



Adult education on digital, health and data literacy for citizen empowerment

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1. Introduction

Despite the steady rise in literacy rates over the past 50 years, there are still 773 million illiterate adults around the world, most of whom are women. These numbers, published by the UNESCO Institute for Statistics (UIS), are a stark reminder of the work ahead to meet the Sustainable Development Goals (SDGs), especially Target 4.6 to ensure that all youth and most adults achieve general literacy and numeracy by 2030. While middle- and low-income countries are struggling with these general literacy aspects, the European countries have a large percentage of their adult population classified above the target levels of literacy proficiency (e.g. International Assessment of Adult Competencies Level 1). However, in Europe, more than 90% of EU professional roles require at least a basic level of digital knowledge and skills, just as they require basic literacy and numeracy skills [1]. Yet, around 42% of Europeans lack basic digital skills, including 37% of those in the workforce [2]. Thus, digital literacy has become an important aspect in the continuous education of the EU work force, and not only.

The COVID-19 pandemic has accelerated the growth and usage of the digital technologies in the health domain, on one side bringing significant advances in health and wellbeing promotion through self-monitoring and faster/easier provision of digital health services, but on the other side exacerbating health inequalities and negatively impacting on the health literacy, in particular in the case of digitally illiterate adults. Health literacy [3] is a complex construct, covering three broad elements: (1) knowledge of health, healthcare and health systems; (2) processing and using information in various formats in relation to health and healthcare; and (3) ability to maintain health through self-management and working in partnership with health providers.

Digital and Health come hand in hand with Data, as the current digital transformation of the healthcare systems in Europe (and worldwide) is aiming at delivering person-centric data driven prevention and healthcare through new models, where medical experts are collaborating with health informaticians, data analysts, health data scientists and clinical information officers. Digital, Health and Data are becoming even more important in prevention and social and community care. Citizen-centred self-management of health, care and healthy behaviour provides an adequate answer to the expanding health care sector, thus supporting the sustainability of it. Citizens' enhanced digital and data skills enables them to take advantage of the further development of artificial intelligence for prevention and environmental measures. Thus, citizens must be able to understand data concepts, data handling (e.g. collection, monitoring, transfer, storage), and security and privacy aspects related to their personal and health data.

Digital, health and data literacy represent a basic combination of elements needed by the European citizens in order to better track, manage and improve their health and well-being through the use of digital tools. Because of the rapid digitalization of the healthcare system in Europe, citizens need to be proficient with their eHealth literacy skills and be sufficiently knowledgeable on the collection and sharing of digital data, as well as data privacy

regulations. Digital and data literacy of citizens is also important to assess what is happening with their data and which data protection measures they can take.

TRIO aims to empower citizens through the development of a modular approach of the trio of literacies (digital, health and data), creating and designing a manual, a toolkit and a Green Paper along with a platform that will ensure customization of content to different needs. The Manual, the first deliverable of the modular approach, will start by making a definition of the average levels of digital, health and data literacy of the three age groups in the partner countries; define the criteria and necessary skills for each group and level and understand the existing gaps. This will allow to direct the learners in a bottom-up approach to look at the world with different eyes towards being in charge of their own health and well-being. Awareness will be given to contexts beyond the well-researched theoretical practices or general population approaches, to explore instead the personal perspectives of citizens, including them in the outputs, as well as the ones of policy makers.

Definitions:

- Digital literacy: refers to the skills required to achieve digital competence, the confident and critical use of information and communication technology (ICT) for work, leisure, learning and communication [4].
- Health literacy: empowers people to make positive choices. It implies the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions [5].
- Data literacy: is the ability to read, write and communicate data in context, with an understanding of the data sources and constructs, analytical methods and techniques applied [6].

The TRIO project will focus on the overlapping areas, in particular the digital data and digital health (eHealth) categories. See figure 1.

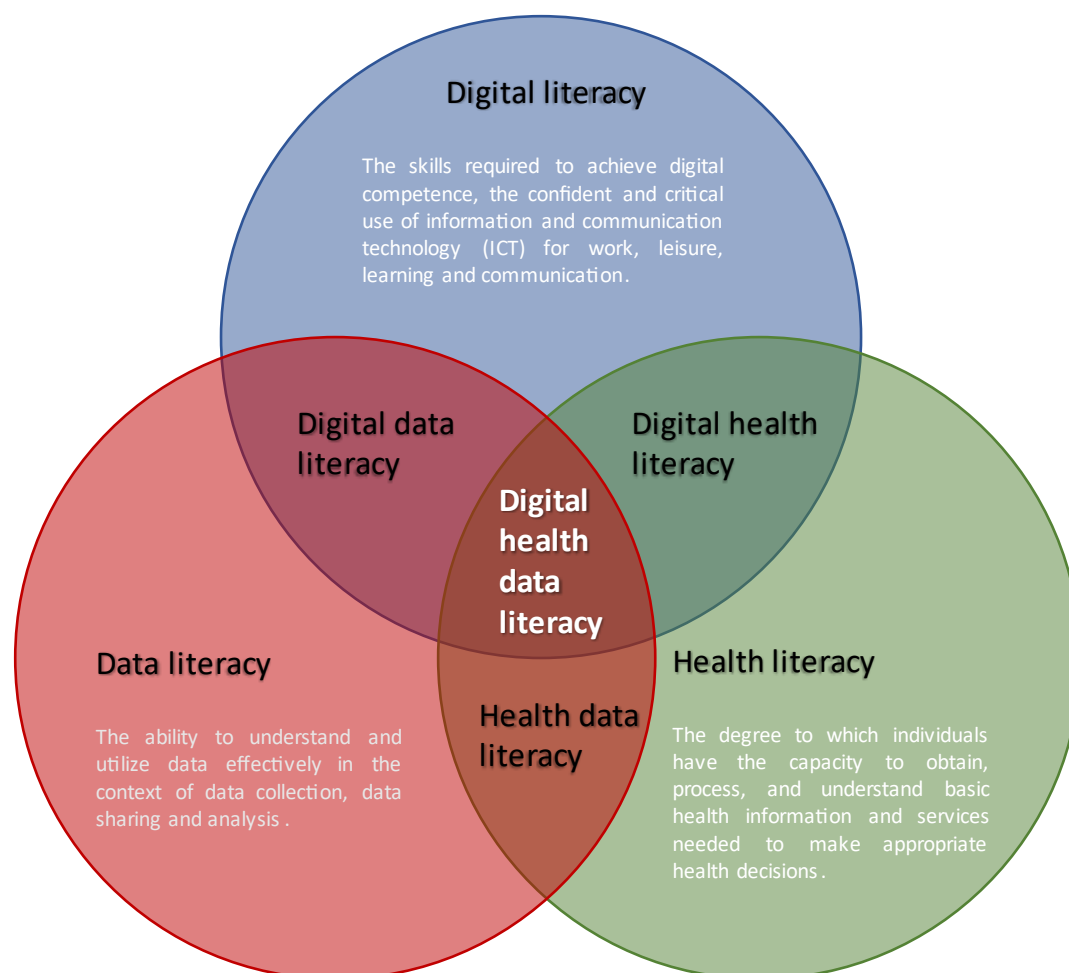


Figure 1: Venn diagram of the TRIO literacies.

1.1 Aim of the national report

The national report will be the basis for the TRIO Manual that will be released in March 2023. Target groups of the TRIO Manual are:

- Citizens of different ages and levels of education (18-35, 36-50 and 51+) by providing an integrated approach of the competences and skills on health, digital and data, empowering them to navigate in the eHealth world;
- Formal and informal educators by providing them with organised content to share with the citizens;
- Policy makers who will benefit from them to support improved person-centred health pathways.

The manual will act as a stand-alone output, but its contents will also be integrated in the TRIO educational platform with 3 main purposes:

- As preparatory material it will sensitise the learners to digital health and data sharing practices and impacts.
- As a publication disseminated at EU, national and local level, it will be a tool for eHealth-related stakeholders, and general public.
- With its underlying data collection, it will serve to refine the educational features.

1.2 Methodology

In order to achieve the above-mentioned aims, the following methods will be applied:

- Desk research in each country concerning status (including quantitative data), main challenges and existing approaches to digital, health and data sharing literacy, best-practice examples as well as training settings and contents
- Interviews in each partner country with stakeholders, experts and representatives of the target group for the training. For the interview questions see the annex.

2. Overview of the national or regional health system in the Region of Murcia (Spain)

Article 41 of the Spanish Constitution of 1978 states that public authorities shall maintain a public Social Security system for all citizens, guaranteeing sufficient social assistance and benefits in situations of need; likewise, Article 43 recognises the right to health protection, entrusting public authorities to organise and protect public health through preventive measures and the necessary benefits and services.

Likewise, article 38.1.a) of the General law of Social Security, within the protective action of the Social Security framework, includes health care in cases of maternity, common or occupational illness and accidents, whether or not they are work-related.

Additionally, Title VIII of the constitutional text designed a new territorial organisation of the State which made it possible for the 17 Spanish Autonomous Communities to assume competences in the field of health, reserving for the State, besides assuming health competences for the autonomous cities of Ceuta and Melilla, the regulation of the bases and general coordination of health.

Law 14/1986, of 25 April 1986 establishes the principles that configure the National Health System: the public nature and the universality and gratuity of the system; the definition of the rights and duties of citizens and public authorities; the political decentralisation of health; the integration of the different structures and public health services in the National Health System and its organisation into health areas, and the development of a new model of primary care that placed the emphasis on the integration at this level of care and prevention, promotion and basic rehabilitation activities.



“Servicio Murciano de Salud” (Murcia Health Service) or SMS, is the public health authority of the Region of Murcia, it comprises 9 health areas which are organised in different health zones. It provides access to health care

benefits to citizens through the individual health card, an administrative document that includes basic data of the cardholder, the entitlement to pharmaceutical benefits and the health service or entity responsible for healthcare. Each public health services provider from each autonomous community has its own health card format, which digitally stores the basic information in such a way that can be read and checked throughout the State and for all public administrations.



Figure 2: Health card format of the Murcia Public Health Service.

Citizens residing in the Region of Murcia who have the right to health care recognised by the National Institute of Social Security can request their health card either online, through the Secure access point to the information and procedures of the Public Administration of the Region (www.sede.carm.es), using a digital certificate or electronic ID, or in person at the primary health centre of the district where they live. With this procedure, a general practitioner from primary care is assigned to each user.

When non emergency care is required, SMS users must make an appointment with their general practitioner, which can be done whether by calling to their primary health centre, or online through the “Cita Previa” app or through Internet on the SMS’s electronic access point. After the COVID-19 Outbreak, services provided through these platform have increased and improved, allowing users to request either phone or in person assistance, and request other health services like vaccines or to make an appointment for nursing.



Figure 3: Homepages of the “Cita Previa” app (left) and the SMS’s Access point (right).

Primary care comprises on-demand, scheduled and urgent health care, prescription and performance of diagnostic and therapeutic procedures activities in the field of prevention, health promotion, family care and basic rehabilitation, specific care and services for women, children, teenagers, older adults, chronic patients and other risk groups, palliative care, mental health care in coordination with specialised care services and stomatognathic health care. When the general practitioner considers that specialised care is required, patients are referred to the appropriate area of specialisation with a new appointment, the general practitioner has access to any report and result from such appointments with special practitioners.

Users from the SMS can get those medicines from treatments prescribed by general and specialist practitioners at the pharmacies of the region with their health card. Medicines are subjected to a healthcare co-pay under which users contribute to a percentage of the total cost based on their income, age and level of illness.

The clinical history of users is stored in the servers of the SMS. General practitioners and specialist physicians share results from tests, Xrays and other tests with the patients during the appointments.

Besides the “Cita Previa” app, and the SMS’s electronic access point, users from the SMS have access to the “Portal del Paciente” (patient’s portal), where users from the SMS can perform online consultations with their general practitioner, nurse or midwife, arrange and manage medical appointments and consult their clinical history, including clinical, care and result

reports, medical treatments and clinical information in terms of allergies, medical history, active and previous episodes, previous instructions, vaccinations, alerts, diagnoses, blood type, and prescriptions. These can be visualised in the web portal or downloaded in pdf format.

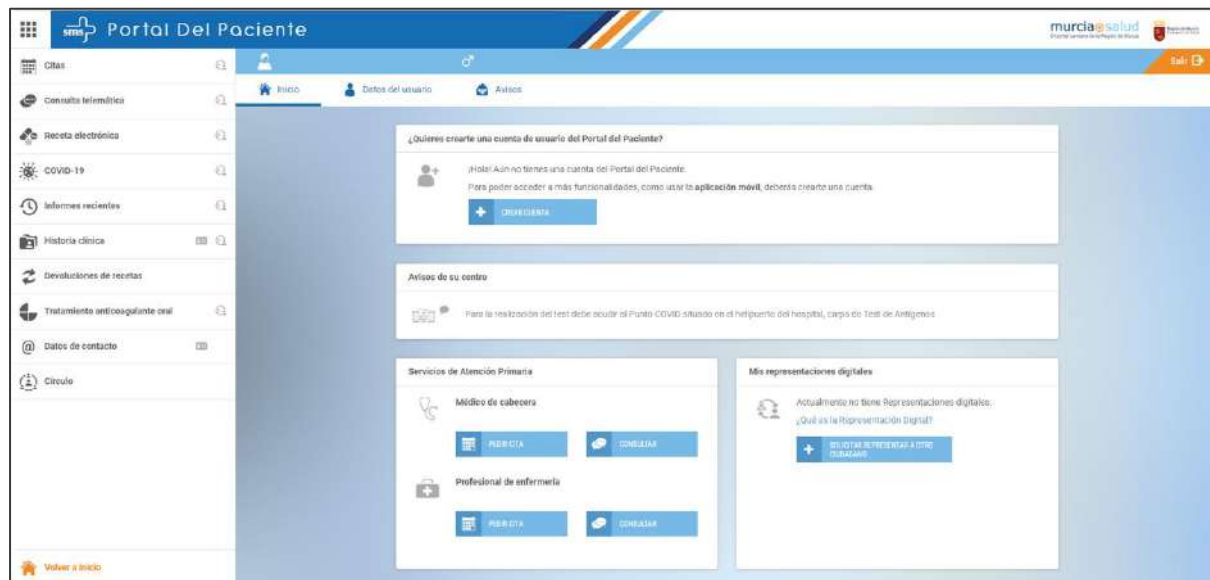


Figure 4: Portal del Paciente's Homepage.

Regarding access to data, in its privacy policy SMS states that they are responsible for all processing of personal data carried out in the course of its activity, unless otherwise indicated in a specific processing operation, and that personal data will not be communicated to third parties, unless they are legally obliged to do so. Within the SMS, only health professionals assigned to a user, and some staff from his/her primary care centre, can access to the data of this user.

3. Overview of digital, health and data literacy in Spain

3.1 Statistics on digital, health and data literacy

3.1.1 Statistics on digital literacy

The most accurate aligned study on digital literacy performed in Spain has been the Survey on the Equipment and Use of Information and Communication Technologies in Households released on Nov. 2021 by the Spanish National Statistics Institute (INE)¹, an autonomous body currently attached to the Ministry of Economic Affairs and Digital Transformation, responsible for the general coordination of the statistical services of the Spanish Administration and the monitoring, control and supervision of their technical procedures.

The study which consisted of a panel survey aimed at Spanish citizens aged 10 years and older, living in family dwellings, that has collected information on household equipment in Information and Communication Technologies (television, telephone, IT equipment, Internet access, etc.), and on the use of the Internet and e-commerce by the residents of these dwellings.

From this survey, the following general figures can be highlighted:

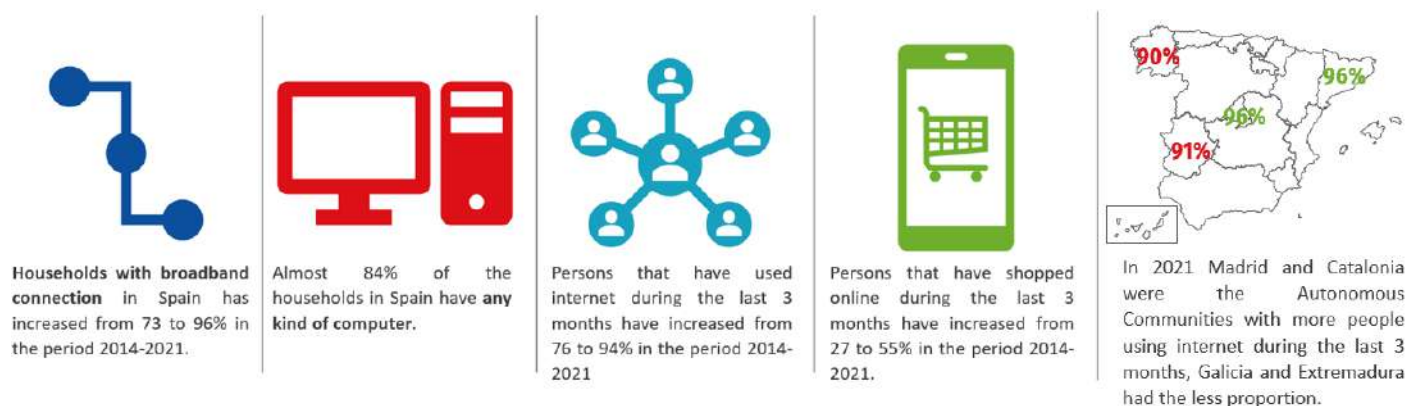
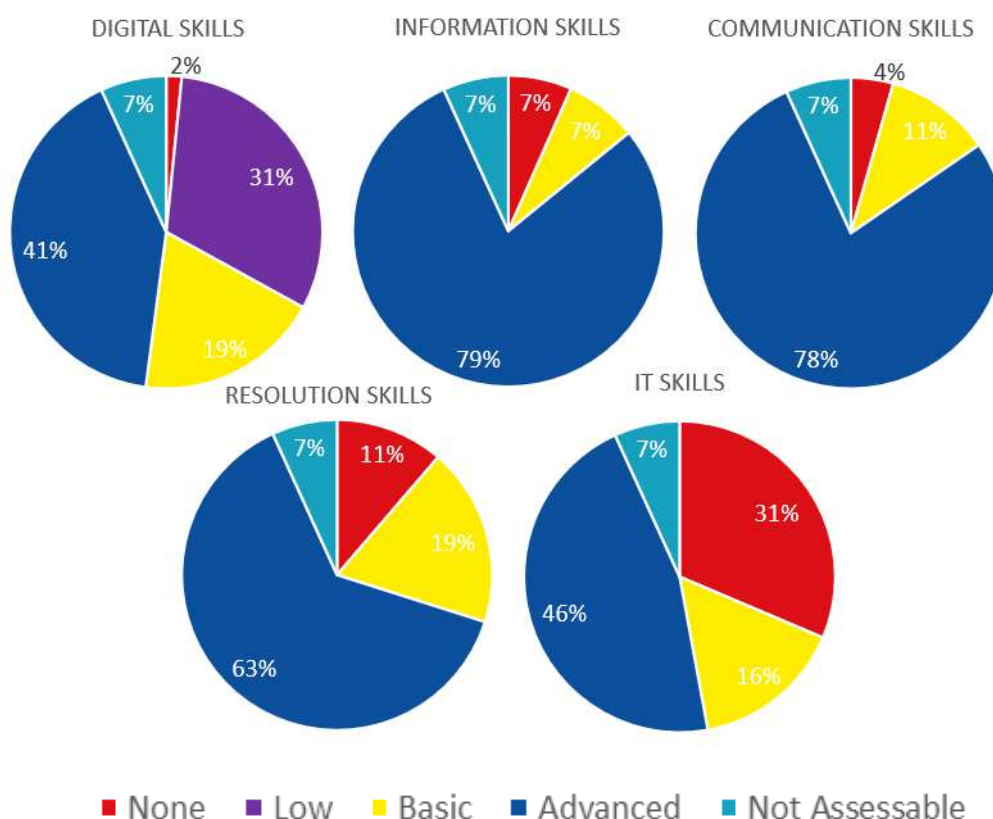


Figure 5: Main findings of the Survey on the Equipment and Use of ICT in households. National Statistics Institute.

