



H-PASS

Deliverable 6.1

H-PASS Coordination and Collaboration
Guidelines



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D6.1 H-PASS Coordination and Collaboration Guidelines

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Table of abbreviations

Acronym	Description
GA	Grant Agreement
SC	Steering Committee
CME	Continuing Medical Education
CPD	Continuing Professional Development
EU	European Union
EC	European Commission
EHR	Electronic Health Record
FHIR	Fast Healthcare Interoperability Resources
GA	Grant Agreement
GDPR	General Data Protection Regulation
H-PASS	Health Professionals' and the "DigitAl team" Skills advancement
HCP	Healthcare professional
HL7	Health Level Seven
HWF	Health Workforce
IPR	Intellectual Property Rights
LMS	Learning Management Systems
SME	Small and Medium Enterprises
VR	Virtual Reality
WP	Work Package
KPI	Key Performance Indicator

Applicable and reference documents

The following documents contain requirements applicable to the generation of this document.

Reference	Document title
GA	Grant Agreement
CA	Consortium Agreement

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1. Executive summary

The H-PASS project focuses on strengthening health workforce (HWF) education to address skills gaps arising from digital transformation in healthcare. As digital tools reshape care delivery, professional roles, and team dynamics, H-PASS aims to enhance team resilience, digital literacy, and transversal skills among health professionals.

The project has designed and piloted an innovative training programme—featuring structured modules, learning materials, and both synchronous and asynchronous activities—to support medical doctors, nurses, pharmacists, trainers, and digital change agents. It seeks to improve digital maturity, readiness, and integration in healthcare systems.

The project is organized around 6 Work Packages (WP), which are:

- WP1 – Project Management & Evaluation
- WP2 – Dissemination
- WP3 – Programme Design & Content Creation
- WP4 – Development of Training Materials
- WP5 – Online Learning Environment
- WP6 – Sustainability & Synergies

WP6 is coordinated by ProMIS as Lead Beneficiary. The main objective of WP6 is to ensure the long-term sustainability of activities implemented through H-PASS, particularly its training modules. Activities carried out have sought to promote long-term uptake and resilience, enabling continued use of the H-PASS training programme in partner countries.

The specific Deliverables that were produced in WP6 in accordance with the Grant Agreement are:

- D6.1 – H-PASS Coordination and Collaboration Guidelines: this deliverable is a practical guide for enabling coordination and collaboration with stakeholders.
- D6.2 – H-PASS Sustainability Plan: this deliverable is an extensive plan for short, medium and long-term to maximise the impact, the benefits and the uptake of the H-PASS project.

The current report focuses on Deliverable 6.1 H-PASS Coordination and Collaboration Guidelines.

The triangulated evidence demonstrates that:

1. Digital skills **gaps are systemic** rather than individual.
2. **Coordination deficits** represent a major barrier.
3. **Stakeholder ecosystems** are a strong enabling mechanism.
4. Sustainability requires **institutional embedding**, not project-based continuation.
5. **Governance, interoperability and change management** are critical pillars.

2. Introduction

2.1 Project context and objectives of WP6

The H-PASS project is implemented in the context of accelerating digital transformation across European healthcare systems. The rapid deployment of digital tools, health information technologies, and innovative care models has created new competency requirements for the health workforce (HWF). At the same time, disparities in digital maturity, training provision, and system interoperability across Member States (MS) risk widening skills gaps and limiting the effective adoption of innovation.

Within this framework, H-PASS aimed to strengthen the digital and transversal skills of healthcare professionals through the design and piloting of a structured training programme. While other Work Packages (WPs) focus on programme design, material development, piloting, and implementation, WP6 (Sustainability & Synergies) ensures that project results are strategically embedded, scaled, and sustained beyond the project's lifetime. WP6 is positioned as the strategic consolidation and sustainability pillar of H-PASS. Its overarching objective is to create the financial, societal, and environmental conditions necessary for the long-term continuation and uptake of the H-PASS training programme across the EU.

2.2 Purpose and scope of D6.1

The guidelines represent the effort of H-PASS in engaging stakeholders involved in previous tasks in co-designing initiatives, verified and validated with stakeholders involved in the 6 MS.

The guidelines serve as a practical tool, manual for establishing structured mechanisms for collaboration in a coordinated, systematic way.

D6.1 is designed as a practical guidance document for a range of stakeholders involved in health workforce education, governance, and innovation, including:

- National coordinators and Focal points, to support alignment of H-PASS activities with national digital health and workforce strategies.
- Ministry of Health and Education staff, to inform policy development, integration into national training frameworks, and resource planning.
- Training providers and academic institutions, to guide the adoption and adaptation of H-PASS modules within education programmes.
- Technology providers, to align technological solutions with workforce needs.
- Clinical and healthcare managers, to support implementation at organisational level, embed digital training into clinical workflows, and foster a culture of continuous learning.

2.3 Links to other H-PASS WPs and EU4Health objective

WP6 is intrinsically linked to all other H-PASS Work Packages, as it consolidates their outputs and ensures long-term sustainability, scalability, and strategic alignment. Its activities are in close coordination with dissemination activities (WP2) to expand stakeholder engagement, strengthen the H-PASS ecosystem, and ensure visibility among policymakers, professional associations, and training providers. Feedback gathered through stakeholder mapping and ecosystem engagement contributes to validating and refining the training approach (WP3) and supports the long-term adoption of the developed materials by promoting collaboration with training providers and professional bodies (WP4). WP6 contributes to sustainability planning for the digital learning platform (WP5).

Regarding the interaction between D3.1 H-PASS Training Plan and D6.1 H-PASS Coordination and Collaboration Guidelines, the activities were complementary and interconnected. While the initial framework of the training plan was developed in parallel with the early stages of WP6 activities, the more granular analysis carried out within D6.1 significantly contributed to refining and strengthening the training design.

In particular, the interviews, focus group discussions, and co-creation workshops described in D6.1 provided valuable stakeholder perspectives on user needs, expectations, barriers, and practical considerations related to the implementation and adoption of the H-PASS training modules. These insights helped inform the development of the training plan by highlighting key competencies, communication needs, and areas where tailored educational support would be required.

Finally, WP6 directly contributes to the objectives of the EU4Health Programme, particularly in the area of strengthening health systems and supporting the European health workforce.

3. Methodology

3.1 Overview of mixed-methods approach

The methodology applied aimed at developing a participatory and collaborative effort to ensure long-term sustainability. It was divided into three consecutive steps, including:

- a. An **interview**, designed to collect diverse stakeholder perspectives on challenges and opportunities for digital transformation in the health workforce.
- b. A **focus group** discussion aimed at co-creating and validating the H-PASS Coordination and Collaboration Guidelines through structured stakeholder engagement.
- c. A **co-creation workshop**, held on 12 June 2024, co-created the H-PASS Coordination and Collaboration Guidelines, producing a practical framework to enhance cross-regional coordination, information flow, and collaboration mechanisms.

a. The interviews

The interviews focused on:

- Identifying key needs within the health workforce;
- Assessing barriers to adopting innovative and digital approaches;
- Exploring areas where digital innovation can have meaningful impact.

The interview consisted of **five structured questions**, addressing:

1. Challenges healthcare professionals face in transitioning to digital training and adopting new technologies
2. Expectations regarding digital training
3. Integration of digital training into daily clinical practice
4. Digital skills required to support organisational innovation
5. Key success factors for digital skills training programmes

At the end of the interview, respondents agreed to joining an **online focus group** organised by ProMIS. The focus group aimed at further discussing and analysing the interviews findings, deepening the qualitative understanding of the results.

The interview has been filled in by 36 respondents. The interview text is presented in Annex A and the results are presented in section 3.2 below.

b. The focus group discussion

The focus group aimed to:

- Collect qualitative feedback on preliminary findings emerging from the stakeholder interviews;
- Identify practical coordination and collaboration mechanisms applicable across different national contexts;
- Validate and refine proposed recommendations with stakeholders from the six participating Member States;
- Capture national and regional ecosystem characteristics to ensure that the Guidelines are adaptable and context-sensitive;
- Strengthen stakeholder ownership and ensure long-term sustainability of the H-PASS Stakeholders Ecosystem.

c. The Co-creation workshop

On 12 June 2024, a workshop was held with the aim of co-creating the H-PASS Coordination and Collaboration Guidelines. This workshop brought together partners from six national ecosystems to co-design initiatives that would enhance coordination and collaboration across various regions and support a better information flow and communication management. The results developed during this workshop were intended to serve as a practical tool, providing a systematic approach for establishing structured mechanisms for collaboration.

3.2 Interview design and administration (responses, sampling, scoring/priority method)

The H-PASS interview was specifically designed in order to identify challenges and opportunities that exist in advancing healthcare through innovative approaches. Inputs contributed significantly to understanding the current landscape and informing strategies to enhance the implementation of innovative solutions within the HWF.

Respondents were presented with a list of challenges or factors related to digital transformation and training in healthcare. For each item, they had to prioritize the top five by assigning scores from 1 (most important) to 5 (least important).

The participation was voluntary, responses collected were treated confidentially and be anonymous, and data was reported in aggregate form. The interviews also requested for the participant's email address for identification or follow-up purposes. An open "Other" box allowed participants to suggest additional factors not listed in the predefined options.

Types of Issues Ranked

The areas participants were asked to consider included:

- Technological proficiency of healthcare professionals
- Data security and privacy
- Cost and resource constraints
- Resistance to change
- Interoperability of digital systems
- Availability and design of training and education programmes
- Regulatory compliance
- Integration with existing systems
- Patient engagement
- Ethical considerations related to digital tools

The collected responses enabled the H-PASS team to understand which challenges stakeholders consider most critical in the transition toward digital training and adoption of innovations in healthcare.

3.3 Focus group approach and analysis method

The focus groups were designed as a structured, participatory exercise to support the co-creation and validation of the H-PASS Coordination and Collaboration Guidelines (D6.1). The methodological approach combined evidence-based information collection (via stakeholder interviews results) with interactive discussion formats to ensure targeted stakeholder engagement.

The focus group methodology pursued three main objectives:

1. To validate and deepen findings emerging from the stakeholder interview;
2. To collect qualitative insights on coordination and collaboration mechanisms;

3. To generate stakeholder-driven recommendations for inclusion in the Guidelines.

A purposive sampling approach was adopted, involving stakeholders representing different countries and organisational types within the H-PASS consortium and its broader ecosystem. This ensured diversity of institutional perspectives and national contexts.

3.4 Workshop co-creation methodology

The co-creation workshop held on 12 June 2024 applied a participatory and mixed-methods approach designed to actively engage stakeholders in identifying priorities and jointly shaping practical solutions.

First, a pre-workshop stakeholder interview was conducted to gather structured input on challenges, expectations, skills needs, and innovation priorities related to digital transformation in the HWF. The interviews results were analysed to identify key themes and to inform the design of the workshop discussions.

During the workshop, participants representing different stakeholder groups (e.g. national coordinators, healthcare professionals, training providers, SMEs, and policymakers) were divided into thematic breakout groups, each focusing on one of the five predefined topics. Facilitated discussions encouraged participants to validate the interviews findings, share national experiences, and propose concrete actions or initiatives.

Interactive methods such as guided group discussions, prioritisation exercises, and plenary feedback sessions were used to ensure balanced participation and consensus-building. Outputs from each group were consolidated into a set of co-designed proposals, which were then reviewed collectively to identify cross-cutting themes and areas of agreement.

4. Results - Interviews

The interviews conducted under Task 6.1 represents the first evidence-collection step of WP6 and provides the quantitative foundation for subsequent qualitative validation (Focus Group) and co-creation (Workshop). The interviews aimed to identify stakeholder priorities regarding digital transformation, training needs, organisational innovation, and transversal skills within the HWF.

4.1 Participation & respondent profile.

A total of 36 respondents completed the interview. The graph below (see all the data in Annex A) illustrates the nationalities of the participants.

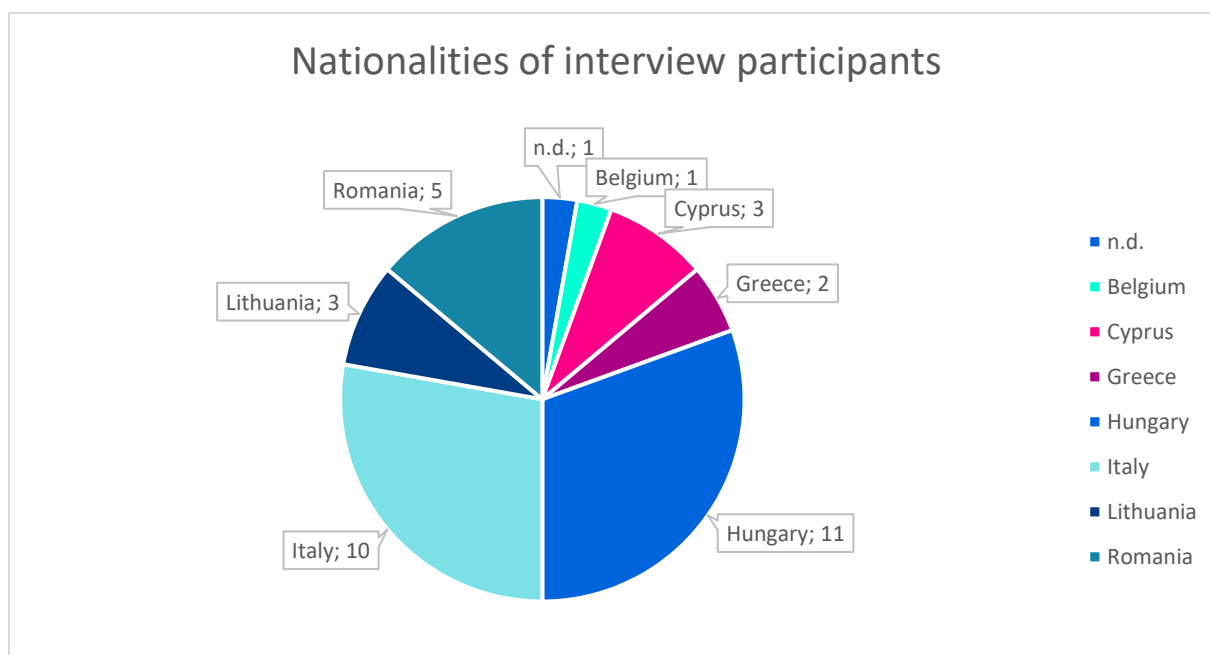


Figure 1. Nationalities of interview participants

Respondents were selected from the broader H-PASS stakeholder ecosystem, including:

- N=8 Healthcare professionals (medical doctors, nurses, pharmacists)
- N=9 Training providers and academic representatives
- N=4 Ministry of Health, Ministry of Labour and Social Policies
- N=5 Professional Chambers, EU Networks
- N=6 Policy and system-level actors involved in workforce development
- N=4 Project Managers in training and workforce projects

While the interviews did not aim to generate statistically representative EU-level data, it provided a structured prioritisation of perceived challenges and expectations across diverse professional profiles and national contexts.

