanDH's social media, as well as partners' social media and other channels. The information will also be included in the relevant partners' newsletters, networks and audiences.

In Y1, the XpanDH website was launched in May 2023 through the link: <https://xpandh-project.iscte-iul.pt/>. It is hosted on the server of the project coordinating organization, ISCTE.

XpanDH resources and informative materials: In Y1, a new webpage was introduced under the "About the Project" section, titled "Resources." This page now serves as a hub

for accessing XpanDH deliverable documents, materials, publications, and policy briefs as they become available. As of present, XpanDH’s downloadable flyer in PDF format has been included in this page. This page is specifically designed for XpanDH's target audience, allowing them to easily download the flyer when engaging with the project.

XpanDH audiovisual products: To support XpanDH's project KPI of quarterly webinars released as podcasts, we developed a new webpage under the "Communication" section called "XpanDH Podcast." This page hosted XpanDH’s episodes on Spotify for our users to listen to.

XpanDH advisory board: In Y1, we established a new webpage under the "Consortium" section, titled "Advisory Board," featuring the names, and LinkedIn profiles of XpanDH's Advisory Board members. The XpanDH Advisory Board, comprised of representatives from international organizations with extensive expertise in adoption domains, interoperability, networks, planning, and testing scenarios, strategically support the project's leadership with high-quality advice and operational guidance as needed. Their role included monitoring the project's development and evaluating the effectiveness of actions towards the proposed goals. This webpage was also promoted on social media.

Secondly, XpanDH's news section continues to expand, featuring updates on XpanDH meetings, events, and outcomes (illustrated in Figure 2).

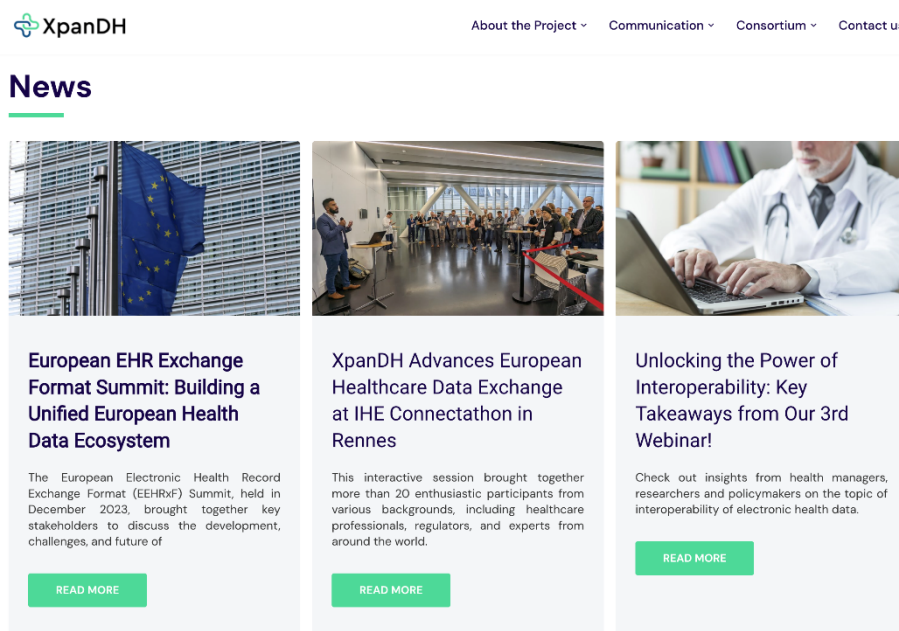


Figure 2: Figure 2: XpanDH Website News Section: <https://xpanDH-project.iscte-iul.pt/news/> (as of February 2024)

Thirdly, the events section showcases all the events where XpanDH consortium members are either co-organizing or have been invited to present (refer to Figure 3 below).