The study also focused on how respondents perceived the level of digital and related skills: information, communication, resolution, and IT skills, showing a high level of confidence among the Spanish population when dealing with information, communication, solving problems and operating and handling digital technologies:

¹ www.ine.es



Graph 1: Digital and related skills.

Figures per Age Group

When it comes to age groups, several indicators linked to digital literacy skills of the respondents could be extracted and are detailed below:

- For the age group **from 16 to 34** years old, most of the population have access to Internet and digital devices, despite covering an age range below the age of majority and their non-existing or moderate purchasing power, the rate of population that shop online is relatively high.

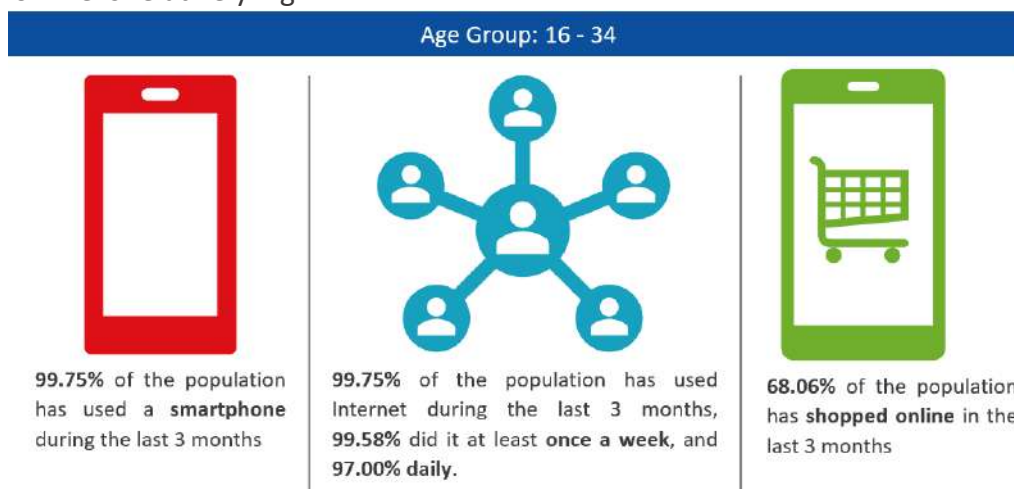
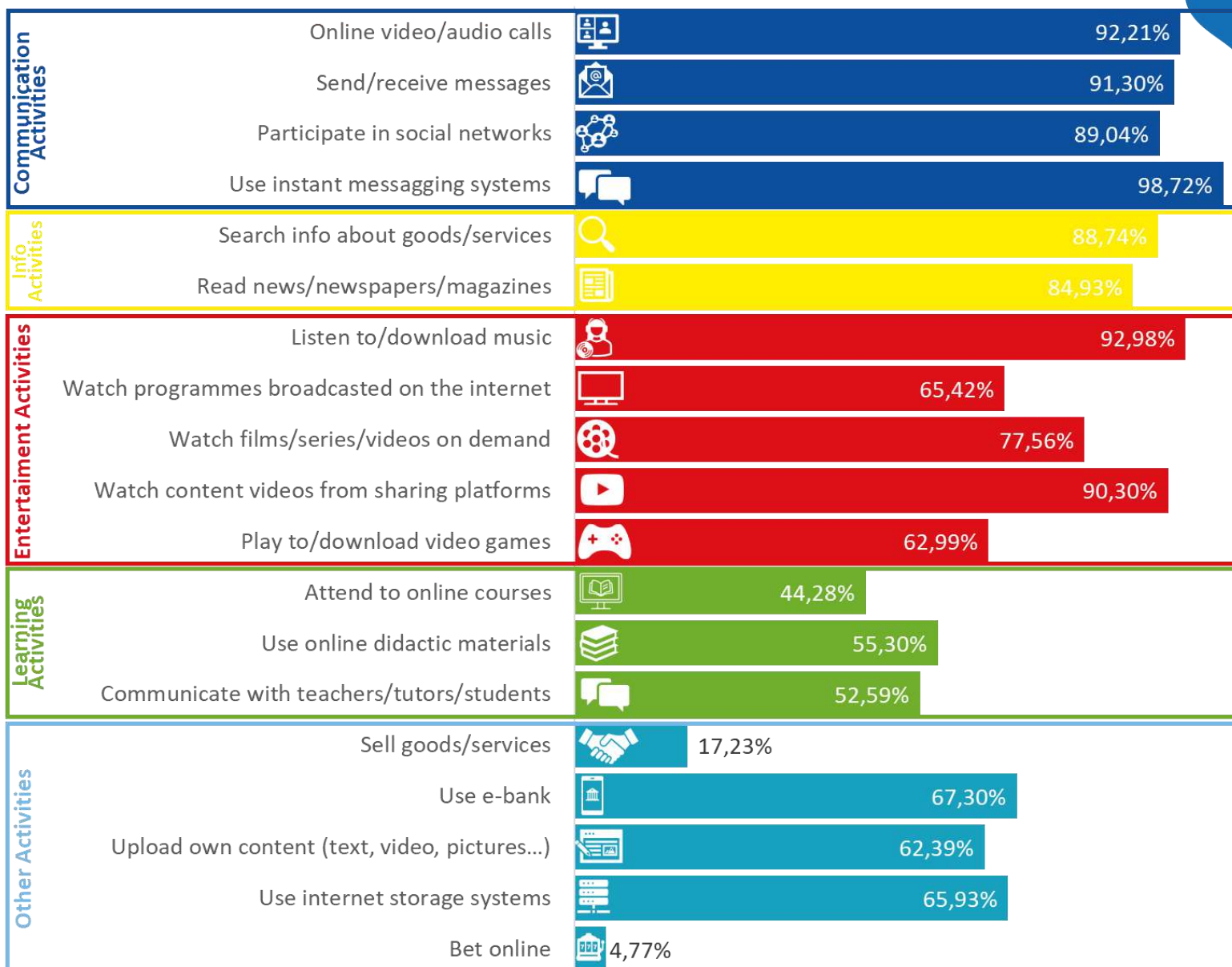


Figure 6: Use of Internet and Smartphones in Spain for the age group 16-34.

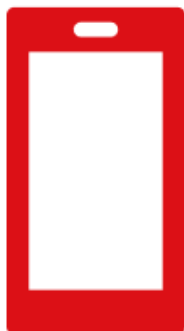
Going into details on the type of use made by this age group, it can be observed that the communication activities texting, emails, online calls, and social networks, along with entertainment activities, mainly music and visual content, are the preferred uses for this group. Although the COVID outbreak boosted the use of educational platforms, learning activities are not among the most demanded within this group. The sale of goods and services through collaborative online platforms, and gambling on online betting agencies are the least popular online activities for this group.



Graph 2: Internet services used, by particular reason, in the last 3 months by the age group from 16 to 34 years old.

For the age group **from 35 to 54 years old**, access to Internet and digital devices show similar figures compared to the previous age group, however, differences can be observed on the frequency of use, showing that less users access the Internet daily. The number of online buyers is also slightly lower.

Age Group: 35 - 54



99.70% of the population has used a **smartphone** during the last 3 months



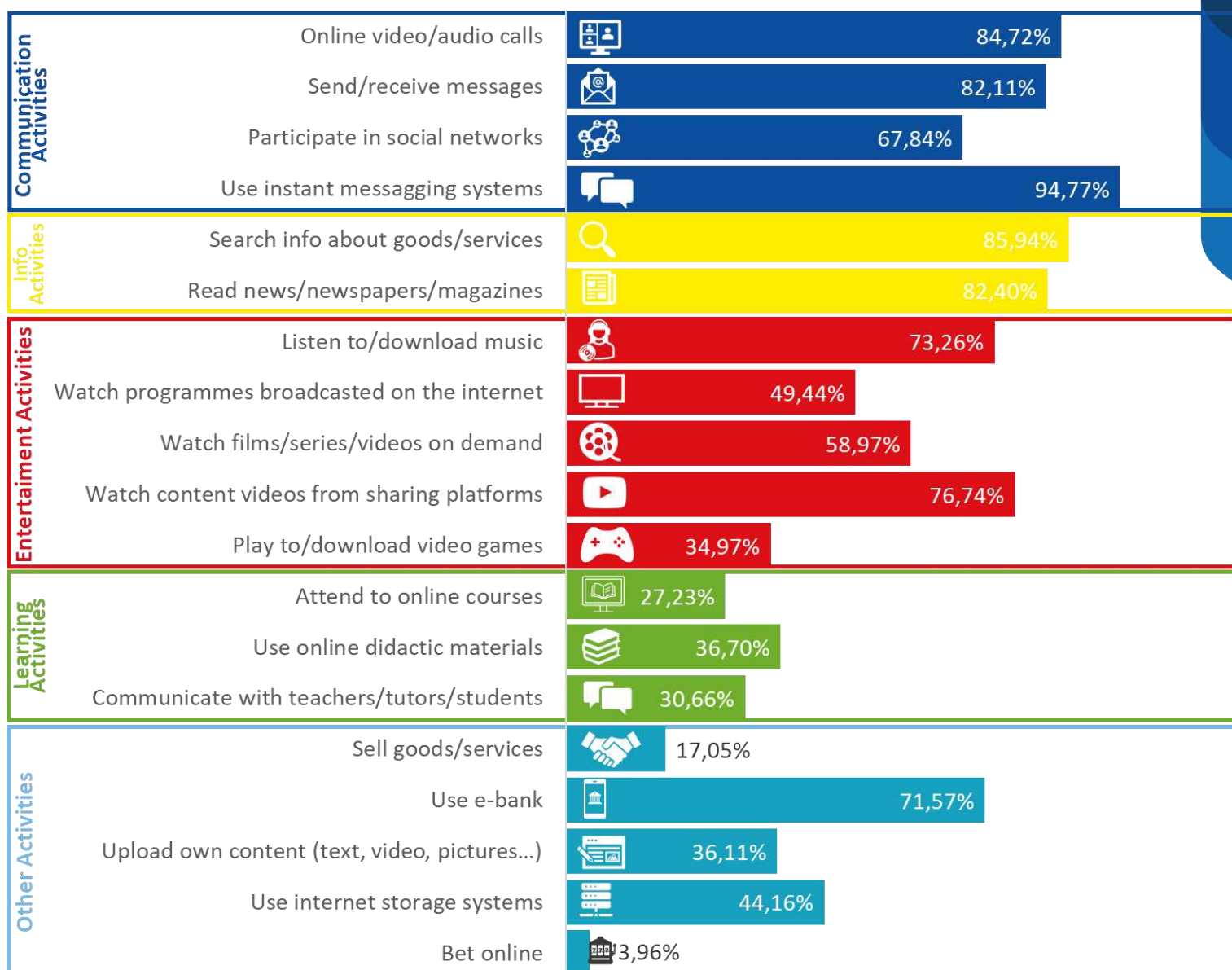
98.02% of the population has used Internet during the last 3 months, **96.71%** did it at least **once a week**, and **88.71%** **daily**.



62.22% of the population has **shopped online** in the last 3 months

Figure 7: Use of Internet and Smartphones in Spain for the age group 35-54.

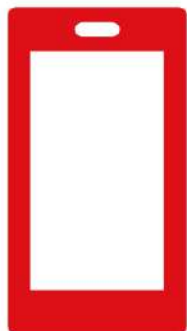
Regarding the kind of activities that this group uses the Internet for, the information activities are the only ones that share a similar percentage with the 16-34 group, showing lower percentages for the other activity groups. The use of instant messaging systems remains the most popular Internet service, and the participation in social networks is the communication activity that drops the most in use. All activities from the entertainment and learning groups have less percentages, and regarding other activities, the use of collaborative platforms for selling goods and services remains the same percentage, and the use of e-bank services is the only activity that increases for this age group.



Graph 3: Internet services used, by particular reason, in the last 3 months by the age group from 35 to 54 years old.

Above 55 years old, the use of Internet falls drastically. Figures provided by the study allow us to analyse the use of Internet in three sub-groups: from 55 to 64, from 65 to 74 and above 74. Despite the number of people using Internet for the first subgroup being slightly below the 35-54 group (89.05%), its use starts decreasing with the 65-74 sub-group (69.70%), and reaches its minimum with the above 74 sub-group (27.90%). Moreover, online shopping falls with half compared to the 35-54 group.

Age Group: > 55



97.10%(*) have used a **smartphone** during the last 3 months



66.06% have used Internet during the last 3 months, **61.44%** did it at least **once a week**, and **50.29%** **daily**.

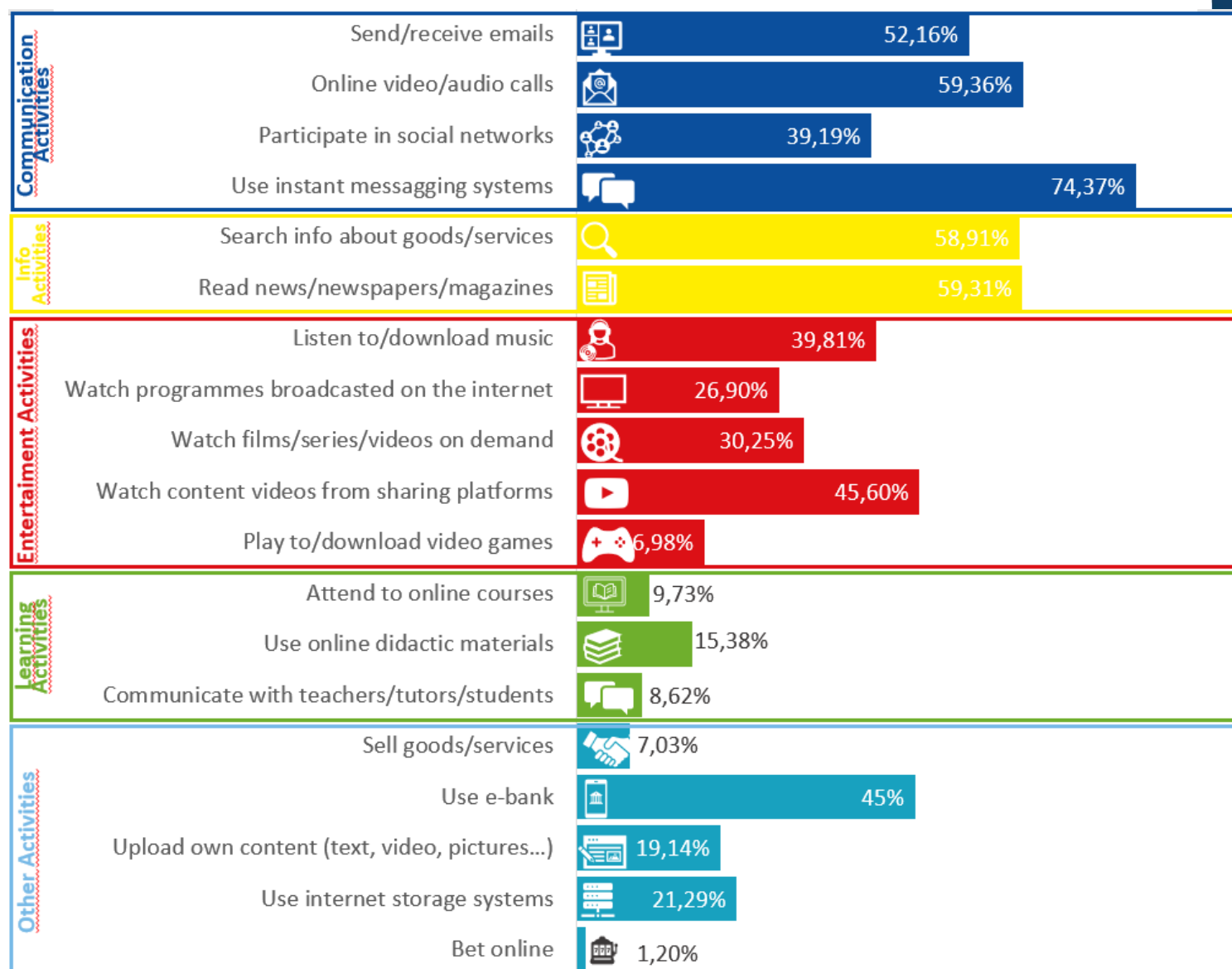


30.13%(*) have **shopped online** in the last 3 months

(*) Population from 55 to 74 years old

Figure 8: Use of Internet and Smartphones in Spain for the age group above 55 years old.