Respondents were asked to rank predefined items per question, assigning scores from 1 (most important) to 5 (least important). An open “Other” option allowed additional qualitative input.

4.2 Key themes per question (ranked priorities)

The interviews addressed five thematic domains directly linked to the objectives of WP6 and the development of coordination and collaboration guidelines.

Q1: Main challenges in transition to digital training & tech adoption

Respondents were asked to prioritise key barriers affecting healthcare professionals in transitioning to digital training and adopting new technologies.

The highest-ranked challenges were:

1. Design and availability of comprehensive training programmes
2. Interoperability between digital systems
3. Integration with existing clinical workflows
4. Technological proficiency gaps among healthcare professionals
5. Cost and resource constraints

Other relevant factors included:

- Data security and privacy concerns;
- Regulatory compliance;
- Resistance to change;
- Ethical considerations related to AI and digital tools.

Key theme Q1:

The transition is not perceived as purely technological but strongly organisational and systemic.

Q2: Expectations for digital training

Respondents expressed clear expectations regarding the added value of digital training.

Top priorities included:

1. Improved accessibility and flexibility (geographical and time flexibility)
2. Support for continuous learning
3. Improved efficiency in skills acquisition and updating
4. Effective transfer of knowledge into practice
5. Contribution to improved patient care

Additional expectations included:

- Data-driven insights for personalised learning;
- Enhanced collaboration through digital platforms;
- Alignment with regulatory and accreditation standards.

Key theme Q2:

Digital training is expected to be flexible, scalable, and directly applicable to clinical realities.

Q3: Integration into daily clinical practice

Respondents prioritised practical mechanisms for embedding digital training into routine workflows.

Top-ranked elements were:

1. On-the-job learning opportunities
2. Interactive platforms (simulations, case-based modules)
3. Customised training tailored to professional roles

4. Regular updates aligned with evolving standards
5. Leadership support and advocacy

Mobile-friendly solutions were highlighted as a promising avenue to reduce training burden.

Key theme Q3:

Integration requires structural alignment with workflows, not parallel or external training systems.

Q4: Digital skills required for organisational innovation

Participants were asked to identify digital competencies necessary to support innovation within healthcare systems.

Highest priorities included:

1. Health Information Technology (HIT) proficiency (e.g., EHR usage)
2. Digital literacy (basic and advanced competencies)
3. Data analytics and interpretation
4. Telemedicine and virtual care capabilities
5. Cybersecurity awareness

Additional areas included:

- AI and machine learning awareness;
- Digital communication skills;
- Collaboration tools;
- Adaptability to emerging technologies;
- Ethical use of technology.

Key theme Q4:

Organisational innovation requires a mix of technical, analytical, and adaptive competencies.

Q5: Transversal skills to improve quality & effectiveness

Respondents ranked transversal skills essential for strengthening healthcare system performance.

Top priorities included:

1. Collaboration and teamwork
2. Adaptability to change
3. Decision-making in complex environments
4. Communication skills
5. Continuous learning

Other relevant skills:

- Leadership;
- Conflict resolution;
- Emotional intelligence;
- Analytical and critical thinking;
- Management and organisation skills;
- Change management.

Key theme Q5:

Digital transformation cannot succeed without strong transversal and behavioural competencies.

4.3 Quantitative summaries

While detailed raw scores are provided in Annex A, aggregated trends show:

- Organisational and systemic factors consistently ranked higher than purely technical ones.
- Continuous learning appeared across multiple questions as a cross-cutting priority.
- Interoperability and workflow integration were repeatedly highlighted.
- Transversal skills (especially collaboration) ranked as highly as digital skills.

The ranking methodology (top five prioritisation per respondent) allowed identification of relative priorities rather than absolute exclusion of factors. Several respondents indicated that nearly all listed items were considered important, suggesting high perceived complexity of digital transformation.

4.4 Notable 'Other' responses and qualitative highlights

Open-text responses provided important interpretative insights.

Title	Comment
Interdependence of Factors	One respondent noted that all factors may become critical depending on context, particularly regarding ethical considerations in AI. This suggests the need for flexible coordination mechanisms rather than rigid prioritisation.
Mobile-Friendly Training	A notable comment emphasised that mobile-accessible training could reduce the burden on already overloaded professionals. This highlights operational considerations for implementation design.
Shared Responsibility and Emerging Roles	Some respondents stressed that not all digital responsibilities should fall solely on healthcare professionals, suggesting the importance of emerging professions (e.g., cybersecurity experts). This directly informs stakeholder mapping and role distribution in later sections.

Role Differentiation in Transversal Skills	Participants highlighted that transversal competencies vary depending on professional roles. For example: • Hospital managers require stronger leadership skills; • Nurses may prioritise communication and teamwork. This reinforces the need for differentiated training pathways
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Table 1. Notable open text responses and qualitative highlights

4.5 Short implications for guidelines

The interview results generate several direct implications for the development of the H-PASS Coordination and Collaboration Guidelines:

1. **Systemic approach required:** Barriers are organisational and governance-related, not merely individual skills gaps.
2. **Training must be embedded, not externalised:** Integration into workflows and CPD systems is essential.
3. **Interoperability is a coordination issue:** Technical alignment requires structured collaboration between policymakers, IT providers, and clinical actors.
4. **Role-sensitive models are necessary:** Digital and transversal competencies must be adapted to professional categories.
5. **Sustainability depends on institutional embedding:** Continuous learning and leadership support are prerequisites for long-term uptake.

These implications are further validated and deepened in Chapter 5 (Focus Group) and synthesised in Chapter 7, forming the evidence base for the coordination mechanisms proposed in Chapter 8.

5. Results — Focus Group Discussions

5.1 Focus Group Objectives and Participants

The Focus Group Discussions under Task 6.1 was designed to deepen and contextualise the findings emerging from the H-PASS interviews (respondents n=36). While the interviews provided quantitative rankings and structured qualitative inputs, the Focus Group aimed to:

- Validate and interpret the interviews findings through interactive discussion;
- Explore contextual nuances across participating countries;
- Identify systemic barriers not fully captured in the interview;
- Clarify expectations regarding coordination and collaboration mechanisms;
- Generate operational insights to inform WP6 Guidelines.

The Focus Group Discussions therefore functioned as a qualitative triangulation method, strengthening the robustness of the evidence base underpinning Deliverable 6.1.

Participants were selected among:

- Interview respondents who expressed availability for further engagement;

- National representatives from participating Member States;
- Healthcare professionals (HCPs);
- Training providers and educators;
- Stakeholders involved in digital health implementation.

The focus group brought together 10 participants and 2 facilitators with a highly diverse institutional and professional background, ensuring a broad and multidisciplinary perspective. The group included representatives from academia, alongside experts from specialised research and clinical settings, including a cancer institute. Policy and governance perspectives were reflected through the participation of stakeholders from the Italian Ministry of Economy and Finance and a network for European Regional and Local Health Authorities (EUREGHA). The discussion was further enriched by contributions from representatives of Regional and Local Health Authorities and National Bodies such as the Italian National Institute for Insurance against Accidents at Work (INAIL). Additionally, participants from ProMIS provided expertise in European project coordination and health policy implementation. This varied composition allowed for a comprehensive exchange, integrating academic, clinical, institutional, and operational viewpoints, and supporting a well-rounded discussion on the topics addressed.

Importantly, the Focus Group participants were not independent from the interviews cohort but rather built upon it, allowing continuity and deeper exploration of previously identified issues.

5.2 Thematic Analysis and Deeper Insights

The thematic analysis of the Focus Group discussions confirmed the interviews findings while adding important interpretative depth. Key themes are summarised below.

5.2.1 Barriers — Systemic and Organisational Dimensions

While the interviews identified technological proficiency, interoperability, resistance to change, and resource constraints as major challenges, the Focus Group revealed that these barriers are often systemic rather than individual.

1. Digital transformation is organisational, not individual

Participants stressed that digital skills cannot be treated solely as personal competencies. Institutional culture, management commitment, and workflow design heavily influence adoption.

Resistance to change was often described as:

- A symptom of poor change management;
- A reaction to increased workload;
- A consequence of insufficient leadership engagement.

2. Overburdened professionals and training overload

A recurring theme was the difficulty of integrating training into already overloaded clinical environments. Even when digital training is perceived as valuable, time constraints significantly reduce engagement.

Mobile learning solutions were seen as a potential mitigation strategy, particularly for frontline professionals.

3. Interoperability and infrastructure fragmentation

Participants emphasised that digital training becomes ineffective if:

- Local systems are not interoperable;
- EHR systems are outdated;
- IT support is insufficient.

In some regional contexts, digital maturity varies significantly between hospitals and primary care settings.

4. Ethical and regulatory complexity

Concerns related to AI, data protection, and cybersecurity were discussed more explicitly than in the interviews results. Participants expressed uncertainty about:

- Ethical boundaries in AI-supported decision-making;
- Responsibilities related to cybersecurity;
- Compliance requirements when adopting new tools.

Interestingly, some participants suggested that not all digital responsibilities should fall exclusively on healthcare professionals, highlighting the need for emerging roles such as cybersecurity specialists.

5.2.2 Enablers — Conditions for Successful Adoption

1. Leadership support and advocacy

Leadership commitment emerged as a decisive enabling factor. Where hospital management actively promotes digital transformation, adoption rates increase significantly.

Participants emphasised the need for:

- Strategic alignment between organisational goals and technological investments;
- Explicit managerial endorsement of training participation.

2. Customised and role-specific training

Focus Group participants reinforced that transversal and digital competencies must be adapted according to professional roles. For example:

- Managers require stronger leadership and strategic skills;
- Nurses may prioritise communication and teamwork;
- Clinicians may require advanced data interpretation and telemedicine skills.

This nuanced view extends beyond the more uniform ranking approach used in the interviews.

3. Integration into clinical workflows

On-the-job learning, integration with EHR, and real-time updates were considered crucial to ensure applicability and sustainability.

Participants agreed that training must not remain abstract or theoretical but embedded within daily clinical practice.

4. Culture of continuous learning

Continuous learning was not perceived merely as an individual responsibility but as an organisational value that requires structural support.

5.2.3 Country and Regional Nuances

Although common themes emerged across Member States, contextual differences were highlighted:

- Variability in digital infrastructure maturity;
- Differences in CPD accreditation systems;
- Diverse levels of centralisation in governance;
- Distinct workforce pressures (urban vs rural settings).

These nuances reinforce the need for adaptable coordination models rather than a one-size-fits-all approach.

5.3 Contrasts vs Interviews

The Focus Group both confirmed and nuanced the interviews findings.

Interview Insight	Focus Group Deepening
Technological proficiency is a key barrier	Skills gaps are embedded in organisational culture and workload issues
Resistance to change is significant	Resistance is linked to poor change management and lack of leadership
Interoperability is important	Interoperability failures directly reduce motivation for training uptake
Continuous learning is expected	Continuous learning requires protected time and institutional recognition

Table 2. Interview and Focus Group Insights

Key differences:

- The interviews treated barriers more as discrete factors; the Focus Group revealed systemic interdependencies.
- Ethical concerns (especially around AI) were discussed more explicitly during live interaction.
- Role differentiation emerged more strongly in the Focus Group than in the interviews rankings.

5.4 Quotes / Illustrative Excerpts

The following excerpts illustrate key themes emerging from the Focus Group discussions:

“All the factors listed are important — their relevance may change depending on the specific application, especially in AI-related contexts.”

“Mobile-friendly training might reduce the complexity of providing education to already overburdened professionals.”

“Not all digital responsibilities should fall on healthcare professionals alone; new emerging professions should support them.”

“Transversal competences vary depending on professional roles and responsibilities.”

These excerpts illustrate:

- The contextual nature of digital challenges;
- The importance of flexibility and adaptability;
- The recognition that digital transformation is multidisciplinary.

5.5 Implications for Coordination and Collaboration

The Focus Group findings have direct implications for WP6 Coordination and Collaboration Guidelines.

1. Coordination must address systemic barriers

Coordination mechanisms should:

- Integrate leadership engagement strategies;
- Align digital training with institutional planning;
- Facilitate interoperability discussions at policy level.

2. Collaboration must be role-sensitive

Stakeholder engagement strategies should:

- Differentiate between professional categories;
- Tailor communication and incentives;
- Avoid uniform skill frameworks that ignore contextual variation.

3. Ecosystem-based models are essential

The discussions demonstrated the value of structured stakeholder ecosystems at national level. These ecosystems:

- Allow continuous feedback;
- Facilitate contextual adaptation;
- Strengthen sustainability beyond project duration.

4. Shared responsibility models

Digital transformation should promote:

- Clear distribution of responsibilities;

- Integration of emerging digital professions;
- Multidisciplinary collaboration rather than individual burden.

5. Embedded implementation over project-based action

The strongest implication from the Focus Group is that digital training must be embedded into:

- CPD systems;
- Institutional strategies;
- Workforce planning strategies and policies.

Without institutional embedding, digital transformation risks remain project-driven and unsustainable.

6. Results — Workshop in Cyprus

6.1 Workshop overview: date, participants (6 MS), objectives

The primary objectives of the workshop were:

1. To engage partners involved in previous tasks in the co-design of initiatives.
2. To verify and validate these initiatives with stakeholders from six member states (MS).
3. To tailor activities based on the characteristics of the six national stakeholders' ecosystems.
4. To identify key areas for implementation according to the emerging priorities of each regional/local ecosystem.
5. To build consensus on the key factors of the development of the H-PASS Coordination and Collaboration Guidelines (D6.1).

The workshop included participants from the following six member states that had already participated in the previous steps:

1. Hungary - Coordinator
2. Italy
3. Cyprus
4. Greece
5. Lithuania
6. Romania

Each member state was representing stakeholders from various sectors, including government agencies, non-governmental organizations, academia, and industry.

