



**iHeal**

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# Up-Skilling Elders in Digital Health Literacy to Prevent Marginalization and Exclusion

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## IO1: Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework

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### PROJECT PARTNERS

- CANAKKALE ONSEKIZ MART UNIVERSITY (COMU) (TR) PROJECT COORDINATOR
- PROLEPSIS INSTITUTE (GR) SCIENCE INITIATIVE
- AUSTRIA (WIN) (AT) CENTER FOR SOCIAL
- INNOVATION LTD (CY)
- ASTERES SCRL - SOCIETA' COOPERATIVE (It)
- BOSEV (GRAND MIDDLE EAST HEALTH AND EDUCATION FOUNDATION) (TR)
- INOVA+ INNOVATION SERVICES, SA(Pt)
- INEUROPA SRL (IT)

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Europeans live longer, hence the costs of health and social care will rise substantially. The use of information and communication technologies (ICTs) in the field of health care, known as eHealth<sup>1</sup> is rapidly developing due to continuous technological advancements. ICT can be one of the most powerful ally to maintain cost efficient and high quality health and social care, as it empowers people of every age to better manage their health and quality of life, in any place.

Care has to be more patient centered, with more focus on prevention, early diagnosis and chronic conditions. Industry for ageing well must invest and innovate, in close cooperation with users and consumers. And all of us must get smart and feel empowered to integrate ICT-products and services for ageing well in our private lives and professional practice. Digital technologies can be used to further improve the already high quality of health and care services provided to the population by personalizing these services to a greater extent. Innovative ambient assisted living and smart home technologies enable elderly and disabled people to lead a more independent life in familiar surroundings.

**Digital health literacy (or eHealth literacy) is the ability to**

- seek,
  - find,
  - understand,
- and**

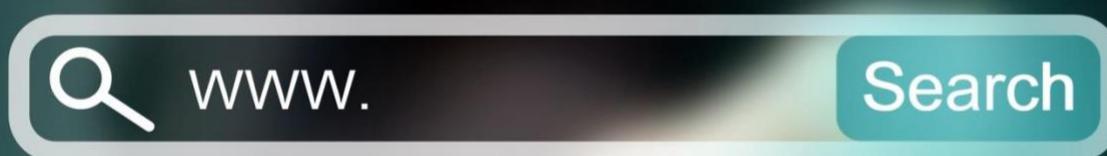
**appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem (WHO, Geneva, 27-28 February, 2017)**



1- <https://www.who.int/ehealth/about/en/>

Health literacy, people's capacity to access, understand and use information to improve health and well-being is a key determinant of health that can help create healthier people and communities<sup>2</sup>. Eight of the 10 health-related consultations on health information were performed on search engines like Google, Yahoo or Bing, and one out of 20 searches on Google is related to health<sup>3</sup>.

Health care systems are increasingly difficult to navigate and education systems too often fail to provide people with adequate skills to be able to surf in the Internet. This has resulted in a health literacy crisis.



In fact, half of all adults in the eight European countries tested have inadequate or problematic health literacy skills. This results in risky behaviors, bad health conditions and more costs for national health systems<sup>4</sup>.

Education is one of the sectors highlighted as key to have an impact on diffusing digital health literacy<sup>5</sup>. At this point, the project iHeal is structured to develop content aimed at increasing the competencies of the elderly population in the field of digital health literacy.

**Health institutions play a key role in facilitating reliable and trustworthy health information within a context in which anyone can post health-related information  
(WHO, Geneva, 27-28 February, 2017)**

- 2- [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0003/324615/Health-2020-Education-and-health-through-early-development-en.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0003/324615/Health-2020-Education-and-health-through-early-development-en.pdf?ua=1)
- 3- [https://www.who.int/global-coordination-mechanism/working-groups/digital\\_hl.pdf](https://www.who.int/global-coordination-mechanism/working-groups/digital_hl.pdf)
- 4- Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU)
- 5- Health Literacy. Data, evidences and intervention sectors, 2017



## 8 Topics to be Studied in iHeal Project is as Follows

- M1. Basic Internet and ICT knowledge – INEUROPA**
- M2. Online safety, secure web-browsing and protecting your privacy – BOSEV**
- M3. Reliability and relevance of online information – INOVA+**
- M4. Social media and instant messaging (IM) applications – ASTERES**
- M5. Health-related applications and hardware (general health) - PROLEPSIS**
- M6. Digital patient (specific health issues) - WIN**
- M7. Managing your e-health portfolio (Health Data Management) – COMÜ**
- M8. Navigate e-Health services (country specific) - CSI**

iHeal project partnership will design and develop an inclusive, interactive and user-friendly digital platform to equip and improve digital health literacy for the elder European population (50+). The platform, additionally a mobile application, will support online training modules for digital and health literacy, analyze relative risks and benefits, evaluate the information for credibility and quality, communicate with health providers, navigate eHealth services, basic health terms glossary, country-specific health access info, which will also be available through mobile platforms/applications.

For this purpose, it is necessary to prepare and update the rich contents covering especially the following topics:

- Cybersecurity
- Online shopping (secure)
- Reach the right information
- Use of Social media
- Digital alerts to be taken into account
- E-health services
- Digital communication
- Emergency information
- Ads applications
- Drug regulations
- Digital laws knowledge
- Digital rights and responsibilities

Other topics that can be evaluated in this context are also important.

