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UNIHEAL+ - Contextualizing UNiversal HEALTH resilience through health professionals' re-skilling for digital health services provision

Project Number: 2021-1-ES01-KA220-VET-000033271

R1: UNIHEAL+ Framework Courses – a completed approach

COLLATED RESEARCH REPORT



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INTRODUCTION

The UNIHEAL+ project

UNIHEAL+ is an ERASMUS+ KA2 project with an implementation period of 24 months, between **01/02/2022 - 31/01/2024**. The project is being conducted by a consortium of SEVEN (7) partners from five (5) European countries: Spain, Lithuania, Romania, Cyprus, and Greece.

The **digitization of health care** has long been on the European Agenda to modernize and improve healthcare and resilience across Member States; following the health impacts and the health care needs the global current pandemic has caused, OECD (Report 2020) has drawn some policy conclusions for health care provision pointing out that the Covid-19 crisis has demonstrated the importance of universal health education as a key element for the resilience of health systems, which can be issued successfully only through training and raising awareness for health professionals:

- On the one, reskilling and upskilling of the health professionals can be proven very useful to provide additional support and allows for a more flexible management of health risks and threats, and then for creating the grounds for a universal answer (at local-national level) to health services and consequently for health resilience.
- On the other, given the fact also that the digital transformation and the need for contemporary ways of services delivery have been established in the (vocational) education, skilling health professionals in an era-attached way means providing them with digital health services training: digital technology – including mHealth and eHealth is an inevitable part of the future of European Healthcare without meaning that automatically our health professionals are prepared.

Reports, research and papers have demonstrated not only the need but also the insufficient training on health digital technology or digital literacy on health with digital health services delivery. The need for digital skills is widely acknowledged but there is limited reference to the health professionals as also the existing digital health professional curricula are inadequate – there is the need to strengthen the educational curricula of health professionals and use continuous professional development programs to provide them with useful digital skills training. As also intensively considered in *Journal of Medical Education and Curricular Development* (2020), integrating digital health into the curriculum entails how to educate future and present health professionals to work in an era of digital tools and reskilling them towards digital health services provision.

Taking this into consideration, there has been this **dilemma of how best to address the integration of digital health services into vocational curricula and training adapted to labor markets**. Arguably, it is in the best interest for health professionals to be reskilled and be prepared for adequate digital health services provision and to respond successfully to a health landscape that may see significant disruption due to technological upheavals.

The project main objectives are:

1. addressing the needs of the health professionals for further skilling, re- and upskilling, with a specific VET curriculum updated on further needs-centered skills building and adapted to labour market needs
2. recognizing the significance of digital health services deriving also from the recent health situation/emergency and the dominance of the ICT context in personal and professional life
3. equipping health professionals to better deliver their jobs, by digital health services training, thus improving their use of computational technologies, smart devices, communication media, etc, and, aids healthcare professionals and their patients manage illnesses, health risks, as well as promote health and wellbeing
4. maximizing potential in their employment through the recognition of skills and qualifications due to the EQF, ECVET & ECTS units
5. constructing well-stepped units of training, educational materials, work-based scenarios, guides for the VET educators as well Health services providers, such as health professionals and nursing and midwifery professionals have been in the centre of our project for vocational empowerment and further coordinated and integrated training for re-skilling on digital health services provision.

The **UNIHEAL+ project consortium** is formed by consortium of consortium of SEVEN (7) partners from five (5) European countries: Spain, Lithuania, Romania, Cyprus, and Greece:

Table 1. UNIHEAL+ CONSORTIUM

Partner No.	Country	Name	Acronym
<i>P1</i>	ES	Fundación Ayesa	<i>FA</i>
<i>P2</i>	LT	MB Homo eminens	<i>Xwhy</i>
<i>P3</i>	GR	Xenios polis	<i>Xenios</i>
<i>P4</i>	RO	Gripen Europe	<i>Gripen</i>
<i>P5</i>	GR	Prolepsis	<i>Prolepsis</i>
<i>P6</i>	ES	Innovation Training Center, SL	<i>ITC</i>
<i>P7</i>	CY	<i>CSI</i>	<i>CSI</i>

The project is organized in 4 Results:

1. UNIHEAL+ Framework Courses – a completed approach. This document is part of this result.
2. The Adaptation and Training Guide for UNIHEAL+ Educators
3. eLearning Resources & Digital Tools
4. UNIHEAL+ Skills Assessment, Validation and Recognition Content & Tools.

Target groups

The Target groups addressed in the research phase are:

- a) The **frontline health sector staff/professionals** (e.g., Nurses, doctors, pharmacists, physicians, dentists, midwives, etc.) as confronted with the need for further skilling and re-skilling regarding the contemporary health demands and the digital character of their health services.
- b) The **VET educators** who undertake the role and tasks of effectively address the training of health professionals, making use of multiple pathways, such as also differentiation pedagogy, practical guidance, re-feedback context. UNIHEAL+ also meets the needs of the VET educators since it contributes to an extent to the professional development of VET trainers to cultivate for them effective innovative training methods by including teaching in virtual environment, vocational and digital pedagogy, and in diverse and multicultural environments.

This document

The project results will be built upon the first result, that is **UNIHEAL+ Framework Courses – a completed approach** setting the basis and embedding intermediate results of:

- Project Result 2 (The Adaptation and Training Guide for UNIHEAL+ Educators),
- Project Result 3 (eLearning Resources & Digital Tools)
- Project Result 4, UNIHEAL+ Skills Assessment, Validation and Recognition Content & Tools.

Project result 1, **UNIHEAL+ Framework Courses – a completed approach** has been organized in 4 steps:

- Phase 1: RESEARCH CONTEXT (questionnaires & focus groups) for the data gathering concerning health professionals needs and profiles
- Phase 2: UNIHEAL+ COURSES DESIGN
- Phase 3: UNIHEAL+ CONTENT AND EXERCISES DEVELOPMENT
- Phase 4: PILOT REVIEW AND EVALUATION

This document presents the results of the first phase of the project Result 1, that is: RESEARCH CONTEXT (questionnaires & focus groups) for the data gathering concerning health professionals needs and profiles. It is divided onto the following chapters:

1. Methodology
2. Results of the desk research per country
3. Results of the field research: survey and focus groups
4. Conclusions

1. METHODOLOGY

This activity was implemented from **March to July 2022**.

A survey (annex 1 of this document) and an interview (annex 2) were designed, and a country report was requested from each country (from Cyprus, Greece, Lithuania, Romania and Spain, annex 3 of this report) to summarize the results per country.

The planned participants in the activities to identify the needs were:

- **SURVEY:** 15-20 participants per country from the target group: **frontline health sector staff/professionals** (e.g., Nurses, doctors, pharmacists, physicians, dentists, midwives, etc.) as confronted with the need for further skilling and re-skilling regarding the contemporary health demands and the digital character of their health services
- **FOCUS GROUPS:** at least 5 participants per country from the target group: **frontline health sector staff/professionals** (e.g., Nurses, doctors, pharmacists, physicians, dentists, midwives, etc.) and **VET educators** who undertake the role and tasks of effectively address the training of health professionals, making use of multiple pathways, such as also differentiation pedagogy, practical guidance, re-feedback context.

The methodology followed included the following steps:

Figure 1: Research Methodology (own elaboration)



This report is the results of the implementation of these 4 steps and is focused on the elaboration of the collated transnational report drawing conclusions from the national reports that will set the basis for the proposal of curriculum.

2. RESULTS OF THE DESK RESEARCH PER COUNTRY

DESK RESEARCH: in the following section we hereby present the results of the 5 EU countries analyzed, Cyprus, Greece, Lithuania, Romania, and Spain according to the 4 research questions proposed:

1. **Identification of existing knowledge and skills regarding digital competences: health sector professions situation**
2. **Identification of any learning constraints regarding digital competences**
3. **Identification of good practices in your country regarding the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units described in the application:**
 - CU1: Framework skills and aptitudes for digital communication
 - CU2: Computer literacy, data analysis, data protection programs
 - CU3: eHealth & mHealth context and content
 - CU4: Medical devices compatibility
 - CU5: Mobile applications, cloud storage, internet usability-functionality
 - CU6: Universal digital health coverage
4. **After the identification of existing knowledge and skills and learning constraints regarding digital competences, indicate the eventual match with the already identified 5 competence units identified in the project application**

1. Identification of EXISTING KNOWLEDGE AND SKILLS regarding digital competences: health sector professions situation in your country. Also investigating initial and higher VET per country + continuing professional education opportunities per country

In **CYPRUS**, according to the Digital Economy and Society Index (DESI) 2021 ranking¹, adjusted by the European Commission to present the digital performance and progress of European Member States, Cyprus has shown an improvement in its performance in almost all DESI dimensions – Human capital, Connectivity, Integration of digital technology, Digital public services – although in most cases Cyprus seems to have a lower score than the EU average score (43.5 versus 50.7, respectively), while it has been ranked 21st among 27 EU Member States. Among all the DESI dimensions, Cyprus presented the lowest score in the ‘Integration of digital technology’. Regarding the health sector, an unmet need for digital skills implementation has emerged, considering the implementation of eHealth systems. A paper early in 2007², presented multiple eHealth systems and their training activities, in addition to the Cyprus Society of Medical Informatics training, including the following:

- a medical system for emergency telemedicine (EMERGENCY-112 project)
- a home monitoring system for cancer patients (DITIS)
- a satellite-based network in health-care applications (HEALTHWARE project)

A more recent study established by Masouras in 2016³, investigated the ICT and nursing informatics skills in Cyprus’ universities (one public and three private) undergraduate nursing curricula. The study found that ICT and nursing informatics skills were combined in the curriculum only in the public university, whereas only ICT skills are included within the private universities’ content. Importantly, university representatives reported that ICT courses are not considered an important aspect within the nursing curricula. The paper expressed the lack of a standardized set of ICT skills targeting health professionals by

the Digital Strategy of Cyprus. In addition, Efthymiou *et al.* (2017)⁴ also highlighted that eHealth is a new field for secondary carers of people with dementia, pointing out the need for tailoring eHealth literacy interventions for the specific target group.

Despite technology pervading all aspects of life, **GREECE** has a digital skills deficit. Based on 2020 data, 16% of those aged 25-64 have not used the internet in the last three months – twice the European average, and third highest in the EU, after Bulgaria and Romania (ekathimerini.com, 2022). In Greece one in two citizens (49.5%) have little or no digital skills. One in five Greek citizens aged 16 to 74 have never connected to the internet (22%), while the corresponding percentage at European level is 9.5% (National Center for Documentation and Electronic Content, 2020). During the pandemic, the importance of the health sector in Greece was highlighted and resource security plans were promoted through the EU Recovery and Resilience Mechanism. Key areas that benefitted were primary and hospital infrastructure, prevention and promotion programs and the digital transformation of health services (European Council, n.d.). The Emergency Assistance Facility has helped all Member States cope with the pandemic by meeting the needs at European level. Among others, the EU Digital COVID Certificate and the connection of national contact tracking applications were funded (European Commission, n.d.).