6.2 Session outputs — co-designed initiatives by Topic

The stakeholder interviews and focus group explored five thematic areas related to digital transformation, innovation, and skills development in the health workforce. These can be summarized as follows:

1. **TRANSITION:** The transition to digital training is primarily hindered by structural and organisational challenges, particularly the need for comprehensive training

programmes, improved interoperability between digital systems, and better integration with existing clinical workflows.

2. **EXPECTATIONS:** Stakeholders expect digital training to enhance accessibility, support continuous learning, and improve efficiency in skills acquisition and updating.
3. **INTEGRATION:** Successful integration into daily clinical practice requires on-the-job learning opportunities, interactive platforms (e.g. simulations and case-based modules), customised training tailored to professional roles, and regularly updated content, aligned with evolving standards.
4. **INNOVATION:** Organisational innovation depends on strong digital competencies, especially proficiency in health information technologies, solid digital literacy, and a sustained commitment to continuous learning.
5. **SKILLS:** Transversal skills are essential for system improvement, with collaboration and teamwork ranked highest, followed by adaptability to change and effective decision-making in complex environments.

The workshop established a robust foundation for the development of the H-PASS Coordination and Collaboration Guidelines. The active participation and collaboration of partners from the six member states were crucial in co-designing initiatives that are practical, feasible, and tailored to the specific needs of each region.

6.3 Cross-country comparisons and common proposals

The analysis of the interviews responses and focus group discussions across participating countries revealed a high degree of convergence in priorities, despite differences in health system organisation, digital maturity, and workforce structures.

Common challenges across countries included a paucity of structured digital training programmes, limited interoperability between systems, and difficulties integrating new technologies into established clinical workflows. While some countries reported more advanced digital infrastructures, similar concerns emerged regarding fragmentation of systems and uneven levels of digital competences among professionals.

Shared expectations focused on accessibility, flexibility, and sustainability of digital training. Across contexts, stakeholders emphasised the need for modular, scalable training solutions that can accommodate varying levels of digital readiness and professional roles. Continuous professional development embedded within routine practice was consistently identified as a priority.

6.4 Workshop feasibility feedback and next steps

The workshop served to validate the interviews and focus group findings and refine priorities. Participants provided feedback and suggestions for improvement, ensuring that the initiatives were feasible and aligned with the needs of all member states. The discussion highlighted

several practical recommendations to strengthen coordination, communication, and digital training implementation within the HWF. Specifically:

- A differentiated and inclusive approach to digital training is essential. Training should be adapted to varying levels of digital literacy, with layered learning pathways that provide additional guidance for less digitally experienced professionals (e.g. step-by-step guides, short explanatory texts, and animated videos for tools such as VR), while offering more advanced digital ecosystems or app-based solutions for younger generation or more digitally mature professionals.
- Stakeholder engagement should be structured and continuous. This includes conducting interviews, surveys, and focus groups to assess baseline digital competencies, as well as organising workshops and seminars to foster dialogue and co-creation. Case-based discussions within professional groups (e.g. pharmacists, physicians) and multidisciplinary working groups can further enhance peer learning and collaboration.
- Training materials should be tailored to different target groups and supported during the adoption phase. The involvement of IT developers and SMEs is crucial to ensure feasibility, market alignment, and technical robustness. Clear and participatory communication strategies are also necessary, with guidelines co-created alongside the relevant stakeholder ecosystem.
- Participants also proposed a two-step strategic approach:
 - Establishing a common EU-level foundation focused on basic digital skills (e.g. computer use, software operation, cybersecurity awareness).
 - Building on this foundation through nationally or regionally adapted training pathways, including integration of H-PASS topics into curricula and continuing professional development systems.
- Finally, mechanisms for self-assessment and impact evaluation should be integrated to monitor how digital training translates into daily clinical practice.

The above steps and applied methodologies constitute a robust foundation for the development of the H-PASS Coordination and Collaboration Guidelines.

7. Synthesis — What the evidence suggests

This chapter consolidates the findings emerging from the interviews (n=36), the focus group discussions, and the co-creation workshop held with representatives of six Member States (Cyprus, Greece, Hungary, Italy, Lithuania and Romania). It integrates these results with the strategic framework defined in the Grant Agreement and the broader objectives of the EU4Health Programme.

The synthesis aims to:

- Identify cross-cutting barriers and enabling factors affecting digital transformation in the HWF;
- Define priority areas for structured coordination and collaboration under WP6;

- Clarify target audiences and stakeholder roles to ensure long-term sustainability and scalability of H-PASS outputs.

The findings confirm that sustainable digital transformation in healthcare is not primarily a technological issue, but a systemic, organisational and cultural one — requiring coordinated action across governance, education, practice and innovation ecosystems.

7.1 Common Barriers & Enablers Across Datasets

7.1.1 Common Barriers

Across the interviews results, focus group discussions and workshop outputs, several recurring structural barriers were identified.

1. Fragmented governance and limited coordination

Stakeholders consistently reported fragmentation between national, regional and organisational levels. Responsibilities for digital training, CPD accreditation, IT procurement, and workforce development are often distributed across different bodies without clear coordination mechanisms.

This fragmentation:

- Slows down implementation of digital training programmes;
- Creates duplication of efforts;
- Limits interoperability of digital solutions;
- Reduces policy alignment with workforce needs.

The Grant Agreement highlights the importance of stakeholder engagement and synergies at national, regional and EU levels. However, the evidence suggests that structured coordination mechanisms are often missing or underdeveloped.

2. Limited integration of training into clinical workflows

The interviews and the workshop participants emphasised that digital training is frequently perceived as an “additional burden” rather than an embedded component of professional practice.

Barriers include:

- Lack of protected training time;
- Insufficient alignment with daily clinical realities;
- Limited recognition within CPD systems;
- Overloaded healthcare staff.

This confirms that training sustainability depends not only on content quality but on organisational integration models.

3. Interoperability and infrastructure challenges

Participants reported difficulties related to:

- Non-integrated digital systems;
- Poor interoperability between platforms;

- Insufficient IT support;
- Variable digital maturity across institutions and Member States.

These technical barriers limit the effective application of newly acquired digital skills and reduce motivation for engagement.

4. Resistance to change and cultural barriers

Focus group discussions revealed that resistance is often linked to:

- Fear of increased workload;
- Perceived threat to professional autonomy;
- Generational digital divides;
- Lack of leadership support.

Change management was repeatedly identified as a critical missing element.

5. Resource constraints

Financial and human resource limitations affect:

- Continuous training provision;
- Technical upgrades;
- Long-term maintenance of digital learning environments.

Given that H-PASS is funded under an 80% co-financing rate, sustainability beyond project funding requires strategic embedding into national systems.

7.1.2 Common Enablers

Despite barriers, strong enabling factors were also identified.

1. High stakeholder motivation

Across datasets, stakeholders demonstrated strong willingness to improve digital and transversal skills. There is broad recognition that digital transformation is both inevitable and necessary.

2. Interprofessional collaboration potential

H-PASS targeted medical doctors, nurses, pharmacists, trainers and digital change agents. Participants highlighted the added value of:

- Team-based learning;
- Cross-professional exchange;
- Shared problem-solving.

This aligns with the project's focus on team resilience and digital team skills.

3. Demand for flexible, modular and blended learning

The interviews responses confirmed expectations for:

- Asynchronous learning;
- Role-specific content;

- Interactive modules (simulations, case-based learning);
- Regular updates aligned with evolving standards.

Modularity and adaptability were repeatedly identified as key sustainability enablers.

4. Ecosystem-based approaches

The workshop demonstrated that national stakeholder ecosystems can effectively co-design solutions when provided with structured facilitation.

This ecosystem approach represents a strong foundation for WP6 sustainability mechanisms.

7.2 Priority Areas for Coordination & Collaboration

Based on triangulated evidence and aligned with the objectives of the H-PASS project, the following priority areas are identified:

Priority 1 — Establish Multi-Level Governance Structures

Coordination should occur at:

- EU level (strategic alignment and knowledge exchange);
- National level (policy integration and CPD alignment);
- Organisational level (implementation and workflow embedding).

Clear roles should be defined for:

- National coordinators;
- Ministries of Health;
- Professional bodies;
- Academic institutions;
- Clinical managers.

Priority 2 — Embed Digital Training into CPD and Accreditation Systems

To ensure sustainability:

- H-PASS training should align with national CPD frameworks;
- Recognition mechanisms should be formalised;
- Training completion should be linked to career progression where possible.

Priority 3 — Strengthen Change Management Capacity

Digital transformation requires:

- Leadership engagement;
- Identification and training of “digital change agents”;
- Peer-to-peer mentoring models.

This directly reflects the project’s objective to educate digital change agents.

Priority 4 — Promote Interoperability and Shared Standards

Coordination mechanisms should facilitate:

- Exchange of good practices between Member States;

- Sharing of technical standards;
- Alignment with EU digital health initiatives.

Priority 5 — Foster Ecosystem-Based Collaboration

Each Member State should maintain or strengthen its H-PASS stakeholder ecosystem to:

- Monitor local needs;
- Adapt training modules;
- Identify implementation barriers early;
- Sustain engagement beyond the project duration.

Priority 6 — Ensure Financial and Operational Sustainability

Sustainability requires:

- Integration into institutional budgets;
- Blended funding models;
- Partnerships with academic institutions and professional associations.

7.3 Target Audiences and Stakeholder Map

The evidence confirms that successful implementation depends on differentiated engagement strategies tailored to stakeholder roles.

7.3.1 Primary Target Groups (Direct Beneficiaries)

- Medical doctors
- Nurses
- Pharmacists
- Trainers and educators
- Digital change agents

These groups are the direct recipients of the H-PASS training programme.

7.3.2 Strategic Governance Actors

- Ministries of Health and Education
- National digital health authorities
- Workforce planning and regulatory bodies
- Accreditation and CPD authorities

Their role is to:

- Integrate H-PASS outputs into national frameworks;
- Ensure policy alignment;
- Facilitate scalability.

7.3.3 Implementation-Level Stakeholders

- Hospital and healthcare organisation managers;
- IT departments;

- HR departments;
- Emerging professions/roles
- Clinical directors.

They are responsible for:

- Allocating training time;
- Supporting workflow integration;
- Providing infrastructure support.

7.3.4 Academic and Training Institutions

- Universities
- Continuous professional development providers
- Vocational education institutions

These actors ensure long-term curriculum integration.

7.3.5 Technology and Innovation Stakeholders

- SMEs;
- Digital health solution providers;
- Simulation and VR developers.

They contribute to:

- Technological alignment with workforce needs;
- Continuous updating of digital content.

7.3.6 EU-Level and Cross-National Actors

- EU agencies and networks;
- Professional European associations;
- Other EU-funded projects.

Their role is to:

- Facilitate knowledge exchange;
- Avoid duplication;
- Strengthen synergies as foreseen in the Grant Agreement.

8. Guidelines — Coordination mechanisms

This chapter operationalises the evidence collected through interviews, focus group and workshop activities into structured, practical coordination mechanisms. The aim is to support national coordinators, ministries, training providers, SMEs, and clinical managers in embedding H-PASS outputs sustainably within their respective ecosystems.

The guidelines are structured across five pillars:

1. Principles for coordination
2. Governance models and defined roles
3. Communication and information flow mechanisms

4. Data sharing and interoperability considerations
5. Capacity building and training responsibilities

8.1 Principles for coordination

Based on the evidence collected, the following principles should guide coordination and collaboration mechanisms.

1. Stakeholder Engagement as a Continuous Process

Coordination must move beyond one-off consultation. Mechanisms should ensure:

- Regular feedback loops
- Inclusion of professional associations and frontline staff
- Structured involvement of policy and IT stakeholders

Stakeholder engagement should occur at EU, national and organisational levels.

2. Inclusiveness and Role Sensitivity

Training and coordination should recognise:

- Different digital maturity levels
- Professional role differentiation (managers vs. clinicians vs. trainers)
- Varied national governance structures

Layered learning pathways and differentiated communication strategies are recommended.

3. Modularity and Flexibility

Given national and regional differences:

- Coordination frameworks should allow adaptation
- Training modules should be modular
- Governance arrangements should accommodate centralised and decentralised systems

The EU-level framework should provide common pillars, while Member States retain contextual adaptation capacity.

4. Co-Creation and Shared Ownership

Sustainability requires stakeholder ownership. Therefore:

- Guidelines should be co-designed with ecosystem representatives
- National focal points should facilitate participatory planning
- Evaluation results should inform iterative improvement.

5. Institutional Embedding

Digital transformation should be embedded within:

- CPD systems
- Organisational strategies
- Workforce planning and policy mechanisms

Project-based implementation alone is insufficient.

8.2 Suggested governance models and data sharing roles

Evidence identified interoperability as a major barrier. Coordination should therefore address high-level data governance issues.

1. Compliance with Data Protection

All data sharing must comply with:

- General Data Protection Regulation (GDPR)
- National data protection laws

Personal data collected through training platforms should be:

- Minimised
- Securely stored
- Used only for defined purposes

2. Interoperability Alignment

Where relevant, alignment should consider:

- HL7 International standards
- FHIR frameworks
- National EHR interoperability requirements

Training platforms should:

- Avoid creating data silos
- Enable export of aggregated learning analytics
- Facilitate integration with institutional LMS systems

3. Data Governance Framework

Each Member State should define:

- Data controller responsibilities
- Access rights management
- Retention policies
- Security protocols

Monitoring indicators may include:

- Training completion rates
- User engagement metrics
- Integration into CPD systems

8.3 Capacity building & training responsibilities

Sustainable coordination requires clarity in responsibility allocation.

A. EU-Level Responsibilities

- Maintain core training content

- Update foundational modules
- Provide coordination guidance
- Monitor impact indicators

B. National-Level Responsibilities

- Integrate modules into CPD frameworks
- Adapt content to national context
- Ensure accreditation alignment
- Promote uptake among professional associations

C. Organisational-Level Responsibilities

- Allocate protected learning time
- Ensure technical infrastructure
- Encourage participation
- Monitor local impact (e.g. skill advancement, performance assessment etc.)

D. Shared Responsibility Model

Digital transformation should not overburden healthcare professionals.

Responsibilities should be distributed among:

- Healthcare professionals
- IT departments
- Digital innovation officers
- Cybersecurity specialists
- Training providers

9. Conclusions

The evidence collected through the interviews, focus group, and co-creation workshop confirms that digital transformation in healthcare requires systemic coordination rather than isolated training interventions. Digital skills gaps are embedded within broader governance, organisational, labour market and cultural dynamics that demand structured, multi-level responses.