The use of the following media for the creation of digital tools and interactive content tools for the effectiveness of the learning-teaching process will be useful in actively gaining digital health literacy skills. For this purpose;

- Interactive web platforms
- Interactive online books
- Mobile applications will be very useful.

This e-book has been elaborated as Intellectual Output 1 of the European Erasmus+ project iHeal: “Up-Skilling Elders in Digital Health Literacy to prevent marginalization and exclusion” by BOSEV (Büyük Ortadoğu Sağlık ve Eğitim Vakfı) based on all consortium contributions from national research and related reports. The consortium is coordinated by Çanakkale Onsekiz Mart Üniversitesi (Turkey), with the participation of ASTIKI MIKERDOSKOPIKI ETAIREIA PROLIPSIS (Greece), Wissenschaftsinitiative Niederösterreich (Austria), Center for Social Innovation Ltd (Cyprus), Asteres srl - società cooperativa (Italy), INOVA+ - INNOVATION SERVICES, SA (Portugal), and InEuropa srl (Italy). Chapter 3 includes more information about partners.



Output 1 **Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework**, is formed by the project coordinator COMU, and output leader BOSEV, and agreed upon by all partners. **Framework** is developed through the compilation of the 6 Partner National Reports and the 1 EU Report developed by the partners. This report is prepared by the iHeal project partners to share results of literature review, questionnaire and focus group implementations held with target groups and with stakeholders. Development process and the content based on the following pillars:

- 1) to conduct a literature review on the pedagogical models for fostering digital health literacy skills and attitude for elders, with the use of online platforms and tools
- 2) to perform an in-depth analysis and evaluation of the existing learning environments in the field of promoting digital health literacy skills and attitude in order to decide upon their appropriateness for learning. Part of this pillar is the analysis of the limited findings available so far regarding comparative approaches and the utilization of ICT within this field
- 3) to investigate the learning and training needs of both the target groups and the stakeholders (EU Adult Citizens, Adult Training Providers, Universities, Volunteer Organizations, Policy Makers, Health Providers, Social Work Services and Public Institutions) through focus groups and questionnaires
- 4) to analyze data and provide suggestions, recommendations, and guidelines for the development of a user-friendly, adaptable and widely accessible health literacy and wellbeing skills and attitude online training platform for elder adults.

Framework followed steps/activities as follows:

1. **Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework Guidelines, Templates and Tools Preparation:** Develop tools (e.g. online questionnaires, needs assessment framework, data Analysis and Reporting Process) guided the state of the art and gap analysis report.

**2. National Digital Health Literacy Ecosystem Mapping and Methodological Framework Data Collection and Analysis:** In all partner countries, partners collected data from various resources, Literature Reviews, 1 focus group with at least 5 target group members and 1 with at least 5 stakeholders per partner country, dissemination and collection of 30 online questionnaires among target group members and data analysis.



**IT IS NEVER TOO EARLY  
OR TOO LATE TO WORK  
TOWARDS BEING THE  
HEALTHIEST YOU!**



**3. This national reports formed a part of 5 Partner National Reports and a part for the 1 EU Report:** partners developed their reports, which is based on the data collection analysis. For the case of Turkey, COMU and BOSEV communicated internally for the development of the National Report, while for the case of Italy ASTERES communicated with InEuropa to coordinate for their National Report in Italy.

**4. Compilation of National, International, and EU Reports/Development of the Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework:** The iHeal Transnational Report provided an overview of the national and EU state of the art and gap analysis and provide specific suggestions, comments and feedback on the development of the iHeal online training platform in terms of content, design and technological infrastructure.

In chapter 4, this e-book explores the situation related to the Health Literacy and ICT scoped Health Literacy situation in partner countries, including also information from EU. The iHeal project partners conducted surveys and focus group discussions in their countries to provide the necessary content. The resulting information shows that there is a high level of awareness of digital health literacy in each partner country. However, the content provided for elderly individuals is still not sufficient and the existing contents are not yet delivered to the number of individuals shared in the declarations of intent. At this point, it is seen that the iHeal project will close a big gap.

However, the partners' country reports show there is a lack of training to support elderly people to be more skilled on Digital Health Literacy. Furthermore, it confirms that eight topics are going to close a big gap which is developed under iHeal project partnership. The way of delivery, the iHeal Interactive Web platform, learning environment, applications and digital learning tools which is supported with mobile application, is another innovative approach for Digital Health Literacy for elder population;

In Chapter 5, you will be able to learn about the best practices reached by the project partners. Outside the partner countries of the iHeal project, it will also be possible to access the content of the training topics for the project topic in Europe and the use of innovative internet-based learning tools. Digital Health Literacy-related content, and examples of European information on online information material, platforms and (learning / education) tools are shared in this section. As it is shared at the end of the chapter, most of the educational contents are shared with non-formal methods for a limited number of individuals.

As it is shared in the justification of the iHeal project, the innovative educational content that will be offered online will provide an important opportunity to train more individuals. To answer this, section 6 summarizes the development of the project's online learning / training platform and the iHeal project partners' recommendations from other European countries and their useful features for the needs of the learning group. Finally, in the iHeal project, it will be possible to reach the target audience's needs and recommendations for iHeal Training Modules, iHeal Learning Platform and Mobile Application. In Chapter 7, the conclusions reached during the Framework development process are shared.