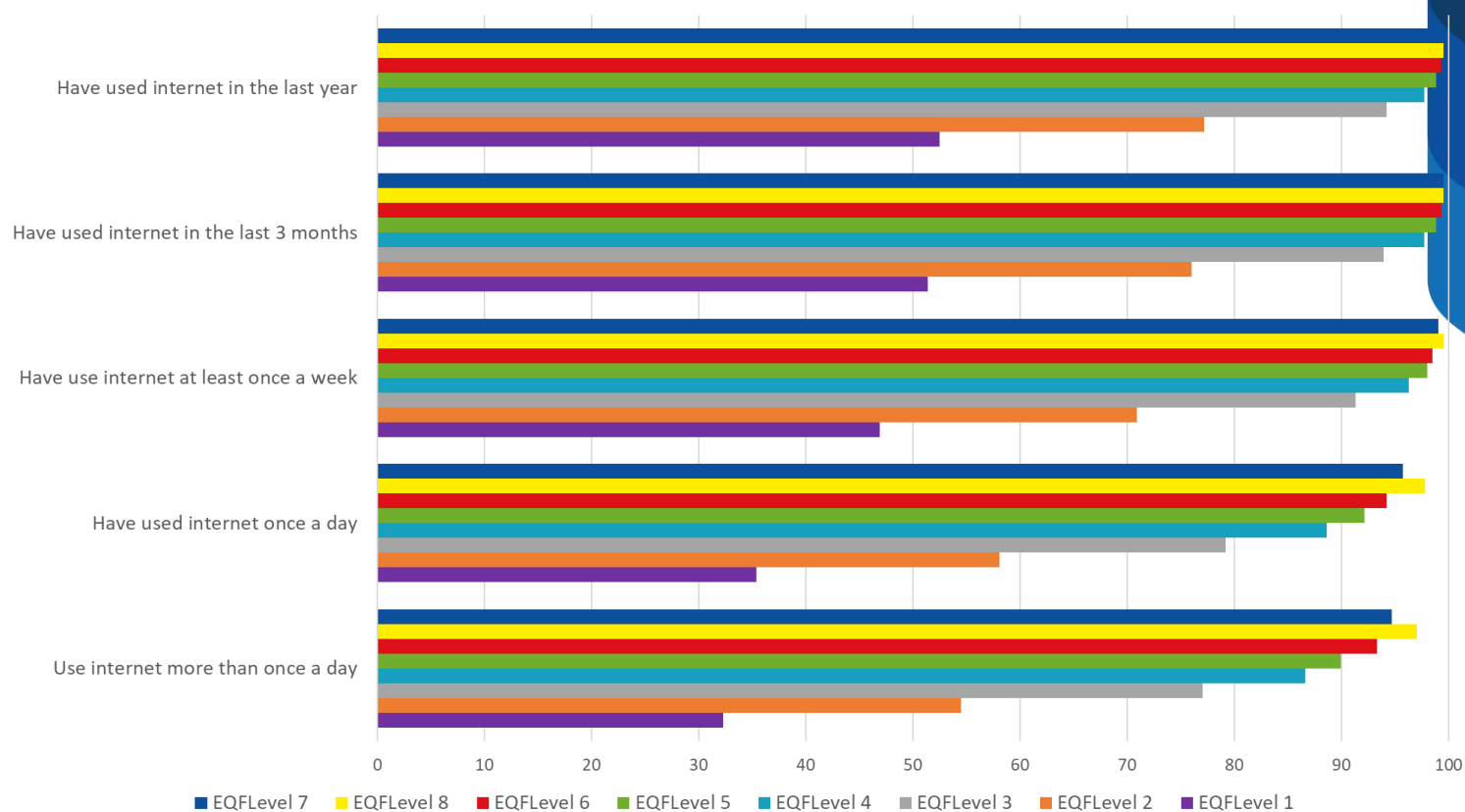
The percentage of all Internet activities decreases in this age group, learning activities being the one that suffer the biggest decrease in demand. The use of instant messaging systems remains the most popular Internet service.



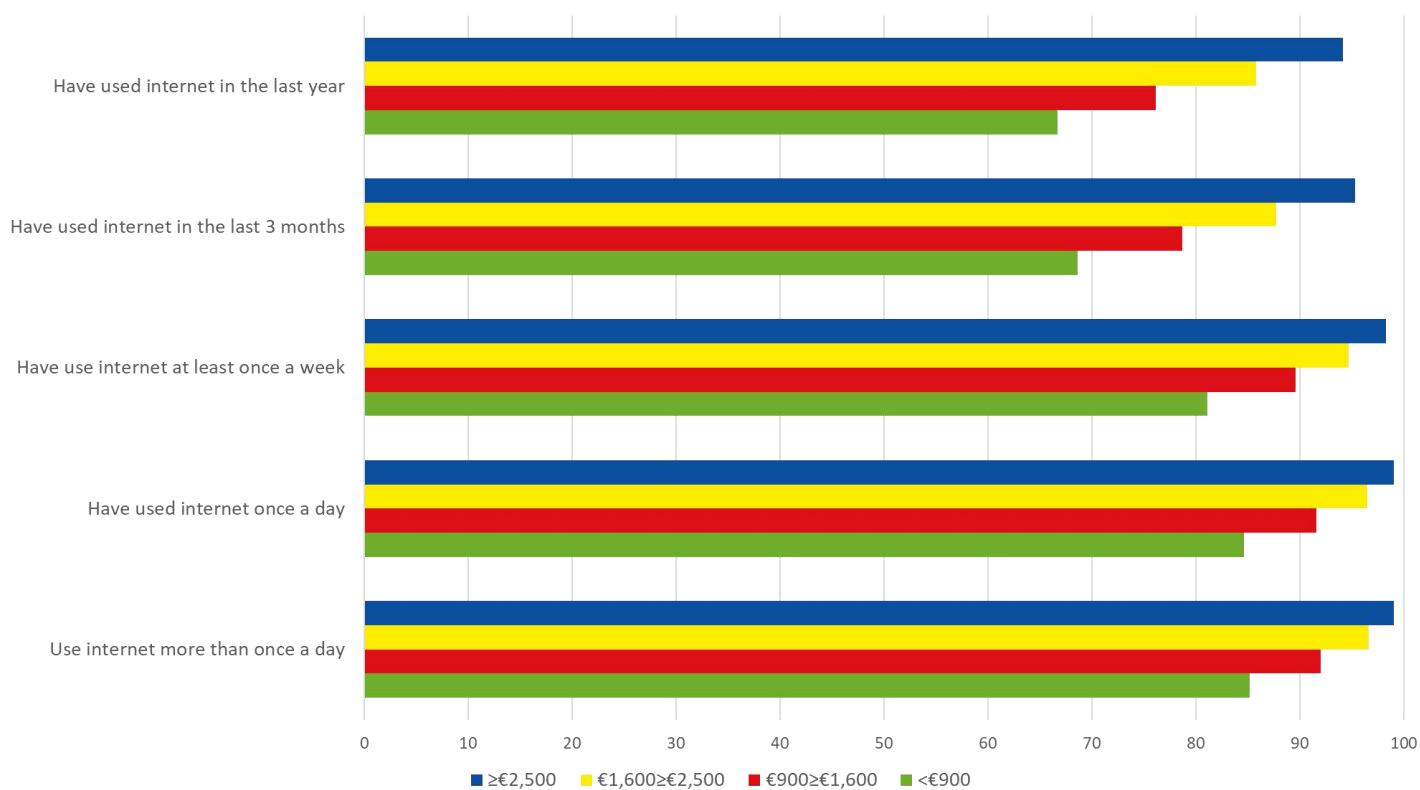
Graph 4: Internet services used, by particular reason, in the last 3 months by the age group above 55 years old.

Figures per level of education, Socio-economic status, (Sub)urban and rural settings, and Gender

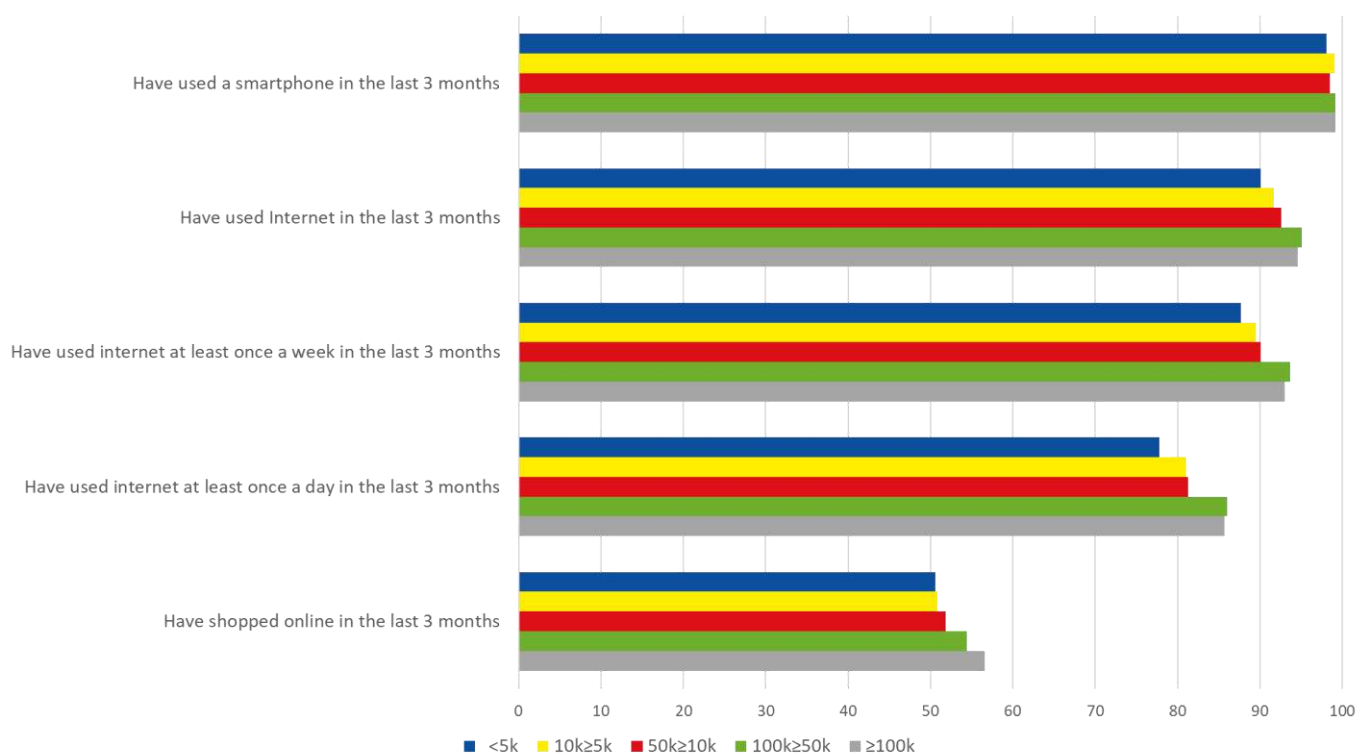
The graphs below compile the data obtained from the study regarding different socio-demographic characteristics and gender. Considering the daily use of Internet, a digital gap can be observed with people with an EQF level 3 and below, that difference is smaller for those with lower household incomes. No relevant differences can be observed when it comes to living environment and gender.



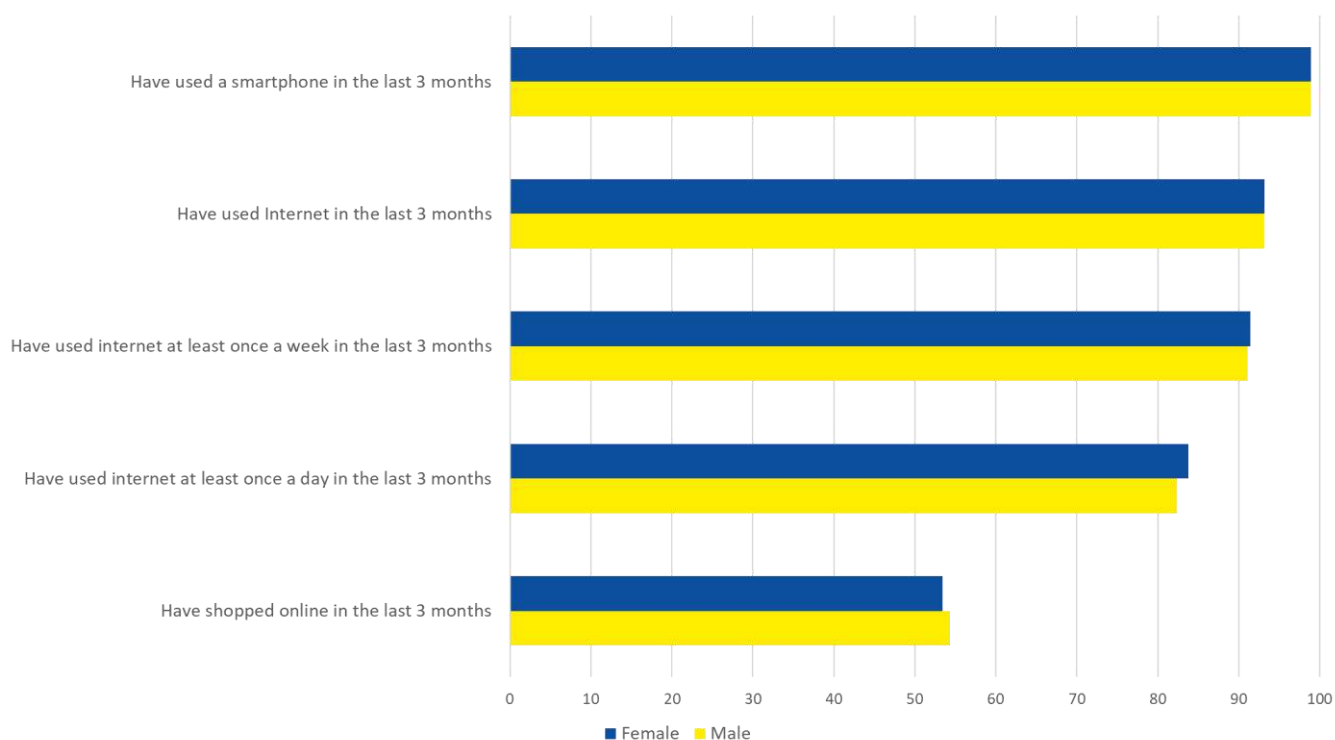
Graph 5: Frequency of Internet use by educational level.



Graph 6: Frequency of Internet use by net monthly household income.



Graph 7: Frequency of Internet use by town size.

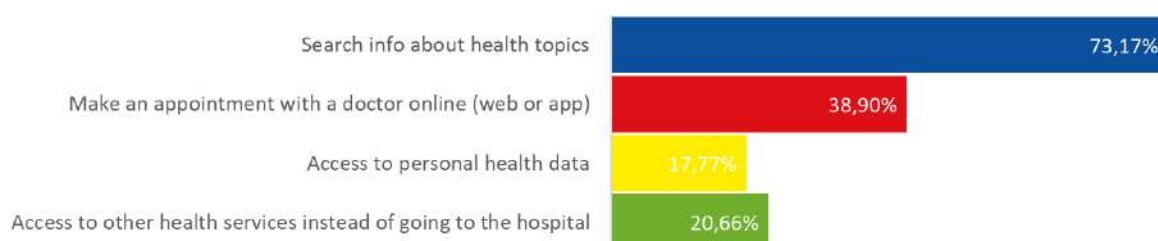


Graph 8: Frequency of Internet use by gender.

3.1.2 Statistics on health literacy

The *Survey on the Equipment and Use of Information and Communication Technologies in Households* included some questions about how respondents cope with health issues when it comes to searching information about health topics, making an appointment with a doctor, accessing personal health data or carrying out any procedure with health administrations online.

Responses show evidence that the 35–54-year-old is the age group that most uses Internet for such activities. Results also show differences at gender level, where women have more digital health literacy skills than men, and at living settings, where in big cities such services are more used than in small towns. At educational level, a gap on health literacy skills can be observed with people with an EQF level 3 and below, that difference is smaller for those with lower household incomes.



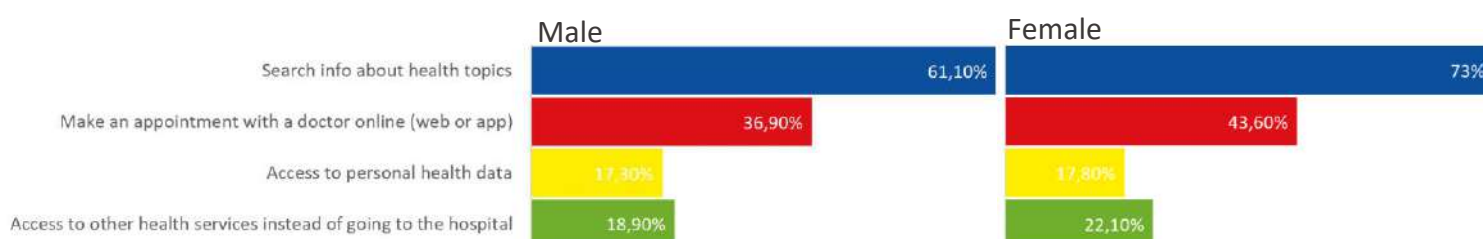
Graph 9: Health-related activities performed on the Internet, age group 16-34.