This evidence highlights that addressing digital skills gaps in isolation is insufficient. To achieve sustainable digital transformation, it is necessary to understand the interdependencies between governance structures, organisational practices, labour market and cultural factors. Building on these insights, the following strategic priorities and enabling conditions provide a structured pathway for Member States to embed digital competencies within resilient healthcare systems.

- **Systemic Coordination Required:** Digital transformation cannot rely on isolated training; gaps in digital skills are embedded in governance, organisational, labour market and cultural dynamics.

- **Barriers Identified:** Fragmented responsibilities, limited interoperability, poor workflow integration, and lack of protected learning time hinder sustainable digital maturity.
- **Enabling Conditions:** Strong motivation to collaborate exists; modular, flexible, and role-sensitive training approaches are widely supported. Transversal skills (e.g. collaboration, adaptability, leadership, change management) are as critical as technical skills.
- **Strategic Imperative:** Sustainability demands institutional embedding. Digital training should be integrated into CPD systems, organisational strategies, accreditation frameworks, and workforce planning. Project-based initiatives alone are insufficient.
- **Operationalising Governance:** The H-PASS framework offers a scalable model grounded in five principles: continuous stakeholder engagement, inclusiveness and role sensitivity, modularity and flexibility, co-creation and shared ownership, and institutional embedding.
- **Policy Impact:** Structured coordination, ecosystem-based collaboration, and formal institutional integration are essential for digitally mature, resilient healthcare systems across Member States.

The Guidelines provide a practical policy-oriented pathway to support Member States in embedding H-PASS outcomes within a resilient and digitally mature health system.

The flowchart below visualises the sequential and interrelated steps of the H-PASS framework, guiding Member States from initial assessment through coordinated implementation to sustainable digital maturity. It offers a practical, policy-oriented framework to embed digital competencies within institutional structures and governance systems across European healthcare.

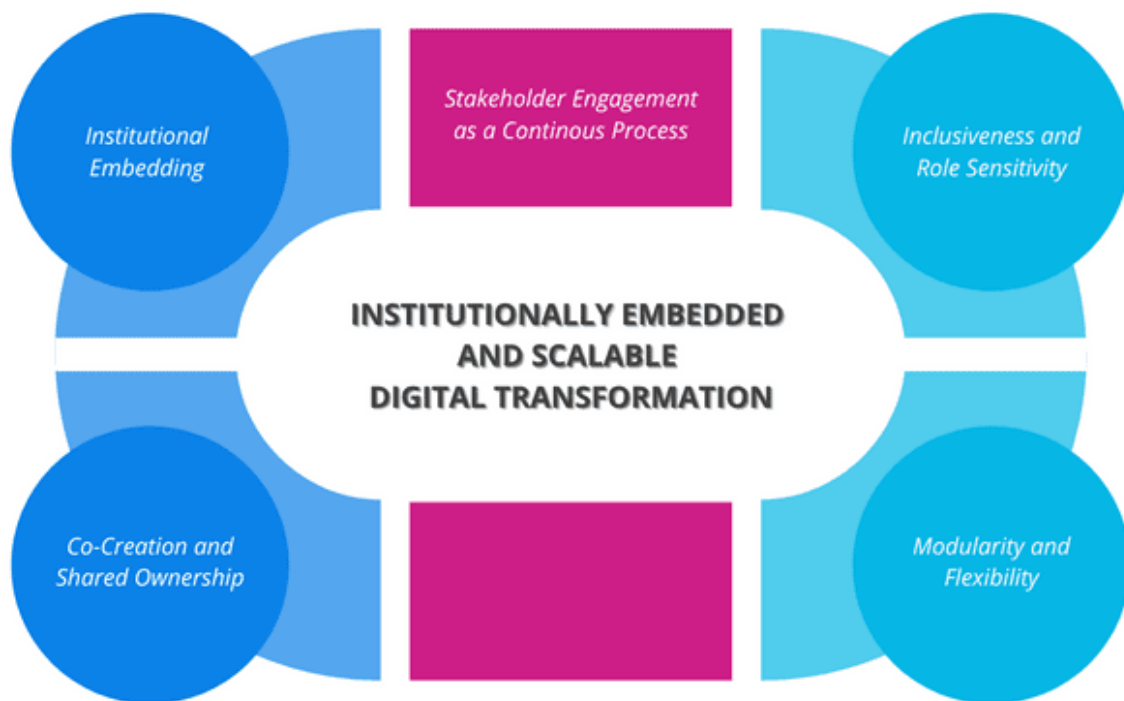


Figure 2. Institutionally embedded and scalable digital transformation flow chart

10. Annexes

- A. Full Interview and results (Interview and raw tables / anonymised responses)
- B. Focus group report / minutes (full)
- C. Workshop report — full (Cyprus)
- D. Interview / focus group guide (methodology)
- E. E. Templates: stakeholder map, communication plan, M&E forms, workshop agenda, sample MOUs

Annex A – H-PASS full interview

1. What are in your experience (and within your organization, if relevant) the main challenges that healthcare professionals face in transitioning to digital training and adopting new technologies?

“Healthcare professionals encounter several challenges when transitioning to digital training and adopting new technologies”.

Navigating these challenges requires a strategic and collaborative approach, involving healthcare professionals, administrators, technology developers, and policymakers to ensure a successful transition to digital training and technology adoption in healthcare.

Technological Proficiency: Healthcare professionals may lack the necessary skills and familiarity with new technologies, requiring training and support to effectively utilize digital tools

Most important 1 2 3 4 5 Least important

Data Security and Privacy: The integration of digital technologies raises concerns about the security and privacy of patient data. Ensuring compliance with data protection regulations is crucial to maintaining patient confidentiality.

Most important 1 2 3 4 5 Least important

Cost and Resource Constraints: Implementing new technologies often involves significant financial investments. Healthcare institutions may face budgetary constraints and resource limitations, hindering the adoption of advanced digital solutions.

Most important 1 2 3 4 5 Least important

Resistance to Change: Professionals may resist changes in their established workflows and practices. Overcoming resistance and fostering a positive attitude toward technology is essential for successful implementation.

Most important 1 2 3 4 5 Least important

Interoperability: Ensuring seamless communication and data exchange between different digital systems and devices is a common challenge. Interoperability issues can impede the effectiveness of digital solutions in healthcare settings.

Most important 1 2 3 4 5 Least important

Training and Education Programs: Designing and implementing comprehensive training programs for healthcare professionals is crucial. Adequate education ensures that individuals can effectively use new technologies and integrate them into their daily routines.

Most important 1 2 3 4 5 Least important

Regulatory Compliance: Healthcare is subject to strict regulations, and compliance with these regulations is essential when adopting new technologies. Adhering to standards and guidelines helps ensure the quality and safety of patient care.

Most important 1 2 3 4 5 Least important

Integration with Existing Systems: Integrating digital technologies with existing healthcare systems and processes can be complex. Compatibility issues may arise, and seamless integration is necessary to avoid disruptions in patient care.

Most important 1 2 3 4 5 Least important

Patient Engagement: Encouraging patients to actively participate in digital health initiatives can be challenging. Healthcare professionals need to educate and motivate patients to use digital tools for monitoring and managing their health.

Most important 1 2 3 4 5 Least important

Ethical Considerations: The use of new technologies in healthcare raises ethical concerns, such as the responsible and equitable use of artificial intelligence, telemedicine, and other digital tools. Addressing these ethical considerations is vital for maintaining trust in healthcare practices.

Most important 1 2 3 4 5 Least important

Other: Please write your answer

2. What expectations do you have regarding the digital training of healthcare professionals?

“Expectations regarding the digital training of healthcare professionals”

These expectations highlight the potential benefits and goals associated with the integration of digital training into the education of healthcare professionals.

Improved Efficiency: Digital training methods are expected to enhance the efficiency of learning processes, enabling healthcare professionals to acquire and update their skills more rapidly.

Most important 1 2 3 4 5 Least important

Enhanced Accessibility: Digital training can provide flexible learning opportunities, making education more accessible to healthcare professionals regardless of their geographical location or work schedule

Most important 1 2 3 4 5 Least important

Effective Skill Transfer: Expectations may include the successful transfer of theoretical knowledge and practical skills through digital platforms, ensuring that healthcare professionals can apply what they've learned in real-world scenarios.

Most important 1 2 3 4 5 Least important

Adaptation to Technological Advances: Healthcare professionals should be able to adapt to new technologies more readily through digital training, ensuring that they remain up-to-date with the latest advancements in their field.

Most important 1 2 3 4 5 Least important

Continuous Learning: Digital training can foster a culture of continuous learning, encouraging healthcare professionals to engage in ongoing education to stay abreast of evolving medical practices and technologies.

Most important 1 2 3 4 5 Least important

Cost-Effectiveness: There may be an expectation that digital training will provide a cost-effective solution compared to traditional training methods, considering factors such as travel expenses and the need for physical resources.

Most important 1 2 3 4 5 Least important

Improved Patient Care: Ultimately, expectations may revolve around the belief that well-trained healthcare professionals, through digital means, will contribute to improved patient care and outcomes.

Most important 1 2 3 4 5 Least importantt

Data-Driven Insights: Digital training platforms can generate data on learning patterns and performance, offering insights that can be used to tailor training programs and identify areas for improvement.

Most important 1 2 3 4 5 Least important

Increased Collaboration: Expectations may include the facilitation of collaboration and knowledge-sharing among healthcare professionals, fostering a community of practice through digital platforms.

Most important 1 2 3 4 5 Least importantant

Compliance with Regulatory Standards: Digital training programs should be expected to align with regulatory standards and accreditation requirements in the healthcare industry.

Most important 1 2 3 4 5 Least important

Other: Please write your answer

3. How can digital training content and methodologies be effectively integrated into daily clinical practice?

“Integrating digital training content and methodologies into daily clinical practice”

By implementing these strategies, healthcare organizations can effectively integrate digital training content and methodologies into daily clinical practice, fostering a culture of continuous learning and improving overall patient care.

Customized Training Programs: Develop digital training content that is tailored to the specific needs and roles of healthcare professionals. Customization ensures that the content is relevant and directly applicable to their daily clinical tasks.

Most important 1 2 3 4 5 Least important

Interactive Learning Platforms: Utilize interactive and engaging learning platforms that allow healthcare professionals to actively participate in the learning process. This could include simulations, case studies, and interactive modules that mimic real-world clinical scenarios.

Most important 1 2 3 4 5 Least important

On-the-Job Learning Opportunities: Integrate digital training into the workflow by providing opportunities for on-the-job learning. This allows healthcare professionals to apply newly acquired knowledge and skills directly to their daily clinical responsibilities.

Most important 1 2 3 4 5 Least important

Leadership Support and Advocacy: Gain support from leadership to emphasize the importance of digital training. Leaders can advocate for the integration of digital methodologies into daily practice and allocate resources for training initiatives.

Most important 1 2 3 4 5 Least important

Incorporate Virtual Reality (VR) and Augmented Reality (AR): Explore the use of VR and AR technologies to create immersive training experiences. Simulations using these technologies can provide realistic scenarios for healthcare professionals to practice and enhance their skills.

Most important 1 2 3 4 5 Least important

Real-Time Updates: Keep digital training content up-to-date with the latest medical guidelines, technological advancements, and best practices. Regularly update the content to ensure its relevance and alignment with current clinical standards.

Most important 1 2 3 4 5 Least important

Integration with Electronic Health Records (EHR): Explore ways to integrate digital training content with EHR systems. This alignment allows healthcare professionals to seamlessly apply digital training knowledge within the context of patient care.

Most important 1 2 3 4 5 Least important

Collaborative Learning Communities: Foster a sense of community among healthcare professionals by incorporating collaborative features into digital training platforms. Discussion forums, online communities, and peer-to-peer interactions can facilitate knowledge sharing and collaborative problem-solving.

Most important 1 2 3 4 5 Least important

Continuous Assessment and Feedback: Incorporate regular assessments and feedback mechanisms within digital training programs. This ensures that healthcare professionals receive ongoing feedback on their performance and can track their progress over time.

Most important 1 2 3 4 5 Least important

Mobile Learning Solutions: Implement mobile-friendly training solutions that enable healthcare professionals to access educational content on their smartphones or tablets. This flexibility promotes learning at the point of care and during downtime.

Most important 1 2 3 4 5 Least important

Other: Please write your answer

4. What are the digital skills required for healthcare professionals to address organizational innovation in healthcare systems?

“Organizational innovation in healthcare systems”

Addressing organizational innovation in healthcare systems requires healthcare professionals to possess a range of digital skills. By developing and enhancing these digital skills, healthcare professionals can contribute to and thrive in healthcare systems that embrace organizational innovation and leverage technology to improve patient outcomes and overall healthcare delivery.

Health Information Technology (HIT): Proficiency in using electronic health records (EHRs) and other health information technologies is crucial for managing patient data and facilitating communication within the healthcare system.

Most important 1 2 3 4 5 Least important

Data Analytics: The ability to analyze and interpret healthcare data is essential for making informed decisions. Healthcare professionals should be skilled in using data analytics tools to derive meaningful insights from large datasets.

Most important 1 2 3 4 5 Least important

Telemedicine and Virtual Care: As healthcare delivery evolves, proficiency in telemedicine platforms and virtual care technologies is necessary. Healthcare professionals should be able to conduct remote consultations and leverage virtual tools for patient care.

Most important 1 2 3 4 5 Least important

Cybersecurity Awareness: With the increasing digitization of healthcare, understanding cybersecurity principles is vital. Healthcare professionals should be aware of best practices to protect patient data and ensure the security of digital systems.

Most important 1 2 3 4 5 Least important

Digital Communication: Effective communication through digital channels is crucial for collaboration among healthcare professionals and with patients. This includes using secure messaging systems, video conferencing, and other digital communication tools.

Most important 1 2 3 4 5 Least important

Mobile Health (mHealth): Familiarity with mobile health technologies, such as health apps and wearable devices, is important. These technologies can be used for remote monitoring, patient engagement, and promoting healthy behaviours.

Most important 1 2 3 4 5 Least important

Artificial Intelligence (AI) and Machine Learning (ML): Awareness and basic understanding of AI and ML applications in healthcare can enhance decision-making processes and support diagnostic and treatment innovations.

Most important 1 2 3 4 5 Least important

Digital Literacy: Healthcare professionals should have a general understanding of digital tools and technologies. This includes being comfortable using computers, tablets, and other devices to access and interact with digital information.