Greek health professionals have lower digital skills than their European colleagues. A recent survey by the European Health Parliament showed that most young doctors do not feel familiar with digital systems (Tsagaris, 2019). However, nursing students have several opportunities to interact with digital technology during their undergraduate studies offered by several Greek universities.

In 2021, **LITHUANIA** was ranked 17th among 27 EU Member States in the European Commission's 2021 Digital Economy and Society Index (DESI). Compared to, for example, to the pre-Covid years, i.e., 2019 it was ranked 14th out of 28 EU Member States. The change of position to a lower one among many reasons leads to the fact that Lithuania still has room to improve the digital skills of its population and to invest in the retraining and upskilling of its workforce. Few of the main obstacles of digital transformation, which is becoming increasingly important for public sector activities, are insufficient digital, ICT and data processing skills. To be specific, the main barriers to Lithuania's digital transition is a shortage of ICT professionals and poor basic digital skills that are prevalent among many different professional cohorts, including health professionals.

In 2020, a study on existing courses offered in health and social care, which was based on online research, was conducted. It was filled out by 26 respondents and consisted of two parts, a survey and online research. The survey showed that more than a half of the respondents felt qualified to work with technological tools (73% of all the participants), while only a small proportion of the survey participants felt incompetent to work with such tools (15% of all the participants). Some of them gave reasons why they felt one way or another, for example, one participant felt that he or she lacks skills, another one said that he or she does not feel competent all the time, while the other one backed up his or her choice of not choosing the positive answer, as according to him or her technology is constantly changing, which makes him or her feel that way. However, when the respondents were asked to rate their competence in the use of assistive technology on a scale of 0 to 10, the average of their answers was 7 and 8, which indicated how confident they were in digital skills/technologies.

Regarding the question of how many digital skills / assistive technology training courses respondents attended recently, the most common answers were that they attended 1 - 2 courses (53.8%), 0 courses (42.3%), or 3 - 4 (3.8%). The people who did not attend digital skills training courses gave such non-attendance reasons as inadequate registration fees for digital skills courses (53.8%), lack of time to attend courses (23.1%) or not being able to find a course worth of interest (15.4%).

In **ROMANIA** the level of digital education is low: Romanians use the Internet especially for accessing social networks and entertainment. In addition, Romania faces a large gap between urban and rural areas in terms of broadband internet technology infrastructure (only 40% coverage in rural areas). In the DESI report Romania ranks 26th out of 28 in the EU (Desi, 2021). The IMD World report (2021) places Romania in 50th place out of 63 in the world (in 2019 Romania occupied the 46th position and in 2020 the 49th position), being the penultimate in EU member states, immediately after Jordan and before Brazil, due to difficulties in integrating digital technologies into public administration infrastructure, low level of trust and knowledge innovative systems by the population, the legislative framework unfavorable to progress in this area.

In Romania there are, thirteen accredited Faculties of Medicine, which offer students from all over the world the possibility of becoming doctors. In these medical schools applies the same as in the majority of medical schools in Europe. In medical schools in Europe there are few courses related to digital health and they have been evaluated or reported in the literature as mostly elective and showcase diverse delivery, development, assessment, and evaluation methods (Tudor et al., 2021). So, a young doctor will have to master on his own the digital skills required for his job. However, in terms of the health sector the pandemic has shifted health professionals to the further use of technology in the context of their work. It is noteworthy that pandemic further turned the attention to telemedicine. WHO and Romania's Ministry of Health aim to institutionalize telemedicine in Romania and make the service easily accessible to patients during and after the pandemic (WHO, 2021). In addition, it was observed that family doctors in Romania use technology more often in their work after the pandemic. A study showed 70% growth in virtual consultation as compared to conventional visits from March 25th, 2020, until April 17th, 2020 (Florea et al., 2021).

In **SPAIN**, the evolution of the Internet and digital technology in society and in all productive sectors has led to health systems establishing the need for changing to digital systems that can lead to improved quality and efficiency. Despite technological advances and growth of social demand to incorporate them into daily clinical practice, the level of implementation of digital innovation in the healthcare sector is still limited and slow, partly due to the digital divide. Under the term "digital health", advanced medical technologies, disruptive innovations and digital communication have gradually become inseparable from providing best practice healthcare. While the cost of treating chronic conditions is increasing and doctor shortages are imminent worldwide, the needed transformation in the structure of healthcare and medicine fails to catch up with the rapid progress of the medical technology industry. This transition is slowed down by strict regulations; the reluctance of stakeholders in healthcare to change; and ignoring the importance of cultural changes and the human factor in an increasingly technological world. [2]. Therefore, it is essential that accurate knowledge and skills related to the digital environment are acquired by all health workers. While already 90% of future jobs require some level of digital literacy, 44% of Europeans lack basic digital skills. In the case of Spain, according to a survey conducted by the Catalan University System Quality Agency (AQSUC), the results of which were presented during the "eHealth: Challenges and current needs of healthcare professionals" conference, held in September 2018, healthcare professionals lack the digital skills needed to work in the current environment.

As the survey showed, although technological skills are among the most in-demand skills among doctors, nurses and pharmacists, the average level of these professionals in technological skills is 4.7 out of 10.

The proportion of young people enrolled in VET is 12% in Spain, a rate well below the OECD (25%) and EU (29%) average. Moreover, the European Centre for the Development of Vocational Education and Training forecasts for 2025 that 49% of Spanish jobs will require an intermediate qualification, while only 14% of jobs will require low qualifications. However, in 2020, only 26% of workers have intermediate qualifications, while those with low qualifications rise to 35%. To try to extend vocational training in our country, the new vocational training plan focuses on technology, innovation, and entrepreneurship. The new plan envisages a wider, more modular, and flexible offer, in contact with the labour market and the business world.

The Spanish National Plan for Digital Competences (2030 AGENDA) describes the design of new Technical and Higher Vocational Training qualifications: Intelligent manufacturing / Digitalization of maintenance / Cybersecurity in OT environments / Cybersecurity in IT environments / Implementation of 5G networks / Development of Video Games and Virtual Reality / Maintenance of hybrid and electric vehicles / Additive Manufacturing / Artificial intelligence and big data / BIM (Building Information Modelling) / Materials Composites / Maintenance and safety of electric vehicle systems / Internet of things.

2. Identification of any LEARNING CONSTRAINTS regarding digital competences to define the eventual learning problem/gap and the desirable outcome(s)

CYPRUS. In November 2021, Financial Mirror (UK) reported that the Innovation and Digitization deputy minister, Kyriacos Kokkinos, ‘Cyprus’ shortage of IT talent and professionals are the biggest challenges the country faces on its path to digitalization’⁵. Overall, Cypriot IT companies are in need for professionals with sufficient digital/IT skills to be able to overcome the challenges faced from the rapid digital transformation across disciplines, especially following the Covid-19 pandemic.

GREECE. Based on an EU report (Camilleri, 2020), overall, Greece is behind the European average in eHealth development, especially in terms of Electronic Health Records, Health Information Exchange, eHealth Services Implementation and Personal Health Record Adoption, confirming the country’s poor performance in digital activity in healthcare. Some of the key barriers regarding the implementation of digital health solutions are (International Comparative Legal Guides, 2021):

- ✓ Lack of liquidity, funding and investments in digital health
- ✓ Lack of regulatory framework regarding digital health reform
- ✓ Greek patients’ adherence to physical contact with the physician
- ✓ Lack of familiarity of ageing population with new technologies
- ✓ Healthcare professionals’ reservedness or lack of incentives to switch to new technologies or methods, as well as any vested interests in the traditional healthcare provision system
- ✓ Lack of training of clinical staff to use such digital technologies
- ✓ Slow adaptation to new technologies
- ✓ High production and distribution costs
- ✓ Data privacy and legal requirements: need to build the infrastructure to be able to adhere to European standards.

Other learning constraints include lack of digital training during health professionals' undergraduate education as well as the absence of training opportunities for experienced professionals. Moreover, it is to be added the generation gap within the health workforce, with older professionals being more skeptical about using digital technology. This highlights the need to find appropriate incentives to make digital health training appealing across the full age spectrum of health professionals. To reap digital healthcare's full benefits, it is crucial to develop a digital technology regulatory framework that will guide the implementation of health technologies and incorporating digital health training into the medical curriculum

In **LITHUANIA**, there are three main pathways of VET programs that belong to three main educational subdivisions that could be followed by one that has decided to continue education in a vocational training institution:

- ✓ Most of the courses were aimed at social workers (33.3%), while the other courses were not specified professionally.
- ✓ Eleven courses (33.3%) were aimed at people with intellectual disabilities, cognitive disabilities, motor disabilities, mental health problems, functional losses (mobility, communication, and self-protection) and the elderly.
- ✓ The target group for the ten courses was not specified (27.3%).

All the programs were more focused on improving general IT literacy, while none of the found courses were oriented to health sector professionals or corresponded to health-related topics, such as eHealth, Telemedicine, or similar topics.

Although **ROMANIA** has registered an increase in the number of services offered online compared to 2017, the digitalization of the economy, society and health remains a wish, given the various barriers to the implementation of digital governance in Romania (Florea et al., 2021). According to the bibliography in Romania weight has been given to telemedicine in terms of health digitization but many issues are identified in the application of telemedicine in the country. Some of them are:

- ✓ the time-consuming nature of teleconsultations
- ✓ patients' difficulties in using technology
- ✓ doctor's difficulties in using technology
- ✓ uncertainty in tele-decisions (Florea et al., 2021)

In **SPAIN**, the challenges facing education today in Spain according to Silvera (2018) are a) to provide updated knowledge, b) to develop digital competences, c) to learn autonomously, d) to foster cooperation for the construction of knowledge and e) to develop the competences associated with knowing, doing and being

3. Identification of good practices in your country regarding the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units described in the application:

- CU1: Framework skills and aptitudes for digital communication
- CU2: Computer literacy, data analysis, data protection programs
- CU3: eHealth & mHealth context and content
- CU4: Medical devices compatibility
- CU5: Mobile applications, cloud storage, internet usability-functionality
- CU6: Universal digital health coverage

In **CYPRUS**, the Productivity Center (KEPA) is offering a number of training programs for the acquisition and/or upgrade of digital skills and has developed the eGnosis website that provides e-Learning training programs. For example, a EU-funded project, the e-Government project, has developed several face-to-face and virtual training programs for individuals aged over 55 years, taking from May 2022 to July 2022, but also for other age groups. This program will focus on how to use computers, Microsoft Office applications, internet and Outlook, social media, remote working, as well as GESY (General Health System).