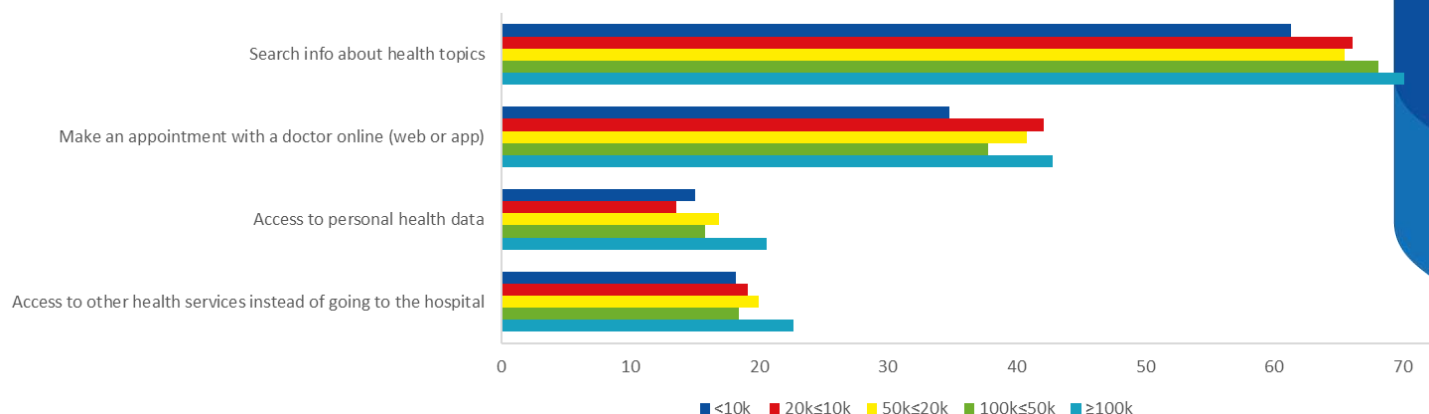
Graph 10: Health-related activities performed on the Internet, age group 35-54.



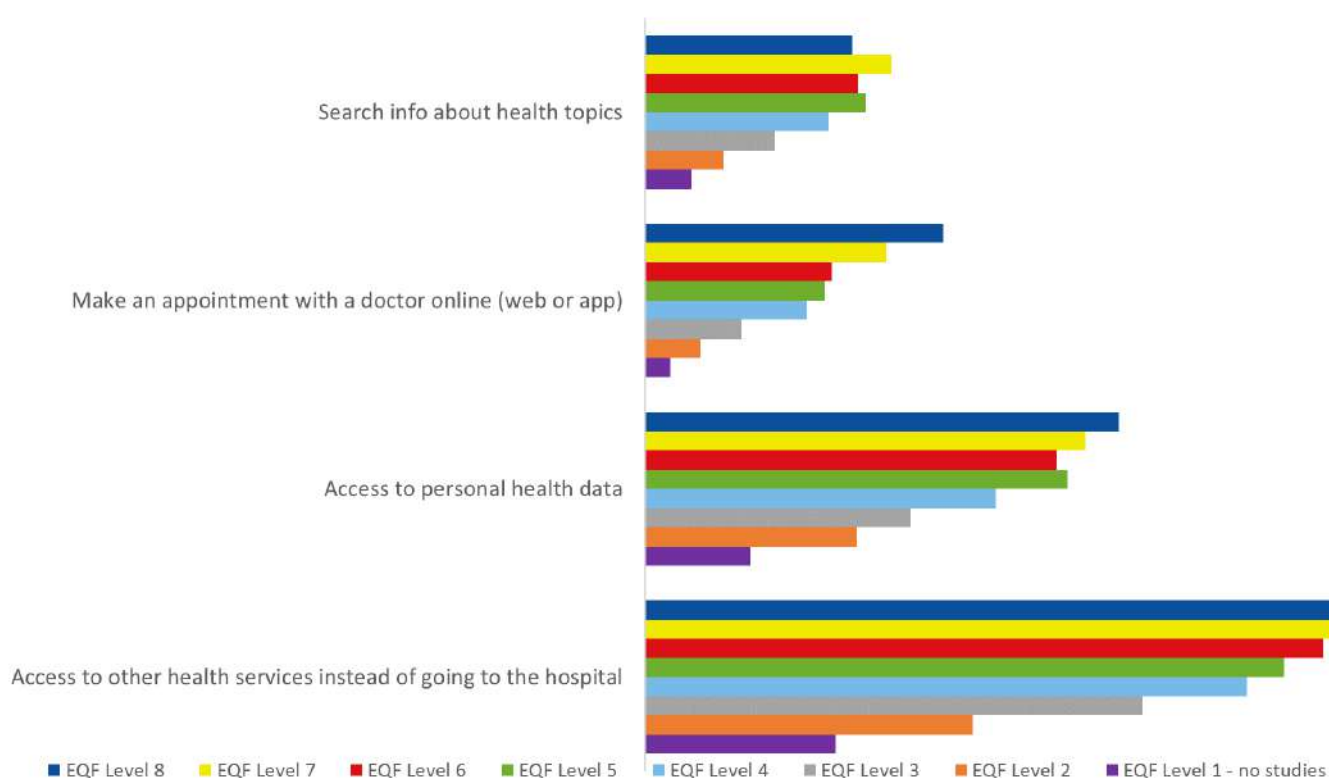
Graph 11: Health-related activities performed on the Internet, age group 55-74.



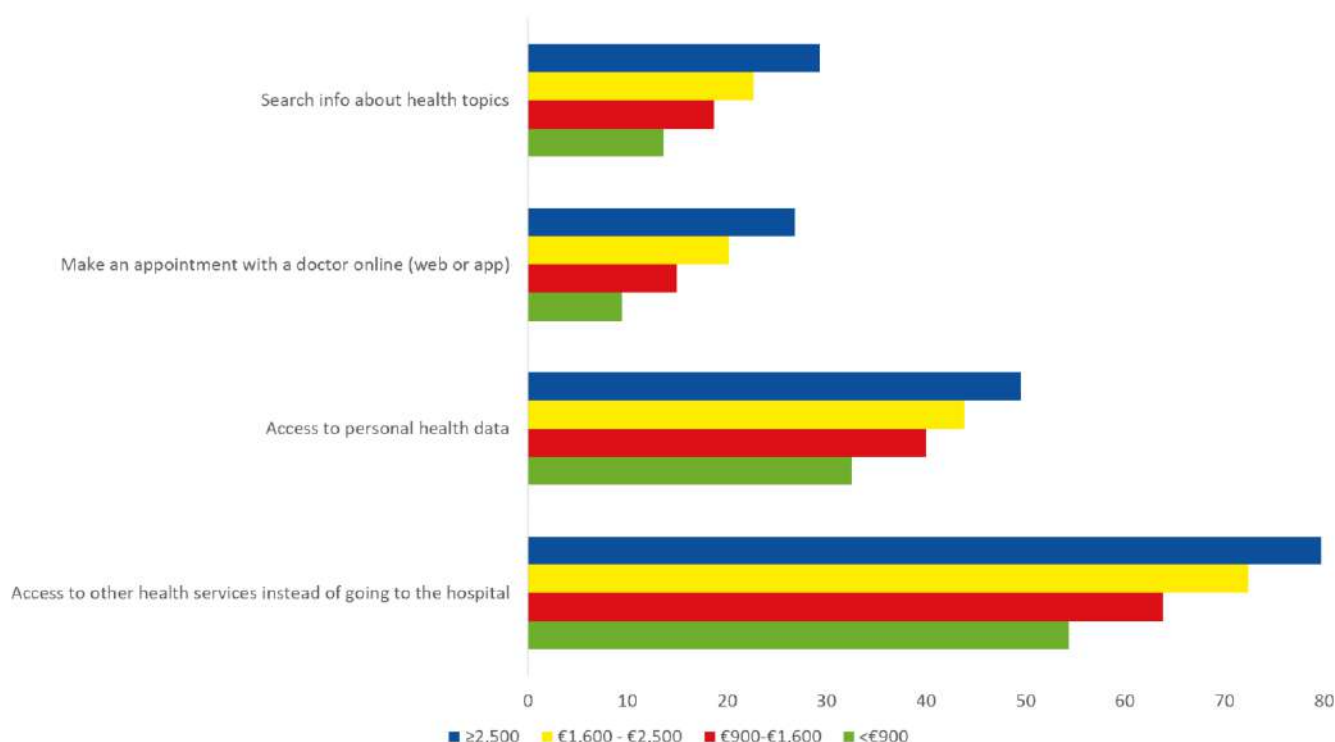
Graph 12: Health-related activities performed on the Internet by gender.



Graph 13: Health-related activities performed on the Internet by size of town.



Graph 14: Health-related activities performed on the Internet by educational level.



Graph 15: Health-related activities performed on the Internet by net monthly household income.

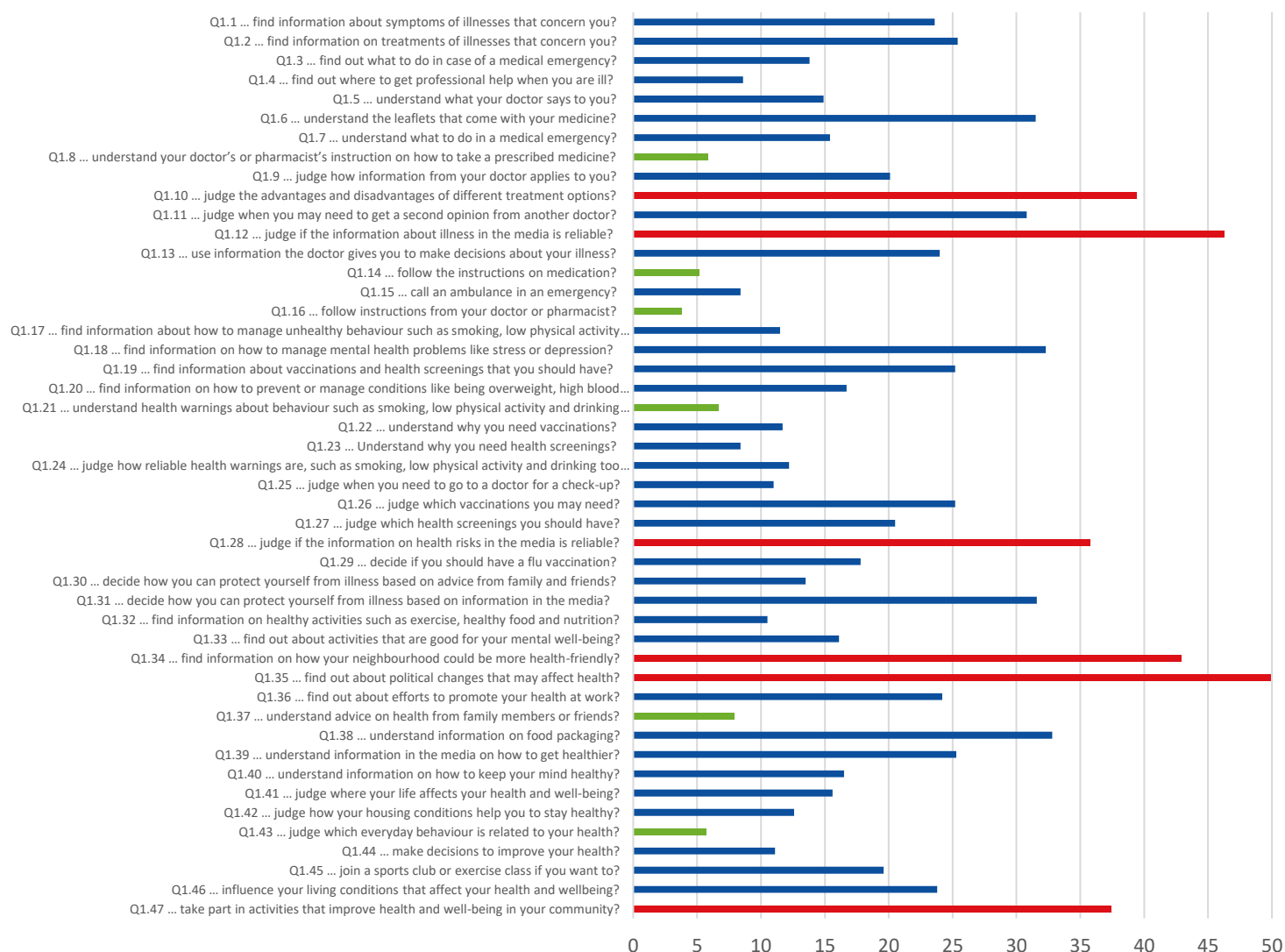
The consortium from the HLS-EU project released the most relevant study on health literacy identified in Spain², where a comparative survey was conducted during the summer of 2011 across eight EU countries: (Austria, Bulgaria, Germany (North Rhine-Westphalia), Greece, Ireland, Netherlands, Poland, and Spain) of citizens 15 years and older in each country. The consortium developed a Health Literacy conceptual model that was used for the study, this model distinguishes three domains of health literacy (HL): health care (HCHL), disease prevention (DP-HL) and health promotion (HP-HL), and four modes of dealing with health relevant information: access/obtain, understand, appraise/judge/evaluate and apply/use, which results on 12 theory based sub-dimensions of health literacy.

Health Literacy	Access/obtain information relevant to health	Understand information relevant to health	Appraise/judge/evaluate information relevant to health	Apply / use information relevant to health
Health Care	1) Ability to access information on medical or clinical issues	2) Ability to understand medical information and derive meaning	3) Ability to interpret and evaluate medical information	4) Ability to make informed decisions on medical issues
Disease Prevention	5) Ability to access information on risk factors	6) Ability to understand information on risk factors and derive meaning	7) Ability to interpret and evaluate information on risk factors	8) Ability to judge the relevance of the information on risk factors
Health Promotion	9) Ability to update oneself on health issues	10) Ability to understand health related information and derive meaning	11) Ability to interpret and evaluate information on health related issues	12) Ability to form a reflected opinion on health issues

² HLS-EU (2012): Comparative report of health literacy in eight EU member states. The --European health literacy survey HLS-EU, online publication: <http://www.health-literacy.eu>

Table 1: Matrix of Sub-dimensions of Health Literacy Based on the HLS-EU Conceptual Model (Sorensen et al. 2012), Used for Questionnaire Construction

Represented by 3-5 items, HLS-EU partners measured the perception of health literacy at each sub-dimension and at a general level across the 8 countries by using a questionnaire including 47 items that participants answered to assess their level of difficulty (very difficult, fairly difficult, fairly easy, very easy or don't know). The survey results report shows the percentage of all items for all countries, and the answer distributions of the 47 health literacy items per country, although displaying the combined answer categories "fairly difficult" and "difficult". From the latter analysis, it can be observed that for the case of the Spanish respondents, the most difficult items were those related to finding out about political changes that may affect health, judging the reliability of the information provided by the media about illness and health risks, the pros and cons of different treatments, taking part in community activities that improve health and well-being at community level, and finding information on how your neighbourhood could be more health-friendly, while the items scored as the easiest activities were the follow-up of instructions from doctors and pharmacists, prescriptions on medication, judging those everyday healthy behaviours, understanding the warning about unhealthy behaviours and health advices from relatives and friends.



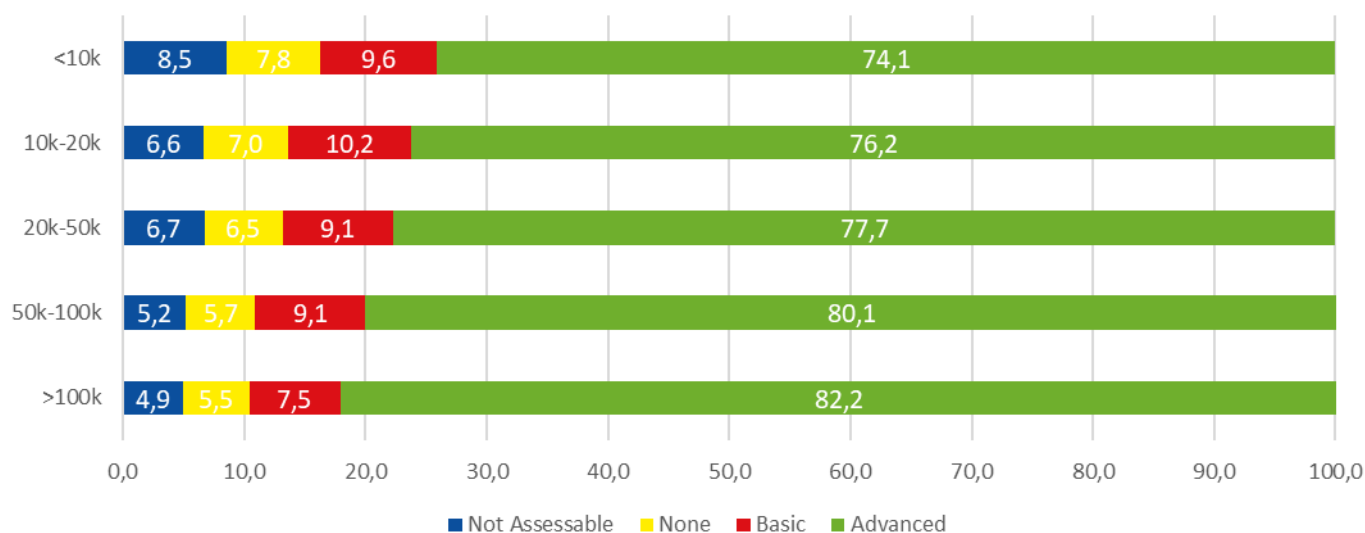
Graph 16: Shares of 'Fairly Difficult' and 'Very Difficult' Answers for Health Literacy Items by Spanish Participants

3.1.3 Statistics on data literacy

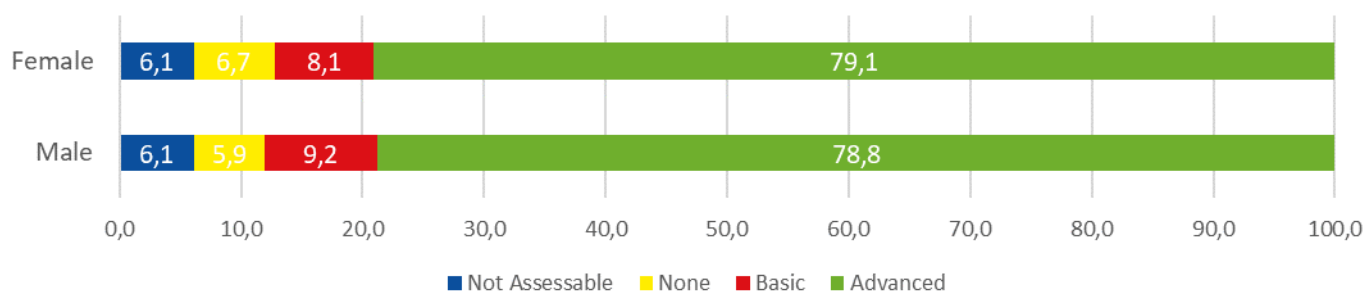
As for data literacy, the *Survey on the Equipment and Use of Information and Communication Technologies in Households* compiled how citizens perceived their own data literacy skills, showing differences between the 55-74 age group, with 74% of respondents having basic/advanced skills, and the other two age groups, with 93 and 95% respectively. Very slight differences can be observed between rural and urban environments, and practically no differences in terms of gender.