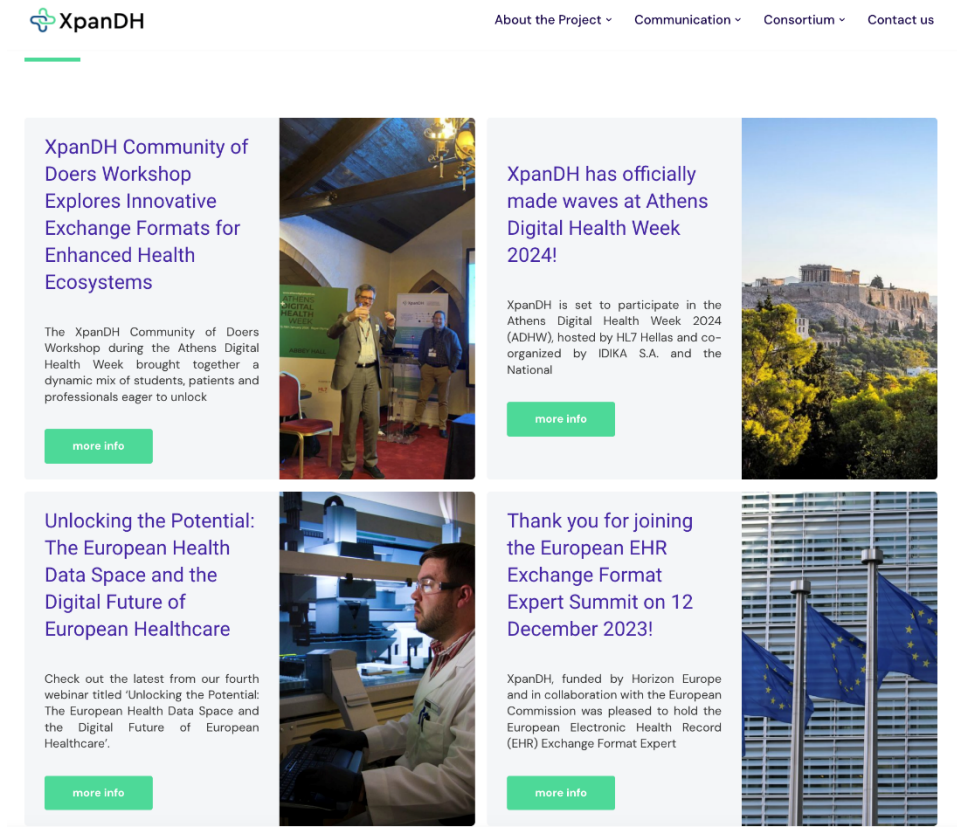


Figure 3: XpanDH Events Sector: <https://xpandh-project.iscte-iul.pt/events/> (as of February 2024)

Analytics

From the start of this reporting period, XpanDH's website has accumulated a total of 10,640 website views across various pages with 3,823 web users. The website has attracted noteworthy attention, and a detailed examination of the data underscores key metrics:

- The "Join the European EHR Exchange Format Expert Summit on 12 December 2023! – XpanDH Project" (now amended to 'Thank you for joining the European EHR Exchange Format Expert Summit' page emerges as the most viewed, **with 1,763 views and 978 users**.
- The following most viewed web pages from XpanDH's website include:
 - XpanDH Project: **1,686 views**
 - Home – XpanDH Project: **1,026 views**
 - What we do – XpanDH Project: **541 views**
 - Partners – XpanDH Project: **494 views**

Notably, the website records 32,647 events, showcasing user interactions beyond page visits. A website event count refers to the total number of events or interactions tracked on a website over a specific period. Events can include various user actions, such as page views, clicks, downloads and form submissions.

4.4 XpanDH Social media channels

In Y1 dedicated Twitter/X (Figure 4) and LinkedIn (Error! Reference source not found.gure 5) accounts were established for the XpanDH project, along with tailored banners and images for effective social media campaigns that align with the project's brand identity.

The initial target for social media, set at >900 followers on Twitter/X and LinkedIn by was achieved by the end of Y1, with 124 followers on Twitter and 832 followers on LinkedIn, totalling 956 followers.

This success on social media can be attributed to several factors, including increased frequency of posts related to XpanDH's quarterly webinar series, podcast episodes, at events such as the European EHR Exchange Format Summit and IHE-Connectathon as two examples.

While not an official project Key Performance Indicator (KPI), XpanDH extended its reach beyond LinkedIn and Twitter by using YouTube for the promotion of XpanDH's webinar recordings and the project launch. These videos, accessible to the public, are hosted on ISCTE's YouTube channel, the coordinating organization of XpanDH. The dedicated XpanDH playlist on this channel, consisting of seven videos, has amassed a total of 704 video views.



Figure 4: XpanDH Twitter Profile (As of Feb 2024)

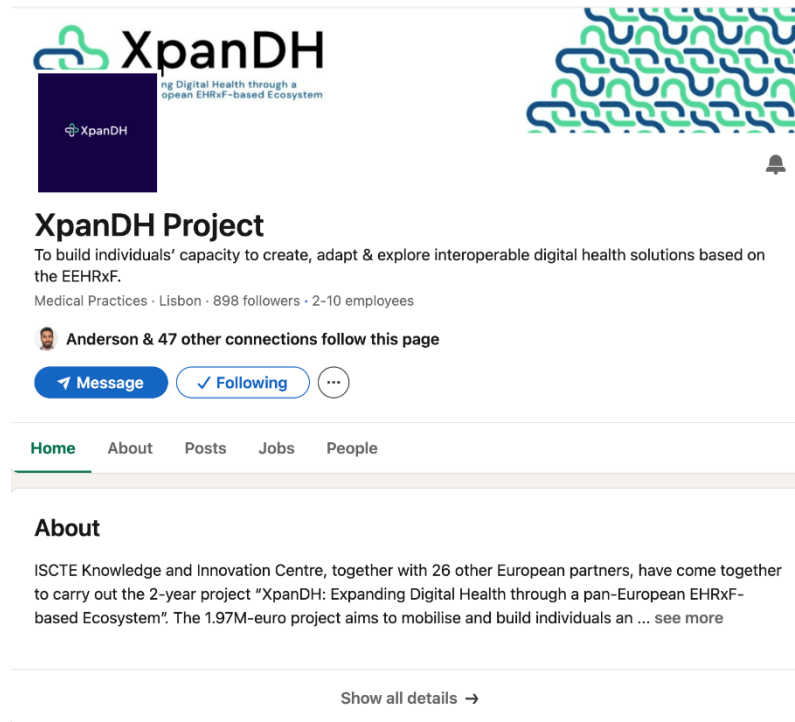


Figure 5: XpanDH LinkedIn Profile (As of Feb 2024)