### CANAKKALE ONSEKİZ MART UNIVERSITESI



Aiming to raise knowledgeable, equipped, cultured and self-confident individuals in education and training; adopts an understanding of practical, project-oriented and multi-disciplinary research in scientific studies; observing sustainable relations with stakeholders; blending knowledge, love and respect with the historical and rich fabric of Çanakkale; being a quality oriented, innovative and enterprising university ”

### ASTIKI MIKERDOSKOPIKI ETAIREIA PROLEPSIS



The Institute of Preventive Medicine, Environmental and Occupational Health Prolepsis is a nongovernmental organization, active in the field of medical research, health promotion, environmental and occupational health since 1990. The Institute of Preventive Medicine, Environmental and Occupational Health Prolepsis is a nongovernmental organization, active in the field of medical research, health promotion, environmental and occupational health since 1990. With a strong belief in health being a fundamental right, Prolepsis has undertaken a leading role in the field of public health since 1991, by designing and implementing initiatives on various health issues and in different sectors targeting a wide range of audiences, such as women, migrants, children, as well as policy makers, other NGOs and decision makers.

## WISSENSCHAFTSINITIATIVE NIEDERÖSTERREICH (WIN)



WIN – Science Initiative Lower Austria Association for Interdisciplinary Research, Consulting and Education. WIN has been specialized in managing and coordinating scientific cooperation in European research and education programs: in the area of natural sciences, we are or have been active in human biology, agriculture, nutrition, environment protection in social sciences, has been active in the didactic of adult education and the evaluation of projects for adult education and vocational qualification.

## CENTER FOR SOCIAL INNOVATION LTD



CSI employs professionals with over 50 years of collective experiences in the fields of Social Innovation, Entrepreneurship, Education, System Rationalization, Information & Communication Technologies, Global Health Process - Life Sciences, Business Forensic Intervention, Youth Development & Motivation, and Resource Realignment with Goals and Objectives. The Team enlists their experiences to support the identification of systemic problems and development and implementation of smart and sustainable solutions to difficult social problems. These solutions are developed through various layers of interaction with stakeholders. We believe that quality of life improves when the process of social innovation is leveraged to attain social justice, solve systemic problems and develop solutions that may provide opportunities for individuals and organizations.

## ASTERES SCRL - SOCIETÀ COOPERATIVA



Asteres ASTERES is a cooperative society which aims are: raising awareness of international issues, promoting a common sense of belonging to the European Union, organizing, supporting and promoting initiatives for young and adult learners in order to foster workers and citizens' free mobility and positive inclusion in the job market.

Asteres design, organize and promote initiatives and services in the field of education and training, business, culture and arts to favor integration and citizens' democratic participation. Through the designing and creation of training pathways and educational resources ASTERES aims at fostering foreign citizens integration in the host society, young and adult workers' positive inclusion in the job market, people's awareness of local identity and its bonds with the European sense of belonging.

## BUYUK ORTADOGU SAGLIK VE EGITIM VAKFI



The most important reason for the foundation of the Greater Middle East Health and Education Foundation, which is shortly named BOSEV; to bring down to a certain extent the inadequacy, imbalance and irregularities in the Health, Education, Economic and Cultural fields that have become noticeably apparent in the society; attempting to fill the gaps in these areas and in return, activating the feelings of having a charity, the formation of the balance element in society, ideas and will; the foundation of the foundation was born.

## INOVA+ - INNOVATION SERVICES, SA



INOVA+ is the Portuguese leading company in the promotion and management of international projects of Innovation, Education, Training and Research. The company's mission is to provide the knowledge, management capacity, partnerships and technical and financial support needed to ensure successful projects to its customers and sponsors. The International Cooperation Unit is composed by a highly-qualified team with large experience in coordinating and managing EU-funded projects, including monitoring of opportunities, partner search, proposal writing, project management and coordination, research and needs analysis, policy analysis, development of training materials and contents, networking, evaluation, event planning and organization, communication and dissemination, exploitation and transference of results.

## INEUROPA SRL



InEuropa is an Italian company offering assistance, training and information to public and private bodies in accessing European funding, facilitating the development and implementation of projects at local, national and international level. In parallel, InEuropa is participating in its own European projects focusing on education, training and empowerment of young and adults, also promoting environmental behavior change.



National Reports are a part of Intellectual Output 1 Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework, which has been formed by the project coordinator COMU, and output leader BOSEV, and agreed upon by all partners. National reports refer to the aims, objectives, tasks, milestones of Intellectual Output 1 (O1) of iHeal project has details in application form. Tasks and deadlines are put down by the lead partner of the output, in order to ensure that all partners have a clear vision of what is require.

The latest/current Output Guidelines version is shared within results of iHeal project web site. The way structured by the partnership can be used by anybody else wish to do the same in other countries to take picture of the existing situation.

The IO1 development and content based on the following pillars as follows:

- 1) to conduct a literature review on the pedagogical models for fostering digital health literacy skills and attitude for elders, with the use of online platforms and tools.
- 2) to perform an in-depth analysis and evaluation of the existing learning environments in the field of promoting digital health literacy skills and attitude in order to decide upon their appropriateness for learning. Part of this pillar is the analysis of the limited findings available so far regarding comparative approaches and the utilization of ICT within this field.
- 3) to investigate the learning and training needs of both the target groups and the stakeholders (EU Adult Citizens , Adult Training Providers, Universities, Volunteer Organizations, Policy Makers, Health Providers, Social Work Services and Public Institutions) through focus groups and questionnaires.
- 4) to analyze data and provide suggestions, recommendations, and guidelines for the development of a user-friendly, adaptable and widely accessible health literacy and wellbeing skills and attitude online training platform for elder adults.