Most important 1 2 3 4 5 Least important

Collaboration Tools: Proficiency in using digital collaboration tools, such as project management platforms and shared document systems, supports teamwork and efficient communication within healthcare organizations.

Most important 1 2 3 4 5 Least important

Adaptability to Emerging Technologies: Healthcare professionals should be adaptable to new and emerging technologies. Staying informed about advancements in healthcare technology ensures a proactive approach to innovation.

Most important 1 2 3 4 5 Least important

Ethical Use of Technology: Understanding the ethical implications of using digital technologies in healthcare is crucial. Healthcare professionals should be aware of privacy issues, consent considerations, and ethical guidelines related to digital innovation.

Most important 1 2 3 4 5 Least important

Continuous Learning: Given the rapid pace of technological change, a commitment to continuous learning is essential. Healthcare professionals should actively seek opportunities to update their digital skills and stay current with industry trends.

Most important 1 2 3 4 5 Least important

Other: Please write your answer

5. What are the transversal skills required for healthcare professionals to improve quality and effectiveness of healthcare systems and services?

“Transversal skills for improving quality healthcare systems and processes”

Organizational innovation in healthcare systems demands healthcare professionals to possess a range of transversal skills. Your insights on the importance of these skills will contribute to understanding how healthcare professionals can thrive in innovative healthcare environments.

Adaptability to Change: The ability to adapt to new and evolving technologies and changes in healthcare systems, and to embrace and navigate change in healthcare environments.

Most important 1 2 3 4 5 Least important

Leadership: Skills to provide effective leadership and guidance within healthcare teams.

Most important 1 2 3 4 5 Least important

Collaboration and Teamwork: The ability to collaborate effectively within interdisciplinary healthcare teams, fostering open communication, mutual respect, and shared goals to enhance patient care and organizational outcomes.

Most important 1 2 3 4 5 Least important

Communication: Effective communication through digital channels for collaboration among healthcare professionals and with patients.

Most important 1 2 3 4 5 Least important

Conflict Resolution: Skills to address and resolve conflicts within healthcare teams.

Most important 1 2 3 4 5 Least important

Cultural Competence: Awareness and respect for diverse cultural backgrounds in healthcare interactions.

Most important 1 2 3 4 5 Least important

Emotional Intelligence: The ability to recognize, understand, and manage one's own emotions and those of others in healthcare settings.

Most important 1 2 3 4 5 Least important

Analytic Thinking: The skill of systematically analyzing information and situations in healthcare, enabling logical problem-solving and evidence-based decision-making.

Most important 1 2 3 4 5 Least important

Critical Thinking: The capacity for critical thinking and problem-solving within the digital healthcare landscape.

Most important 1 2 3 4 5 Least important

Decision-Making: The ability to make sound decisions under complex and dynamic circumstances.

Most important 1 2 3 4 5 Least important

Management and Organisation: The ability to effectively manage resources, coordinate tasks, and organize workflows within healthcare settings. This skill involves strategic planning, time management, and the capacity to streamline processes for optimal efficiency.

Most important 1 2 3 4 5 Least important

Continuous Learning: Commitment to continuous learning in the rapidly changing healthcare landscape.

Most important 1 2 3 4 5 Least important

Change management: “Implementing effective change management in healthcare requires a strategic alignment of organizational goals and technological advancements.

Most important 1 2 3 4 5 Least important

Other: Please write your answer

Thank you for your cooperation!

Would you be willing to participate in a focus group to discuss and further analyse the results of this survey?

Yes

No

Contact Person: _____

Organization and role of the contact person: _____

E-mail of the contact person: _____

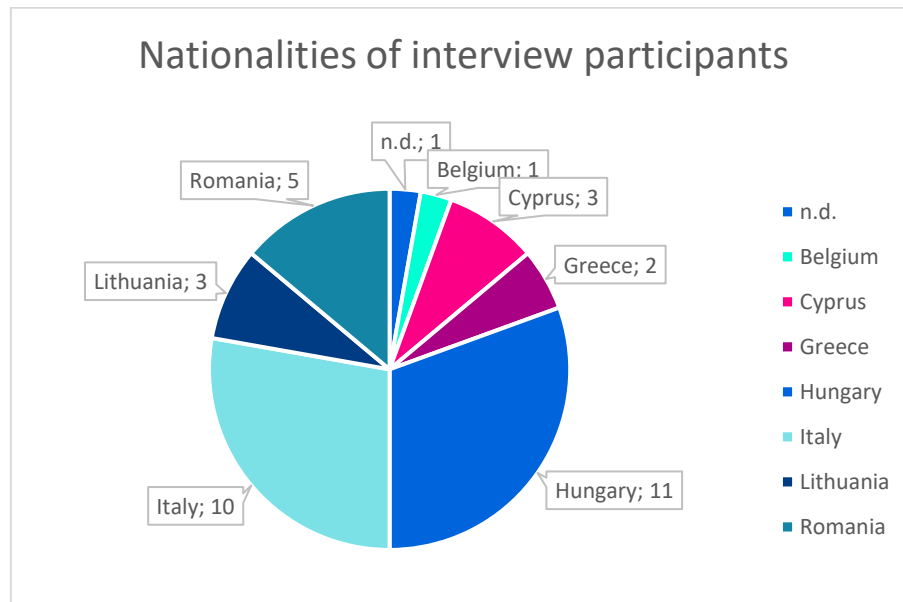
Country: _____

H-PASS Interview results

H-PASS Survey-RESULTS S This was the original link to the survey

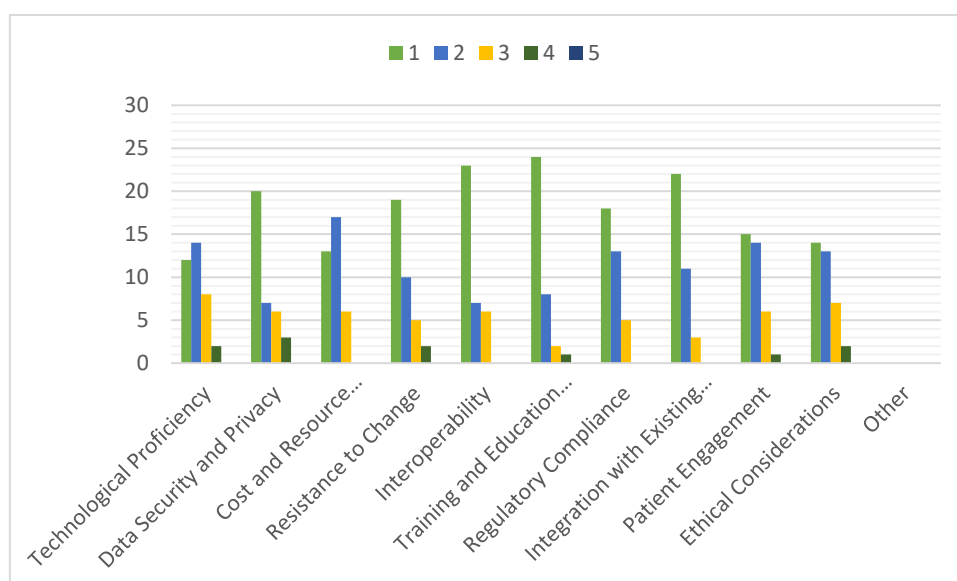
<https://docs.google.com/forms/d/1qBsQCalv-smNyirpyy2X-aZWBKNKcivtVywjtZioQ/edit>

Participation on the Survey (tot. 36)



Question 1

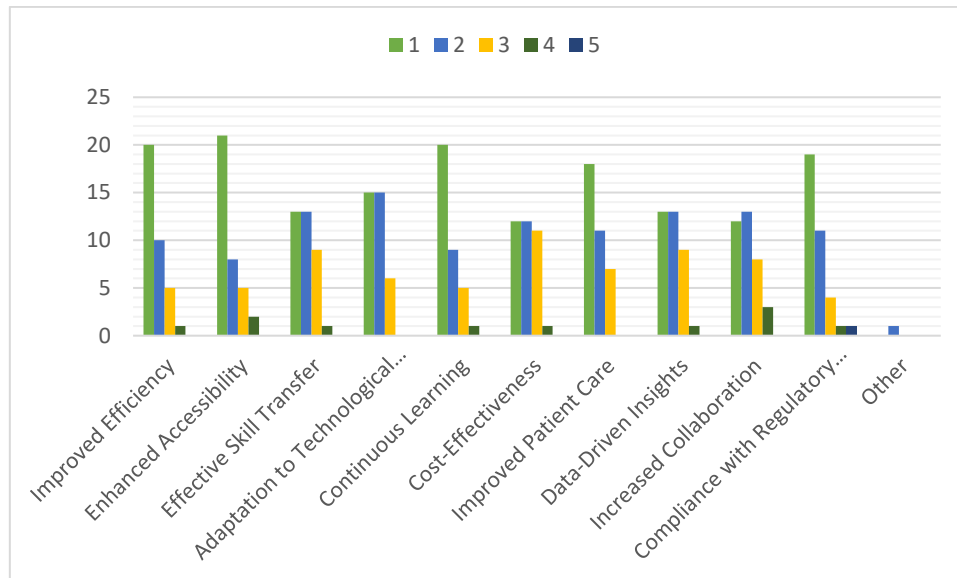
What are in your experience (and within your organization, if relevant) the main challenges that healthcare professionals face in transitioning to digital training and adopting new technologies?



Other: As the questions are more than 5, I gave independent rankings to each question. They are however all very important factors, which might even become more important depending on the specific application (eg. Ethics considerations in AI)

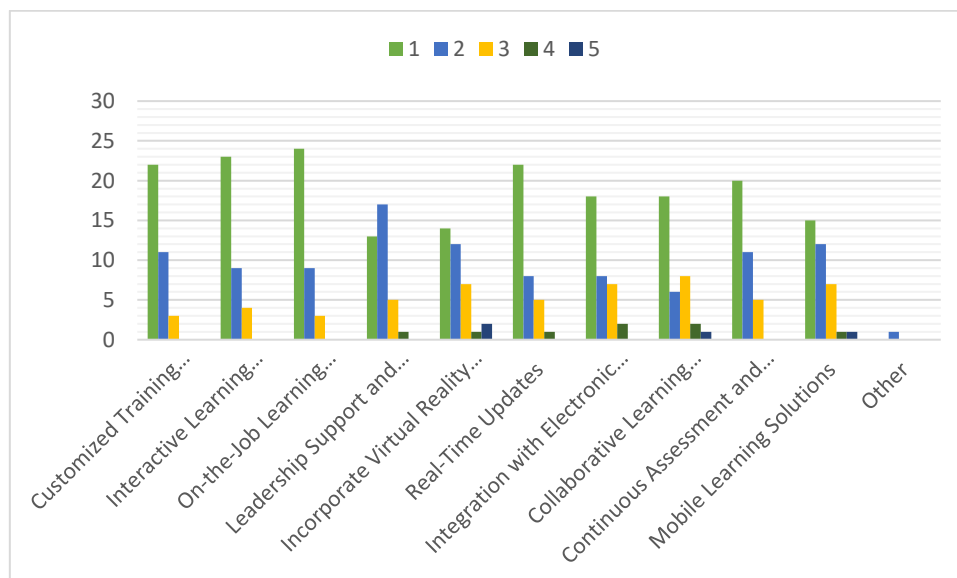
Question 2

What expectations do you have regarding the digital training of healthcare professionals?



Question 3

How can digital training content and methodologies be effectively integrated into daily clinical practice?

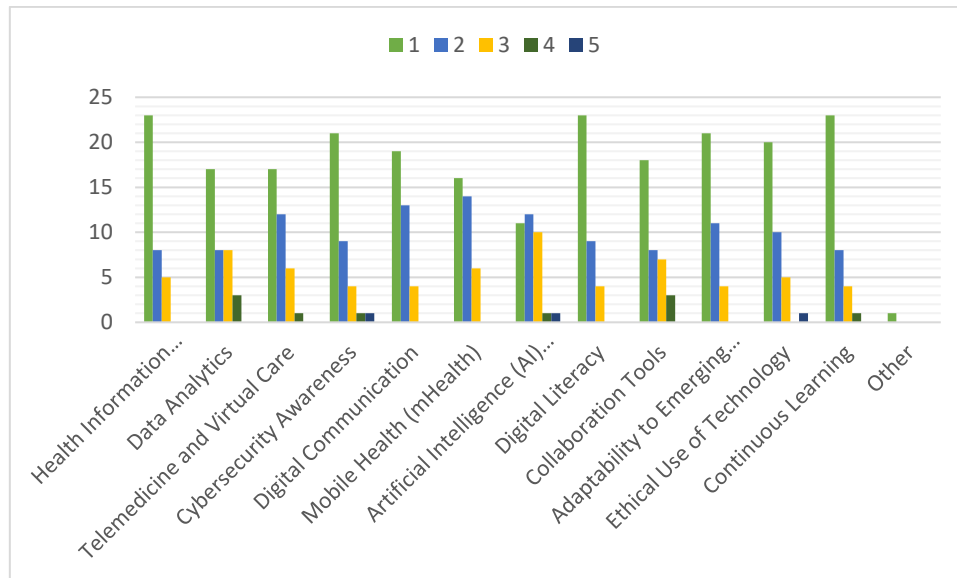


Other: Again, all of the questions above focus on important elements. Mobile friendly might actually be a newer and interesting angle as it could limit the known complexity of providing

training to already overburdened professionals through mobile device rather than a computer

Question 4

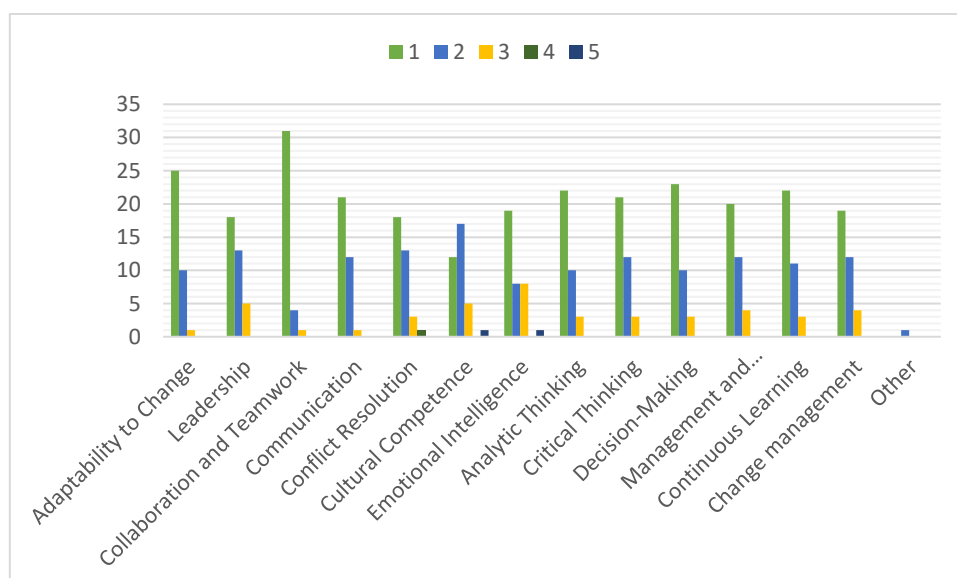
What are the digital skills required for healthcare professionals to address organizational innovation in healthcare systems?