The XpanDH social media communication strategy foresaw the publication of a minimum 4 posts per month on Twitter and LinkedIn, featuring:

Project Partner Activities:

- Ongoing workshops and activities conducted by XpanDH partners highlighted the significance of digital health, interoperability, health innovation, and EEHRxF.
- For example, XpanDH's engagement at IHE–Europe Experience Days, discussing the EHDS draft proposal, garnered 293 impressions, 13 engagements, an 8.53% engagement rate, 12 clicks, a 4.1% click-through rate, and 13 reactions on [social media](#).

Project Presence at External Events:

- XpanDH's active participation and presentation at external conferences and events showcased the project's commitment to knowledge dissemination and industry collaboration. For example, the post about XpanDH's virtual booth at the Digital Health Society Summit received 244 impressions, 21 engagements, a 10.66% engagement rate, 5 clicks, a 2.05% click-through rate, 18 reactions, 1 comment, and 2 reposts on [social media](#).

Publication Highlights:

- The project emphasized the publication of relevant reports from European political institutions and agencies, contributing to the dissemination of valuable insights in the field.

- For example, a [social media post](#) on LinkedIn related to the EHDS and EHR interoperability, shared by XpanDH, emphasized the importance of progressive socio-technical harmonization for better health across health systems, encouraging continued support and participation in the XpanDH Project.

Collaborative Initiatives:

- XpanDH's collaboration with other projects and initiatives was evident through joint activities, such as events, presentations, and seminars, fostering a network for knowledge exchange.
- For example, XpanDH Project shared a [social media post](#) highlighting collaboration with the Gravitare-Health project during a workshop in Madrid focusing on interoperability, digital tools for patients, patient empowerment, and medication.

European Commission Engagement:

- The project actively promoted and shared relevant publications, initiatives, news, and events endorsed by the European Commission, aligning with the broader goals of the digital health ecosystem.
- For example, XpanDH Project's initial [social media post](#) in November 2023 announcing the European Electronic Health Record (EHR) Exchange Format Expert Summit in collaboration with the European Commission achieved notable engagement with 455 impressions, 65 engagements, an 18.46% engagement rate, 19 clicks with a 4.18% click-through rate, 47 reactions, 5 comments, and 13 reposts. The post invited participants to join the event focusing on EEHRx^F, offering insights, networking opportunities, and a chance to contribute to shaping the future of healthcare data exchange in Europe.

Analytics:

In Y1, the social media presence of XpanDH demonstrated a proactive approach to sharing valuable content, engaging with stakeholders, and contributing to the broader discourse on digital health, interoperability, and innovation. The collaborative efforts with external entities further strengthened the project's impact and outreach.

During this reporting period, XpanDH's LinkedIn engagement metrics showcased success, with 36,064 impressions, 18,234 unique impressions, 2,201 clicks, and a 14.9% engagement rate among its 832 followers. These numbers indicate a strong presence and active engagement with the audience on the LinkedIn platform. Deliverable D7.3 Concertation Activities Report provides a more detailed analysis of the followers of the XpanDH LinkedIn account, highlighting which stakeholder groups and geographies are represented.

On Twitter, XpanDH maintains a following of 124 users on the platform. In Y1, XpanDH continued to employ the official project hashtag **#XpanDH** and a series of relevant hashtags identified previously such as:

- #eHealth, #EEHRxF, #interoperability #electronichealthrecords, #digitalhealth, #healthdata, #healthcaredtechnology.

Additionally, you will discover a list of more project specific XpanDH social media campaigns involving all partners in Y1.

Table 5: XpanDH Social Media Campaigns – Y1

Title of the campaign	Content	Time
XpanDH webinar series on interoperability/EEHRxF	4 social media posts per webinar on Twitter and LinkedIn promoting the webinar and speakers	April 2023 – December 2023
XpanDH webinar recordings	1-2 social media posts per month on Twitter and LinkedIn promoting webinar recordings on YouTube	April 2023 – December 2023
XpanDH new Associated Partners	Announcing new associated partners to the XpanDH project including partners bio with logo and website	August – September 2023
Meet the Partners campaign	Produced infographics announcing XpanDH Partners	April 2023 – December 2023
XpanDH 2023 EEHRxF Forum	Promotional campaign to engage registrants, participants and attendees	November – December 2023
XpanDH podcast	Infographics announcing XpanDH Podcast episodes	September 2023 – December 2024
XpanDH participation in 2023 IHE Europe – Connectathon	1-3 posts leading up to the event announcing XpanDH participation in the 2023 IHE Europe Connectathon with an infographic	September 2023
XpanDH hosted the European EHR Exchange Format Expert Summit	1-2 posts a week 1 month prior to the event to promote on-site and online participation	November – December 2023
XpanDH publications	1 post to promote XpanDH publication	November 2023

4.5 Communication materials for printed and digital distribution

XpanDH strategically developed a downloadable (both printed and digital) flyer to serve as a comprehensive and visually engaging tool. The primary aim of this strategic initiative is to effectively communicate XpanDH's vision for the future of healthcare to a diverse audience. By providing a condensed yet impactful overview of our project, the downloadable flyer serves as a valuable resource for stakeholders, potential partners, and the public.