**STEPS FOLLOWED:**

**Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework Guidelines, Templates and Tools Preparation:** Developed tools (e.g. online questionnaires, needs assessment framework, data Analysis and Reporting Process) that will guide the state of the art and gap analysis report.

**National Digital Health Literacy Ecosystem Mapping and Methodological Framework Data Collection and Analysis:** iHeal Project Partners collected data from various resources, Literature Reviews, focus group implementations with target group members and stakeholders in all partner countries, **Steps were as follows;**

- **Desk review:** Desk review comprised of literature review, existing practices and conditions at national level in participating countries. Additional review dedicated to the EU level by all partners, Desk review included the analysis of relevant and available data and resources (literature, reports, policy documents, previous surveys, researches etc.) in relation to characteristics of Digital Health Literacy based works, studies, projects, as well as relevant measures, initiatives and/or programs implemented in partner countries, mostly covering **2016-2017-2018**.

**Field work** (Focus groups and Online Survey): 1 focus group with 5 target group members and 1 with 5 stakeholders per partner country, dissemination and collection of 30 online questionnaires among target group members and data analysis.



The General Directorate of Health Promotion has launched a "Health Literacy Trainer Training Program" for family doctors and family health workers who are the primary reference points in health care.

The digital health literacy topic, which had a limited level in the program, contained more content for the general population than the elderly.

In this way, the Ministry aims to increase the satisfaction of using the health service for patients and to improve the professional satisfaction of health workers. General Directorate of Disabled and Elderly Services of the T.R. Ministry of Family, Labor, and Social Services held Digital Transformation Symposium for the Disabled and Elderly People is held on Monday, 19 June, 2019.

The survey results indicates 30.4 index for Turkey's general health literacy. According to the categorical evaluation, 64.6% of the population was in the "inadequate" (24.5%) or "problematic" (40.1%) health literacy categories.

There is no specific study focuses to Digital Health Literacy. This loads much more importance to iHeal Project as it aims to cause elder people skilled on Digital Health Literacy.



When the literacy level is examined according to age groups, it is noteworthy that the literacy level is insufficient in approximately 50% of the aged 65 over.

In the 45-54 age range, it is seen that 50.8% have problematic health literacy. So, in this case, it is easy to say that tendency on digital health literacy knowledge between elderly people is very low.

In any study aims to give contribution to the qualification on Digital Health Literacy, esp. for the elderly people, will turn back as a contribution to economy, and to social welfare.

## Conclusion:

- Individuals with mobility limitations can learn, work, access services and use their computers and the internet to communicate with friends and families through socially interactive connections. E-commerce, e-government, transportation, public services, health services and cultural life-oriented applications and services can be accessed electronically.
- These developments are finding positive and innovative solutions for the elderly and disabled people, integrated and personalized innovation solutions, and the developing technology is increasingly contributing to our daily lives. Regardless of the field in which they operate, countries / institutions will follow the developments in the digital world closely and will be able to use the data provided by the digital world actively in the projects they have developed, thus laying the foundation of a good future for themselves.

Greek legislation lacks specific laws to support and promote digital health literacy programs. However in the last years, the Greek state following the guidelines of the European Union has created the first legislation on digital health which opens the road to continue the effort for more advanced e-health services and accordingly digital health literacy actions.

Digital health literacy has not been sufficiently promoted among the Greek population and hence not enough is known concerning the level of digital health literacy among the Greek population and especially among elders who already face difficulties and inequalities in terms of computer and Internet use. Advancing digital health literacy among senior citizens enhances empowerment and helps to achieve health equity among individuals.

Greece engages in policy making on health care and public health following the guidelines and institutional policy frameworks of European Union such as Health 2020<sup>6</sup> and Digital Single Market (DSM) Strateg<sup>7</sup>.



Health 2020 is a policy framework on health that aims to support governments on significantly improving the health and well-being of populations, reducing health inequalities and strengthening public health through inter-sectoral and interagency action<sup>8</sup>

Consequently improving digital health literacy becomes urgent with communities and policy makers needing to take action as an important step for the improvement of older peoples' quality of life. Recent data on digital health literacy provided by Flash Eurobarometer 404 conducted in 2014, shows that 44% of the Greek population has never used the internet to search

## Conclusions:

- Provision of digital health services in Greece, as well as citizens' relevant competencies are limited. Presently, there is no groundwork for digital health literacy provision despite the established benefits e-health services could provide. As such, the public and private sector need to collaborate in order to formulate, establish and implement relevant legislation, policies, and trainings
- Despite the lack of digital health literacy programs, efforts are taking place in various sectors, public and private delivered by professionals in order to provide knowledge, raise awareness and empower Greek citizens on the issue. Usually professionals who are trained for such projects come from the field of education, health, health promotion, psychology, social sciences, social work and ICT.