Other: Also in this case, very hard to exclude something from being not crucial or less important. What could be taken into consideration, however, is how not all these important activities should fall on HCPs alone, but could be rather becoming main responsibility of accompanying new emerging professions that will support GPs, nurses, etc (eg. Cybersecurity experts).

Question 5

What are the transversal skills required for healthcare professionals to improve quality and effectiveness of healthcare systems and services?



Other: The transversal competences needed might vary depending on the type of professionals and their role and responsibilities. Hospital managers **MUST** have for instance, leadership skills, while for a general nurse it would still remain important, but at a lower level compared to, for instance, communication and collaboration skills

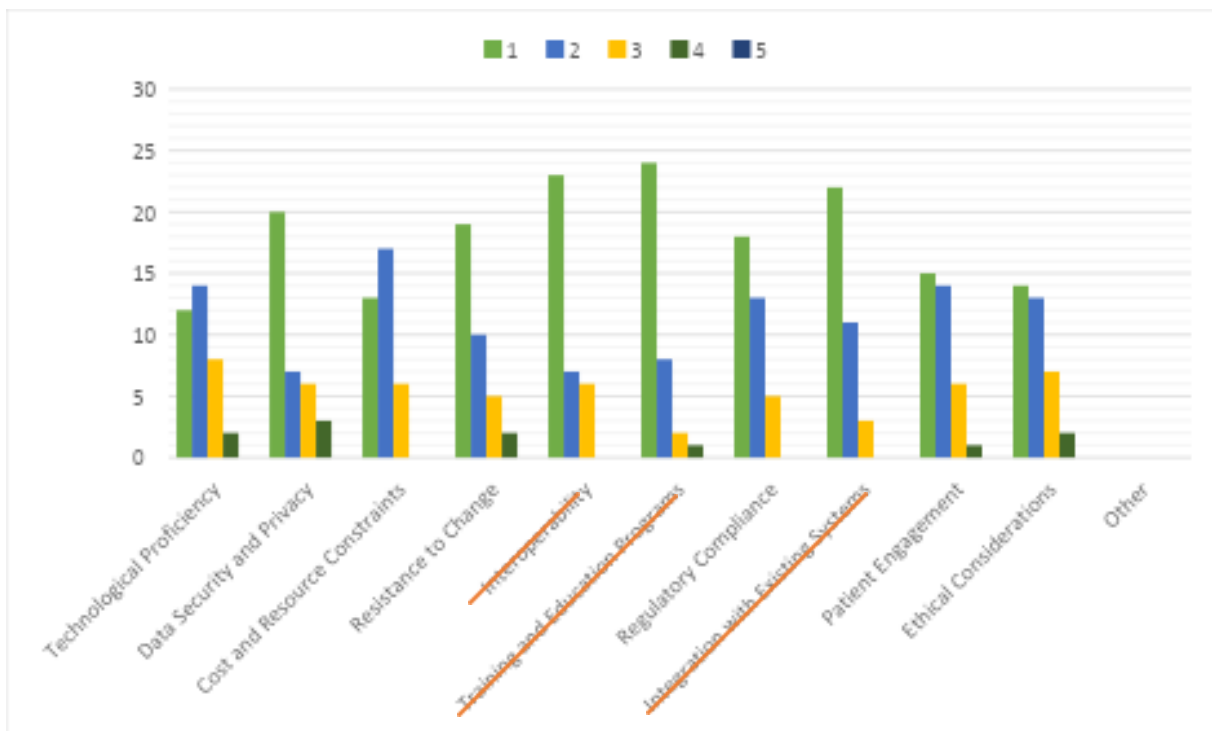
ANNEX B - Focus group report / minutes (full)

Question 1

What are in your experience (and within your organization, if relevant) the main challenges that healthcare professionals face in transitioning to digital training and adopting new technologies?

Level of importance	Description
	Technological Proficiency: Healthcare professionals may lack the necessary skills and familiarity with new technologies, requiring training and support to effectively utilize digital tools
	Data Security and Privacy: The integration of digital technologies raises concerns about the security and privacy of patient data. Ensuring compliance with data protection regulations is crucial to maintaining patient confidentiality.
	Cost and Resource Constraints: Implementing new technologies often involves significant financial investments. Healthcare institutions may face budgetary constraints and resource limitations, hindering the adoption of advanced digital solutions.
	Resistance to Change: Professionals may resist changes in their established workflows and practices. Overcoming resistance and fostering a positive attitude toward technology is essential for successful implementation.
	Interoperability: Ensuring seamless communication and data exchange between different digital systems and devices is a common challenge. Interoperability issues can impede the effectiveness of digital solutions in healthcare settings
	Training and Education Programs: Designing and implementing comprehensive training programs for healthcare professionals is crucial. Adequate education ensures that individuals can effectively use new technologies and integrate them into their daily routines
	Regulatory Compliance: Healthcare is subject to strict regulations, and compliance with these regulations is essential when adopting new technologies. Adhering to standards and guidelines helps ensure the quality and safety of patient care
	Integration with Existing Systems: Integrating digital technologies with existing healthcare systems and processes can be complex. Compatibility issues may arise, and seamless integration is necessary to avoid disruptions in patient care.
	Patient Engagement: Encouraging patients to actively participate in digital health initiatives can be challenging. Healthcare professionals need to educate and motivate patients to use digital tools for monitoring and managing their health.

	Ethical Considerations: The use of new technologies in healthcare raises ethical concerns, such as the responsible and equitable use of artificial intelligence, telemedicine, and other digital tools. Addressing these ethical considerations is vital for maintaining trust in healthcare practices.
	Other: Please write your answer



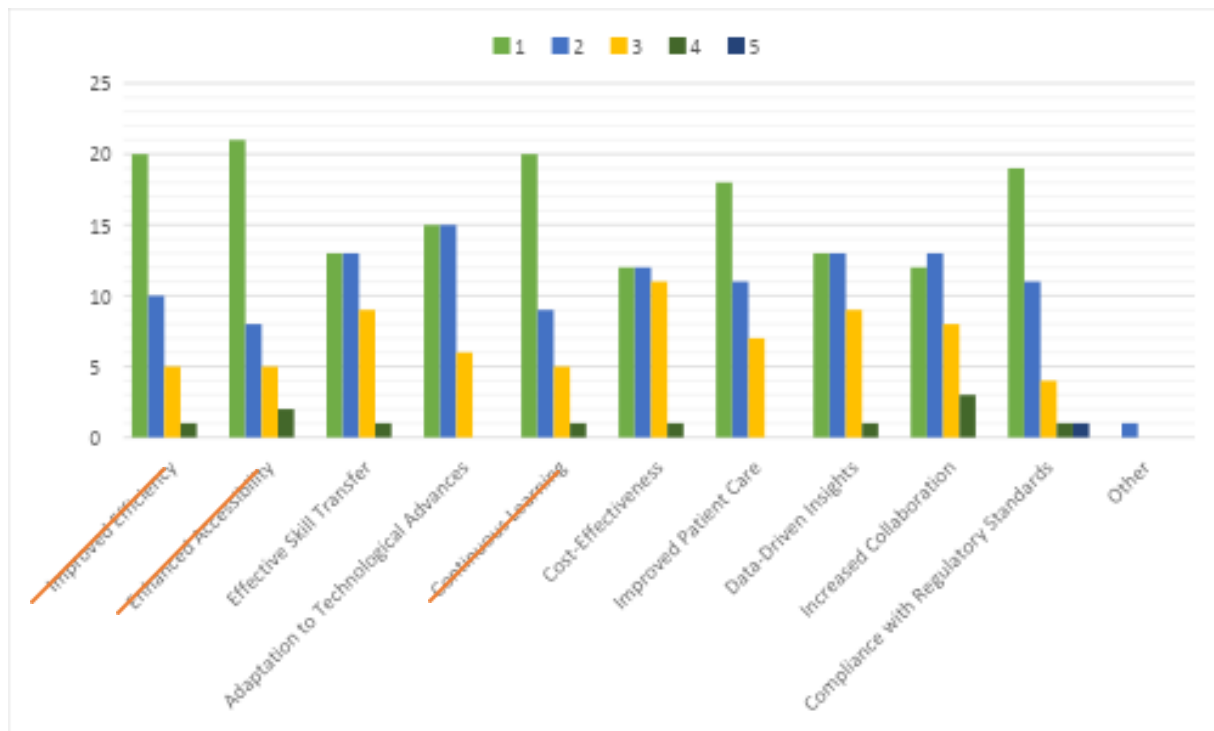
Other: As the questions are more than 5, I gave independent rankings to each question. They are, however, all very important factors, which might even become more important depending on the specific application (eg. Ethics considerations in AI)

COMMENTS GROUP 1

Question 2

What expectations do you have regarding the digital training of healthcare professionals?

Level of importance	Description
	Improved Efficiency: Digital training methods are expected to enhance the efficiency of learning processes, enabling healthcare professionals to acquire and update their skills more rapidly.
	Enhanced Accessibility: Digital training can provide flexible learning opportunities, making education more accessible to healthcare professionals regardless of their geographical location or work schedule.
	Effective Skill Transfer: Expectations may include the successful transfer of theoretical knowledge and practical skills through digital platforms, ensuring that healthcare professionals can apply what they've learned in real-world scenarios.
	Adaptation to Technological Advances: Healthcare professionals should be able to adapt to new technologies more readily through digital training, ensuring that they remain up-to-date with the latest advancements in their field.
	Continuous Learning: Digital training can foster a culture of continuous learning, encouraging healthcare professionals to engage in ongoing education to stay abreast of evolving medical practices and technologies.
	Cost-Effectiveness: There may be an expectation that digital training will provide a cost-effective solution compared to traditional training methods, considering factors such as travel expenses and the need for physical resources.
	Improved Patient Care: Ultimately, expectations may revolve around the belief that well-trained healthcare professionals, through digital means, will contribute to improved patient care and outcomes.
	Data-Driven Insights: Digital training platforms can generate data on learning patterns and performance, offering insights that can be used to tailor training programs and identify areas for improvement.
	Increased Collaboration: Expectations may include the facilitation of collaboration and knowledge-sharing among healthcare professionals, fostering a community of practice through digital platforms.
	Compliance with Regulatory Standards: Digital training programs should be expected to align with regulatory standards and accreditation requirements in the healthcare industry.
	Other: Please write your answer



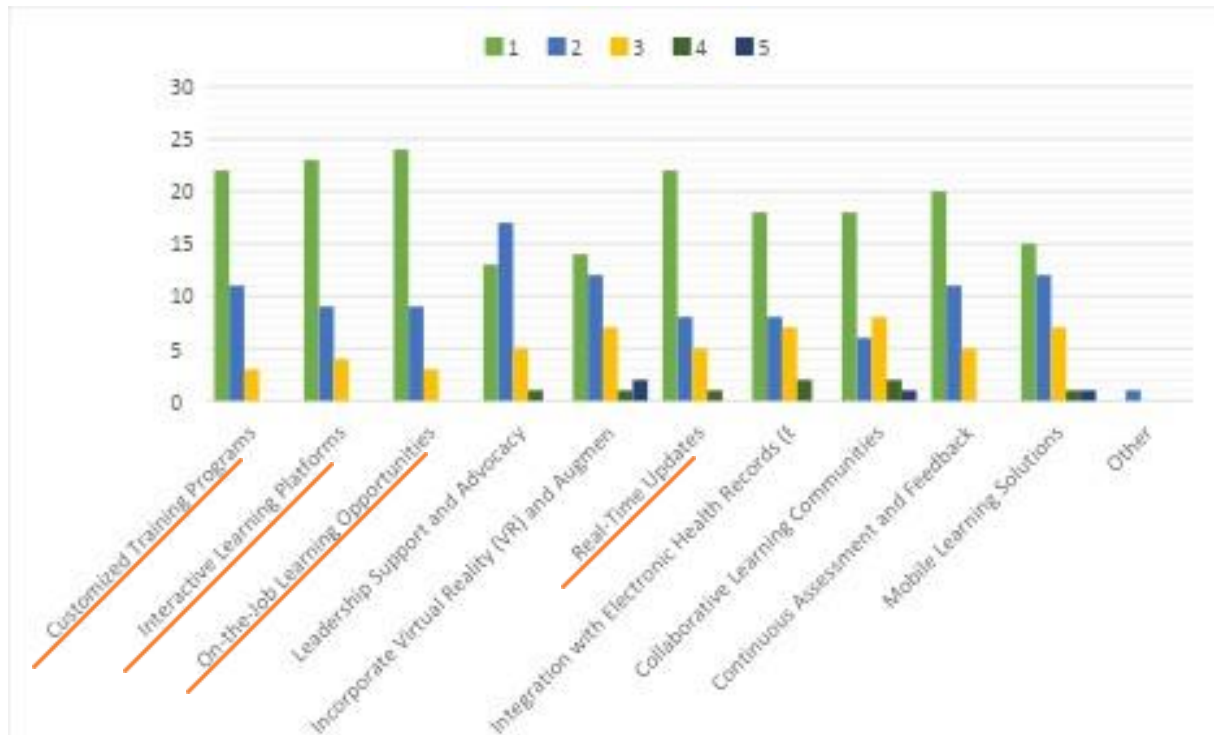
COMMENTS GROUP 2

Question 3

How can digital training content and methodologies be effectively integrated into daily clinical practice?