The downloadable format enhances the versatility of the flyer, allowing it to be easily shared, distributed, and accessed across various platforms. This flexibility ensures that our message reaches a broader audience and resonates effectively.

By encapsulating our vision in a visually appealing format, the flyer serves as an engaging tool to captivate stakeholders' attention. It goes beyond conveying information, aiming to evoke interest and curiosity about XpanDH's role in shaping the future of healthcare.

The development of the downloadable flyer is a strategic initiative aimed at communicating our vision, providing access to crucial project resources, and fostering meaningful engagement with a diverse audience. This tool plays a pivotal role in amplifying XpanDH's impact and reinforcing our commitment to driving innovation in the digital health landscape.

In Y1, the XpanDH flyer underwent an update to incorporate the logos of three newly affiliated associated partners. These were included in page 2 (please refer to Figure 6). Figure 6 and 7 presents the XpanDH flyer which was developed to present an overview of the project to the general audience.



Figure 6: XpanDH Project Flyer 2023 (front)

Here are six key points about the EEHRx-based European Digital Health Services (EDHS) infrastructure:

- A one-stop-shop for electronic health records (EHRs) to become EEHRx compatible and benefit from interoperability.
- An editorial team that responds fast to keep the technical and content definitions up-to-date.
- A maturing health IT industry that collaborates on large-scale interoperability efforts.
- National Digital Health policies that align with the World Health Organization (WHO) and European Union (EU) targets to develop next-generation national EHR projects.
- A growing network of health and health-related actors who promote and use EEHRx to support integrated health and care.
- A digital-savvy patient and civil society network that demands progress in health research and innovation through the use of the EEHRx infrastructure.

Our project is made up of partners who are dedicated to improving digital health solutions in Europe.

Partners include: edna, european digital health academy, ASIF, DIGITALEUROPE, EHMA, empirica, FONDAZIONE, European Cancer Patient Coalition, HL7 Europe, gnomon, IHE, UNINOV, iscte, hope, nctzi, iHD, Nictiz, ORSZAGOS KORNHAZI FOKOZASZATOSAG, ARIA, FORTH, Newcastle University, SIBS, Partner in Payments.

Follow us on social media

Funded by the European Union

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Founded by the European Commission. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Health and Digital Executive Agency (HADEA). Neither the European Union nor the granting authority can be held responsible for them.

Figure 7: XpanDH Project Flyer 2023 (verse)

4.6 Events

During Y1, XpanDH actively organized and participated in numerous events, spanning both internal and external landscapes. These events were strategically chosen for their added value, with a focus on contributing to national and international initiatives related to interoperability and the EEHRx.

4.6.1 Events arranged by XpanDH and its partners

In Y1, a series of events, workshops, and webinars were organized to actively involve stakeholders in the process of fostering knowledge sharing, collaboration, and engagement. These initiatives served as vital platforms for showcasing XpanDH's expertise and providing updates within the domain of the EEHRx and interoperability.

Event Types:

Various types of events were strategically timed and targeted to maximize impact and reach the intended audience. These included conferences, workshops, seminars, and quarterly webinars.

Quarterly Webinars:

XpanDH's partners (ISCTE, ECHA, EHMA) organized a series of four webinars focused on the European Electronic Health Record Exchange Format (EEHRx_F), shedding light on its significance and applications. The first webinar, titled 'European Electronic Health Record Exchange Format EEHRx_F, what it is and why it matters,' featured notable speakers, including Kyriacos Hatzaras from the European Commission, Marcello Melgara from ARIA SpA / eHMSEG Semantic Task Force, and Catherine Chronaki from HL7 Europe. This session provided a comprehensive overview of EEHRx_F, emphasizing its importance in the evolving landscape of digital health.

The subsequent webinars delved into specific aspects of EEHRx_F. 'Unlocking the Benefits: Applications of the EEHRx_F' explored practical applications and featured speakers including Dr. Alexander Berler, Esther Peelen from Nictiz, Kathi Apostolidis from the European Cancer Patient Coalition, and Michael Strubin from DIGITALEUROPE.

Another webinar, 'Building the European Health Data Space: Leveraging EEHRx_F for Secondary Data use in the EHDS,' brought together experts such as Dr. Andrzej Rys from DG Sante, Dr. Niklas Blomberg, and Professor André Peralta Santos to discuss the role of EEHRx_F in shaping the European Health Data Space. The series concluded with a webinar titled 'Unlocking the Potential: The European Health Data Space and the Digital Future of European Healthcare,' where Prof. Dr. Henrique Martins moderated discussions with esteemed speakers, including Dr. Konstantin Hypponen, Isabelle Zablit-Schmitz, and MEP Dr. Tomislav Sokol. These webinars provided a platform for in-depth exploration and dialogue around the transformative potential of EEHRx_F in the digital future of European healthcare.