6- <http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020>

7- <https://ec.europa.eu/digital-single-market/en/policies/shaping-digital-single-market#TheStrategy>

8- [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0011/199532/Health2020-Long.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0011/199532/Health2020-Long.pdf?ua=1)

The Digital Roadmap of the Austria Government states, for the area Health Care and Social Affairs, the following:

Digital technologies can be used to further improve the already high quality of health and care services provided to the population by personalizing these services to a greater extent. Innovative ambient assisted living and smart home technologies enable elderly and disabled people to lead a more independent life in familiar surroundings.

This also applies to the design of working conditions for care activities in the home environment. In addition to providing state-of-the-art infrastructure, education and training programs must be adjusted, job profiles created or further developed, and the legal framework adapted. Already in 2005, the introduction of the e-health

insurance card (e-Card) not only simplified the administrative use of cashless health care services, but also created an essential prerequisite for the electronic health record (ELGA), which was adopted in 2012.

The task now is to further develop the area of e-health, in which Austria occupies a top position in the EU comparison, in telemedicine as well.



In Austria, e-health offers not only the technological but also, and in particular, the structural policy opportunity to network health services, which are increasingly based on the division of labour, by means of information and communication technologies (ICT).

This can lead to a further improvement in health care for citizens and in the efficiency with which health services are provided.

In the 55 to 74 age group, 70 percent of men use the Internet, but only 49 percent of women. The 55 plus generation has caught up enormously in terms of the Internet over the past ten years.

### Conclusions:

- Health literacy is a priority health objective for Austria.
- The development of health literacy among the population is an important cornerstone for improving disease management, promoting health and equal opportunities in health.
- The Austrian population has comparatively low health standards and, consequently, digital health literacy competences are also very seldom, especially in the older generation. National policies focus rather on the introduction of electronic health administration than on programs to empower citizens, and especially older person, in their digital competences and in digital health literacy.

Digital health literacy is an emerging topic in Cyprus the last few years. Research has shown that age, if and when related to more frequent use of the internet, does not guarantee better use in issues related to health<sup>9</sup>.

Today, Cyprus limitedly intervenes and provides some basic and limited digital health services to its citizens. However, many elders are not aware, neither are able to access them, or they may not have the necessary skills to use them. Obtaining and/or strengthening digital health literacy for elders 50+ will effectively improve their health, life quality and social inclusion.

Digital Health Literacy is a new field in Cyprus, thus specific legislation on the issue is missing from the Cypriot legal books. The most relevant legislation covers issues, such as basic health rights for citizens, including elders and the newly shaped General Health System. The absence of any legislation on digital health literacy for elders highlights the great importance of this field as an essential one to be developed and promoted in Cyprus.

Thus, the iHeal project will create a fertile ground, as to better define the needs of citizens 50+ and the obligations of the State and private sector, and as to better set the base for an efficient and successful digital health literacy, achieving better life quality for elders 50+.



Statistical data shows that the percentage of the elder population not using the internet increases from 75,76% in 2008 to 83% in 2012 among the ages of 55 to 64 years old. The numbers are even higher in the ages 65+, with a 95,76% in 2008, a 90% in 2010 and a 95% in 2012.

In regards with the digital health literacy in Cyprus, the statistical data from the latest European Commission Flash Eurobarometer on European Citizens' Digital Health Literacy Results for Cyprus<sup>13</sup> show important information on digital health literacy in Cyprus. The research is based on a sample of 501 Cypriot citizens and 26,566 citizens from 28 other European countries.

#### Conclusions:

- The lack of legislation, policies and practices on the topic of digital health literacy for elders in Cyprus raise concerns on if and how the Cypriot elders 50+ can and would access digital tools for health-related issues.
- The Cypriot authorities, institutions and agencies of the public and private sector provide scattered policies and practices relating mostly to social integration of such groups rather than electronic literacy, integration and/or inclusion.
- The absence of a 'digital health literacy culture', the deficient institutional framework and a weak approach have resulted in an emerging need for digital health literacy for elders 50+ in Cyprus as to ensure better quality of life, accessibility and inclusion for our target group.

9- <https://www.cut.ac.cy/news/article/?contentId=152070>

Half of all adults in the eight European countries tested have inadequate or problematic health literacy skills. This results in risky behaviors, bad health conditions and more costs for national health systems (European Health Literacy Survey, 2015). Education is one of the sectors highlighted as key to have an impact on diffusing digital health literacy (Health Literacy. Data, evidences and intervention sectors, 2017).

In Italy this is partly associated with the reach of the broadband connection that is 24,1% compared to EU average of 31,6% (Strategy for digital growth 2014-2020). Also, even though the process of health digitization launched in 2011 with the approval of the Guidelines on Electronic Health Dossier by the Ministry of Health, has been accelerated in the last years, in 2018 this is not yet being fully implemented (Regions with full implementation:

Basilicata, Emilia Romagna, Friuli Venezia Giulia, Lazio, Liguria, Lombardia, Molise, Puglia, Sardegna, Toscana, Valle d'Aosta, PA Trento; Regions where it is being tested on a small scale of users: Marche, Piemonte, Umbria, Veneto);

Regions that did not start: Abruzzo, Campania, Calabria, Sicilia) and the level of usage is very low (both in the Regions that activated it first as Toscana 60% of users,



Lombardia 40% of users, Emilia Romagna 9% of users and in the other Regions the average is 1-2% of users) (Agency for Digital Italy funded through European Social Development Fund <https://www.agid.gov.it/>)

There is no data available at national level on the number of elderly people reached by Digital Health Literacy programs.