Level of importance	Description
	Customized Training Programs: Develop digital training content that is tailored to the specific needs and roles of healthcare professionals. Customization ensures that the content is relevant and directly applicable to their daily clinical tasks.
	Interactive Learning Platforms: Utilize interactive and engaging learning platforms that allow healthcare professionals to actively participate in the learning process. This could include simulations, case studies, and interactive modules that mimic real-world clinical scenarios.
	On-the-Job Learning Opportunities: Integrate digital training into the workflow by providing opportunities for on-the-job learning. This allows healthcare professionals to apply newly acquired knowledge and skills directly to their daily clinical responsibilities.
	Leadership Support and Advocacy: Gain support from leadership to emphasize the importance of digital training. Leaders can advocate for the integration of digital methodologies into daily practice and allocate resources for training initiatives.
	Incorporate Virtual Reality (VR) and Augmented Reality (AR): Explore the use of VR and AR technologies to create immersive training experiences. Simulations using these technologies can provide realistic scenarios for healthcare professionals to practice and enhance their skills.
	Real-Time Updates: Keep digital training content up-to-date with the latest medical guidelines, technological advancements, and best practices. Regularly update the content to ensure its relevance and alignment with current clinical standards.
	Integration with Electronic Health Records (EHR): Explore ways to integrate digital training content with EHR systems. This alignment allows healthcare professionals to seamlessly apply digital training knowledge within the context of patient care.
	Collaborative Learning Communities: Foster a sense of community among healthcare professionals by incorporating collaborative features into digital training platforms. Discussion forums, online communities, and peer-to-peer interactions can facilitate knowledge sharing and collaborative problem-solving.
	Continuous Assessment and Feedback: Incorporate regular assessments and feedback mechanisms within digital training programs. This ensures that healthcare professionals receive ongoing feedback on their performance and can track their progress over time.

	Mobile Learning Solutions: Implement mobile-friendly training solutions that enable healthcare professionals to access educational content on their smartphones or tablets. This flexibility promotes learning at the point of care and during downtime.
	Other: Please write your answer



Other: Again, all of the questions above focus on important elements. Mobile friendly might actually be a newer and interesting angle as it could limit the known complexity of providing training to already overburdened professionals through mobile device rather than a computer

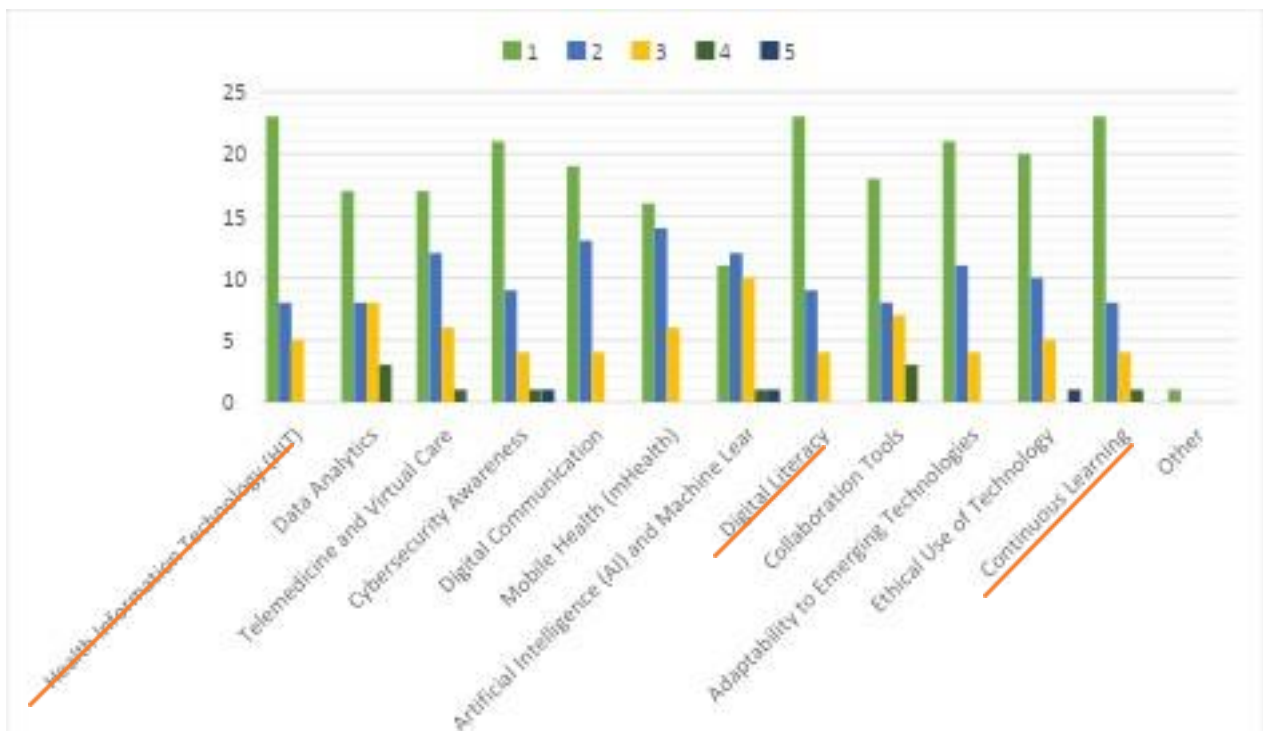
COMMENTS GROUP 3

Question 4

What are the digital skills required for healthcare professionals to address organizational innovation in healthcare systems?

Level of importance	Description
	Health Information Technology (HIT): Proficiency in using electronic health records (EHRs) and other health information technologies is crucial for managing patient data and facilitating communication within the healthcare system.
	Data Analytics: The ability to analyze and interpret healthcare data is essential for making informed decisions. Healthcare professionals should be skilled in using data analytics tools to derive meaningful insights from large datasets
	Telemedicine and Virtual Care: As healthcare delivery evolves, proficiency in telemedicine platforms and virtual care technologies is necessary. Healthcare professionals should be able to conduct remote consultations and leverage virtual tools for patient care.
	Cybersecurity Awareness: With the increasing digitization of healthcare, understanding cybersecurity principles is vital. Healthcare professionals should be aware of best practices to protect patient data and ensure the security of digital systems.
	Digital Communication: Effective communication through digital channels is crucial for collaboration among healthcare professionals and with patients. This includes using secure messaging systems, video conferencing, and other digital communication tools.
	Mobile Health (mHealth): Familiarity with mobile health technologies, such as health apps and wearable devices, is important. These technologies can be used for remote monitoring, patient engagement, and promoting healthy behaviours
	Artificial Intelligence (AI) and Machine Learning (ML): Awareness and basic understanding of AI and ML applications in healthcare can enhance decision-making processes and support diagnostic and treatment innovations
	Digital Literacy: Healthcare professionals should have a general understanding of digital tools and technologies. This includes being comfortable using computers, tablets, and other devices to access and interact with digital information.
	Collaboration Tools: Proficiency in using digital collaboration tools, such as project management platforms and shared document systems, supports teamwork and efficient communication within healthcare organizations.
	Adaptability to Emerging Technologies: Healthcare professionals should be adaptable to new and emerging technologies. Staying informed about advancements in healthcare technology ensures a proactive approach to innovation
	Ethical Use of Technology: Understanding the ethical implications of using

	digital technologies in healthcare is crucial. Healthcare professionals should be aware of privacy issues, consent considerations, and ethical guidelines related to digital innovation.
	Continuous Learning: Given the rapid pace of technological change, a commitment to continuous learning is essential. Healthcare professionals should actively seek opportunities to update their digital skills and stay current with industry trends.
	Other: Please write your answer



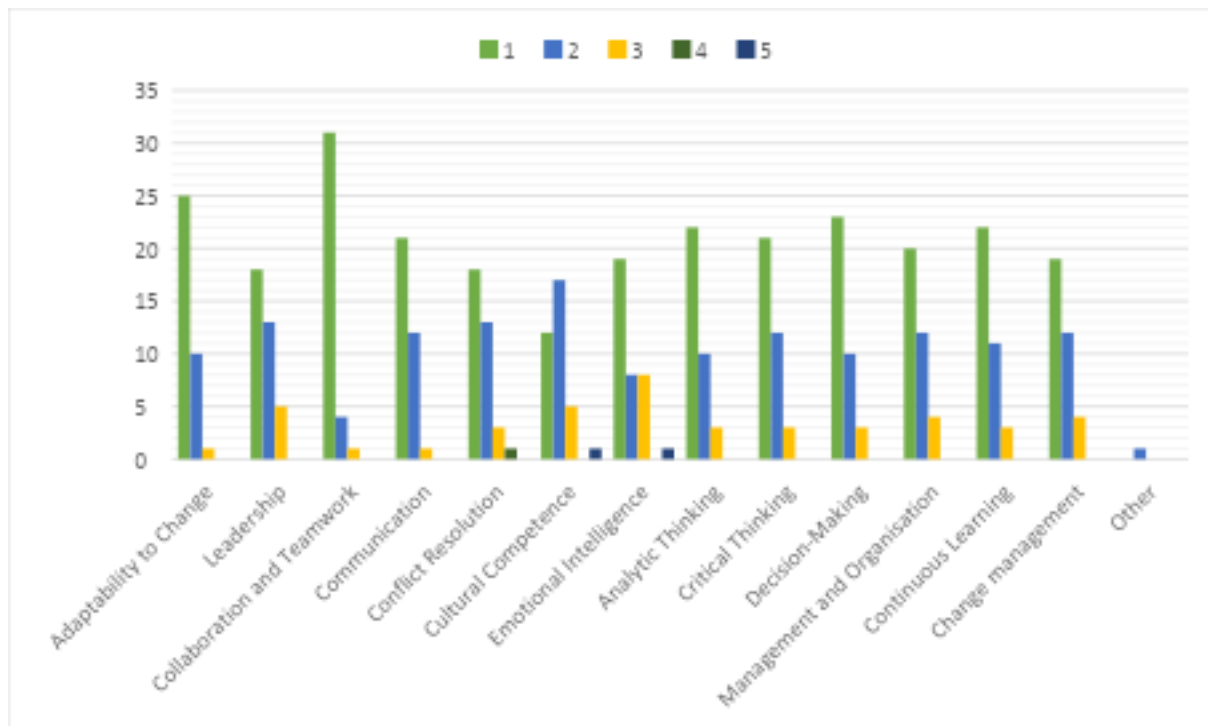
Other: Also in this case, very hard to exclude something from being not crucial or less important. What could be taken into consideration, however, is how not all these important activities should fall on HCPs alone but could be rather becoming main responsibility of accompanying new emerging professions that will support GPs, nurses, etc. (e.g. Cybersecurity experts).

COMMENTS GROUP 4

Question 5

What are the transversal skills required for healthcare professionals to improve quality and effectiveness of healthcare systems and services?

Level of importance	Description
	Adaptability to Change: The ability to adapt to new and evolving technologies and changes in healthcare systems, and to embrace and navigate change in healthcare environments.
	Leadership: Skills to provide effective leadership and guidance within healthcare teams.
	Collaboration and Teamwork: The ability to collaborate effectively within interdisciplinary healthcare teams, fostering open communication, mutual respect, and shared goals to enhance patient care and organizational outcomes.
	Communication: Effective communication through digital channels for collaboration among healthcare professionals and with patients.
	Conflict Resolution: Skills to address and resolve conflicts within healthcare teams.
	Cultural Competence: Awareness and respect for diverse cultural backgrounds in healthcare interactions
	Emotional Intelligence: The ability to recognize, understand, and manage one's own emotions and those of others in healthcare settings.
	Analytic Thinking: The skill of systematically analyzing information and situations in healthcare, enabling logical problem-solving and evidence-based decision-making.
	Critical Thinking: The capacity for critical thinking and problem-solving within the digital healthcare landscape.
	Decision-Making: The ability to make sound decisions under complex and dynamic circumstances.
	Management and Organisation: The ability to effectively manage resources, coordinate tasks, and organize workflows within healthcare settings. This skill involves strategic planning, time management, and the capacity to streamline processes for optimal efficiency.
	Continuous Learning: Commitment to continuous learning in the rapidly changing healthcare landscape.
	Change management: "Implementing effective change management in healthcare requires a strategic alignment of organizational goals and technological advancements.
	Other: Please write your answer



Other: The transversal competences needed might vary depending on the type of professionals and their role and responsibilities. Hospital managers MUST have for instance, leadership skills, while for a general nurse it would still remain important, but at a lower level compared to, for instance, communication and collaboration skills.

COMMENTS GROUP 5

ANNEX C - Workshop report — full (Cyprus)

Each member state was representing stakeholders from various sectors, including government agencies, non-governmental organizations, academia, and industry.

Workshop Activities

Session 1: Introduction and Overview

The workshop began with an introductory session, where the objectives and agenda were presented. Participants were briefed on the importance of the guidelines and the role they would play in enhancing coordination and collaboration across different regions.

Session 2: Topics Presentations

The workshop consisted of the analysis and study of 5 topics along with the corresponding responses that emerged from the survey. Each group, composed of 6-7 people from various member states, was asked to work on one topic following the grid shown below.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT	
TOPIC	Transition to digital training and adoption of new technologies
TARGET GROUP	
STAKEHOLDERS' ECOSYSTEMS	
METHODOLOGY	

Session 3: Co-design of Initiatives

In this session, participants worked in groups to co-design initiatives aimed at thinking about methodologies to better communicate and disseminate their pre-assigned specific area of interest, called TOPIC.

Below are listed the topics and the answers from the survey as starting point for the groups to discuss. Moreover, there are the results of the group discussions inserted in the table.

TOPIC 1 - Transition to digital training and adoption of new technologies

Healthcare professionals encounter several challenges when transitioning to digital training and adopting new technologies. According to stakeholders' survey and focus group, the main challenges, in order of relevance, are the following:

1. **Training and Education Programs:** Designing and implementing comprehensive training programs for healthcare professionals is crucial. Adequate education ensures that individuals can effectively use new technologies and integrate them into their daily routines
2. **Interoperability:** Ensuring seamless communication and data exchange between different digital systems and devices is a common challenge. Interoperability issues can impede the effectiveness of digital solutions in healthcare settings
3. **Integration with Existing Systems:** Integrating digital technologies with existing healthcare systems and processes can be complex. Compatibility issues may arise, and seamless integration is necessary to avoid disruptions in patient care.

Considering that you are in a situation of transition to digital training and the adoption of new technologies, what methodology would you adopt to support a better information flow and communication management?