Recorded on Zoom, the webinars were released as podcasts, serving as an ongoing resource for staying informed about the latest developments in interoperability. A list of these webinars can be found in Table 6 below.

These messages were used as key messages to promote on social media and as podcast episodes.

Partner	Date of Event	Name and description of event	People Involved	Link to event (Web, Zoom, Flyer)
ISCTE, ECHA, EHMA	03.05.23	Webinar: 'European Electronic Health Record Exchange Format EEHRx ^F , what it is and why it matters'	<p>Kyriacos Hatzaras – European Commission – Programme Officer, EU Policies – DG CNECT</p> <p>Marcello Melgara – eHealth Projects Programme Manager, ARIA SpA / eHMSEG Semantic Task Force – Semantic WG</p> <p>Catherine Chronaki – Secretary General, HL7 Europe and Vice President for IMIA at European Federation for Medical Informatics (EFMI)</p>	https://www.youtube.com/watch?v=3sgWvQVJjSE
ISCTE, ECHA, EHMA	28.05.23	Webinar: 'Unlocking the Benefits: Applications of the EEHRx ^F '	<p>Dr Alexander Berler from Gnomon Informatics SA</p> <p>Esther Peelen, Senior International Adviser, Nictiz, Competence Centre for digital information management in healthcare in the Netherlands</p> <p>Kathi Apostolidis, Past President – Chair Scientific Committee, European Cancer Patient Coalition</p> <p>Michael Strubin, Senior Adviser for Digital Health, DIGITALEUROPE – The voice of digitally transforming industries</p>	https://xpanDH-project.iscte-iul.pt/unlocking-the-benefits-applications-of-the-eehrxf/

ISCTE, ECHA, EHMA	20.9.23	Webinar: ‘Building the European Health Data Space: Leveraging EEHRxI for Secondary Data use in the EHDS’	Dr Andrzej Rys, Principal Scientific Advisor, DG Sante, European Commission Dr Niklas Blomberg, Director of ELIXIR Professor André Peralta Santos, Acting Deputy Director-General of Health in the Directorate-General for Health, Portugal.	https://xpandh-project.iscte-iul.pt/building-the-european-health-data-space-leveraging-european-electronic-health-records-exchange-format-eehrxf-for-secondary-data-use-in-the-ehds/
ISCTE, ECHA, EHMA	16.11.23	‘Unlocking the Potential: The European Health Data Space and the Digital Future of European Healthcare’	Moderator Prof Dr Henrique Martins, XpanDH Project Coordinator, Associate Professor in Health Management and Leadership at FCS-UBI and ISCTE-IUL, Portugal facilitated the discussion. Our distinguished speakers included: Dr Konstantin HYPONEN, Policy Officer on Digital Health at DG SANTE, European Commission; Isabelle ZABLIT-	https://xpandh-project.iscte-iul.pt/webinar-the-risks-for-europe-without-a-european-health-data-space/

			SCHMITZ, Europe & International Director, French Ministry of Health & Prevention, Digital Health Delegation. MEP Dr Tomislav Sokol, Member of the European Parliament, Group of the European People’s Party (Christian Democrats);	
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Table 6: XpanDH Hosted Webinars in Y1

Other Stakeholder Events:

In Y1, XpanDH actively participated in several events. 13 events were exclusively hosted – hosting and hosted events can be found in Table 7 below:

Partner	Date of Event	Location	Name and description of event	Link to event (Web, Zoom, Flyer)
CEN	17.04.23	Online	"CEN Review Group Discussion of the XpanDH project and its progress with experts from CEN"	N/A
ISCTE	07.06.2023	Lisbon / Hybrid	Hybrid: European EHRx ^F in the global context	https://www.linkedin.com/events/eehrxfintheglobalcontext7069982669111009283/comments/
CEN	19.06.23	Hybrid	"CEN Review Group Discussion of the XpanDH project and its progress with experts from CEN"	N/A

CEN	06.12.23	Online	"CEN Review Group Discussion of the XpanDH project and its progress with experts from CEN"	N/A
CEN	10.10.23	Online	"CEN Review Group Discussion of the XpanDH project and its progress with experts from CEN"	N/A
XpanDH zielt darauf ab interoperable digitale Gesundheitslösungen zu schaffen	11.12.23	Berlin	"XpanDH in Germany: Know more about the European Electronic Health Record Exchange format and the Hospitals-on-FHIR initiative"	https://www.linkedin.com/pulse/digital-health-through-pan-european-ehrx-based-ecosystem-thunda9e%3FtrackingId=BpliSVGZ2PNSSmwgOQLMlg%253D%253D/?trackingId=BpliSVGZ2PNSSmwgOQLMlg%3D%3D
ALL	12.12.23	Brussels	XpanDH EHR Exchange Format Expert Summit	https://xpandh-project.iscte-iul.pt/xpandh-ehr-exchange-format-expert-summit/

Table 7: XpanDH Hosted and co-hosted events in Y1

D7.3 Concertation Activities Report provides a more detailed analysis of those events that focussed on stakeholder interaction and consultation. It describes stakeholders reached and key takeaways.