According to an ISFOL (PIAAC-OCSE National Report on Adults' Competences, 2014), only 10% of adults in the age range + 55-64 had participated to an education and training programme in the year before. 45,1 % in the same age group declares not to have experience with the computer.

## Conclusions:

- Thinking about elderly' general Internet literacy. There are at least two groups: on the one hand those who do not use the internet at all, need to learn IT basics and work out the fear of using a computer; on the other hand those who can manage the use of Internet and will only need support to learn to discern trustful from not reliable information/sources;
- including any of the following topics of interest to elderly: cancer information, drug related information/price, activities to improve cognitive skills, nutrition and diets, pharmacies on duty, surgery procedures;
- paying attention to the inclusion of images and visual aid to make information more intelligible;
- bearing in mind that sometimes elderly can be "filter person" (e.g. for family members or friends);
- presenting the most accurate information possible, including different options;
- providing advice on how to deal with commercials;
- paying attention to the format: the information should appear as ordered, structured, updated, research-based/scientific information, could include description of personal experiences, and signed by professionals.



Portugal has a strongly established National Health Plan with direct targets of raising the health literacy of the citizens. This is translated into centralised actions as well as decentralised ones (through regional municipalities and recognised organisations) and reinforced by launching a dedicated digital health literature platform. A frequent action scheme is characterising the Portuguese related health literacy action in national level, with a variety of programs and legislations reinforcing the citizens awareness and access to health literacy<sup>10</sup>

The Portuguese NHS is undergoing a process of modernization through the project “SNS+Proximidade”, which aims to place the citizen at the centre of the health system.

One of the cornerstones of this process is health literacy promotion, under which the Health Literacy Library has been created in June 2017. This online tool facilitates access to health information, promoting people’s autonomy towards their own health and the health of those around them. The Health Literacy Library collects, analyses, selects and disseminates resources for good practice in health education, literacy and self-care.

Disease Programme and renamed Health Literacy and Integrated Care<sup>11</sup>, are to prepare and support informal caregivers in home-based care, preventing diabetes, obesity and promoting mental health and healthy aging, as well as the rational and safe use of medicines. The two-year associated pilot project approved in July 2017<sup>12</sup>, Literacy for the Safety of Healthcare, additionally aims to increase patient, family, caregivers and healthcare institutions’ involvement in the improvement of the quality and safety of healthcare delivery, as

## Conclusions:

- Portugal is now in the forefront of eHealth in Europe, with the Portal and its current important developments being significant both for improving service access and delivery, and by providing a tool to significantly improve health literacy. As the numbers registered on the Portal increase the scope for both these roles will increase, with possible use of aggregate data to support planning and policy as well as data that will improve patient management. It will be important to continue to develop the systems with the clear vision of the potential benefits for patients and providers.
- There are also important potential uses in quality assurance, monitoring and evaluation of care delivery. In addition to further action to improve access to information (especially amongst people who have limited access to social media and internet resources) there is a need to mobilise a wider range of social actors and organisations to help build better health literacy. Improving health literacy and involving patients in decisions on their own health requires changes in attitudes and approaches as well as changes in systems.

14- European Commission. (2018). Digital Economy and Society Index (DESI) 2018 Country Report Portugal.

15- Portuguese Government. Ministério da Saúde. Despacho n.º 6429/2017. Diário da República. Lisboa: 2017.

16- Portuguese Government. Gabinete do Secretário de Estado Adjunto e da Saúde. Despacho n.º 6430/2017. Diário da República. Lisboa: 2017.





**Title Of The Practice** : Improving the digital health literacy of European citizens – IC - Health

**Web site** : <https://ichealth.eu>

**Short Description** : IC-Health is a project to develop a series of Massive Open Online Courses (MOOCs) to help improve the digital health literacy of European citizens. MOOCs will be developed in eight languages (English, French, Italian, Danish, German, Swedish, Dutch and Spanish). Countries involved in the pilot are Spain, Italy, Belgium, United Kingdom, Netherlands, Sweden, Germany and Denmark. IC-Health Project is funded under H2020.

**Objective** : IC-Health aims at testing a new model of digital health literacy intervention development and application based on cocreation of Massive Open Online Courses (MOOCs) to enhance EU citizens' skills on how to search, understand and appraise online health information.

**IC-Health specific objectives are to:**

- Increase awareness among EU citizens of the opportunities of eHealth tools;
- Establish Communities of Practice on digital health literacy;
- Shape, facilitate and coordinate and organize the co-creation of overall 35 MOOCs – each one addressing one specific population cohort and being available in eight EU languages (English, French, Italian, Danish, German, Swedish, Dutch and Spanish) by at least 780 EU citizens;
- Test the MOOCs and assessing their impact on their health literacy, digital health literacy and on their health self-management;
- Advance the understanding of digital health literacy and of how it can be used to improve health outcomes.