Try filling in the table below, defining your target group, stakeholders to be involved and proposing a methodology.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT	
TOPIC	Transition to digital training and adoption of new technologies
TARGET GROUP	Physicians, pharmacists & nurses (stay with project plan), 3 different proposals. ▪ Healthcare workers / Generic (transmit information to internet, communicate through online tools) ▪ Case/problem discussion for different working groups (pharmacists / physicians) at country level ▪ Multidisciplinary group: improve collaboration in the teams.
STAKEHOLDERS' ECOSYSTEMS	▪ Ministry of Health ▪ Hospital ▪ private clinic ▪ clinical practice ▪ universities ▪ patient associations (open ecosystem or stratified) LEVELS ▪ Hospital level ▪ Administrative level
METHODOLOGY	Various. Specific for one group. Differences between older and younger professionals (more used with IT). More guidance for older persons Guide for using VR: small texts accompanied with animated images/videos

Notes & suggestions

STAKEHOLDERS: In our ecosystems do we have them or better to invite more people.

METHODOLOGY: something that we need since we have to elaborate guidance. We need something accessible and for different ages

TOPIC 2 - Expectations regarding the digital training of healthcare professionals

The expectations regarding the digital training of healthcare professionals highlight the potential benefits and goals associated with the integration of digital training into the education of healthcare professionals.

According to stakeholders' survey and focus group, the main expectations, in order of relevance, are the following:

1. **Enhanced Accessibility:** Digital training can provide flexible learning opportunities, making education more accessible to healthcare professionals regardless of their geographical location or work schedule.
2. **Continuous Learning:** Digital training can foster a culture of continuous learning, encouraging healthcare professionals to engage in ongoing education to stay abreast of evolving medical practices and technologies.
3. **Improved Efficiency:** Digital training methods are expected to enhance the efficiency of learning processes, enabling healthcare professionals to acquire and update their skills more rapidly.

Considering that you are in a situation of implementing digital training of healthcare professionals, what methodology would you adopt to support a better information flow and communication management?

Try filling in the table below, defining your target group, stakeholders to be involved and proposing a methodology.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT	
TOPIC	Expectations regarding the digital training of healthcare professionals
TARGET GROUP	▪ Healthcare professionals (H-PASS projects) ▪ medical students ▪ administrative staff
STAKEHOLDERS' ECOSYSTEMS	▪ Hospital ▪ private clinics ▪ IT SMEs ▪ policy makers (all levels authorities)
METHODOLOGY	▪ Assessment (interviews, surveys) to know the level of expertise. ▪ FG with representatives. ▪ Workshops and seminars to engage stakeholders ▪ Training materials for different groups and support in the phase of the adoption. IT support and software for this kind of support by experts ▪ Right communications

Notes & suggestions

NB: INVOLVE IN THE process SMEs and IT developers to understand if ideas are applicable to the market.

GUIDELINES should be co-created and engaging for the people involved. Modular things are ok in order to understand if we're in the right way

TOPIC 3 - Integrating digital training content and methodologies into daily clinical practice

By implementing these strategies, healthcare organizations can effectively integrate digital training content and methodologies into daily clinical practice, fostering a culture of continuous learning and improving overall patient care.

According to stakeholders' survey and focus group, the most relevant strategies to effectively integrate digital training content and methodologies into daily clinical practice, in order of relevance, are the following:

- 1. On-the-Job Learning Opportunities:** Integrate digital training into the workflow by providing opportunities for on-the-job learning. This allows healthcare professionals to apply newly acquired knowledge and skills directly to their daily clinical responsibilities.
- 2. Interactive Learning Platforms:** Utilize interactive and engaging learning platforms that allow healthcare professionals to actively participate in the learning process. This could include simulations, case studies, and interactive modules that mimic real-world clinical scenarios
- 3. Customized Training Programs:** Develop digital training content that is tailored to the specific needs and roles of healthcare professionals. Customization ensures that the content is relevant and directly applicable to their daily clinical tasks.

Real-Time Updates: Keep digital training content up-to-date with the latest medical guidelines, technological advancements, and best practices. Regularly update the content to ensure its relevance and alignment with current clinical standards.

Considering that you are in a situation of integrating digital training content and methodologies into daily clinical practice, what methodology would you adopt to support a better information flow and communication management?

Try filling in the table below, defining your target group, stakeholders to be involved and proposing a methodology.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT	
TOPIC	Integrating digital training content and methodologies into daily clinical practice
TARGET GROUP	H-PASS project target
STAKEHOLDERS' ECOSYSTEMS	Importance how to engage them. Correct tool to have them on board in the long term. Healthcare managers for having the employees complete the courses

METHODOLOGY	▪ Digital ecosystem for young physicians ▪ App. A training is usable for the daily training? ▪ Self-assessment for assessing if the training has impact in the daily practice ▪ How to convince somebody. ▪ The content itself is the methodology but it has to be convincing in somehow DISCUSSIONS Overcome problems in the process for having better qualitative and quantitative data
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Notes & suggestions

NB: **Integrating digital training content and methodologies into daily clinical practice** is not what H-PASS is doing. Not implementable in the framework of the project. Think in a sustainability way it can provide support and if relevant for the train the training aspect.

Customised programme are partners tailored. On the job supported by exercise by everyday practice.

TOPIC 4 - Organizational innovation in healthcare systems

Addressing organizational innovation in healthcare systems requires healthcare professionals to possess a range of digital skills. By developing and enhancing these digital skills, healthcare professionals can contribute to and thrive in healthcare systems that embrace organizational innovation and leverage technology to improve patient outcomes and overall healthcare delivery. According to stakeholders' survey and focus group, the most relevant digital skills required for healthcare professionals to address organizational innovation in healthcare systems, in order of relevance, are the following:

1. **Health Information Technology (HIT):** Proficiency in using electronic health records (EHRs) and other health information technologies is crucial for managing patient data and facilitating communication within the healthcare system.
2. **Digital Literacy:** Healthcare professionals should have a general understanding of digital tools and technologies. This includes being comfortable using computers, tablets, and other devices to access and interact with digital information.
3. **Continuous Learning:** Given the rapid pace of technological change, a commitment to continuous learning is essential. Healthcare professionals should actively seek opportunities to update their digital skills and stay current with industry trends.

Considering that you are in a situation of addressing organizational innovation in your healthcare system, what methodology would you adopt to support a better information flow and communication management?

Try filling in the table below, defining your target group, stakeholders to be involved and proposing a methodology.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT

TOPIC	Organizational innovation in healthcare systems
TARGET GROUP	Non-native digital users of health professions. Teach them the basic skills.
STAKEHOLDERS' ECOSYSTEMS	Civil servants. Social assistants
METHODOLOGY	2 steps strategy 1) EU level first: ▪ How to use a PC ▪ How to use a software ▪ How safe is using them Each country implements in a different way 2) CPD system ▪ Train the trainer is different according to the countries (es. IT Regions) ▪ After that covering the basic skills go to advanced: AI and other

Notes & suggestions

NB: 3 main problems: Health IT tool - Digital literacy - Continuous learning

TOPIC 5 - Transversal skills for improving quality healthcare systems and processes

Organizational innovation in healthcare systems demands healthcare professionals to possess a range of transversal skills. Your insights on the importance of these skills will contribute to understanding how healthcare professionals can thrive in innovative healthcare environments. According to stakeholders' survey and focus group, the most relevant transversal skills required for healthcare professionals to improve quality and effectiveness of healthcare systems and services, in order of relevance, are the following:

1. **Collaboration and Teamwork:** The ability to collaborate effectively within interdisciplinary healthcare teams, fostering open communication, mutual respect, and shared goals to enhance patient care and organizational outcomes
2. **Adaptability to Change:** The ability to adapt to new and evolving technologies and changes in healthcare systems, and to embrace and navigate change in healthcare environments.
3. **Decision-Making:** The ability to make sound decisions under complex and dynamic circumstances.

Considering that you are in a situation of improving quality healthcare systems and processes, what methodology would you adopt to support a better information flow and communication management?

Try filling in the table below, defining your target group, stakeholders to be involved and proposing a methodology.

METHODOLOGICAL PROPOSAL TO SUPPORT BETTER INFORMATION FLOW & COMMUNICATION MANAGEMENT	
TOPIC	Transversal skills for improving quality healthcare systems and processes
TARGET GROUP	Interpretation of Target group: health professionals in training
STAKEHOLDERS' ECOSYSTEMS	Power to have enough decisions to improve CVs. On-site training. Leader, managers of training providers. Decision makers
METHODOLOGY	H-PASS methodology Curriculum in the training Tools to bringing topics in the curricula Workshops and conferences

Session 4: Verification and Validation

The initiatives developed in Session 3 were presented to the larger group for verification and validation. Participants provided feedback and suggestions for improvement, ensuring that the initiatives were feasible and aligned with the needs of all member states.

Below some feedback from the plenary session to consider as take-home messages and a good start in the development of the Guidelines (D6.1: H-PASS Coordination and Collaboration guidelines M35 – Lead partner: PROMIS). The comments refer in specific to the methodology

Notes & suggestions

- Generic Healthcare workers: online tools.
- Case/problem discussion within different working groups (e.g. pharmacists / physicians) and country level.
- Multidisciplinary groups for improving collaboration within the multidisciplinary teams.
- Different layers of digital training according to IT usage (older more guided/younger) E.g. Guide for using VR: small texts accompanied with animated images/videos.
- Interviews / surveys / focus groups for the assessment of the level of expertise.
- Workshops and seminars to engage stakeholders.
- Training materials for different groups and support in the phase of the adoption.
- IT tools and software for this kind of support by experts (IT developers to be engaged for a real understanding of the market).

- Right communications (guidelines co-created with the engagement of stakeholders' ecosystem).
- Digital ecosystem for young physicians.
- Daily training (Digital ecosystem/Apps).
- Self-assessment whether the training impacts in the daily practice.
- 2 steps strategy -> EU & basic skills level (how to use a PC, a software, security of them)
-> Then training according to the countries/regions levels - curriculum in the training / H-Pass topics in curricula

Conclusion

The workshop successfully met its objectives, establishing a robust foundation for the development of the H-PASS Coordination and Collaboration Guidelines. The active participation and collaboration of partners from the six member states were crucial in co-designing initiatives that are practical, feasible, and tailored to the specific needs of each region.

The guidelines will be developed based on the feedback and comments gathered during this workshop and will be shared in a subsequent workshop. This ensures that all diverse perspectives and aspects are thoroughly considered.

ANNEX D - Interview / focus group guide (methodology)

How to use this document?

This document is part of the H-PASS project, "Health Professionals' and the 'DigitAl team' Skills advancement", which is co-funded by the EU4Health Programme of the European Union under Grant Agreement No. 11101139 (HaDEA).

The aim of this document is to better present the purpose of the [survey](#) finalised by ProMIS, the aim of which is to:

- gain valuable insights into the needs, barriers, and open topics related to the implementation of innovative approaches in the Health Workforce;
- map digital health awareness and maturity of:
 - institutional representatives;
 - experts dealing with health planning;
 - procurement and management, non-clinical staff dealing with health issues;
 - ministerial representatives of European regions on healthcare

The analysis of the survey results will help H-PASS understand the challenges and opportunities that exist in advancing healthcare through innovative approaches. Inputs will contribute significantly to understand the current landscape and inform strategies to enhance the implementation of innovative solutions within the Health Workforce.

Methodology

This survey is structured to gather diverse perspectives, ensuring a holistic view of the challenges and opportunities within the health workforce.

Gather opinions on the future trajectory of innovative practices in the health workforce and potential areas for improvement. The survey will cover a range of topics, including but not limited to:

- Identification of key needs within the Health Workforce.
- Assessment of existing barriers hindering the adoption of innovative approaches.
- Exploration of open topics and areas where innovation can make a meaningful impact.

In specific,

Question 1. *What are in your experience (and within your organisation, if relevant) the main challenges that healthcare professionals face in transitioning to digital training and adopting new technologies?*

Healthcare professionals encounter several challenges when transitioning to digital training and adopting new technologies. Navigating these challenges requires a strategic and collaborative approach, involving healthcare professionals, administrators, technology developers, and policymakers to ensure a successful transition to digital training and technology adoption in healthcare. The participation in this survey is entirely voluntary, and

we assure that all responses will be kept confidential. The information gathered will be used solely for research purposes and will be reported in aggregate, ensuring anonymity.

Question 2. *What expectations do you have regarding the digital training of healthcare professionals?*

Expectations regarding the digital training of healthcare professionals. These expectations highlight the potential benefits and goals associated with the integration of digital training into the education of healthcare professionals.

Question 3. *How can digital training content and methodologies be effectively integrated into daily clinical practice?*

Integrating digital training content and methodologies into daily clinical practice. By implementing these strategies, healthcare organisations can effectively integrate digital training content and methodologies into daily clinical practice, fostering a culture of continuous learning and improving overall patient care.

Question 4. *What are the digital skills required for healthcare professionals to address organizational innovation in healthcare systems?*

Organisational innovation in healthcare systems. Addressing organisational innovation in healthcare systems requires healthcare professionals to possess a range of digital skills. By developing and enhancing these digital skills, healthcare professionals can contribute to and thrive in healthcare systems that embrace organisational innovation and leverage technology to improve patient outcomes and overall healthcare delivery.

Question 5. *What factors should be considered to ensure the success of training programs related to digital skills for healthcare staff?*

Ensuring the success of training programs related to digital skills for healthcare staff. By considering these factors, healthcare organisations can enhance the effectiveness of digital skills training programs for their staff, ultimately contributing to improved patient care and organisational efficiency.

Survey completion procedure

In the survey provided online, there are 5 questions (the 5 listed above), and for each question there is a set of possible answers. The idea is for the responder to prioritise the top five answers by assigning scores of 1, 2, ... and 5, with "1" indicating the highest priority. If none of

the provided answers seems suitable or if the responders wish to add an answer, there is a designated "other box" where they can input their own response.

Essentially, this approach allows the responders to express their preferences and priorities among the given options. It also provides flexibility by offering the opportunity to suggest alternative answers if the provided choices do not align with their views or if they have additional insights to contribute. The goal is to gather a nuanced understanding of the responder's preferences and opinions regarding the questions addressed.

To participate, please follow the link below to access the survey: [LINK](#)

Focus groups

At the end of the survey, respondents are asked if they would be willing to participate in a focus group. The focus group will be conducted by ProMIS and aims to discuss and further analyse the results of the survey. It will be held online, in English.

Overall, participating in a focus group can be a rewarding experience that allows individuals to make a meaningful impact, gain valuable insights, and connect with others who share their interests or concerns.

References

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ANNEX E - Templates: stakeholder map, communication plan, M&E forms, workshop agenda, sample MOUs





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