European EHR Exchange Format Expert Summit:

One of the pivotal events in Y1 for XpanDH was the hosting of the European Electronic Health Record (EHR) Exchange Format Expert Summit on Tuesday, December 12, 2023, in a hybrid format—both in-person in Brussels and online. Funded by Horizon Europe and in

collaboration with the European Commission, this expert summit, organized by the XpanDH project, aimed to bring together European projects, initiatives, and key stakeholders to collectively shape the vision for the EEHRx^F, its development process, and applications. With a diverse attendance of over 100 participants spanning the fields of e-health, interoperability, and beyond, this summit served as a key milestone in fostering collaboration and understanding within the digital health landscape. The event showcased invited projects' use cases, development processes, and challenges addressed, contributing to the ongoing dialogue on the transformative potential of the EEHRx^F in the digital future of European healthcare.

The forum facilitated discussions, provided material for drafting workshop invitations and agendas, and engaged stakeholders from various projects, initiatives, and demand and supply side players. The goal was to foster collaboration, define key actions for effective communication and reuse of outcomes, and enhance understanding and support for the European EEHRx^F. The event contributed to advancing interoperable digital health solutions and transforming healthcare systems across Europe.

4.6.2 Conferences and congresses featuring XpanDH

An essential part of the project's dissemination and communication strategy was the participation of XpanDH consortium members in relevant European, regional, and national events to spread the project's value and interact directly with stakeholders. Although those events were selected continuously according to the focus and stage of the project, a preliminary list of the events was presented below. To keep the Dissemination Lead (ECHAlliance) informed and aware of the partners' commitments to the events, a special reporting form was provided to the consortium.

Table 8: Conferences and congresses featuring XpanDH

Event	Location	Date	Link
Medical Informatics Europe 2023	Gothenburg, Sweden	22-25 May 2023	https://www.mie2023.org/
IHE Europe 2023 Connectathon	Rennes, France	25-29 September 2023	https://connectathon.ihe-europe.net/
Digital Health Society Summit 2023	Online/virtual	14-15 November 2023	https://echalliance.com/digital-health-society-summit-2023/
CVTT Day	Lisbon, Portugal	20 November 2023	https://www.iscte-iul.pt/noticias/2309/inovacao-uguracao-iscteconhecimento-inovacao-espaco-de-infinitas-possibilidades

IHD Annual Conference	Ghent, Belgium	29 November – 01 December 2023	https://www.i-hd.eu/ihd-holds-successful-2023-annual-conference-with-hundreds-of-onsite-and-online-attendees/
APDSI Conference “O Digital na promoção contínua da saúde e do bem-estar”	Lisbon, Portugal	14 December 2023	https://apdsi.pt/2023/conclusoes-conferencia-o-digital-na-promocao-continua-da-saude-e-do-bem-estar/

5 Autonomous outreach of XpanDH

This chapter offers a summary of outreach activities by XpanDH. A more detailed outreach strategy is presented in *D7.1 – XpanDH Dissemination, Communication, Outreach and Exploitation Plan*. An in-depth account of the outreach and consultation activities carried out is presented in *D7.3 – Concertation Activities Report*.

5.1 Rationale and methodology

The XpanDH vision entails a true and participatory involvement from all relevant end-users, such as patients, caregivers and professionals, in the EEHRxF implementation, adoption and dissemination. In this vision, the listed stakeholders are not just recipients or users of digital services, nor just requirement holders to be consulted in a unidirectional way.

XpanDH involves and consults these stakeholders to create AEIOU (Accessible, Engaging, Interoperable, Operational and Useful) digital health tools of the future – through the EEHRxF. This entails that 1) all key stakeholders will be actively involved in the co-creation of the EEHRxF ecosystem and actively and critically involved in different project phases, from the very beginning, and 2) the consortium will ensure the necessary flexibility and openness to manage potential changes and needs that arise from the co-creation process, to ensure real acceptance.

To this aim, XpanDH’s outreach strategy has been relying on two core structures: X-Nets and Community of Doers.

X-Nets:

To reach scale and pan-European impact, XpanDH has established XpanDH X-Nets – networks of stakeholders (EU or MS organisations) that form the existing pan European (Digital) Health space and can potentially use or benefit from the widest adoption of the

EEHRxI. **Error! Reference source not found.** presents the current ten X-Nets and their moderators. Many are composed of networks themselves: e.g., for being member-based organisations.

Table 9: List of XpanDH X-Nets and assigned X-Net agitators.

X-Net Name	X-Net description	Agitator(s)/ Moderator(s)
Patient association	Network of patients and patient associations, particularly supported by WP1 and engage particularly with WP3/4/5	Iscte/EDHA formerly: also ECPC
SDOs & Industry Board	Network of all digital health industry players (companies, and associations) as well as all relevant SDOs (e.g. SNOMED Int, HL7)	IHE
Hospitals-on-FHIR X-Net	Network of organisations affiliated with the HL7 Europe Hospital-on-FHIR Initiative and interested parties	HL7
BioMedical Research	Network of researchers and research collaboration initiatives around the life sciences and biomedical	IH-D
Professionals Associations	Network of Health professionals' chambers, associations and unions national and European	CHUP
Citizens and Society	Network of citizen associations, consumer groups, and other representatives of civil society, including media	EMP/ISCTE
Health Mgt & Regulators	Network of health management professionals and associations, as well as healthcare regulators and financiers	EHMA
Innovation Hubs	Network of partners of the innovation cycle (e.g. venture capital and innovation funds, incubators, innovation hubs)	Tech4Life