**Outputs** :

- WP1 Analysis of population cohorts and of current scenario of digital health literacy
- WP2 Co-creation methodology and tools
- WP3 Co-creation and use of the MOOCs
- WP4 Sustainability strategy
- WP5 Dissemination and exploitation
- WP6 Management
- WP7 Ethics requirements



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IC-Health - Improving the digital health



Up-Skilling Elders in Digital Health Literacy to prevent marginalization and exclusion



**Title Of The Practice** : IMproving Patient-centered Communication Competences – IMPACCT

**Web site** : <http://healthliteracycentre.eu/impacct/>

**Short Description** : IMPACCT stands for “IMproving Patient-centered Communication Competencies: To build professionals capacity concerning health literacy in medical and nursing education”. The IMPACCT project is funded by the ERASMUS+ Programme, under the Strategic Partnership for higher education and lasts 36 months, from 01/09/2017 till 30/08/2020.

**Objective** : to improve the relevance and quality of education of medical and nursing students in Europe through the development, implementation, evaluation and dissemination of an evidence-based Health Literacy Educational Program. The educational program will consist of a set of about 20 learning units. Taken together, these units reflect the fact that a comprehensive approach is needed to tackle health literacy problems. To enhance the health and well-being of people with low health literacy, students need a wide range of health literacy competences related to clinical competences (e.g. diagnosing among people with low health literacy), but also competences for communication, collaboration, leadership or quality assurance, to prevent health literacy related problems .

**The specific objectives of IMPACCT are:**

- To facilitate the involvement of relevant European stakeholders (e.g. students, curriculum designers, curriculum coordinators, educational and health professionals, older adults, members of patient organizations) in order to strengthen co-creation during all stages of IMPACCT and promote integration of HL-EP in curricula.



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- To develop a comprehensive framework for HL-EP including the identification of its core components.
- To develop basic and more advanced health literacy Learning Units in order to promote the development of fundamental HL knowledge and skills and prepare students for complex situations in everyday practice.
- To implement HL-EP in 8 pilot sites in 4 countries and to assess the impact of the Learning Units on the development of competencies of medical and nursing students, and adapt the HL-EP based on the results.
- To promote self-regulated and lifelong learning by the development and testing of a Massive Open Online Course (MOOC) using the results of the pilots in order to strengthen the fundamental HL competencies of a large number of learners.
- To describe quality standards and provide guidance for educational professionals in supporting sustainable changes paving the way for a European standard for supporting quality of care.
- To actively disseminate the HL-EP using the Health Literacy Centre Europe (HLCE) and other strategies to reach our target groups.

**Outputs**

MOOC 1: An overview of the health literacy actions to improve and maintain people’s health and quality of life

MOOC 2: Working Towards Health Literacy Friendly Organisations and putting people centeredness into practice



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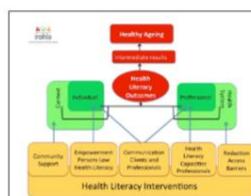


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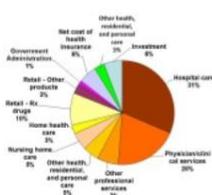


**Comprehensive approach more effective**

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Up-Skilling Elders in Digital Health Literacy to prevent marginalization and exclusion



**Title Of The Practice** : DigitalHealthEurope

**Web site** : <https://digitalhealtheurope.eu/>

**Short Description** : provide comprehensive support to the Digital Health and Care Innovation initiative in the context of the Digital Single Market Strategy. The project's approach involves a number of actions that will boost innovation and advance the Digital Single Market priorities for the digital transformation of health and care (DTHC), as outlined in the European Commission's 2018 Communication on the topic.

**Objective** : Main objective;

- deployment of digital solutions for person-centred integrated care.
- Assessment tools will be used to identify, analyse and select successful initiatives which are highly impactful and replicable.
- DigitalHealthEurope will also provide structured advice on EU funding instruments and financing sources.
- The selected initiatives will have the opportunity to pursue replication and scaling-up.

**The specific objectives of DigitalHealthEurope :**

- facilitate the creation of a shared platform for multi-stakeholder communities.
- These communities directly address the three priorities.
- Each of the communities will carry out concrete activities.
- With the help of associated experts and contributors, they will provide key DHE outcomes such as white papers, guidelines and policy recommendations.
- DigitalHealthEurope will ensure the mutual flow of information between the two support activities.

The results will be channelled into drafting a roadmap, advice and recommended actions



Up-Skilling Elders in Digital Health Literacy to prevent marginalization and exclusion



**Health literacy:** “the personal characteristics and social resources needed for individuals and communities to access, understand, appraise and use information and services to make decisions about health<sup>14</sup>. This definition of the World Health Organization needs to be updated in terms of Digital Health Literacy, as health information or services are mostly digitized.

According to a common definition; E-health literacy: ‘the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem’<sup>15</sup>. On the behalf of all those common definitions;

The possibilities brought by digital technology advances make people to be aware of;

- Self-care,
- Preventing illness and promoting health,

Because in addition to spending time on health –with long-term health conditions, people now focus of digital research and service development. For example: Patient access to their own medical records in the UK;



17- 2015, WHO

18- Norman eHealth Literacy: Essential Skills for Consumer Health in a Networked World 2006, C.D.,

- Capability; technology available to 92% of patients,
- Awareness: 5.2% of patients aware that this is available,
- Usage: 0.9% of patients used the service

Compared with people with higher health literacy, people with low health literacy are less likely to have access to the internet (Odds Ratio 10.75, 95% CI 7.08 to 16.33,  $p < 0.0001$ ) or to use the internet to gather health information (OR 2.35, 95% CI 1.53 to 3.60,  $p < 0.001$ )<sup>16</sup>.