GESY was introduced in Cyprus 3 years ago to rearrange the health sector electronically. The Cyprus Computer Society (CCS) has been involved in EU funded projects, as well, for the provision of digital skills educational programs. Given the implementation of GESY, CCS has also encouraged the health professionals to participate in sessions for digital skills development, with the cost of 250 EUR.

To note: The COVID-19 pandemic has highly contributed to the digital health era, introducing health mobile applications in Cyprus. COVTRACKER was developed by the CYENS, Centre of Excellence in Research and Innovation RISE (Research Centre on Interactive Media) in aim to track the movements of suspected or confirmed cases, using geographic location data.

In **GREECE**, the identified good practices have been under the 6 competence units:

CU1: Framework skills and aptitudes for digital communication

- ✓ **Erasmus + Proadas– Promotion of Active Digital Ageing Skills (2018-2020):** This was a European project (2018-2020) aiming to promote active digital aging skills and to bridge the gap between an aging population and digital literacy. At the same time, it aimed to empower stakeholders, experts, and health professionals, identifying the needs of older people and their caregivers in terms of technology (Proadas 2020, see bibliography).
- ✓ **iHERE:** Is a European project (2020-2022) which supports the digital literacy of socially vulnerable groups and health professionals on technology-related health issues. The goal of iHERE is the immediate access of vulnerable groups to "spaces" of medical care through the familiarity with specially designed digital tools to facilitate the prevention and treatment of diseases (innovative approaches and digital toolbox) (iHERE, see bibliography).
- ✓ **iHeal:** The aim of the project is to create an educational curriculum that will facilitate the access of older people and health professionals to online health services (iHeal, 2018-2021, see bibliography).

CU2: Computer literacy, data analysis, data protection programs

CU3: eHealth & mHealth context and content

- ✓ A National Telemedicine Network was developed in 2016 by the OTE Group. So far, 43 telemedicine units have been installed in 30 health centres on islands, 12 in regional and central hospitals and one

in the main facilities of the Hellenic Ministry of Health. During the COVID-19 pandemic, digital infrastructure and services facilitated treatment, counselling and support of patients diagnosed with coronavirus, as treating physicians can provide their services from a distance via digital means (Voutsidou, 2021).

- ✓ The Vodafone Greece Telemedicine Program (2020), implemented for the 13th consecutive year in 100 remote areas across Greece, focuses on enabling remote health screening of citizens especially at geographically disperse areas. The Telemedicine Programme supports GPs while also promoting preventive medicine. It contributes to illness prevention through timely diagnosis while also caring for the chronically ill, as it allows for the systematic check of their health status at their area of residence.
- ✓ 'DELOS': District Health Network in the Cyclades area aims to connect remote Health Centers and District Clinics with large hospitals as well as to the Shifts Coordination Center -National Health Operation Center. This enables the provision of tele-diagnostic services, tele-consulting, tele-medicine for emergencies, tele-training for doctors, nurses and administration staff and tele-psychiatry services.

CU4: Medical devices compatibility

CU5: Mobile applications, cloud storage, internet usability-functionality

- ✓ "Epocrates" (2018, see bibliography) is a mobile medical reference app, owned by Watertown, Massachusetts-that provides clinical information on medications, diseases, diagnostics and patient management and is used in nursing continuous education. It is used by Greek hospitals and supports clinical decisions in multiple ways, multiple times a day, helping the nursing staff to remain informed and effective. More specifically, the application streamlines search for information on prescription drugs and medicines drugs, drug interactions and pill identification, while targeting nursing professionals, to whom it also offers continuing education activities.
- ✓ Electronic Health Record (2014, see bibliography) through the application in the electronic address the user acquires access to his Individual Electronic Health Record. The file is enriched by various sources, such as: Electronic Prescribing data, hospitalizations in secondary care units, visits to private doctors and a general doctor.
- ✓ A series of EU projects for the digital management of chronic non-communicable diseases (for instance, Dem@Care for Dementia, Heartcycle for CHD and HF, ICT-PSP: LLM for Alzheimer's, CHRONIOUS for COPD) aim to train and connect health care professionals (as well as patients and their carers) with a wider network of experts. For example, Symbiosis is an intelligent system which aims to understand and integrate the needs of the whole Alzheimer community (patients, caregivers and doctors). Other projects aiming at the digital coordination of care is the WELCOME EU project which provides cloud-based services for the patients with COPD and comorbidities, as well as their carers and health professionals.

CU6: Universal digital health coverage

- ✓ Electronic prescriptions (n.d., see bibliography). The digitalisation of the prescription regime has been in use since 2011 and is a pivotal digital shift in the Greek NHS. Patients are able to receive medical prescriptions, physicians' referrals for diagnostic examinations, and medical certificates via SMS or email.
- ✓ Intangible Prescription (n.d. see bibliography). This system allows the user to receive their prescription (medication or examinations) by *sms* or *e-mail*. By registering to the platform, they can also receive reminders for medical appointments via SMS or email. The intangible prescription system is also used by pharmacists as they can execute prescriptions by using only a barcode.
- ✓ Distance learning platform for effective clinical management of the COVID-19 pandemic (2021, see bibliography)
- ✓ BioS Training Program - Digital Skills in Computational Biology for Health Professionals (2020, see bibliography)

- ✓ ERMES Educational Platform (2022, see bibliography)
- ✓ The National Telemedicine Network (EDIT) (2021, see bibliography): this e-health programme aims to connect remote health centers and district clinics in the Aegean islands with large hospitals. This programme allows the provision of tele-diagnostic services, tele-consulting, tele-medicine for emergencies, tele-training for doctors, nurses and administration staff and tele-psychiatry services.

LITHUANIA does not have a separate digital skills strategy, therefore for businesses to be able to develop, adopt and implement digitalization solutions and thus realize the full potential of the digital economy, it is essential to increase the number of ICT professionals, to reduce the fundamental digital skills gap, in order to reduce gender inequalities, and to increase industry investment in ICT sector's skills development. In the study on existing courses offered in health and social care (2020) all the respondents agreed that social / health workers need more training on digital skills / technology and added that digital skills / technologies need to be learned at work. Some of the respondents gave some insight on what the main barriers are to use digital technologies at work. According to them, the main barriers are a lack of adequate IT education (73.1%), and economic difficulties (38.5%), while geographical barriers do not pose problems to use digital technologies. Most of the respondents have a vision of how training in digital skills / assistive technologies can help their ability to do their job, for example, it could simplify / speed up daily activities (88.5%) or provide additional and better job choices (65.4%). According to them, such digital skills could be most effective at work / or skills that they would like to learn or improve are:

- ✓ Digital devices (e.g., tablets, PCs, etc.) (73.1%);
- ✓ Low-tech assistive devices (e.g., switches, VOCA, joystick, etc.) (26.9%);
- ✓ High-tech assistive devices (e.g., eye trackers) (38.5%);
- ✓ Assistive technology software (mobile apps, AAC software, etc.) (50%);
- ✓ Robotics (26.9%);
- ✓ Virtual reality (30.8%).

All the respondents said they would like to attend any training seminars on digital skills / assistive technologies and would like to be informed about training seminars to learn digital skills / technologies.

ROMANIAN Digital Agenda 2020 includes among others the promotion of use of information and communication technology (ICT) tools in the context of education, health, culture and digital inclusion, through broad support at sectorial level and stable ICT investments (Strategy for the Digital Agenda of Romania, 2020). Turning our attention to the digitalization of the medical system, it is worth noting that good practices were noted in Romania regarding the upskilling of the health professionals with the digital health skills. These good practices can be categorized in units/categories. In the category of "eHealth & mHealth context and content" belongs the Romanian Society of Medical Informatics. The Romanian Society for Medical Informatics, RSMI, was founded in 1990 and is a scientific, professional, non-governmental organization aimed to promote the activities in the development of medical informatics in Romania and to represent the activities in the country and abroad. Romania has planned investments of 400 million euros in digitization projects, through funds from the National Recovery and Resilience Plan, shows the analysis of Horvath, an international management consulting company. In terms of digitalization of the healthcare system, Romania is preparing projects to strengthen telemedicine, improve the digital infrastructure of public health units, mobile patient monitoring systems and technical assistance for the development and integration of digital health solutions (Radu, 2021). Among the six countries included in the Horvath analysis, Romania is the only one that intends to use the total grants and loans accessible through PNRR, reaching the amount of 29.2 billion euros, of which 2.45 billion euros will be directed to the field of health. This budget is one of the largest in Central and Eastern Europe for

the health sector (Diaconu, 2021). These efforts can fall into the following categories “eHealth & mHealth context and content”, “Medical devices compatibility” and “Mobile applications, cloud storage, internet usability-functionality”. Another related project is the “Health Records Information System - RegInterMed”, MySMIS Code 130718, funded by the European Regional Development Fund under the Competitiveness Operational Program 2014-2020 (POC), Axis 2 Information and Communication Technology (ICT) for a competitive digital economy. The project is implemented by the Ministry of Health as a leader-beneficiary in partnership with ADR (Romanian Digitization Authority), according to the financing contract no. 1 / 2.3.3 / e-health / 22.12.2020. The aim of this project is, on the one hand, to create an IT platform containing at least 100 electronic health records, and on the other hand to interconnect it with other IT platforms in the field of e-health, including existing platforms at European level (Ministerul Sănătății, 2021).

SPAIN is among the most advanced countries in the development of e-Government in Europe, advancing in the European Commission's Digital Economy and Society Index (DESI) 2020, to second place among the 28 members of the European Union in the ranking of countries with the best development of their digital public services.

On the other hand, it is important to highlight the importance of strengthening the National Health System is also part of the "Spain 2050" strategy, particularly in "*Challenge 9: Expanding the bases of our future well-being*" and in this sense the e-Health Strategy aims to support other strategies in this area developed by the Ministry of Health, including the Primary Care Action Plan, the Mental Health Plan, and the Strategic Plan on Antimicrobial Resistance. In the Digital Spain 2025 Strategy, the field of health is directly present in Cybersecurity (services for the NHS) and in Digital Competences (training of health professionals).