X-Net Name	X-Net description	Agitator(s)/ Moderator(s)
ERNs and PerMed	Network of all EU ERNs established and projects/initiatives in personalised medicine (eg. ICPPerMed)	UCN
Health Regional Authorities	Network of all health regional authorities responsible for healthcare provision or oversight/planning healthcare	ARIA

The outreach via X-Nets is streamlined through the X-Net Engagement guide, a voluntary deliverable already covered in D7.1 and further presented in D7.3. The respective moderators of X-Nets already conducted kick-off meetings in November/December 2023. Further X-Nets will launch inaugural meetings in the first half of 2024. Another milestone planned for X-Net engagement is a multi-stakeholder focus group meeting in March 2024, including representatives from all X-Net groups.

3C-3Ps Community of Doers:

WP5 Growing the Digital Health Ecosystems is also implementing a “3Cs-3Ps community” – Co-creation Community (3Cs) of (3Ps) Patients, (Healthcare) Professionals and Programmers (or other ISP developers), to approach these three (usually separated) stakeholders’ groups of digital health.

The community will most closely work around data priority categories of laboratory results and hospital discharge letters. Focus will be to work on the use cases, involving the users, creating a shared vocabulary between users and doers and making demonstrations.

Two first Community of Doers workshops were held at the IHE Connectathon (September 2023) and the Athens Digital Health Week (January 2024). The workshops discussed contents and possible interactions structures of such a community.

Within the first quarter of 2024, the launch of an online Community of Doers Space is planned.

6 XpanDH Exploitation Report

6.1 Introduction

The exploitation of the XpanDH project results is primarily anchored in WP6 Sustainability and Future Actions.

The most substantial project results that need to be sustained, maintained and actively promoted are the XpanDH Asset Bundles and the process for maintaining and updating them.

Another important and high impact project output will be the XpanDH recommendations to Member States and the European Commission, regarding how to scale up interoperability for the project implemented adoption domains and how to foster the development of asset bundles for new adoption domains.

The third result category is a methodology for developing new adoption domains including some examples that will be worked up to some extent within the project, in WP6 Sustainability and Future Actions. The elaboration and exploitation of each of these results is in development within WP6 Sustainability and Future Actions, and the early plans are outlined below.

Most of this work is targeted at Y2 of the project, by which time the XpanDH assets for its own adoption domains will be mature, and their configuration into reusable asset bundles will be clearer. However, some preliminary work towards future sustainability, exploitation and scalability has been undertaken, during the second half of the year one.

6.2 Exploiting the Asset bundles

XpanDH has identified, and is actively working to demonstrate, two families of adoption domains. One relating to laboratory data considers the data flow between two healthcare provider organisations, and from a healthcare provider organisation to the patient. The other relating to hospital discharge report considers communications between healthcare providers, with the patient, and in both directions with the national health authority. The technical work packages are busy developing the assets that specify and implement the relevant communication of laboratory results and discharge reports. An internal X-Bundle working group is formalising the development and interworking of the assets, with a view to packaging them into reusable bundles in the months ahead.

It is anticipated that each asset bundle will comprise:

- a formalised description of one or more adoption domains that scopes the bundle
- a formalised use case description that specifies the information content and information flows that are needed to deliver interoperability for the adoption domains

- the standards, profiles and any other relevant specifications that define precisely how the interoperability is to be achieved, including how these fit together to deliver the interoperability needed
- any technical assets that are openly available and can assist implementers with delivering the relevant interoperability, including how to obtain any required licences or agreements
- the available product/service testing and certification mechanisms that demonstrate conformance
- an ethical and data protection impact assessment, if relevant
- the stakeholder specific case for adoption, including the health systems and business value of this interoperability (in liaison with Task 5.2)
- links to externally held or published resources referred to in the above points
- metadata about the asset bundle, including version management information about the individual assets and the bundle.

Task 6.1 is concerned with how these bundles can be promoted for adoption and feedback cycles established so that they can be well maintained in the light of experience and evolving requirements (i.e. bundle governance). This will include defining quality labelling metadata for the assets and the bundles, so that the evidence of compliance with requirements, demonstrated technical robustness and practical evaluation accompanies the content.

Task 6.1 has also reflected on how to classify assets in a way that would characterise their intended use, for example their level of adoption, and in this direction, we have performed desktop research on prior European projects that have developed interoperability assets and metadata for their characterisation (EXPAND, Antilope).

In December 2023 xShare launched its operations and we have interacted with the WPs and tasks that are likely to have touch points with our work in WP6 to differentiate our activities but also begin discussion about the sustainable governance environment that both projects might collaborate on.