- A low-literacy approach to providing information about cancer screening showed gross savings per patient of > US \$236<sup>17</sup>.
- A program to teach low-income parents how to treat common childhood illnesses at home resulted in significant decreases in emergency room visits, days off school and days off work for carers<sup>18</sup>.

A computer-delivered intervention on medication adherence for people living with HIV had net cost savings (compared to usual adherence communication) of up to US \$15,726 per QALY (Quality Adjusted Life Years)<sup>19</sup>.



16- 2017, Estacio & Protheroe,

17- Schuster AL, Frick KD, Huh B-Y, Kim KB, Kim M, Han H-R. Economic Evaluation of a Community Health Worker-Led Health Literacy Intervention to Promote Cancer Screening Among Korean American Women. *Journal of health care for the poor and underserved* 2015; 26(2): 431-40.

18- Herman A, Jackson P. Empowering low-income parents with skills to reduce excess pediatric emergency room and clinic visits through a tailored low literacy training intervention. *Journal of health communication* 2010; 15(8): 895-910.

19- Ownby RL, Waldrop-Valverde D, Jacobs RJ, Acevedo A, Caballero J. Cost effectiveness of a computer-delivered intervention to improve HIV medication adherence. *BMC medical informatics and decision making* 2013; 13(1): 29.



Following the overview of national, EU and World based initiatives, training programs and initiatives of e-learning related to digital health literacy for elder population is more than a necessity, it is fully crucial.

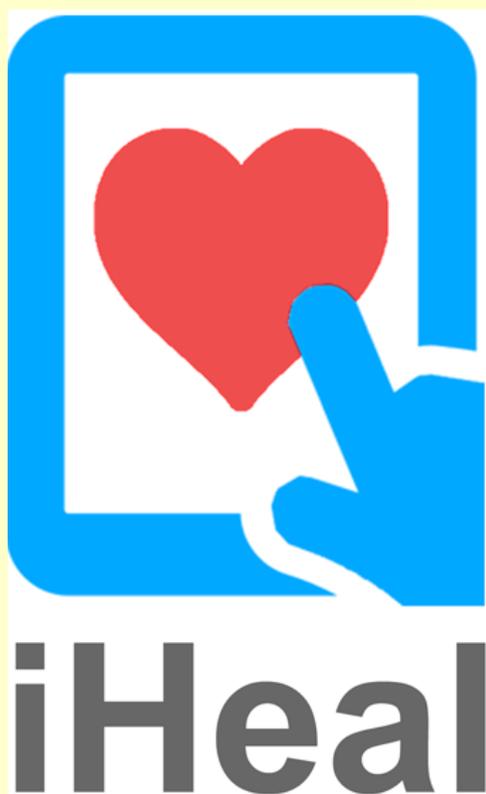
When the iHeal project consortium was forming the Transnational Digital Health Literacy Ecosystem Mapping and Methodological Framework, it is clearly seen that a huge content development is necessary and the selected 8 topics are just a part of emerged needs of elder people.

Feedback from the focus groups and desk researches showed that the topics is gonna be studied with iHeal Project is quite important for the field as being a start point. All conclusions reached showed us also a Picture of needs which will be the main shape of platform and mobile application which is going to be formed by iHeal partners. Platform will be giving also a basic level ICT competences to the elder people to get them easily adapted to the digital health environment. The age range of main target group makes platform appealing, active and interactive on the topic reached after Framework study.

### 8 Topics to be Studied in iHeal Project is as Follows

- M1. Basic Internet and ICT knowledge – INEUROPA**
- M2. Online safety, secure web-browsing and protecting your privacy – BOSEV**
- M3. Reliability and relevance of online information – INOVA+**
- M4. Social media and instant messaging (IM) applications – ASTERES**
- M5. Health-related applications and hardware (general health) - PROLEPSIS**
- M6. Digital patient (specific health issues) - WIN**
- M7. Managing your e-health portfolio (Health Data Management) – ÇOMÜ**
- M8. Navigate e-Health services (country specific) - CSI**

- 1- <https://www.who.int/ehealth/about/en/>
- 2- [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0003/324615/Health-2020-Education-and-health-through-early-development-en.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0003/324615/Health-2020-Education-and-health-through-early-development-en.pdf?ua=1)
- 3- [https://www.who.int/global-coordination-mechanism/working-groups/digital\\_hl.pdf](https://www.who.int/global-coordination-mechanism/working-groups/digital_hl.pdf)
- 4- Health literacy in Europe: comparative results of the European health literacy survey (HLS-EU)
- 5- Health Literacy. Data, evidences and intervention sectors, 2017
- 6- <http://www.euro.who.int/en/health-topics/health-policy/health-2020-the-european-policy-for-health-and-well-being/about-health-2020>
- 7- <https://ec.europa.eu/digital-single-market/en/policies/shaping-digital-single-market#TheStrategy>
- 8- [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0011/199532/Health2020-Long.pdf?ua=1](http://www.euro.who.int/__data/assets/pdf_file/0011/199532/Health2020-Long.pdf?ua=1)
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- 10- European Commission. (2018). Digital Economy and Society Index (DESI) 2018 Country Report Portugal.
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## Up-Skilling Elders In Digital Health Literacy To Prevent Marginalization And Exclusion

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