4. After the identification of existing knowledge and skills and learning constraints regarding digital competences, indicate the eventual match with the already identified 5 competence units identified in the project application:

- CU1: Framework skills and aptitudes for digital communication
- CU2: Computer literacy, data analysis, data protection programs
- CU3: eHealth & mHealth context and content
- CU4: Medical devices compatibility
- CU5: Mobile applications, cloud storage, internet usability-functionality
- CU6: Universal digital health coverage

In **CYPRUS**, the desk research shows the lack of overall digital skills in the Cyprus population, while reference has only been made to CU3 (eHealth interventions, such as GESY) and framework skills, further highlighting the need of the proposed competence units.

In **GREECE**, the desk research revealed that there is a limited number of training opportunities and best practices for 4 out of 6 competence units, namely, CU1: Framework skills and aptitudes for digital communication, CU2: Computer literacy, data analysis, data protection programs, CU3: eHealth & mHealth context and content and CU5: Mobile applications, cloud storage, internet usability-functionality. The lack of digital health training as well as the barriers to implementing digital health solutions indicate that the development of further training opportunities - within the context of these competences - is needed to adequately develop the digital health skills of health professionals. No evidence was found regarding training and practices relevant to the remaining 2 competence units; CU4: Medical devices compatibility and CU6: Universal digital health coverage. Thus, it is crucial that the projects' modules will develop training and educational material to cover all 6 competence units identified in the project application, to equip clinicians with the necessary digital skills.

In **LITHUANIA**, framework skills and aptitudes for digital communication (CU1) and computer literacy, data analysis, and data protection programs (CU2) seem to be the most relevant regarding digital competences of existing knowledge and skills and learning constraints, as there is a need for more training on digital skills / technology. Considering other competence units (CU4, CU5 or CU6), it may seem that the need does not exist or is not expressed as it is expressed for the CU1 or CU2, although it has more to do with the fact that these topics are much less covered or not covered at all while discussing them in the perspective of digital competences of existing knowledge, skills and learning constraints. In the meantime, eHealth and mHealth context and content (CU3) was discussed prior as a case analysis, as thanks to the public relations (PR) campaign eHealth in the last couple years has become something widely used (due to Covid-19 National Certificate mandatory requirements at the time, or EU Digital Covid Certificate need currently) among health professionals and the public.

Good practices in **ROMANIA** regarding the upskilling of the HEALTH professionals are basically focused on "eHealth & mHealth context and content". Minimal efforts were made for "Medical devices compatibility" and for the "Mobile applications, cloud storage, internet usability-functionality". Finally, no effort has been identified regarding "Framework skills and aptitudes for digital communication", "Computer literacy, data analysis, data protection programs" and "Framework skills and aptitudes for digital communication".

In **SPAIN**, initially after desk research the 5 competence units seem to match with the needs of the sector, however, they might need to be enriched with other contents.

Please note the bibliographic references have not been included in this report. They can be found in each country report (See Annex 3).

3. RESULTS OF THE FIELD RESEARCH

This chapter is organized in 2 blocks: the **results of the survey**, analyzing the responses from the 167 participants regarding their choice of contents, media, methods, learning hours and open remarks about their interests, main concerns, and suggestions plus the **results of the focus groups** regarding the competence units proposed, the skills the learners should get, the media and methods plus the identification of good practices in their countries.

SURVEY

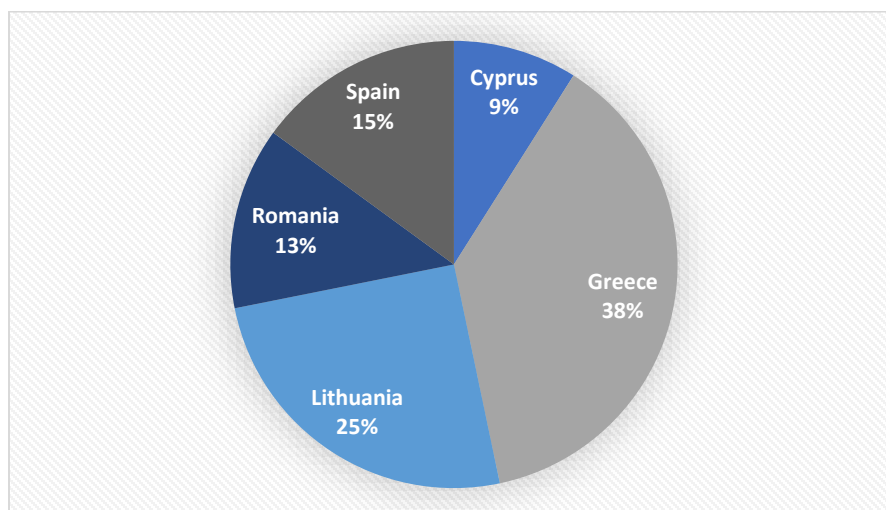
A total of **167 responses** were collected. The collection in the 5 participating countries was as follows:

Table 2. Survey responses per country (own elaboration)

COUNTRY	NUMBER OF RESPONSES
Cyprus	15
Greece	63
Lithuania	42
Romania	22
Spain	25
TOTAL	167

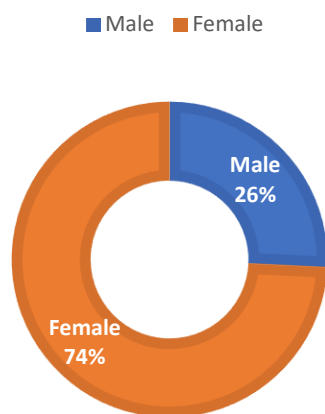
Figure 2 below illustrates the results according to percentages: We can see that most of responses were from Greece, followed by Lithuania, Spain, Cyprus, and Romania.

Figure 2: Country of the respondents (own elaboration)



As to the gender of the respondents, 74% were female. The following figure illustrates the results:

Figure 3: gender of the respondents (own elaboration)



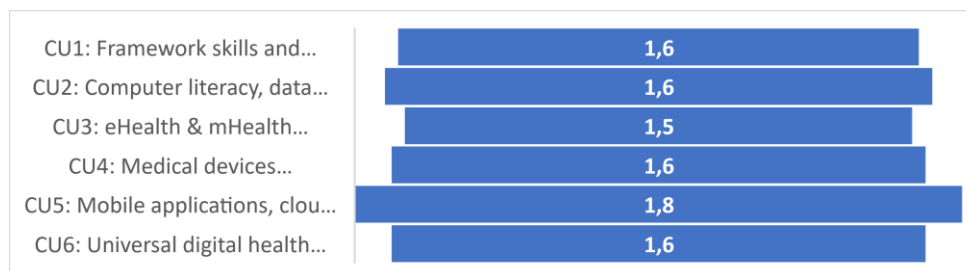
When asked about the **CHOICE OF CONTENTS** the UNIHEAL+ training regarding digital health services provision for health professionals by competence unit proposed, we obtained the following responses which have been analyzed and transferred onto averages. We have marked in green, those reflecting higher scores:

Table 3. Choice of contents – by country (own elaboration)
(1 Definitely agree to 5 Definitely disagree)

COMPETENCE UNIT	CY	GR	LT	RO	ES
CU1: Framework skills and aptitudes for digital communication	1,6	1,5	1,5	1,5	1,7
CU2: Computer literacy, data analysis, data protection programs	1,7	1,5	1,6	1,6	1,8
CU3: eHealth & mHealth context and content	1,4	1,7	1,6	1,4	1,5
CU4: Medical devices compatibility	1,5	1,7	1,7	1,6	1,5
CU5: Mobile applications, cloud storage, internet usability-functionality	1,9	1,7	1,9	1,8	1,8
CU6: Universal digital health coverage	1,9	1,7	1,6	1,3	1,5

All the participants agree on the importance of all competence units with CU3 eHealth & mHealth context and content reaching the highest average scores.

Figure 4: Choice of contents – average all 5 countries (own elaboration)



When asked if they believe there were other topics important, these were the results:

- **Basic information about innovation and digital transformation**
- **Use of specific apps**
- **Security related to ICT**
- **Use of AI**
- **Digital communication, organization** (online teamwork, worklists, task assignments, process management, registration, etc.)
- **Professional ethics**
- **Training in the use of internal communication digital tools** (e.g., MS Teams)
- **Training courses for digital platforms**
- **Parental counseling / intervention for adolescents in disadvantaged areas / Mental hygiene of the active population**
- **Digital health services**
- **Analytics and statistics**
- **Topics related to the specific job**

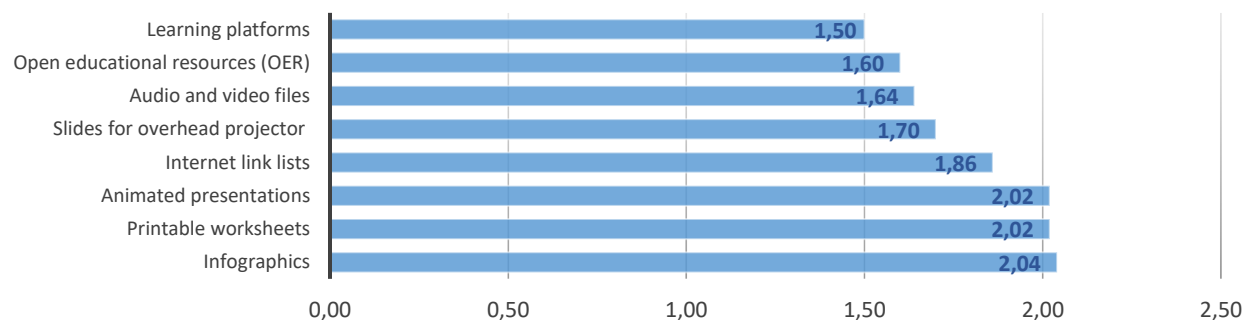
When asked about the **CHOICE OF MEDIA** and **EDUCATIONAL MATERIALS** they believe most fit to be used as resources in a course/learning activity addressing digital health services provision for health professionals we obtained the following responses which have been analyzed, transferred onto averages, and ordered by rating. We have marked in green, those reflecting higher scores.

Table 4. Choice of media and educational materials by country (own elaboration)
(1 Definitely agree to 5 Definitely disagree)

MEDIA	CY	GR	LT	RO	ES
Printable worksheets	2	2,2	2	1,5	2,4
Infographics	2,2	1,9	2	1,9	2,2
Animated presentations	1,9	2,1	2	2,3	1,8
Slides for overhead projector	1,9	1,5	1,6	1,5	2
Open educational resources (OER)	1,7	1,5	1,7	1,4	1,7
Internet link lists	1,8	1,7	2,1	1,8	1,9
Audio and video files	1,7	1,4	1,8	1,5	1,8
Learning platforms	1,5	1,4	1,5	1,5	1,6

All the participants agree on the importance of all media as the lowest collated value was 2,04. **The media reflecting higher scores are learning platforms, OER and audio and video files**, as illustrated in figure 4:

Figure 5: Choice of media – average all 5 countries (own elaboration)



When asked, if there are other media that found important, the participants replied.