It is clear from the current discussions taking place with EC officials that they will establish the formal curation and maintenance internal body and mechanisms for the interoperability assets that support MyHealth@EU, at a European level and on behalf of Member States. (It is possible that the new Joint Action Xt-EHR will act as the intermediary recipient of assets and bundles targeted for MyHealth@EU consideration.) Contributing the project asset bundles that enable implementation of the EEHRx^F for our chosen adoption domains to the European Commission is therefore the most important exploitation measure to be taken. It is unusual for an exploitation strategy to target a single "customer" and not to be concerned with scalable uptake or with business revenues. However, given the substantial investments and legislative framework intended for the European Health Data Space, this pathway is the logical one for enabling rapid adoption at scale of the XpanDH asset bundles.

6.3 Recommendations to Member States and the European Commission

The recommendations that WP6 Sustainability and Future Actions will develop, iteratively through the project, will primarily focus on the Calls to Action to stakeholders that need to act to take up the use of the asset bundles already developed in XpanDH. XpanDH has received request to send recommendations to the Xt-EHR in Feb 2024 and this will now become a priority as recommendations to high level stakeholders regarding legislative had been planned.

Likewise, the project has been delivering recommendations to the European Commission in a series of regular meetings with DG SANTE and DG Connect, particularly regarding ongoing work of the Bubbles but also regarding needs for Format Development Governance,

Finally, via visits (Athens, Berlin, Madrid) we have been talking and delivering recommendations to decision makers so that they act to ensure that the results of XpanDH and the future work it encourages will strongly contribute to the success of the EHDS.

6.4 Developing new adoption domains

Task 6.2 EEHRxF new adoption domains, consumer (patient) use cases for remote visit, telehealth, and telemonitoring, will be the focus. We will work first with a range of telehealth related projects (over 20 have been identified in 2023) through 3 workshops to align how they see the use of existing domains of the EEHRxF in the situations where telehealth tools and services are involved.

The identification of “a list of possible new domains” has already been started from the results of the EEHRxF Expert Summit.

Exploitation in this context can probably best described as uptake, but possibly due to the request by the EC that the project should focus on existing domains and not new. Uptake of the existing 5 domains by some ongoing telehealth and other projects where NEW usages are possible for a basis for furthering the Format.

7 Lessons learned and suggestions for Y2 of the project

As we reflect on Y1 the XpanDH project, several key lessons have emerged, providing valuable insights for optimization and enhancement in future endeavours.

Organisation of Project's Events:

The successful execution of internal events relies on meticulous planning, including conceptualization of agendas, content, and selection of speakers. To enhance this process, comprehensive logistic and technical support, coupled with clear responsibilities delineation among partners involved in relevant WPs, tasks, or activities, is crucial. Whether organizing live events or online sessions, close collaboration between partners and the designated organizer, especially ECHAlliance for online events, will optimize the event management workflow.

Stakeholder Identification and Mapping:

Identifying and mapping stakeholders is foundational for project success. In Y1, it became evident that XpanDH encompasses a diverse and interdisciplinary group of stakeholders, ranging from policy makers and healthcare-related organizations to technology providers, academia, and society at large. Moving forward, a continuous effort should be made to dynamically engage and communicate with these stakeholders, recognizing their evolving needs and expectations. This involves tailored strategies for different stakeholder categories, such as policymakers, healthcare organizations, payers, technology providers, academia, and society.

Translating Event Insights into Broad Outreach:

Based on lessons learned in Y1, a crucial aspect of XpanDH's Dissemination, Communication, Outreach, and Exploitation strategy involves extracting key messages from events. Post-event analyses will be conducted to distill impactful insights. These key takeaways will then be seamlessly integrated into various communication channels, such as press releases, infographics, and social media posts. This meticulous approach ensures that the valuable outcomes and insights derived from our events, especially the Summit, are effectively communicated to a wider audience.

Email marketing:

To enhance Dissemination, Communication, Outreach, and Exploitation in Y2, it is recommended to establish a structured schedule for Regular Project Updates. These updates, delivered through newsletters or concise email bulletins, will serve as a dynamic communication tool, offering stakeholders insights into recent achievements, ongoing activities, and upcoming milestones from XpanDH.

Collaboration with other European Union Funded Projects:

Engage in active collaboration and knowledge-sharing with other European Union projects in the digital health and interoperability domains. By fostering partnerships and participating in joint initiatives, XpanDH can leverage collective expertise, share best practices, and contribute to a more interconnected and synergistic European digital health landscape. This collaborative approach enables the project to tap into a broader network of resources, insights, and potential synergies, ultimately enhancing its impact

and contributing to the overall advancement of interoperable digital health solutions across the EU.

In summary, the insights gained in Y1 serve as valuable guideposts for refining our approaches, fostering stronger collaborations, and ensuring that the XpanDH project continues to make meaningful contributions to the advancement of digital health and interoperability in the European context.

Exploitation:

Unlike many classical projects, and unlike even the landscape of the time XpanDH proposal and DoA was written, the ideal exploitation pathway for the interoperability assets developed by the project is not in the autonomous hands of the consortium. The most appropriate pathway is not going to follow a classical commercialisation path and will instead depend a lot on guidance from the European Commission and the strategic collaborations our project forms with other adjacent projects, especially Xt-EHR Joint Action and xShare Horizon Europe project. We are still in the process of learning how optimally to enable exploitation in a more partnership-like model.