Graph 17: Information & Data Literacy Skills per age group.



Graph 18: Information & Data Literacy Skills per size of town.



Graph 19: Information & Data Literacy Skills per gender.

In August 2020, the DATALIT Knowledge Alliance³ published a desk research report on Data Literacy covering 18 EU countries and Tunisia, which aimed to analyse the state of data literacy in each country, going deep into how it is perceived, the most relevant stakeholders and its integration into High Education and Industry.

For the case of Spain, the report states that Data Literacy is a skill with a very digital character, defined as the ability to access, analyse, interpret, and display data as information in a useful, relevant, and appropriate way for the purpose for which it will be presented⁴.

Despite having a strong vocational and higher education focus, it is worth to consider the abilities provided in this report.

Know when it is appropriate to use data for a specific purpose. i.e.: in customer segmentation.

Know how to interpret data visualizations (graphs, tables...) i.e.: understanding what a scatter plot means.

Apply critical thinking to information from data analysis. i.e.: to assess when the information received makes sense or not.

Understand what analytical tools and methods exist, and when, how, and where to use it. i.e.: knowing what the affinity analysis is for.

Recognize when data has been manipulated or misinterpreted. i.e.: when the results of a company are communicated.

Know how to communicate information regarding data to people without adequate capacities. What is often known as data storytelling.

Figure 9: Abilities that comprise the data literacy skills in Spain according to the Universitat Oberta de Catalunya⁵.

Among the most relevant stakeholders in Spain regarding data management and literacy, we find public institutions like the National Statistics Institute (INE) or the governmental organization for employment (SEPE); HE institutions, that offer various curricula related with data, data science, data analytics, statistics, big data, deep learning; and private enterprises that provide services

³ Data Literacy at the interface of higher education and business. Project reference no. 612561-EPP-1-2019-1-IT-EPPKA2-KA

⁴ Lateralía, "Data Literacy: el poder de la alfabetización de datos," 2019. [Online]. Available: <https://lateralía.es/data-literacy-alfabetizacion-datos/>.

⁵ Universitat Oberta de Catalunya, "Data Literacy," 2017. [Online]. Available: <http://dataanalysis.blogs.uoc.edu/2017/10/30/data-literacy/>.

related to Data to companies and offer courses in the field of Data Literacy for vocational purposes. Qlik is one of this companies, that offer online training ranging from understanding Data Literacy and Data Analytics, passing through mathematics and statistics, ending in the advance analytics courses.

In 2017, Qlik launched a campaign⁶ for reducing the data literacy gap and to equalise opportunities for access to information in the working environment. The main conclusions are summarized in the following image:

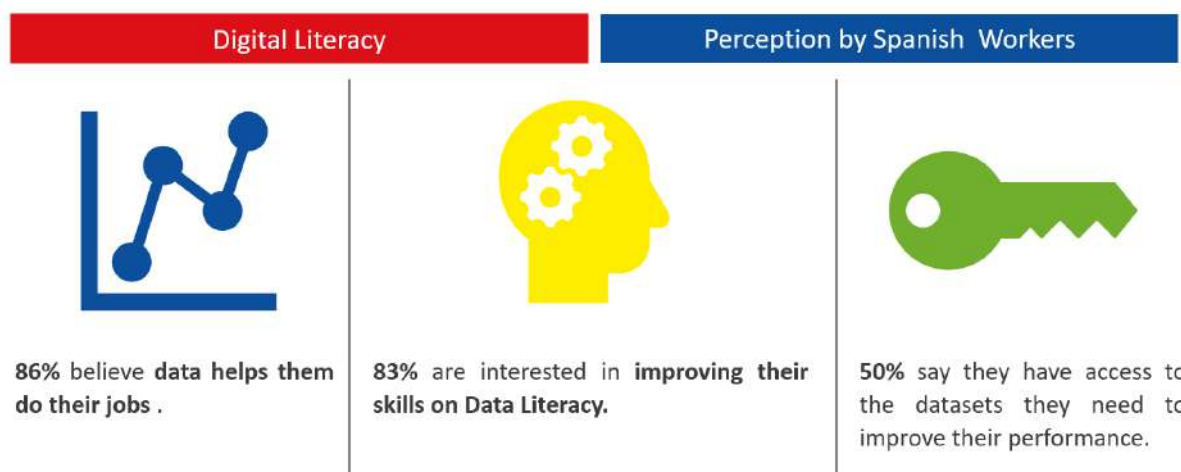


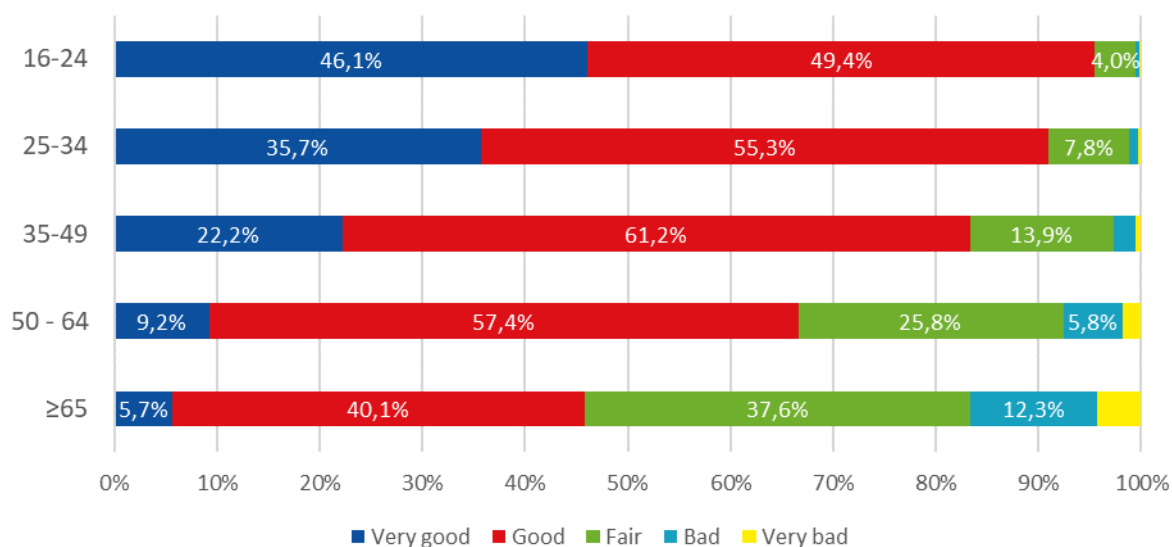
Figure 10: Main findings of the study on Data Literacy in Spanish Enterprises performed by Qlik.

The study also shows that the data literacy gap has a hierarchical and generational aspect; those who have higher responsibility profiles within companies and workers aged between 25 and 44 years old are more literate. From the age of 45 onwards, the figure falls slightly and more sharply in the over-55s.

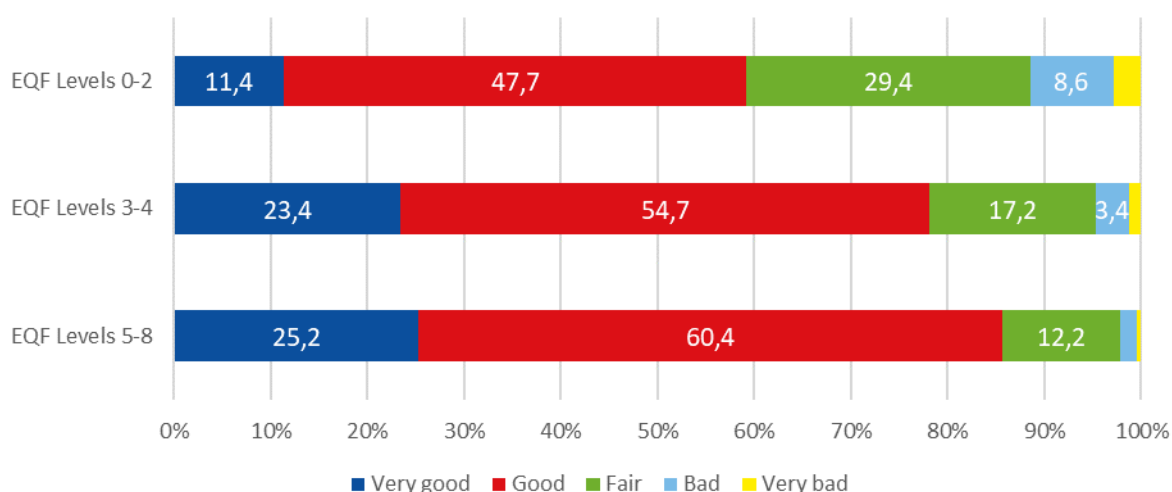
3.2 Statistics on societal and economic impacts

The graphs below show the results from a survey on living conditions in the year 2020, performed by the National Statistics Institute, regarding the self-perceived health status and wellbeing of Spanish citizens. Obviously, the rate of respondents perceiving their health as very well and well drops as age increases, which is the most noticeable difference after the age of 50 years. At educational level, differences can be observed between citizens with EQF levels 2 and below and EQF levels 3 and above.

⁶ <https://www.qlik.com/es-es/company/press-room/press-releases/1121-solo-profesionales-espanoles-considera-capaz-interpretar-analizar-argumentar-datos-trabajo>



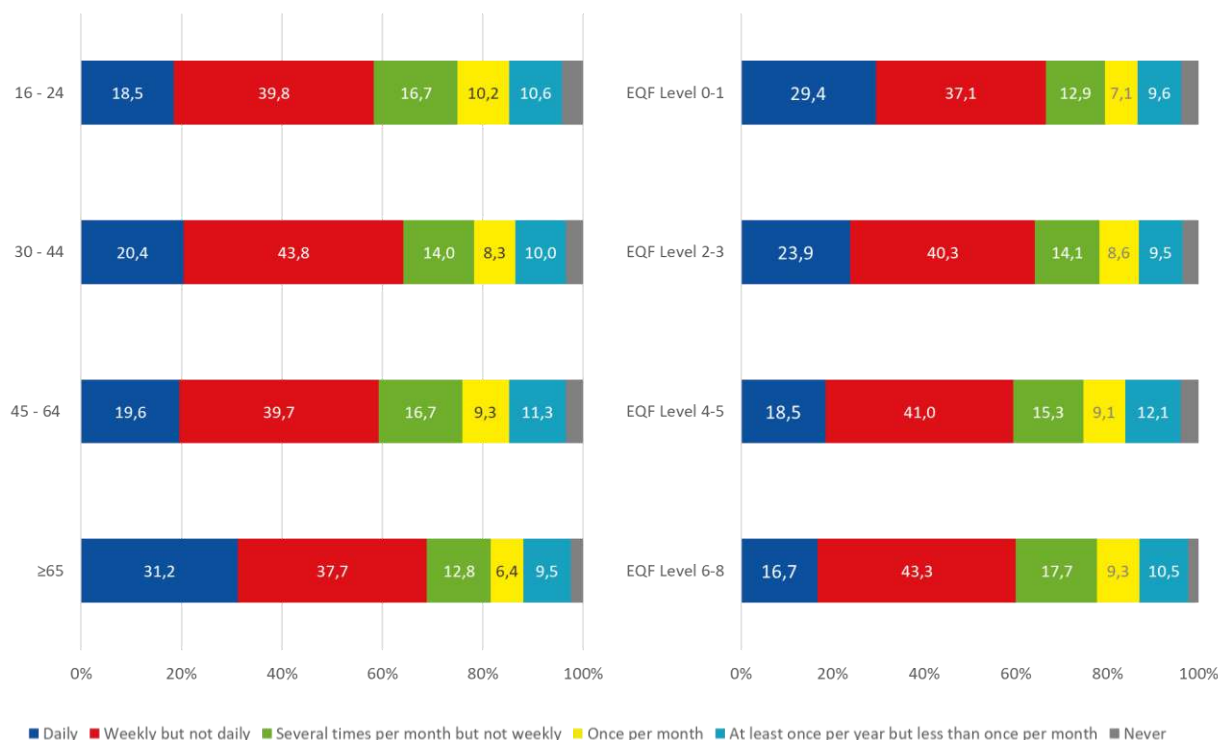
Graph 20: perceived health status and wellbeing by Spanish citizens per age group.



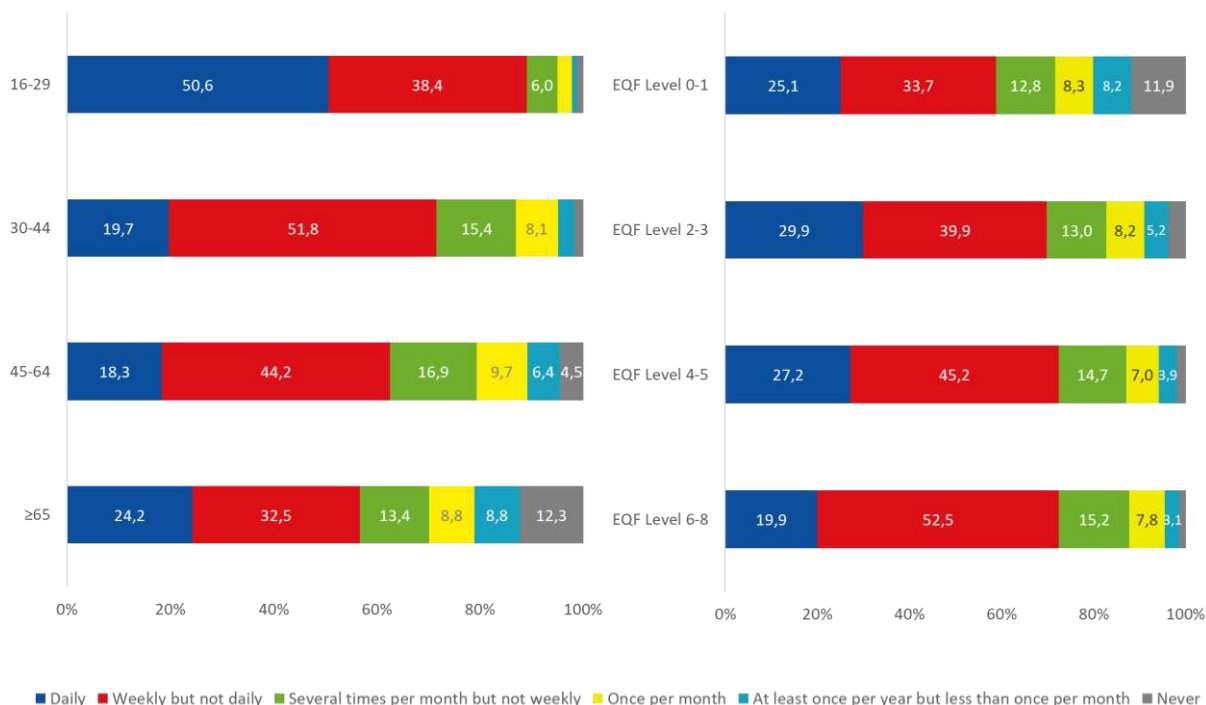
Graph 21: perceived health status and wellbeing by Spanish citizens per educational level.

Regarding participation in society, on 2015, INE performed a survey on social participation that provided figures about how frequently Spanish citizens meet with relatives and friends. Comparing the survey results among age and educational levels, results show that the ≥65 group with more individuals that daily meet relatives, while the percentage of citizens meeting relative at least weekly is around 60% for all group levels. A difference among individuals meeting everyday with relatives can be observed at educational level, which decreases as the educational level is higher.

More differences are observed with friends relationships, as daily and weekly meetings decreases with age. Regarding educational levels, no relevant differences can be observed among EQF levels from 2-8, while the EQF0-1 group show less daily and weekly interactions compared with the rest of the groups.



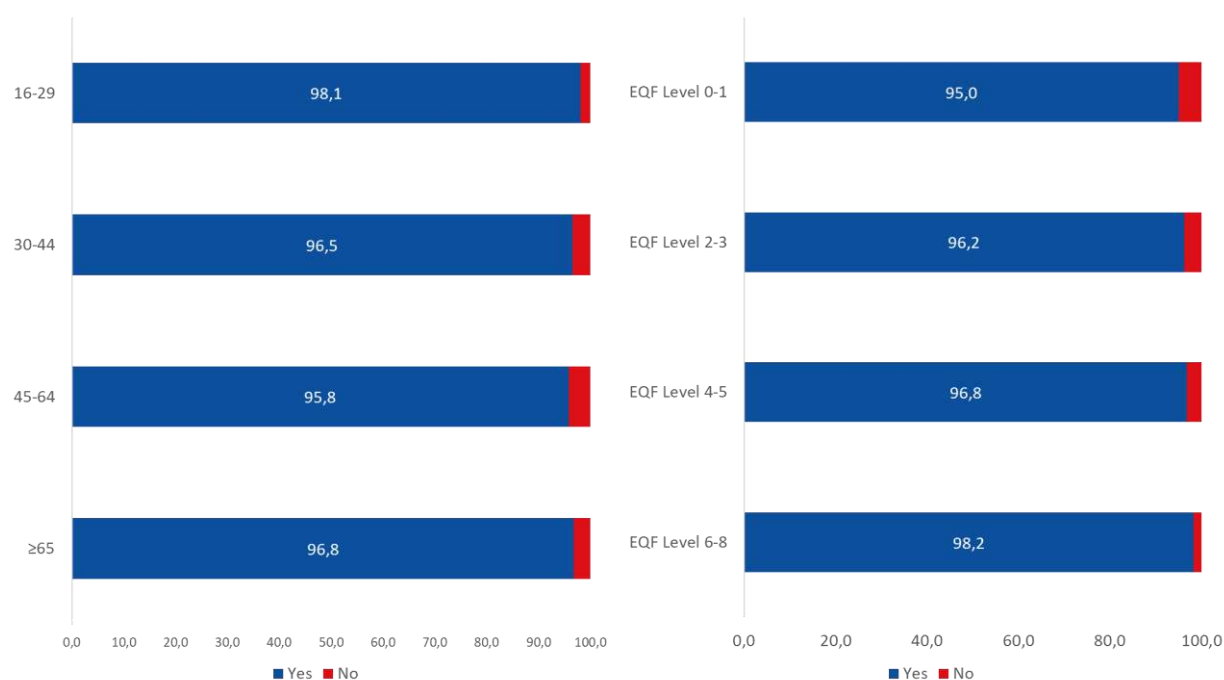
Graph 22: Frequency with which Spanish citizens meet relatives per age group (left) and educational level (right).