- **Simulations**
- *Interactive instruments*
- *How to use learning platforms*
- **Information about conferences, trainings, important innovations**
- **Experiential and practical activities**
- *Mass media*
- **Methods that involve collaboration and working in work teams**
- *Accessible educational resources*
- *Podcasts in different languages*

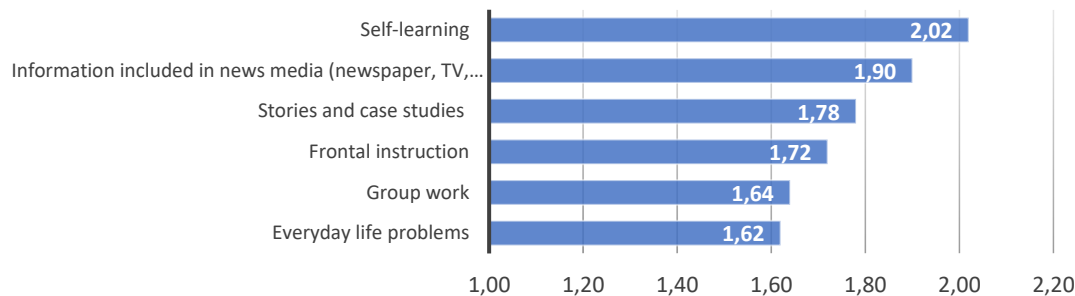
When asked about the **CHOICE OF METHODS** they see most fit to be used as resources in a course/learning activity addressing digital health services provision for health professionals, we obtained the following responses which have been analyzed and transferred onto averages. We have marked in green, those reflecting higher scores

Table 5. Choice of methods (own elaboration)
(1 Definitely agree to 5 Definitely disagree)

METHODS	CY	GR	LT	RO	ES
Frontal instruction					
Group work					
Self-learning					
Role playing					
Storytelling					
Stories and case studies					
Everyday life problems					
Information included in news media (newspaper, TV, radio)					

Again, all the participants agree on the importance of all methods as the lowest collated value was 2,02. **The methods reflecting higher scores are: everyday life problems and group work followed by frontal instruction and stories and case studies**, as illustrated in Figure 5 below.

Figure 6: Choice of methods – average all 5 countries (own elaboration)

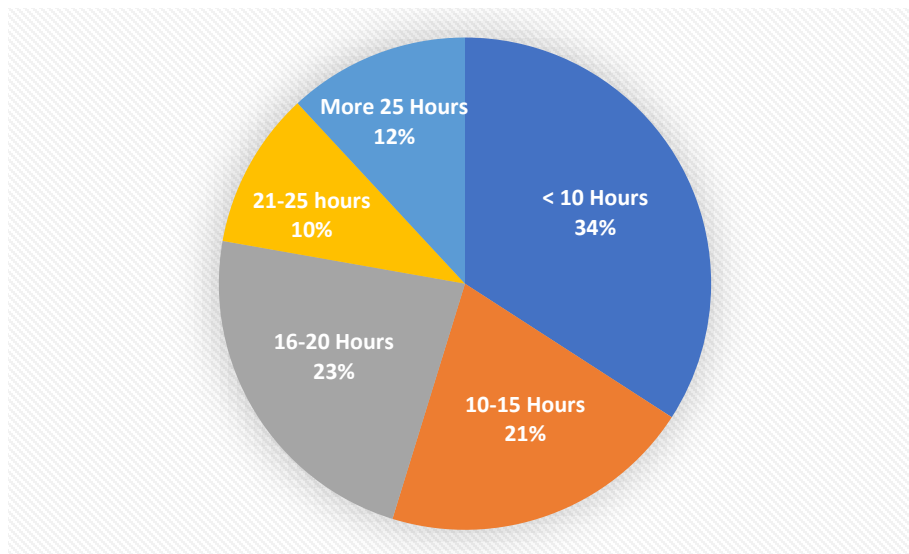


When asked, if there are other methods that found important, the participants replied.

- *Methods with practical applicability*
- *Promotion through sport*
- *The work team should always be united*
- *Working groups*
- *practical application*
- *Podcasts*
- *Presentation projects (personal and/or team)*
- *Health education, registration with doctors online*

When asked about the **time they believed they could devote to the course**, the most selected timeframe was more than 10 hours followed by between 16 and 20 hours and 10-15 hours. It is illustrated in the figure below:

Figure 7: Time to devote to the course (own elaboration)



Below you can find a summary to the final 3 open questions.

When asked ***in your opinion, what would make a course regarding digital skills for health professionals interesting for you to participate?*** These are the main summarized results:

- ✓ *Make it **practical***
- ✓ *Make it **functional and applicable to our day-to-day work in the health sector.***
- ✓ *Make it **applicable to most of the cases that health professionals see today in our day to day of our profession***
- ✓ ***Applicable to real problems***
- ✓ *Include **pictures and videos***
- ✓ *Make it **useful and universal**, so that the digital skills learned in the course are useful for all health centres*

- ✓ **Make it Useful and enjoyable**
- ✓ **Suggest solutions for the most direct communication with the patient**
- ✓ **Show the Improved skills using interactive platforms (digital certification)**
- ✓ **Online format with self-learning**
- ✓ **Provide a high number of case studies**
- ✓ **Daily utility, focus on management and knowledge of digital tools**
- ✓ **Make it easy to understand and concise**
- ✓ **Flexible and that would allow me to adapt my work schedule**
- ✓ **Include Interactive lessons based on the new educational model of education (teamwork, brainstorming, case study, etc.)**
- ✓ **A PowerPoint presentation on the importance of situations, as well as an emphasis on everyday events would be very helpful.**
- ✓ **Audio-visual material and the dialogue. Do not just talk to the teacher.**
- ✓ **Useful Links**
- ✓ **Video materials with case studies**
- ✓ **Interactivity, feedback, tracking flexibility,**
- ✓ **Certificate tracking**
- ✓ **Updates and guides on new digital services, basic digital skills as well targeting the older population who haven't had the chance to familiarise themselves with the digital era.**
- ✓ **Easy and simple ways to learn new things**

The keywords we have been able to find (using <http://www.find-keyword.com/find/>) regarding what the participants believe would make the course interesting are: **USEFUL, APPLICABLE, INTERACTIVE, AUDIO VISUAL, CERTIFICATION, UPDATED.**

When asked **what are your main concerns regarding a course focused on digital skills for health professionals?** These are the main summarized results:

- ✓ **Not being able to handle technology well and falling behind in the course**
- ✓ **That it may become obsolete quickly and if it is difficult to assimilate**
- ✓ **Understanding the course and its practical points**
- ✓ **Difficult to follow and not very useful for solving real problems**
- ✓ **Not being able to follow the course**
- ✓ **Applicability with current software**
- ✓ **That it does not respond to our needs: daily problem solving**
- ✓ **That does not adapt to the reality of work**
- ✓ **If it does not adjust to reality and is very theoretical.**
- ✓ **The displayed information must be anonymous**
- ✓ **Lack of time**
- ✓ **Needed Time**
- ✓ **Lack of applicability**
- ✓ **Not adapted to reality**
- ✓ **Evaluation**
- ✓ **Lack of clear lesson objectives**
- ✓ **If it would be useful and not only so theoretical**

The main keywords we have been able to find regarding their main concerns are: NOT APPLICABLE, NOT CLEAR LEARNING OBJECTIVES, DIFFICULT TO FOLLOW, TOO THEORETICAL, LACK OF TIME,

And finally, when asked *please provide suggestions to the UNIHEAL+ team to design a course regarding digital skills for health professionals*, the main summarized results are:

- ✓ **Practical utility of the contents**
- ✓ **Make it very practical**
- ✓ **Small groups and application case study scenario**
- ✓ **Include case studies, practice based on scientific evidence, online discussions, and group work with program participants**
- ✓ *Work with active/interested groups, while updating and adapting the programs according to the problems that have emerged.*
- ✓ **High-quality, concentrated material, applicable in everyday practice**
- ✓ **They must be properly designed**
- ✓ **Periodic re-evaluation of the course, depending on the news in the field**
- ✓ *The training of digital skills requires a resistance of the participants so that the **motivation** decreases constantly when there is no feedback and connection. I propose to conduct courses at the level of institutions and between institutions, with the motivation of acquiring a socially recognized ability and designing future benefits.*
- ✓ *Financial support of students*
- ✓ *The course should have a **compact structure***
- ✓ *Courses should be **detailed and precise***
- ✓ **Flexibility of hours/days to do it at my own time.**
- ✓ *To be **understandable and not boring. With assignments***
- ✓ *Flexible: compatible with studies or work*
- ✓ *For example, **educational remote video material could be presented and sent (or downloadable) for self-study in the form of written educational material to e-mail...***
- ✓ *Might be difficult for people with no previous knowledge*
- ✓ **Divide employees into unskilled, low-skilled, and advanced.**

The main keywords we have been able to find regarding the participants in the survey suggestions are: MAKE IT PRACTICAL, PLACE EMPHASIS ON DESIGN, PROMOTE MOTIVATION, FLEXIBLE AND ADAPTABLE TO THE LEARNER NEEDS, LEVELS OF KNOWLEDGE.

FOCUS GROUPS

The following table summarizes the key data from the 5 focus groups that were implemented:

Table 6. Key data about the Focus groups

Country, location (if any), and date/time	Face to face or online	Number of participants
Cyprus 26/05/2022 from 19:00 to 20:00	Online using Google Meet	3
Cyprus 06/07/2022	Online using Google Meet	2
Greece 5/05/2022 from 15.00 to 17.00	Online using Google Meet	6
Lithuania. Online. 20/06/2022 from 18.00 to 19.30 (19:15)	Online using Google Meet	6
Romania 27/07/2022 from 11.30 to 12.15	Online using Google Meet.	6
Spain. Online. 17/05/2022 from 16.00 to 17.30	Online using TEAMS	6
TOTAL		29

We have hereby introduced the summary of results regarding the 4 questions introduced in the focus groups to complement the results of the desk and field (survey) results.

Question 1. Feedback about the preliminary proposed competence units

CYPRUS: Participants emphasized the importance of Data and Cyber Security training. Lots of Cypriot organizations seem to use Servers instead of online services for Data Storage as they are afraid of a potential data breach. Knowledge of services that provide cloud storage to organizations alongside with an insurance – how to identify security issues. Mobile applications are referred to both CU3 and CU5. It was therefore highlighted the potential importance of classifying those units into the theoretical (definitions) and practical (examples/directions) aspect of mobile applications, respectively. It is important to be familiarized with universal access points to data so health professionals can collaborate and share information across countries.

GREECE: All participants, recognised the importance of technology in their daily medical practice. Participants acknowledged that there were no courses on digital health during their medical studies. During their internship and / or specialty they were invited for the first time to use digital means, such as electronic prescribing (e-prescribing), as well as specific digital applications per specialty. They learnt how to use all of them in practice, through information they received from more experienced colleagues. In some cases, special training seminars for health professionals in specific digital programs that were introduced in the hospitals were held. It was reported that the organization, which had designed and implemented the national e-prescribing program conducted seminars during its initial period of use in public hospitals but not in private ones. Furthermore, participants reported that the level of ease or

difficulty of using digital tools in medicine depends to a large extent on the already existing level of familiarity with the use of digital media of each health professional. This was largely related to age - younger health professionals were generally more familiar with the use of technology and learnt more easily to manage digital tools in their daily practice than older health professionals. Overall, participants emphasised the need for training in the use of digital tools in their daily medical practice, both during medical studies and later in their professional life.

LITHUANIA: Among Lithuanian participants of the focus group, CU3: eHealth & mHealth context and content seemed to be the most relevant competence unit out of the ones that were presented. Currently, the Lithuanian eHealth system has more problems than benefits. A huge role that plays in here is the absence of a unified eHealth system, what causes health institutions to choose an alternative eHealth system, according to their institutional preferences or IT competencies. Regarding the content of the local (Lithuanian) eHealth system, so-called medical histories of patients, where patient records are being kept, is absent on the eHealth system. Lithuanian eHealth system requires a lot of improvements to make it more practical and well-functioning. Such changes require medical staff, health professionals to be involved in the development process of the eHealth system to make it more efficient and user-friendly regarding the staff that uses it as a work tool.

ROMANIA: When participants were asked to give their opinion regarding to the Competence Units relevance and whether they would like to change/add/enrich any of them, new competence unit should be *data security for health specialists and patients, use of personal data and cyber security knowledge/safety*. Regarding the use and utility of modules, special attention should be paid to easy and convenient navigation. It is important to make the content useful to the health professionals. It is also crucial a multilevel and multicultural approach of the content cause is going to deal with different levels and cultural base of the learners.

SPAIN: New competence units: *Security and cyber security, Data Privacy and Link between privacy and data security*. Make sure to mention GCP-ICH Guidelines (GCP is an international ethical and scientific quality standard for designing, conducting, recording, and reporting trials that involve human subjects. Compliance with GCP assures that the rights, safety, and well-being of trial subjects are protected and that the clinical trial data are credible and International Conference on Harmonization (ICH): guidance provides a unified standard for the European Union, Japan, and the United States to facilitate the mutual acceptance of clinical data by the regulatory authorities in those jurisdictions) that ensure the quality of the clinical study. Participants advised to reorganise the following competence units:

- ✓ *CU1: Framework skills and aptitudes for digital communication*. Make sure digital health administration is included. Make sure you also connect with those technologies that facilitate digital communication with cases and use in the health sector
- ✓ *CU2 Computer literacy, data analysis, data protection programs* to be renamed and include computer literacy and revolution of big data: data lifecycle, interoperability, data protection, analytics, algorithms, big data, and artificial intelligence
- ✓ *CU3: eHealth & mHealth context and content* is a very wide competence unit. Make sure you do not overlap with CU 5 or even CU3 could absorb CU 5: *Mobile applications, cloud storage, internet usability-functionality*. Make sure you include cases to show how digital transformation is affecting the health sector

Moreover, it was highlighted that it is important to make the titles attractive and appealing to the health professionals; to make sure we deal with different levels of the learners. An idea would be to include in each competence unit a basic level and a medium level and also consider the possibility of making up pre-evaluation questionnaires to see the level and expectations of the learners and compare with final tests.

Question 2. Feedback about What digital skills should HEALTH professionals get

CYPRUS: Participants suggested the implementation of an Evaluation Phase prior the Training Phase – in this way, they can be directed to a specific level of training (beginners/intermediate/advanced), or to the appropriate competence unit(s) based on their existing knowledge/educational background, as well as profession (i.e., professional at pharmaceutical industries might have different needs from a doctor). The VET educator had noticed that several health professionals do not know how to use Outlook/Gmail (i.e., Email); for example, they are not aware of the ‘SPAM EMAILS’ section, as a result, they miss important emails.

GREECE. During the discussion younger participants mentioned the difficulty they faced during the initial period of their practice in using the electronic prescription application. It seems that they learn empirically, through colleagues and / or personal interest. Also, all younger participants and some older ones talked about the difficulty they had in recognising each patient's illness, in the IC10 and ICD11 lists used in the electronic recording of each case. The diseases on these lists are coded in a specific way, which health professionals had not been taught in their studies. Participants did not understand the difference between ehealth and mhealth. When relevant explanations were given, they stated that the use of mhealth, i.e., the possibility of transferring and using medical data electronically, is not widespread enough in Greece. However, they expressed great interest in relevant training, as they considered it to be “the future”. Participants also talked about the importance of communication of health professionals with patients and the opportunities that social media gives to strengthen it. They cited the example of the use of social media for the dissemination of knowledge related to specific diseases and their prevention, i.e., posting posts on the personal pages of health professionals about healthy eating and exercise (lifestyle medicine). Insecurity seems to have been felt by participating health professionals regarding the protection of patients' personal data when handling medical information, i.e., electronic exam submission, photographic material. Finally, it is worth noting the opinion expressed by a VET educator who participated in the study, on the need to divide the content of the training in the following 3 broad topics: prevention, diagnosis, treatment.

LITHUANIA. Upskilling of the health professionals seemed to be relevant to all different age groups of medical staff, even though sometimes it is believed that younger doctors do not require help, for example, with digital tools. Anyone working in the health sector, no matter young or old, well-experienced or not has to deal with problems on the eHealth system. However, the lack of cooperation between health professionals, as well as health professionals and IT departments technicians, adds up and contributes to the fact that health professionals lack digital health skills. Regarding the training of health professionals for the most part is not happening in the way the participants of the focus group would expect it. Although according to some, training is crucial. A very strong need was expressed that there should be a technician collaborating with health professionals during health professional's daily tasks, if we want to achieve a higher standard and level of health services, where a health professional can spare more time to the patient and not look at the computer screen for the most part, as he must fill out many forms and documents on the eHealth system.

ROMANIA. The debate about the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units was focused on:

- ✓ Digital skills

- ✓ Communications skills
- ✓ Multicultural skills and empathy
- ✓ Navigation skills
- ✓ Health knowledges
- ✓ Make sure the learners always know the specific -skill- goals
- ✓

In **SPAIN**, when participants were asked about the **SKILLS** the learners should get: the debate about the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units described above was focused on:

- ✓ Make sure that the overlap of contents in the different units is avoided
- ✓ Make sure the skills are linked (or can be linked in any way) to the real performance of the health professionals
- ✓ Try the possibility to link with National NQF level in the planning of the curriculum to be able to offer the results to the different stakeholders that could incorporate the learning proposed into official programmes
- ✓ Make sure the learners always know what s/he is supposed to learn and where in the platform is during the whole learning process
- ✓ Include self-learning (including short videos, pdfs...etc) that can be adapted to the timing of the learner

Question 3. Feedback about MEDIA

CYPRUS. It was mentioned that learning platforms sound like they need to already have several (basic) digital skills, as far as they are concerned – therefore, it is important to ensure that platforms are straight forward and easily accessible or guidelines might need to be provided as an initial step. The participants also found the use of Infographics and Presentations useful, and easily accessible and stored, considering that they can be downloaded, as well, whereas video files need higher storage capacity.

GREECE. Overall, participants reported that they preferred blended learning methods. A combination of online and in person training curriculum would enable them to study flexibly and will be in line with their busy schedules. In person training allows for live discussions and sharing of experiences with other health professionals while online courses can be taken at any time, allowing for 24-hour access to any recorded or written material. This means that health professionals can access and peruse the information and resources as and when they wish and control their own progress at a speed that suits their professional and vocational needs. Participants also mentioned that another helpful learning medium would be a virtual reality environment that trainers can use to simulate real life scenarios such as consultation sessions with patients or training on diagnosis and electronic prescription of medicines. These case studies will enable them to navigate real life situations and receive instant feedback on their performance. Participants felt that watching videos explaining topics such as how to use medical applications, would help them to apply their knowledge in their everyday practice more easily. Participants felt that a learning platform with internet link lists would be beneficial to their practice as they would be informed about health care applications which work for all medical specialties, such as; applications to record medical tests, appointments, manage medication reminders or common drug interactions. The inclusion of internet link lists was also suggested as a valuable tool for doctor-patient communication. Health care

professions felt that being informed about verified websites (e.g., governmental sources) with reliable information about medical issues (e.g., vaccination information) would enable them to direct patients who wish to receive further information and support on their condition. They proposed that this educational method would be especially helpful for patients with chronic health care conditions.

LITHUANIA. More than one interviewee agreed that videos are useful, especially if it is filmed how to use it, to get to know how to use it. Remote training is also a very good option, as doctors do not have a lot of time that could be dedicated for training and they are trying to save every minute if they can, therefore having the option to attend remote training would be the preferable one. Relevant possibility would be to connect at any time of the day, otherwise doctors do not have time to connect at the right time. Digital training, which is tailored to individual needs, tasks are also very relevant. For the older generation of doctors, teachers and training in person seems to be very relevant, valued and needed.

ROMANIA, when participants were asked, they reassured the importance of:

- ✓ *Learning platforms*
- ✓ *Infographics*
- ✓ *Animated presentations*
- ✓ *Audio and video files*
- ✓ *Relevant Internet links*
- ✓ *Games and gamification tools*
- ✓ *Interactive evaluation tools/ personal assessment tools*
- ✓ *Forum among the participants*

In **SPAIN,** participants reassured that the initial list provided was considered very relevant, that is:

- ✓ *Learning platforms: What do they think about Moodle as learning platform?*
- ✓ *Infographics*
- ✓ *Animated presentations*
- ✓ *Audio and video files*
- ✓ *Internet link lists*

Moreover, it was mentioned to consider the possibility to include links inside the learning so that students cannot only access links via “further readings” but also check information, definitions...etc. and even short exercises where the learner must find specific information and then check if they have found the right way; make sure the media used is attractive and appropriate; make sure there is someone following the training and always supporting the learners; consider the possibility of using “flipped classroom” online techniques and consider the possibility to use “live sessions” where there is a speaker interacting with the learners.