Graph 23: Frequency with which Spanish citizens meet friends per age group (left) and educational level (right).

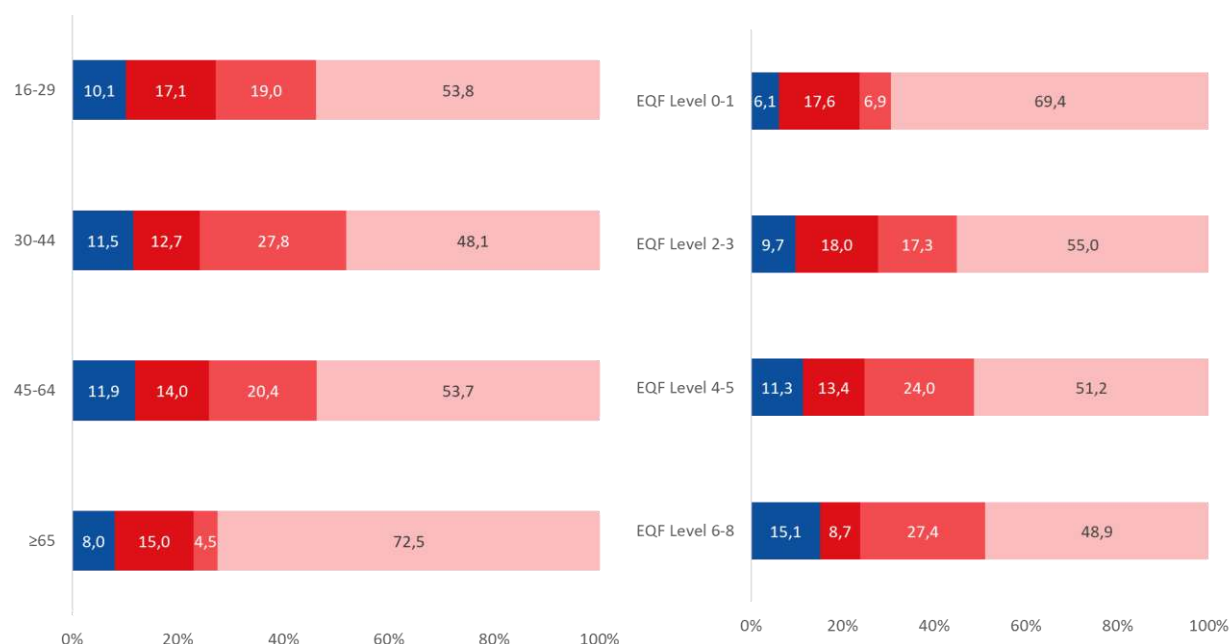
From the Survey on social participation we could also extract the percentage of citizens, per age and educational group, that could ask for help to someone else (friends, relatives,

neighbours). Results show that the percentage of all age and educational groups able to ask for help were above 95%.



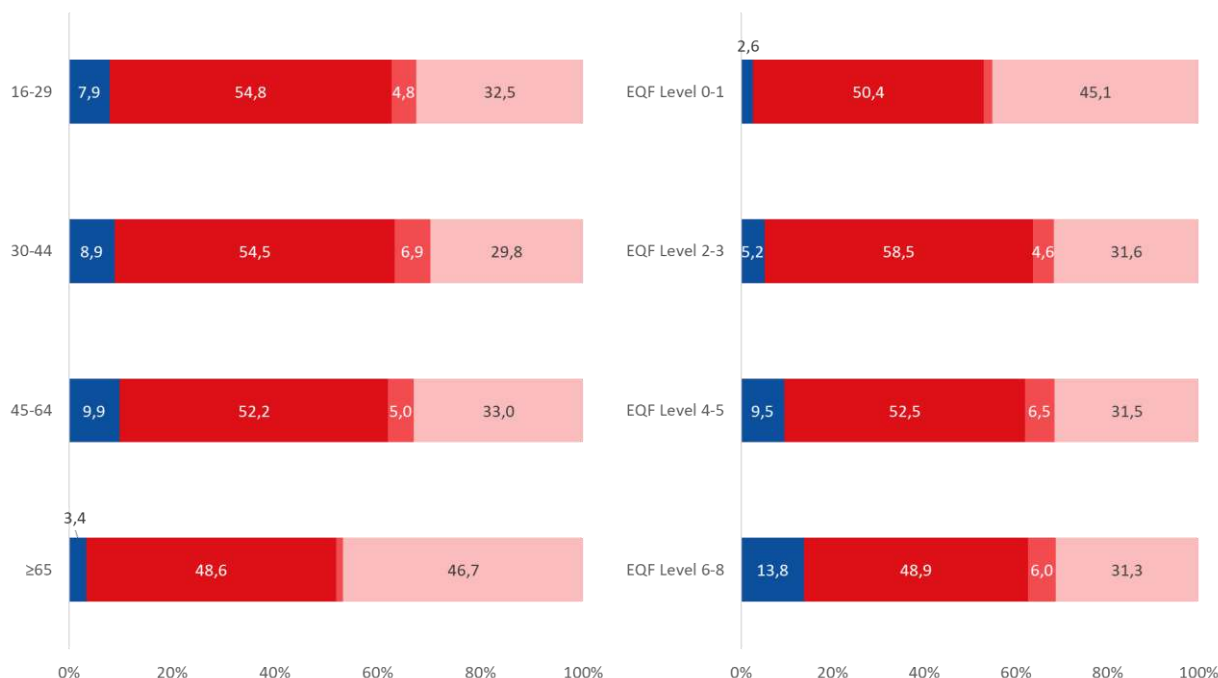
Graph 24: Spanish adults that could ask for help to relatives, neighbours and friends per age group and educational level.

The survey results also showed that volunteering and politics are not very exciting for Spanish Citizens. The percentage of citizens involved in volunteering and political activities is below 12% in all age groups, being the 45-54 group the most active, and the ≥65 the less active. At educational level, the participation in volunteering and political activities increases with the level of education.



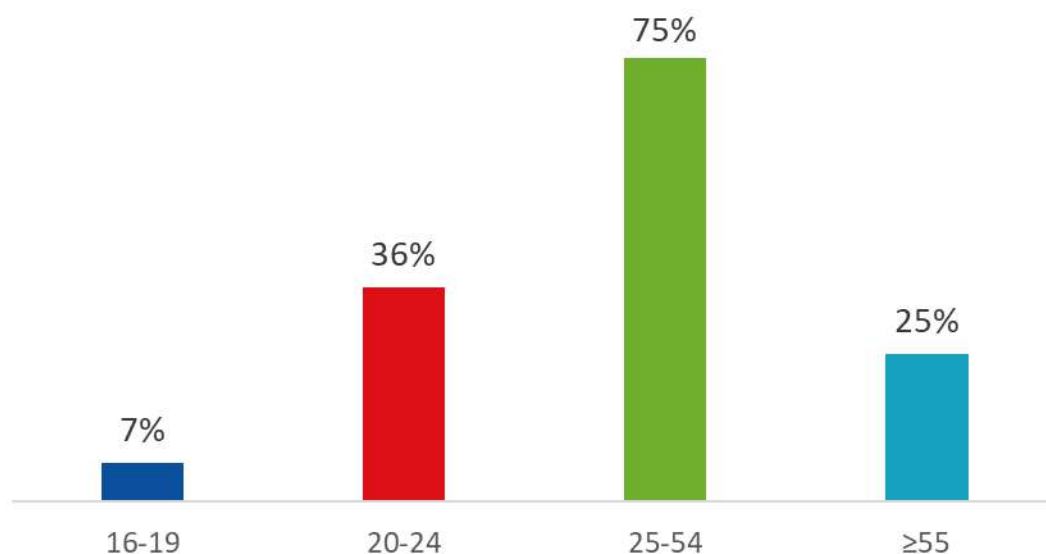
■ Yes ■ No, because is not interested ■ No, due to lack of time ■ No, due to other reasons

Graph 25: Spanish adults that that participate in volunteering activities per age group (left) and educational level (right).

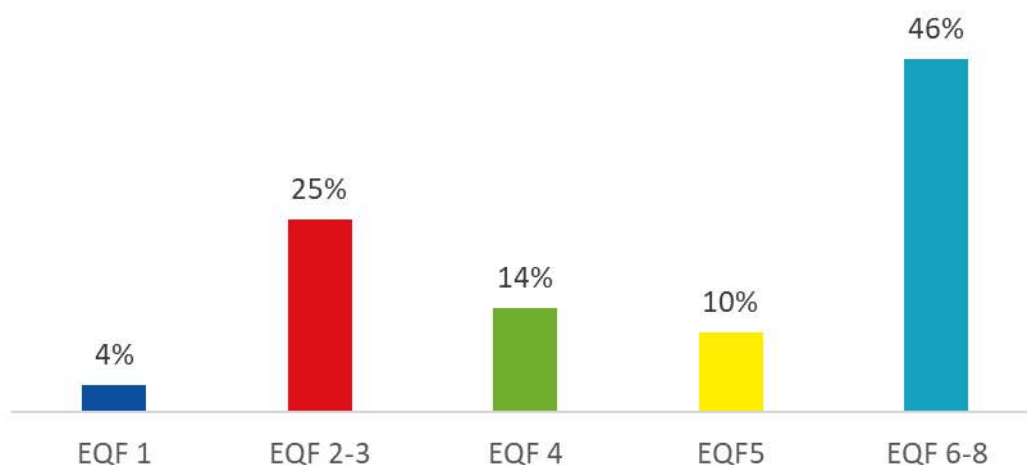


Graph 26: Spanish adults that that participate in political party activities per age group (left) and educational level (right).

Regarding employment, the first quarter of 2022 ended with an activity rate of 58.71%. The number of employed persons increased by 383,300 with respect to the previous quarter (1.91%) and stood at 20,468,000. In seasonally adjusted terms, the quarterly variation is 0.61%. Employment grew by 796,400 persons (4.05%) in the last 12 months. The 25-54, and the EQF 6-8 are the age and educational groups, respectively, with more employed people.



Graph 27: Employment rate in Spain per age group for the 1st quarter of 2022.



Graph 28: Employment rate in Spain per level of education for the 1st quarter of 2022.

3.3 Intersectional analysis

In summary it can be stated that despite digital literacy rates among Spanish citizens having raised notably in the last years up to 60%, it is still far of the 80% target established in the 2025 Digital Agenda. The digital literacy gap is observed in citizens above 65 years old, when the frequency of internet use, online shopping and other online transactions are drastically reduced, mainly due to a lack of internet access, digital skills, equipment and infrastructure since the average age of municipalities below 5,000 inhabitants (50 years old) is higher than the Spanish average age (43.6). Being this group at serious risk of being left behind, which created several social movements to prevent the digital society from accepting the selfish neglect of the older population, like the campaign “Soy mayor, pero no idiota” (I’m old, but I’m not an idiot), that demands personal attention in bank offices to older adults and digitally illiterate.



Image 1: Carlos San Juan, promotor of the campaign “Soy mayor, no idiota”

At educational level, the digital literacy gap is in those citizens with an EQF level 3 and below, these include migrants from outside of Europe and unemployed. Which evidences the need of an equal access to those learning tools and programmes for acquiring the skills required in this new digital society.

According to the HLS-EU conducted in 2011 general health literacy levels in Spain were deemed to be ‘problematic’ (scoring 32.88 out of 50)⁷ with 58.3% of the Spanish participants

⁷ Sørensen, et al. 2015.

with limited (inadequate or problematic) health literacy. There is a significant relationship between health literacy and age, level of education, self-rated health, having children, perceived social status, income level, having a chronic or long-term illness, number of visits to the doctor in the last year and frequency of physical exercise. The population most at risk of inadequate health literacy are people with a low level of education, negative self-esteem, no exercise and a weak social support network. Women show better health literacy than men, mainly due to cultural reasons, and health literacy among citizens located in small population centers is lower than among citizens from big cities, which may be explained due to the limited health services available in small towns and the higher average age of their citizens. The dimension of health promotion and the ability to evaluate or judge health-related information are the most difficult health related items for the Spanish population. The greatest weakness is found in the the ability to judge health information within the scope of health care. The dimension of disease prevention and the ability to apply or use health-related information are the items that present less difficulties for the Spanish population.

Although there have been numerous studies on data literacy in the business domain, the information available on data literacy for citizens to daily deal with them in Spain is very limited. The available figures indicates that the perception of data literacy skills among citizens from 16 to 34 is high, while the rate of data illiterates increases for the ≥ 55 citizens group. This negative correlation also exists the living environment, and no differences are observed between genders.

As main conclusion of this desk research, it can be indicated that although it can be indicated that even though access to the internet, digital devices and therefore, to information, have increased in the last years, there are still relevant imbalance within the Spanish population when it comes to digital, health and data literacy between age groups, educational levels, incomes and types of living settings. Requiring better access to information and tools to improve their literacy levels on digital, health and data.

4. Reported and identified gaps, needs and demands

Hints:

- Identified gaps from chapter 3
- Identified needs and demands target groups from literature
- Identified needs and demands target groups from interviews

4.1 Identified gaps

According to the desk research, the Spanish rates of digital literacy are severely impacted by older age and low education levels, special for the groups above 65 years old and EQF levels

below 3. Mainly motivated by the low digital skills and interest by older people and illiterate to use digital technologies. Statistics show that the variables of household income, living settings and gender do not have a relevant impact on digital literacy rates.

However, the five variables negatively influence health literacy rates in Spain, where severe gaps can be found on the population above 55 years old, rural environments and educational levels below EQF4. Regarding gender, Spanish women show better health literacy levels than men, probably due to the socio-cultural environment and the theory of toxic masculinity, which points that men tend to overestimate their health status, underestimate the risks or even avoid protective measures⁸.

Finally, available data did not allow to analyse the rates on data literacy according to the five variables, identifying a relevant gap in adults above 55 years old and, while gender and living settings do not impact the data literacy rates.

4.2 Identified needs and demands target groups from literature

From 4.1, it can be extracted the profile of the citizens under which efforts on digital, health and data literacy should be emphasized, giving a preliminary approach to which the TRIO Learning Content should be focused on, which would lead to getting basic skills of the three literacies for the +50 group, and a more narrowed content to some specific topics of such literacies for the 18-35 and 36-50 groups, paying more attention to those with lower educational level.

	Age	Education	Living setting	Household Income	Gender
Digital	>65	EQF1 and 2			
Health	>55	EQF1,2 and 3	Rural	≤€1,600	Male
Data	>55	?		?	

Table 2: Variables that negatively impact the TRIO literacies.

4.3 From Interviews

The interviews performed to the target groups in Spain included 7 individuals, 4 men and 3 women representing the Trio age groups. Interviews were performed by the same interviewer at the headquarters of CETEM during the months of September and October 2022 and right after the signature of the informed consent. Table 3 shows the socio-economic data of the participants, and Table 4 includes an analysis of the responses of each one of the questions in general and per age group.

	Age Category	Age	Gender	Country	Educational level	Working and/or Voluntary working experience
Interviewee #1	18-35	26	Male	Spain	EQF5	IT technician
Interviewee #2		18	Male		EQF5	No experience
Interviewee #3		24	Female		EQF7	Researcher on organic chemistry

⁸ https://www.elconfidencial.com/tecnologia/2020-07-24/covid-coronavirus-hombres-mujeres-brecha-genero_2693160/

Interviewee #4	50	Female	EQF4	Administrative assistant, local sports association manager
Interviewee #5	36-50	Male	EQF7	Robotics technician, assistant in Industrial Engineering, tutor at university
Interviewee #6	+51	Female	EQF6	Quality and environmental manager
Interviewee #7	53	Male	EQF5	Upholsterer, volleyball coach and basketball referee

Table 3: Socio-demographic data of the interviewees

Question	Responses Analysis	
	General	By Age Group
Q1 Do you think that basic healthcare in your country is equally accessible for everyone? In the financial sense, as well as in terms of physical and mental capability	6 of the 7 respondents believe there is an equal access to basic healthcare in Spain. 2 of the interviewees highlighted the obstacles that older and illiterate people had when accessing to some health services and the collapse of some health services.	18-35 2 say there is equal access, 1 believes that low incomers, illiterate cannot get the same opportunities. 36-50 both say there is equal access, but highlighted the obstacles that older and illiterate people had when accessing to some health services and the collapse of some health services. 51+ both say there is equal access, but highlight the difficulties older adults have
Q2 Do you know how to search for health information on the internet? If so, how would you do that?	The 7 interviewees confirm they know how to search health information on the internet. 2 of them use Google, other 2 search on trustful platforms (associations from specific pathologies, health ministry, WHO...), and 3 of them say they don't do it since they do not trust on the results they can get.	18-35 2 of the respondents search on trustful platforms, the other one uses Google. 36-50 both say they do not trust on the results they can get. 51+ one respondent checks official websites, the other ones do not use internet for such purpose.
Q3 How can you tell if the health information you find on the internet is accurate (and not incorrect or misleading)?	3 of the 7 interviewees contrast the information in different sources, 1 uses "common sense", another respondent checks official and trustful websites, another 2 interviewees can't make sure about the accuracy of the information and do not use the Internet for such purpose.	18-35 different answers from the 3 interviewees: One cannot ensure if the information is accurate or not, another one contrasts the information in different sources, and the third one uses "common sense" 36-50 both contrast the information in different sources 51+ One respondent checks official and trustful websites, the other interviewee does not use information for such purposes.
Q4 How useful do you feel the internet is in helping you make decisions about your health?	5 of the respondents believe is useful for checking if common and mild symptoms are serious to decide whether to visit the doctor or not, but it will never replace the opinion of a health professional, it also helps to empower patients with specific pathologies. The other 2 interviewees think Internet is not useful at all for such purpose.	18-35 All believe is useful for checking if common and mild symptoms are serious to decide whether to visit the doctor or not, but it will never replace the opinion of a health professional 36-50 One interviewee thinks it's useful to decide whether to visit the doctor or not, the other respondent thinks Internet is not useful at all for such purpose. 51+ One interviewee highlights the usefulness of internet to empower patients with specific pathologies (diabetes, cancer, etc.), the other respondent thinks Internet is not useful at all for such purpose.
Q5 Do you make use of any online medical portal [include country-specific example. If this does not exist in your country the question could be: Would you make use of an online medical portal if this was available to you?]? If yes, why? If no, why not?	4 of the interviewees use the health portals from the Murcia Health Service: "Cita Previa" and "Portal del Paciente".	18-35 one of the three interviewees uses the health portals. 36-50 Both uses the health portals from the Murcia Health Service. 51+ one of the two interviewees uses the health portals.
Q6 Do you know where your medical data is they are stored? If so, where?	6 of the interviewees do not know where they are stored	18-35 one of the three interviewees knows they are stored in the servers of the Murcia Health Service (the IT technician) 36-50 None of the interviewees know where their health data are stored 51+ None of the interviewees know where their health data are stored
Q7 Do you know who has access to your medical data? If so, who?	5 of the interviewees think the staff from the Murcia Health Service (primary care doctors, nurses, specialists, etc) have access to such data.	18-35 one of the three interviewees thinks the staff of the Murcia Health Service has access to his health data. 36-50 Both interviewees think the medical staff, one of them believes other bodies from the administration, like policemen, can also have access. 51+ one of the three interviewees thinks the staff of the Murcia Health Service has access to his health data.
Q8 Do you find your medical file to be easy to understand? For	None of the Interviewees have problems in understanding medical reports and files.	18-35 None of the Interviewees have problems in understanding medical reports and files. One uses internet in case there is any term not so common.