Question 4. Feedback about METHODS

CYPRUS. Group work could be useful as they can exchange knowledge/experience and can be highly interactive; however, it is important that various group sessions are provided with different dates/hours to match health professionals' availability to the most. Role playing could be considered a 'sensitive method' that could produce negative reactions, and it does not sound appropriate for the provision of theoretical knowledge. Storytelling could be useful method as it can generate dilemma and facilitate discussions between professionals (i.e., why 'this software' has failed, what the consequences are?)

GREECE. Participants agreed that the list presented was relevant. They concluded that case studies and group work techniques will be particularly helpful for digital skills training.

In **LITHUANIA**, depending on different professions and specializations in the health sector, there are different preferences regarding the methodology used while acquiring new skills and knowledge. Working in a small group of students with a teacher seemed to be one of the ways the medical staff would like to acquire skills that are needed for their daily tasks. Having meetings, virtual training, as well training sessions in person are methods that are preferred to be used by students. Freely accessible educational resources are also seen positively. However, like in the answer given above on the choice of media, it seems that there is more preference given towards having everything organized virtually versus in person. The reasoning here is simple and very similar to the reasons discussed above - health professionals must deal with lack of time therefore they would prefer choosing by themselves when they are able to spare an hour or more for self-learning.

ROMANIA participants reassured that the initial list and focused on:

- ✓ *group work*
- ✓ *role playing*
- ✓ *case studies/ everyday life problems*
- ✓ *storytelling/ digital storytelling*

In **SPAIN**, participants reassured that the initial list provided was considered very relevant, that is:

- ✓ *Group work*
- ✓ *Role paying*
- ✓ *Storytelling*
- ✓ *Stories and case studies*
- ✓ *Everyday life problems*
- ✓ *Data reported by news media (newspaper, TV, radio)*

Moreover, it was mentioned to consider group work as an extra activity: to learn from what others do or even as an optional evaluation activity, make sure you include enough "everyday health professionals' issues" that can not only illustrate but offer different opportunities for learning from others and also make sure all the methods are well explained and closely related to what the learner must learn.

Question 5. Feedback about GOOD PRACTICES

CYPRUS. Most of the health professionals were not aware of good practices related to digital health skills. Indeed, they mentioned that with the implementation of the new health system in Cyprus, GESY, 6–12-month training face-to-face sessions were provided for doctors. It was noted thought that there have been a few issues in using the software, mostly technical issues, with doctors losing access to the software.

GREECE. Although participants agreed that there is a widespread need for digital training in their profession, there are some existing good practices that can be used as learning examples. Specifically, undergraduate nursing and medical school students have been trained to use several medical devices which operate through smartphone applications. This means that students had the opportunity to train in new technologies which was a helpful tool in their healthcare practice. Using digital devices allowed them to review the data imported in the applications and were able to better monitor their patients' condition across a period of time. There was consensus among participants that being trained in new digital systems or medical devices when first arriving in a hospital is common practice. However, this only happens when this technology is first implemented, therefore, professionals hired at a later stage do not receive any formal training and depend on their colleagues for guidance and support. Another good practice proposed was the use of digital interfaces to conduct online consultation sessions with patients that reside in remote or rural areas. This can be done via a centralised hospital system that requires the patient having access to the internet. Participants felt that there are certain good practices found only in the private health care sector that would be valuable to be widely implemented in the public sector too. The use of Customer Relationship Management (CRM) systems, allows for doctors to access up-to-date information about patients, gather valuable insights about their health condition and provide better care. From patients' point of view, they can easily monitor their health problems and be reminded of regular check-ups, upcoming appointments, vaccination doses etc. This practice can be used as an effective prevention strategy.

LITHUANIA. Good practices on health professionals upskilling could be found either locally, i.e., in Lithuania, or regionally, for example, in other countries (that are mostly in Europe). There are lots of good practices in Scandinavia. For example, in Denmark, the patient portal is very well used, as there is a societal need embedded there, and everything is being done through one portal (which is quite contradictory to the Lithuanian eHealth system). Also, some good practices could be found comparatively not that far from Lithuania in Finland or Estonia, where, for example, eHealth functions in a much better way than it does in Lithuania. However, to implement these good practices from abroad, there is a need to do our homework first, which would be ensuring funding and political will. Even though it seems like the system we have or the tools we use are not perfect, there are examples locally, which could be taken as the exemplary ones (like *Santara clinics*).

ROMANIA. In the framework of the conversation 2 good practices mentioned:

- ✓ The first was SanoPass. SanoPass is a healthtech platform that -in general- unifies and digitizes access to health. It provides access to over 11,000 doctors, guaranteeing appointments with national coverage in a maximum of 48 hours. Currently, the service is available in over 1,000 private clinics and 150 gyms. In 2021, SanoPass recorded more than 10,000 medical services and 5,000 gym sessions each month, reaching over 30,000 users (<https://sanopass.ro/>).
- ✓ The second was MedicAi. Medicaï is a collaborative online imaging platform that enables better sharing and communication between patients, doctors & clinics. Medicaï allows for in-the-cloud, real-time collaboration between doctors and patients on imaging investigations (CT, MRI, PET-CT and more) and medical documents (<https://www.medicai.io/ro>).

SPAIN. Good practices mentioned:

- ✓ Technology pills at:
<https://www.sspa.juntadeandalucia.es/servicioandaluzdesalud/ayudadigital/formacion>
- ✓ Platforms from hospitals such as: <https://www.hospitalmacarena.es/entrada-blog/gesforma/>, or <https://www.hospitaluvrocio.es/blog/formacion-continuada/>
- ✓ Course from CURAE Salud:
 - ⇒ <http://curaesalud.com/el-uso-del-big-data-y-la-inteligencia-artificial-en-la-practica-sanitaria/>
 - ⇒ <http://curaesalud.com/la-salud-digital-para-el-profesional-del-sxxi/>
 - ⇒ <http://curaesalud.com/claves-para-la-innovacion-en-salud-digital-2/>
 - ⇒ <https://www.saluddigital.net/pagina/quienessomos>
- ✓ Google activate: <https://learndigital.withgoogle.com/activate/>
- ✓ Linked in IN LEARNING: <https://www.linkedin.com/learning/>

Please note that under Annex 3 country reports this information can be checked plus, per country:

- ⇒ Invitation letter/email,
- ⇒ Signature list (or list of participants signed by the partner organising the focus group),
- ⇒ Live records (e.g., photos/screenshots, audio/video record)

4. CONCLUSIONS

The results obtained in this research will allow the UNIHEAL+ team to design a transversal curriculum and the content development for the digital reskilling and upskilling of the health professionals.

The result of this document has implications for the development of:

- R1: UNIHEAL+ Framework Courses – curriculum design and content development.
- R2: Adaptation and Training Guide for UNIHEAL+ Educators
- R3: eLearning Resources & Digital Tools
- R4: UNIHEAL+ Skills Assessment, Validation and Recognition Content & Tools.

As a summary of the results, we can say that:

Desk research has **reassured the emerging need for the digital reskilling and upskilling of the health professionals** across the EU in general and in the researched countries, that is: Cyprus, Greece, Lithuania, Romania, and Spain.

There were 167 participants to the survey and 29 to the focus groups, so that the total number of participants reached at this research phase is 196.

Regarding the **6 competence units proposed**, all the participants from the survey agree on the importance of all competence units with CU3 eHealth & mHealth context and content reaching the highest average scores.

Regarding the focus groups, it was also highlighted:

- the importance of **Cyber Security, Data Privacy and Link between privacy and data security**
- include information about **universal access points to data so health professionals can collaborate and share information across countries**
- Make sure to **mention GCP-ICH Guidelines** (GCP is an international ethical and scientific quality standard for designing, conducting, recording, and reporting trials that involve human subjects. Compliance with GCP assures that the rights, safety, and well-being of trial subjects are protected and that the clinical trial data are credible and International Conference on Harmonization (ICH): guidance provides a unified standard for the European Union, Japan, and the United States to facilitate the mutual acceptance of clinical data by the regulatory authorities in those jurisdictions) that ensure the quality of the clinical study.
- Consider the reorganisation of the following competence units:
 - ✓ *CU1: Framework skills and aptitudes for digital communication.* **Make sure digital health administration is included.** Make sure you also connect with those technologies that facilitate digital communication with cases and use in the health sector
 - ✓ *CU2 Computer literacy, data analysis, data protection programs* to be renamed and **include computer literacy and revolution of big data:** data lifecycle, interoperability, data protection, analytics, algorithms, big data, and artificial intelligence

- ✓ **CU3: eHealth & mHealth context and content is a very wide competence unit. Make sure you do not overlap with CU 5 or even CU3 could absorb CU 5: Mobile applications, cloud storage, internet usability-functionality.** Make sure you include cases to show how digital transformation is affecting the health sector
- It is important to make the titles attractive and appealing to the health professionals; to make sure we deal with different levels of the learners. An idea would be to include in each competence unit a basic level and a medium level and consider the possibility of making up pre-evaluation questionnaires to see the level and expectations of the learners and compare with final tests.

Moreover, in the focus groups, the main concerns about the skills and elaboration of the contents are:

- Consider the **possibility of implementing an Evaluation Phase prior the Training Phase** – in this way, they can be directed to a specific level of training (beginners/intermediate/advanced), or to the appropriate competence unit(s) based on their existing knowledge/educational background
- Consider **dividing the content of the training in the following 3 broad topics: prevention, diagnosis, treatment.**
- Make sure that the **overlap of contents in the different units is avoided**
- Make sure the **skills are linked (or can be linked in any way) to the real performance of the health professionals**
- Consider the **possibility to link with National NQF level** in the planning of the curriculum to be able to offer the results to the different stakeholders that could incorporate the learning proposed into official programmes
- **Make sure the learners always know what s/he is supposed to learn and where in the platform is during the whole learning process**
- **Include self-learning (including short videos, pdfs...etc) that can be adapted to the timing of the learner.**

As to the **CHOICE OF MEDIA** and **EDUCATIONAL MATERIALS**, the survey showed that the media reflecting higher scores are learning platforms, OER and audio and video files.