<i>instance, do you have trouble reading medical documents, such as examination reports or blood tests? Do you understand medicine dosing instructions?</i>	One uses internet in case there is any term not so common.	36-50 None of the Interviewees have problems in understanding medical reports and files. 51+ None of the Interviewees have problems in understanding medical reports and files. One uses internet in case there is any term not so common.
Q9 <i>Do you know if and how you can access your medical file and make changes to its content and accessibility? For instance, if you want to delete part of your medical history or make sure other healthcare professionals cannot access it, do you know how to proceed?</i>	4 of the 7 interviewees do not know if they can make changes in their medical history, the rest believe they can but do not know how.	18-35 None of the three interviewees know if they can make changes in their medical history. 36-50 One of the two interviewees know it is possible to make changes but not how. 51+ The two interviewees know it is possible to make changes but not how.
Q10 <i>Do you use any digital tools to keep track of your doctor's appointments or medication schedule, like a phone calendar or alarm? If so, do you find them easy to use? If not, do you know where to find these and how to use them?</i>	4 of the 7 interviewees use diverse tools to keep track of any medical appointment, like "Cita Previa" from the Murcia Health service, or the phone calendar.	18-35 One of the three interviewees uses "Cita Previa" from the Murcia Health service to keep track of any medical appointment. 36-50 The two interviewees use the phone calendar to keep track of any medical appointment. 51+ One of the two interviewees uses the phone calendar to keep track of any medical appointment.
Q11 <i>Do you use any application to help you monitor your health, such as keeping track of your weight, blood pressure, or blood sugar levels? Is it something you use? If so, what does it do?</i>	3 of the 7 interviewees do not use app to monitor health, the other 4 use Zapp life (Xiaomi), Yuka, Garmin connect, Polar Flow and Strava.	18-35 One of the 3 interviewees uses Zapp life, Garmin Connect and Strava for sport purposes. 36-50 One of the 2 interviewees uses Zapp life to track personal health. 51+ The 2 interviewees use health monitoring apps: Zapp life (Xiaomi), Yuka, Garmin connect, Polar Flow and Strava.
Q12 <i>Would you be interested in using an online learning platform and/or a manual to improve your digital health skills? If yes, why? If no, why not?</i>	5 of the 7 interviewees would be interested in using such online platform, for learning more about digital and health skills. The other 2 do not consider it necessary.	18-35 2 of the 3 interviewees would be interested in using such online platform, for learning more about digital and health skills. 36-50 1 of the 2 interviewees would be interested in using such online platform, for learning more about digital and health skills. 50+ Both interviewees would be interested in using such online platform, for learning more about digital and health skills.
Q13 <i>If you would use an online learning platform, what form of information (e.g.: explanation texts, images, videos, exercises, etc.) would be most helpful for you?</i>	Short videos in Social Media (tiktok, Instagram) Clear information without technical terms Images Exercises and use cases	18-35 Short videos in Social Media (tiktok, Instagram) Images Clear information without technical terms 36-50 Videos Images Clear information without technical terms 51+ Videos Images Exercises and use cases
Q14 <i>What do you think would be a good way to encourage people, e.g. those with socio-economic or health issues, or people of older age, to participate in a training for improving their digital health and data literacy?</i>	Gamification Short videos Short courses Use social media Workshops with reduced groups Convincing them that certain skills ease health procedures and save time Focusing on Health centres	18-35 Gamification Social Media 36-50 Short courses Workshops with reduced groups 51+ Convincing them that certain skills ease health procedures and save time Focusing on Health centres

Table 4: Socio-demographic data of the interviewees

Regarding the interviews to Stakeholders in Spain, four experts from different fields participated, interviews were carried out through teleconference system during the months of October and November. The names and profiles of such stakeholders are detailed in Table 5.

	Professional profile	Institution
Stakeholder #1	Physician and responsible of Health Innovation	Servicio Murciano de Salud
Stakeholder #2	Dentist, MsC in Public Health	Foundation for Clinical Research and Training of the Region of Murcia
Stakeholder #3	Senior lecturer, principal researcher on IoT and digital learning	Technical University of Cartagena
Stakeholder #4	Senior lecturer, researcher in Health Literacy	University of Murcia

Table 5: Spanish Stakeholders interviewed

Question		
Q1 In your line of work, do you meet many people with poor digital-, health- or data literacy skills?	Stakeholder #1: Yes, patients with low and null digital knowledge who, by the way. They are the ones that could benefit most from the advantages that the digitalization of health brings.	
	Stakeholder #2: Yes, a considerable number of patients who would be within this lack of digital skills, and even professionals in the field of health with limited digital skills, mainly related to age issues, having certain resistance to changes.	
	Stakeholder #3: Yes, I participate in R&D projects related to ICT for health care and I am aware of the great digital gap that exists, especially in the elderly, and people with a low cultural level.	
	Stakeholder #4: No, I teach for medical and pharmacy students, practically everyone has high digital skills.	
Q2 If so, are there socio-economic or demographic variables that you feel are linked to this?	Stakeholder #1: Yes, socioeconomic factors, such as educational level and age. As for sociodemographic factors, rural environments are the ones with the most digital gap.	
	Stakeholder #2: Yes, the population sector of more than 50 years, their educational background is very elementary training and are very limited for their digital skills. In terms of demographics, population in large cities is more digitally literate than that rural and/or far from large population centers.	
	Stakeholder #3: Yes, In fact, the definition of digital gap refers to the inequality in access, use (related to the lack of digital skills) or the impact of ICT among the different social groups (by economic, geographical, gender criteria, of gender, of age or cultural). There are numerous studies that confirm the key factors in the digital divide in different countries of the world, scenarios and contexts.	
	Stakeholder #4: Even if not, I consider that there is a large digital gap related to age, also by demographic factors, which are also linked to the aging of the rural population.	
Q3 In your opinion, which benefits and which problems arise from the digitalisation of the healthcare system?	Stakeholder #1: <u>Benefits:</u> Digital technologies, such as sensorization, platforms, etc. allow the health system to be moved to a more preventive system, avoiding periodic reviews and making a daily, more personalized and closer follow-up to people. <u>Problems:</u> The digital divide and geographical access	
	Stakeholder #2: <u>Benefits:</u> Gain agility in terms of consultations, waiting times, agendas, transfers, etc. <u>Problems:</u> Limitations, whether demographic (without Internet access), or cultural limitations (training) are important in terms of limiting to the health system, especially from the patient's perspective, from the perspective of professionals, the updates Record systems have been forcing Re-Skill to professionals.	
	Stakeholder #3: <u>Benefits:</u> In primary care consultations or monitoring of patients with chronic pathologies, fast access to consultations that do not require a physical visit, which also favours patient medical interaction. Help in the proactive care of people, with a human centered care, patients are more aware of their health and become more responsible for it. Impulse towards a global telemedicine system that allows you to monitor remote control in real time, for early abnormal detection. Fast access to health information and data, consultations (primary care). Public health efficiency, by integrating digital tools makes many processes faster, less tedious, and implying less bureaucracy. Process automation, paper residue reduction (Zero-Waste policy). Need for less labour for administrative tasks, focusing the health labour on doctors and health personnel. <u>Issues:</u> The digital divide itself makes it not a universal access service, something that can be resolved with flagged actions from three fronts: political, social and sanitary. In Spain there are 17 different health systems, interoperability is a must. Strengthening of the privacy and safety of the data.	
	Stakeholder #4 <u>Benefits:</u> Advantages that the electronic recipes have brought, they work very well and strengthen the medication supply process between users of public health systems. Not as much as digital platforms, which do not work quite well. <u>Problems:</u> The digital gap of older citizens.	

Q4 Do you yourself make use of online health tools, such as health portals, medical websites or online health support?	Stakeholder #1: Yes, but I don't use them much because my health level is good. Stakeholder #2: Yes, constantly, each of our activities requires a daily connection to all these tools. Stakeholder #3: Yes, "Cita Previa" app, and "Portal del paciente" from the Murcia Health Service Stakeholder #4: Yes, "Cita Previa" app, and "Portal del paciente" from the Murcia Health Service, but the experience is not very good.
Q5 In your opinion, what are the most important digital health tools for people? Examples: Medication reminders on cell phones? Yes or no. Posting medical monitoring information such as weight, blood pressure and sugar levels? Yes or no. Accessing pharmacy prescription? Yes or no.	Stakeholder #1: For health professionals: Big Data platforms, for patients: IoT devices, like smartbands, to understand aspects such as sedentary lifestyle, how we sleep, etc. Online questionnaires, etc. Medical Alerts: Yes Medical posts: Yes, for monitoring they are very useful because they give return to what is happening and sensitizes the patient. Access to the Medical Recipe: Yes, it helps to empower the patient and review the prescriptions" Stakeholder #2: The digitalisation helped to monitor the medicines, previous appointments, and even to monitor agendas of both patients and professionals. Online appointments with specialists (currently in pilot stage for dermatologists, rehabilitation and primary care, Regarding medical Alerts in smartphones, it depends on what type of alert, if they aim to remember a consultation, yes, although its economic viability should be studied, for medication, it is a complex system that requires a higher control level. Only for reminders or urgent situations for immediate consultations (I.E.: Attend consultations urgently due to the results of an analysis). We are not yet ready yet to implement medical alerts given the level of interoperability of the systems. Regarding posting medical monitoring, we have had experiences where patients felt very motivated as they were getting positive results (improving weight, controlling their sugar levels), but on the other hand, they felt pressed, especially when patients did not respond properly to treatments . But a reduction was achieved to those who received constant monitoring Stakeholder #3: Online nursing and medical appointments, consultation of medical reports / analytical results and other online tests with patient care platform, as well as the medication reminder on mobile phones, monitoring vital signs, and accessing to pharmacy prescriptions. Stakeholder #4: Access to medical recipes
Q6 Which online health tools are missing or not made properly available to everyone?	Stakeholder #1: A platform for health professionals to access to all patient data For patients, an eye-catching app for them to learn about health issues. It is important the solution to adhere the users for them to use it frequently, not to be boring, to surprise and motivate the users, and to be adapted to their accessibility problems. Stakeholder #2: Some digital tools are not properly available for all due to limitations regarding technology access and digital skills, it is a slow process that will finally get much higher availability over time. Stakeholder #3: When it comes to public health: -Digital access to first consultation with specialists, and online follow-up of some open processes with specialists. -Digital access to patients to their periodic medical recipes, which can be accessed through "Portal del Paciente", but it's a (even what they can only be consulted in the pharmacy or calling the primary care doctor) Automatic Reminders Via Online/SMS on periodic appointments for prevention (eg cytologies, allergies, quarterly, semiannual or annual tests derived from treatments or disease monitoring) Personalized online promotions and campaigns on available services. P.EJ., Workshops to leave tobacco aimed at smokers, or similar." Stakeholder #4: What is really missing is a methodology for users to know that certain digital tools have been approved by professionals and/or users associations, and are transparent, independent, and there are no interests behind the promoters.
Q7 What do you feel are the main barriers preventing people from using digital health tools?	Stakeholder #1: Digital gap, educational, social and economic barriers, as well as cognitive problems (they do not see well, tremors, etc.) that make voice interfaces more useful. Stakeholder #2: Age, cultural limitations, resources, the reluctance of people to change their routines with digital solutions, before knowing their benefits, the lack of continuity and interoperability of such technologies, and adhesion. Stakeholder #3: Ignorance of tools and/or fear of the unknown/uncertainty and rejection of the use of tools on health data (usually related to ignorance), lack of training in health centres to encourage users to use tools, lack of promotion and/or support of the use of these tools by the competent authorities, lack of skills and competencies in digital technologies/tools, lack of devices/medium to access tools" Stakeholder #4: Lack of information about how trustful digital tools are (in line with previous answer).
Q8 How can we use policy to help a wider range of people access online health information?	Stakeholder #1: Through positive discrimination: Promote Internet access in rural environments. Universal access to digital health must be a political objective, connectivity and training so that people know how to use technologies. Activities to improve digital capabilities. Stakeholder #2: We must focus on primary care, as the physician is the first contact with the patient, he/she can convince the patients about the benefits of accessing health information online. Training health professionals is also

	essential as a high percentage is reluctant, maybe motivated by their high workload, that prevent professionals to allocate time for other things. Workshops and training sessions for both patients and professionals is also important.
	Stakeholder #3: Make people aware of evolution and strategies in digital health, and about the importance for people to adapt to evolution and not to be left behind. Use primary care for leading the change of paradigm, through a massive knowledge campaign for the acceptance and use of health digital tools for 24/7 access to health information.
	Stakeholder #4: At administrative level, it is a very complicated task, mainly for all protocols to be met on data protection, safety, etc.
Q9 Do you think that it is known to people where their medical data is stored? Do you know yourself where your medical data is stored?	Stakeholder #1: Patients do not know where their data is stored. Mine are stored on two servers. Stakeholder #2: Patients know that their clinical data is stored in a medical history, but they have no more knowledge, they have no idea. I know where mine are stored for being very familiar by the system, there are three storage levels: for primary care (IMO), for specialized care (Selene) and to have a general viewfinder (Agora). Stakeholder #3: Most users do not know. Which creates fears and reluctance to the use of digital media in terms of health data. Yes, I know where my data are stored due to my involvement in projects related to the subject and SMS. Otherwise I would not know with certainty. Stakeholder #4: They do not know, and I don't think they care, as long as they undergo any stigmatizing procedure (positive in drugs, etc.). I don't know where my data is stored.
Q10 Do you think it is important for people to have insight into their own medical history by using an online platform? Do you think this is easy to use?	Stakeholder #1: Yes, it helps to empower people, it seems that patients are afraid to access that data. Stakeholder #2: Yes, through the patient portal and through agora, patients can access their clinical history. It is not easy to use there is much ignorance of how to access these platforms and the uses that can be had with it. For example, you can see pending consultations, your specialist, day, etc. Analytical results, etc. Stakeholder #3: Yes, it can also help to raise awareness of personal health and to use health resources more efficiently. Register into "Portal del Paciente" and add patients in charge (children, etc.) are quite difficult processes due to all the required bureaucracy. The tool is not intuitive at all and, furthermore, very complex with a low digitally skilled person. On the other hand "Cita previa SMS" is quite easy and intuitive. Despite some visual and access aspects that could improve. Stakeholder #4: Yes, it is important. The current platforms are very difficult to deal with, it's quite complex to get and recover credentials, are not easy to use and to access to results, reports, etc.
Q11 What information should the TRIO learning platform contain so that it is useful for people? And what form of information (e.g. explanation texts, images, videos, exercises, etc.) would be most helpful?	Stakeholder #1: I should contain tutorials on how applications work, on the "Portal del Paciente" platform, about, i.e.: How to register, with short videos that can be shared through social media, practical exercises, etc. Stakeholder #2: It would require images with texts that explain how to access and how to use these platforms. The videos are also useful to clarify part of information. Tutorials are also good. Stakeholder #3: Gamification and interactive videos are attractive learning tools. If it is about introducing explanatory texts, I suggest that they can also be available in podcast. Simple gamification exercises, to reinforce concepts is necessary. A reward system, based on points or rankings, is also a great motivational tool. 24/7 assistance, chatbot or similar that allows you to solve doubts easily and quickly. Stakeholder #4: When we talk about Health Literacy, we talk about something modifiable from the environment, there are times that we have to act on people, and others in which we have to act on the data. Without acting on individuals, texts adapted to the target audience, images, examples can use cases can be used. It is not a matter of facilitating knowledge, but how to put it into practice. It is also important to adapt the information to the person who will receive it.
Q12 What should an online learning platform contain so that it is more attractive to people with fewer opportunities (e.g. those with socio-economic or health issues, or people of older age)? How can we accommodate people who have less opportunities (for example due to financial or health issues) to use the e-learning platforms? What is needed for them?	Stakeholder #1: Such platform should succeed in changing users habits. Stakeholder #2: Some type of information that facilitates their day to day, like what kind of activities can lead to a healthy life. Stakeholder #3: The benefit that the use of digital tools in their day to day must be shown to convince them of the usefulness of training. Older people need to feel that there is someone who guides them in training, encourages them, listens to them and the doubts solve them. The platform must have friendly, easily accessible, and understandable, adapted and accessible information to people with disabilities. Stakeholder #4: This must be asked to target users (co-creation) through qualitative investigation with these population groups, to identify barriers and facilitators through examples, and pilot it. Patient associations and other groups at risk of exclusion."
Q13 How could we motivate people with poor eHealth skills to	Stakeholder #1: Adapting to them, each person is different and so are their needs. Stakeholder #2: The benefits must be clear to the users. As well as facilitating her participation. Offering interesting content according to their situation or limitation that can benefit them.

participate in an online learning platform?	<p>Stakeholder #3: By Carrying out workshops with such groups in health centres neighborhood associations, fairs and events in towns and cities. Involve the primary care centers, the municipalities and departments of social affairs of the cities, so that they are a vehicular tools for training those groups with the highest digital shortcomings.</p> <p>Stakeholder 4: If they are not motivated, trying to engage them is very difficult. Motivation often appears together with major health problems (diabetes, cancer, intolerances, etc.).</p>
Q14 Do you have ideas or know about inspiring examples to improve access and understanding of digital health data?find on the internet is accurate (and not incorrect or misleading?)?	<p>Stakeholder 1: The Pro-Empower project, an integrated solution for diabetes. The system provided information to patients about what they were doing in terms of managing their disease in order to correct it, also involving other actors in the ecosystem (family members, teachers, co-workers).</p> <p>Stakeholder 2: The Jade-Care project on online rehabilitation. And the FFIS School of Health, and for professionals, the SMS has a website (Caring for you https://www.murciasalud.es/en/-/20220522-programa-cuidamos-de-ti).</p> <p>Stakeholder 3: In general, many patient organisations often lead training initiatives to enable their members to understand and use the new technologies and tools available from their healthcare system or other technologies that can help them understand/manage their disease.</p> <p>Stakeholder 4: Sorry, I can't offer any inspiring example.</p>

Table 6: Summary of the interviews to the stakeholders

4.4 Suggested learning needs target groups

For the 18-34 and 35-50 group, the focus should be on Health and Data Literacy rather than Digital giving the digital native character of the group. Specially focusing on how the health systems works in Spain and in the Region of Murcia, the tools available for accessing to medical data and making appointments with health professionals, on the improving their understanding of on health promotion and disease prevention, how to find online nutritional and lifestyle advice, how to implement healthy choices in daily life, and which digital tools are available to track their health, and on the storage, access and management of their data.