Regarding the focus groups, it was also highlighted:

- it is important to **ensure that platforms are straight forward and easily accessible** or **guidelines might need to be provided as an initial step**
- Consider the **possibility of blended learning: a combination of online and in person training**
- For the older generation of doctors, teachers and training in person seems to be very relevant, valued and needed.
- Consider the **possibility include links inside the learning** so that students cannot only access links via “further readings” but also check information, definitions...etc. and **even short exercises where the learner must find specific information and then check if they have found the right way**
- Make sure the **media used is attractive and appropriate**
- Make sure there is **someone following the training and always supporting the learners**
- Consider the possibility of using **“flipped classroom” online techniques and consider the possibility to use “live sessions” where there is a speaker interacting with the learners.**

Regarding the **CHOICE OF METHODS**, the survey showed that the methods reflecting higher scores are everyday life problems and group work followed by frontal instruction and stories and case studies.

Regarding the focus groups, it was also highlighted:

- **Group work could be useful** as they can exchange knowledge/experience and can be highly interactive; however, it is important that various group sessions are provided with different dates/hours to match health professionals' availability to the most.
- **Role playing could be considered a 'sensitive method' that could produce negative reactions**, and it does not sound appropriate for the provision of theoretical knowledge.
- **Storytelling could be useful method** as it can generate dilemma and facilitate discussions between professionals (i.e., why 'this software' has failed, what the consequences are?)
- **Consider group work as an extra activity**: to learn from what others do or even as an optional evaluation activity.
- **In the methods selected, make sure you include enough "everyday health professionals' issues"** that can not only illustrate but offer different opportunities for learning from others and make sure all the methods are well explained and closely related to what the learner must learn.

Moreover, in the open questions to the survey:

- The keywords we have been able to find regarding what the participants believe would make the course interesting are: USEFUL, APPLICABLE, INTERACTIVE, AUDIO VISUAL, CERTIFICATION, UPDATED.
- The keywords regarding their main concerns are: NOT APPLICABLE, NOT CLEAR LEARNING OBJECTIVES, DIFFICULT TO FOLLOW, TOO THEORETICAL, LACK OF TIME.
- And finally, the keywords we have been able to find regarding their final suggestions are: MAKE IT PRACTICAL, PLACE EMPHASIS ON DESIGN, PROMOTE MOTIVATION, FLEXIBLE AND ADAPTABLE TO THE LEARNER NEEDS, LEVELS OF KNOWLEDGE.

All partners and particularly leaders of R2 to 4 are highly encouraged to read this report and come up with a list of key points to integrate into their planning and results.

ANNEX 1: SURVEY TEMPLATE AND GUIDELINES

**Survey: 90-120 participants (health sector staff/professionals) IN TOTAL:
15-20 participants per country.**

Process proposed: to issue a Gforms template, partners translate to their languages and insert results online in EN at:

<https://forms.gle/CoYUmtzt3SDKJTad9>

To facilitate translations, partners have translated and adapted the surveys and inserted them here:

<https://drive.google.com/drive/folders/1mmx9e692OwkMvEnkkfwcBcFHhL3sAo3a?usp=sharing>

Completing this questionnaire will not take longer than 10 minutes. Thanks in advance for your time!!

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*** means mandatory**

A. GENERAL INFORMATION ABOUT PARTICIPANTS

A.1. * Country

Spain

Greece

Cyprus

Lithuania

Romania

Other? Please specify where from:

A.2. Gender (non-compulsory)

Male

Female

A.3. How old are you? (non-compulsory):

A.4: Please describe your job in the health sector:

B. IN WHAT DIGITAL CONTENTS REGARDING DIGITAL HEALTH SERVICES PROVISION SHOULD OUR TRAINING FOR HEALTH PROFESSIONALS FOCUS ON? WHICH MEDIA? WHICH METHODS? PLEASE TELL US YOUR PREFERENCES!

B.1. * Choice of contents you think our training regarding digital health services provision for health professionals we should focus on: (1 Definitely agree to 5 Definitely disagree or I do not know N/A)

Issuers

<i>CU1: Framework skills and aptitudes for digital communication</i>	1	2	3	4	5
<i>CU2: Computer literacy, data analysis, data protection programs</i>	1	2	3	4	5
<i>CU3: eHealth & mHealth context and content</i>	1	2	3	4	5
<i>CU4: Medical devices compatibility</i>	1	2	3	4	5
<i>CU5: Mobile applications, cloud storage, internet usability-functionality</i>	1	2	3	4	5
<i>CU6: Universal digital health coverage</i>	1	2	3	4	5

Are there other topics that you find important?

B.2. *Choice of Media / Educational Materials

Which choice of media do you believe most fit to be used as resources in a course/learning activity addressing digital health services provision for health professionals (1 Definitely agree to 5 Definitely disagree or I do not know)?

<i>Printable worksheets</i>	1	2	3	4	5
<i>Infographics</i>	1	2	3	4	5
<i>Animated presentations</i>	1	2	3	4	5
<i>Slides for overhead projector</i>	1	2	3	4	5
<i>Open educational resources (OER)</i>	1	2	3	4	5
<i>Internet link lists</i>	1	2	3	4	5
<i>Audio and video files</i>	1	2	3	4	5
<i>Learning platforms</i>	1	2	3	4	5
<i>Other, please specify</i>					

Are there other media that you find important? If yes, please give some keywords:

B3. *Choice of Methods

Which choice of methods do you see most fit to be used as resources in a course/learning activity addressing digital health services provision for health professionals? (1 Definitely agree to 5 Definitely disagree or I do not know)

Frontal instruction	1	2	3	4	5
Group work	1	2	3	4	5
Self-learning					
Role playing	1	2	3	4	5
Storytelling	1	2	3	4	5
Stories and case studies	1	2	3	4	5
Everyday life problems	1	2	3	4	5
Information included in news media (newspaper, TV, radio)	1	2	3	4	5

Are there other methods that you find important? If yes, please give some keywords:

B.4. How much time do you believe you could devote to the course?

- < 10 hours
- 10-15 hours
- 16– 20 hours
- 21 – 25 hours
- more than 25 hours

B.5. *In your opinion, what would make a course regarding digital skills for health professionals interesting for you to participate?

B.6. *What are your main concerns regarding a course focused on digital skills for health professionals?

B.7. *Please provide suggestions to the UNIHEAL+ team to design a course regarding digital skills for health professionals.

THANKS

ANNEX 2: FOCUS GROUPS GUIDELINES

Minimum of 5 participants per focus group/country

This focus group will comprise at least 5 participants from the target group:

- a) The **frontline health sector staff/professionals** (e.g., Nurses, doctors, pharmacists, physicians, dentists, midwives, etc.) as confronted with the need for further skilling and re-skilling regarding the contemporary health demands and the digital character of their health services.
- b) The **VET educators** who undertake the role and tasks of effectively address the training of health professionals, making use of multiple pathways, such as also differentiation pedagogy, practical guidance, re-feedback context.

Focus groups will take place in each partner country using the same questions to ensure that cross-country and cross-cultural comparisons are achievable. The focus groups will be held in the respective language of each partner to ensure participants comprehension.

The facilitator will take notes and/or make an audio recording (if possible) of the focus group with the consent of the participants and report the key findings inside the national report template.

Prior to the Focus Group: Before the focus group take place, the facilitator should read all the questions thoroughly to ensure that he/she is familiar with the topics and the structure of the discussion. It is also suggested to print the questions/list of topics (e.g. question 2).

During the Focus Group: Introduction Phase (10-15 minutes):

- ✓ Self-introduction of facilitator and partner's organisation and presentation of the participants
- ✓ Brief description to the UNIHEAL+ project, purpose of the focus group and how the results will be analyzed and reported
- ✓ Explanation of how issues of confidentiality will be dealt with (e.g., Privacy); request permission to record the discussion (if applied)
- ✓ Setting of the ground rules (e.g., duration; there are no right or wrong answers; respect towards the views of other participants etc.)

Main Phase (45 minutes): Initiate the discussion around the questions provided below. Present each of the questions one by one and by the order given in the guide

Conclusion (5 minutes)

Ask the participants if they have any questions regarding to the project and/or the focus group.

GUIDELINES:

1. Make sure you start and finish on time. Timely completion of the focus group shows to the participants that we respect the time they have allocated to take part in our research.
2. Keep eye contact and maintain neutrality by neither verbally nor non-verbally approving or disapproving of opinions.
3. If you are not satisfied with the completeness of the information provided in a question, use probe questions to elicit more information from the participant when necessary. For example: “*Could you tell me a bit more about that?*”; “*How does that work in practice?*” “*Can you give us an example?*”... etc.

Evidence (mandatory): Invitation letter/email, Signature list (or list of participants signed by the partner organising), Live records (e.g., photos/screenshots, audio/video record)

Key questions (initial Draft that needs to be reviewed and adapted to the context in each partner country)

Question 1. Analyzing the PRELIMINARY PROPOSED COMPETENCE UNITS:

- CU1: Framework skills and aptitudes for digital communication*
- CU2: Computer literacy, data analysis, data protection programs*
- CU3: eHealth & mHealth context and content*
- CU4: Medical devices compatibility*
- CU5: Mobile applications, cloud storage, internet usability-functionality*
- CU6: Universal digital health coverage*

Could you give us your opinion regarding to their relevance? Would you change/add/enrich any of them?

Question 2. As to SKILLS the learners should get: debate about the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units described above: **what digital skills should HEALTH professionals get?**

Present results of debate summarized: do they agree? Comments and suggestions

Question 3. Choice of MEDIA:

- ✓ *Learning platforms: What do they think about Moodle as learning platform?*
- ✓ *Infographics*
- ✓ *Animated presentations*
- ✓ *Audio and video files*
- ✓ *Internet link lists*
-Other, please specify*

Present results of debate summarized: do they agree? Comments and suggestions

Question 4. Choice of METHODS:

- ✓ *Group work*
- ✓ *Role playing*
- ✓ *Storytelling*
- ✓ *Stories and case studies*
- ✓ *Everyday life problems*
- ✓ *Data reported by news media (newspaper, TV, radio)*

Present results of debate summarized: do they agree? Comments and suggestions

Question 5. Do you know of **good practices** regarding the upskilling of the HEALTH professionals with digital health skills in the frame of the 6 competence units described above, reminder:

CU1: Framework skills and aptitudes for digital communication

CU2: Computer literacy, data analysis, data protection programs

CU3: eHealth & mHealth context and content

CU4: Medical devices compatibility

CU5: Mobile applications, cloud storage, internet usability-functionality

CU6: Universal digital health coverage

Conclusion: Synthesize results, thank everyone, and close the focus group.

ANNEX 3: COUNTRY REPORTS

Link to the final country reports:

https://drive.google.com/drive/folders/1itrsXnyfGn_7N5UCuKISzANqdHdmCNk0?usp=sharing