Learning for the 51+ group should be focused on getting the basic skills of each one of the literacies that TRIO deals with so they can get simple competences on improving their health status, find and access to reliable health information through internet, and use those tools for accessing to basic health services.

5. Examples of good practices and educational training offers

In Spain the example of good practices and educational training offers identified in the field of health, digital and digital literacy, are mainly offered by local and regional institutions like municipalities, regional employment and training service providers, independent foundations and organisation or non formal local educational and cultural centres, aimed at the whole population or at specific age groups, but without the need of a specific background in any subject.

Digital literacy is the topic with more good practices identified due to the high demand for people to be trained to perform different tasks in a digital environment.

To a large extent, this type of educational offers are designed especially to meet the needs of the population above 60 years old in terms of knowledge, use and management of ICT tools, with the main objective of reducing the digital gap, however, courses aimed at the entire population, regardless of age, have also been identified, with training content oriented towards digital literacy.⁹

Courses aimed at this population group are usually oriented towards learning how to use electronic devices or digital tools such as WhatsApp or Zoom.^{10,11}

As for the digital literacy educational offer aimed at the whole population, most of them are related to IT, image editing or e-commerce.^{11,12,13,14,}

In addition, general digital literacy courses have been identified, which enable people to learn about the use of information and communication technologies (ICT) in everyday life, as well as to work on and train digital skills in order to communicate with the different administrations and entities and perform online transactions^{15,16,17}.

Among special cases of educational sources on digital literacy, we can mention such as the case of a councillor from an Andalusian municipality who publishes short videos on TikTok that solve general doubts about the public administration on everyday issues, like how to get a digital certificate, how to consult and download the employment history, how to get the COVID-19 certificate, how to install the driving licence in a smartphone, get a birth



Figure 11: Example of educational offers on digital literacy offered by a municipal non formal educational centre.

⁹ <https://www.unedtudela.es/alfabetizaciondigital>

¹⁰ <https://fundacionlacaixa.org/es/personas-mayores-formacion-talleres-virtuales-autoformacion>

¹¹ https://www.cartagena.es/cursos_talleres_detalle.asp?id=997&tipo=IA&texto=&materia=&organismo=

¹² <https://empleo.yecla.es/>

¹³ https://www.lorca.es/PDF/cultura/2022/PROG_CURSOS_UP.pdf

¹⁴ <https://universitatpopular.com/courses/informatica-retoque-de-imagenes/>

¹⁵ <https://www.ayuntamientopulgar.es/taller-gratuito-de-alfabetizacion-digital/>

¹⁶ <https://agenciacolocacioncadiz.ifef.es/curso/alfabetizacion-digital>

¹⁷ <https://www.oriuela.es/la-concejalía-de-desarrollo-rural-programa-dos-cursos-de-alfabetizacion-digital-en-pedarias/cursos-alfabetizacion-digital/>

certificate online. Due to his work on this social network, he received the prize of Best Digital Educator during the last edition of the EduCon conference¹⁸.

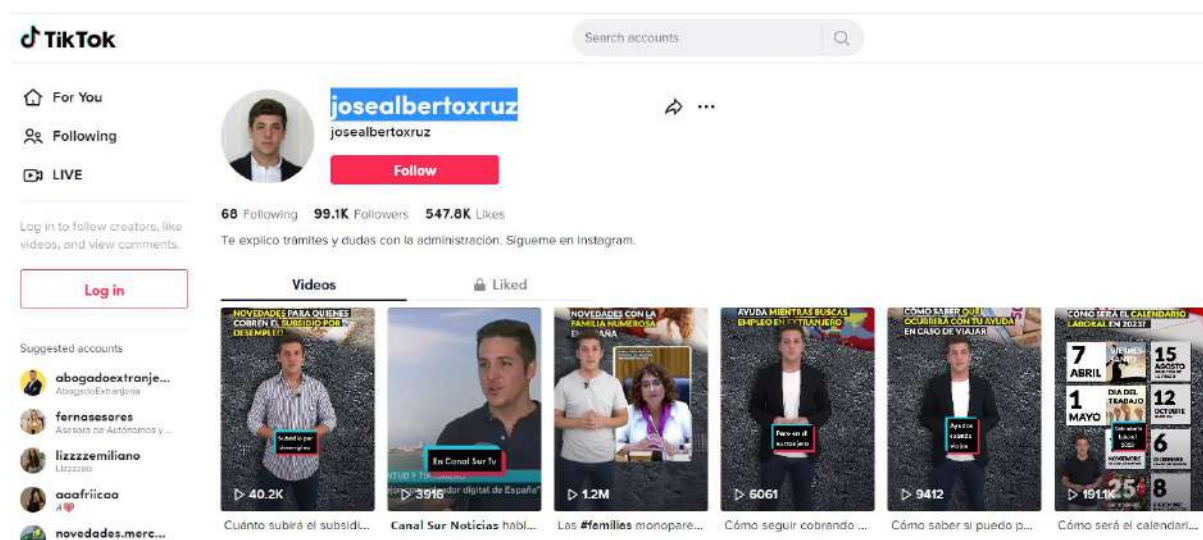


Figure 12: TikTok Channel of José Alberto Cruz.

Health literacy is also a topic with a variety of good practice examples Spain, as the population is aware about the great importance of gaining health knowledge, skills and experiences that make an individual knowledgeable about his or her own health status and how to take care of him or herself.¹⁹

Local councils or non formal educational entities usually offer this type of training with content related to the prevention of addictions, mainly alcohol, smoking and other drugs, as well as workshops on mental health.^{20,21,22}

More specific entities in the health sector, such as regional health services or specific health-related associations, provide health literacy courses on more narrowed topics such as first aids, nutrition, active ageing, breastfeeding, vaccinations, childhood asthma, cancer, coeliac disease, diabetes, chronic pain, etc.^{23,24,25}

¹⁸ https://www.diariodecadiz.es/chiclana/Jose-Alberto-Cruz-concejal-TikToker-Chiclana-resuelve-dudas_0_1631238001.html

¹⁹ <https://www.newmedicaleconomics.es/enfermeria/alfabetizacion-salud/>

²⁰ <https://www.alicante.es/es/noticias/abiertas-inscripciones-al-curso-gratuito-tabaquismo-prevencion-y-deshabitacion>

²¹ <https://ayuntamientomurcia-salud.es/index.php/prevencion-del-consumo-de-drogas/394-talleres-de-prevencion-del-consumo-de-drogas-2>

²² <https://www.madrid.es/portales/munimadrid/es/Inicio/Actualidad/Actividades-y-eventos/La-salud-mental-desde-una-perspectiva-de-genero-Formacion-a-profesionales/?vgnnextfmt=default&vgnnextoid=8acff950182a3810VgnVCM2000001f4a900aRCRD&vgnnextchannel=ca9671ee4a9eb410VgnVCM100000171f5a0aRCRD>

²³ <http://www.escueladesaludmurcia.es/escuelasalud/cuidarse.jsf>

²⁴ <http://www.escueladesaludmurcia.es/escuelasalud/promocionprevencion.jsf>

²⁵ <https://www.saluslife.app/i/videos/como-reconocer-una-perdida-de-conciencia>

CarPriMur and Maica-RM projects of the Murcian Health Service can be highlighted, they launched a campaign to disseminate educational videos aimed at patients suffering from Chronic Heart Failure, their relatives and caregivers to empower them and take control of their illness and improve the care services.²⁶



Digital health literacy is an increasingly necessary field as many health procedures are nowadays carried out online. Due to this, examples of good practice have been identified, such as the videos made by the Autonomous Community of the Region of Murcia (CARM) aimed at the entire population, which aim to inform users on how to use the digital platforms corresponding to the health service, explaining how to access the patient portal²⁷ or how to register on the patient portal²⁸.



Figure 13: YouTube video prepared by CARM about how to access the patient portal.

On the other hand, the National University of Distant Education (UNED) has a module within the digital literacy course to reduce the digital divide oriented towards how to deal with the digital administration, specifically with health and health information available to users, which aims to train older people to consult clinical data privately and securely, carry out various formalities and procedures as well as consult information of interest such as pharmacies on duty and health centre search engine.²⁹

Finally, data literacy, meaning training in reading and analysing data, as well as the ability to work and communicate, is a subject that does not have a great variety of examples of good practice in Spain, as it is a more specific area that is not in such great demand by the population.

Informative videos on Data Protection have been identified in a City Hall with the intention of commenting on the basic lines of compliance with the General Data Protection Regulation

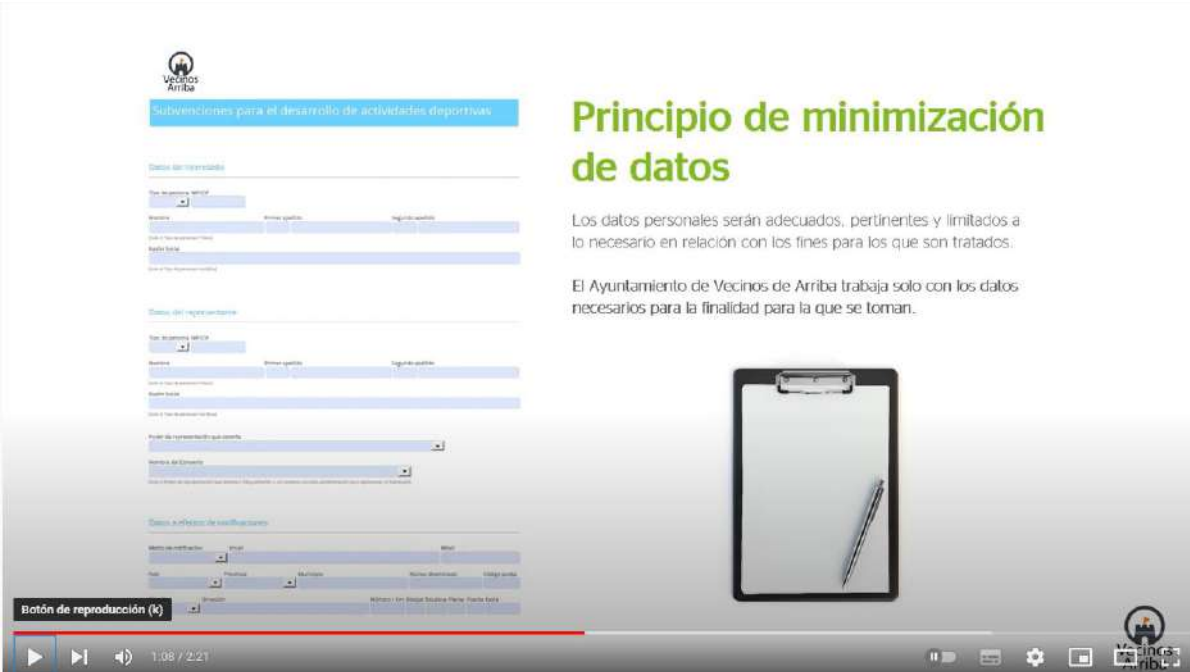
²⁶ [http://www.carm.es/web/pagina?IDCONTENIDO=114332&IDTIPO=10&RASTRO=c\\$m122,70](http://www.carm.es/web/pagina?IDCONTENIDO=114332&IDTIPO=10&RASTRO=c$m122,70)

²⁷ <https://youtu.be/SZqBmAzhoss>

²⁸ <https://www.youtube.com/watch?v=uic6PigdtYg>

²⁹ <https://extension.uned.es/actividad/23042&codigo=1CTCL>

(GDPR), a European regulation on the protection of natural persons with regard to the processing of their personal data and the free circulation of such data.³⁰



Principio de minimización de datos

Los datos personales serán adecuados, pertinentes y limitados a lo necesario en relación con los fines para los que son tratados.

El Ayuntamiento de Vecinos de Arriba trabaja solo con los datos necesarios para la finalidad para la que se toman.

On the other hand, some town councils or training centres offer educational programmes on data and document recording and processing operations, aimed at the entire population without any training requirements and which leads to a certificate of professionalism.³¹

Finally, another example of good practice in data literacy has been identified at the Popular University of Lorca, which has a course on Introduction to Public Administration and Legal Documentation.³²

³⁰ https://www.youtube.com/watch?v=7zz_LrRz4mY

³¹ <https://mula.es/web/anuncio-de-curso-para-desempleados-para-obtener-el-certificado-de-profesionalidad-de-operaciones-de-grabacion-y-tratamiento-de-datos-y-documentos/>

³² https://www.lorca.es/PDF/cultura/2022/PROG_CURSOS_UP.pdf

Annex 1 Interview questions

Preguntas dirigidas para la entrevista a ciudadanos

Introducción al proyecto TRIO:

Nuestro sistema sanitario se está digitalizando cada vez más rápido, pero no todo el mundo tiene las competencias digitales, sobre la salud y sobre los datos para seguir el ritmo de este cambio. El objetivo de TRIO es ayudar a las personas a mejorar este conjunto de competencias para que el sistema sanitario sea accesible a todos. Para ello, estamos desarrollando distintos instrumentos: un manual, un conjunto de herramientas, un informe verde y una plataforma de aprendizaje virtual para la educación para adultos. Sin embargo, necesitamos investigar sobre las carencias y las necesidades para personalizar estos instrumentos y que puedan satisfacer dichas necesidades. Por eso, estamos entrevistando a personas de diferentes grupos de edad y niveles educativos, así como a profesionales sanitarios y responsables de políticas.

Uso de la información:

Primero, resumiremos la entrevista y, después, se la enviaremos para que pueda revisarla. El resumen se utilizará como fuente de información en nuestro informe nacional, pero no se transcribirá literalmente. Las respuestas que nos dé serán completamente anónimas. Quizás le preguntemos si podemos incluir alguna cita en el informe, pero nunca mencionando su nombre. Lo que haremos será agrupar a los entrevistados por edad y nivel educativo, y utilizar esa información como referencia.

Solicite la versión firmada del formulario de autorización

Edad:

Género:

País de nacimiento: ...

Nivel educativo (CINE 2011, nivel 0-8):

Experiencia laboral o en trabajos de voluntariado:

- Q1** ¿Cree que la asistencia sanitaria básica (atención primaria) de su país es igual de accesible para todos? A nivel económico, pero también en relación con la capacidad física o mental.
- Q2** ¿Sabe cómo buscar información relacionada con la salud en internet? Si es así, ¿cómo lo haría?
- Q3** ¿Cómo sabe si la información que ha encontrado en internet es correcta (y no incorrecta o confusa)?
- Q4** ¿Cómo de útil cree que es internet para ayudarlo/la a tomar decisiones sobre su salud?
- Q5** ¿Utiliza algún portal médico en internet? [*Proporcione un ejemplo concreto del país. Si no existiera en su país, la pregunta es: ¿Utilizaría algún portal médico en línea si estuviera disponible?*]. Sí/No. ¿Por qué?
- Q6** ¿Sabe dónde se almacenan sus datos médicos? Si es así, ¿dónde?
- Q7** ¿Sabe quién tiene acceso a sus datos médicos? Si es así, ¿quién?
- Q8** ¿Cree que es fácil entender su historia clínica (la información que se guarda sobre su salud)? Por ejemplo, ¿tiene dificultades para leer documentos médicos, como informes de reconocimientos o análisis de sangre? ¿Entiende las instrucciones para tomar medicamentos?
- Q9** ¿Sabe si puede y cómo puede acceder a su historia clínica y hacer cambios en su contenido y accesibilidad? Por ejemplo, si quiere eliminar parte de su historia clínica o asegurarse de que otros profesionales sanitarios no puedan acceder a ella, ¿sabe cómo hacerlo?

- Q10** ¿Utiliza alguna herramienta digital para registrar sus citas médicas o el horario de su medicación, como un calendario en el teléfono o una alarma? Si es así, ¿le parece que es fácil de usar? Si no, ¿sabe dónde encontrar alguna y cómo usarla?
- Q11** ¿Utiliza alguna aplicación que lo/la ayude a controlar su salud, por ejemplo, llevando un seguimiento del peso, de la tensión o de los niveles de azúcar? ¿Es algo que usa? Si es así, ¿qué función tiene?

Las siguientes preguntas se refieren exclusivamente al proyecto TRIO.

- Q12** ¿Estaría interesado/a en utilizar una plataforma de aprendizaje virtual o un manual para mejorar sus habilidades digitales relacionadas con la salud? Sí/No. ¿Por qué?
- Q13** Si usara ese tipo de plataforma, ¿cómo le resultaría más útil que apareciera la información: textos explicativos, imágenes, vídeos, ejercicios, etc.?
- Q14** ¿Cuál cree que sería una buena forma de animar a las personas, por ejemplo, aquellas con problemas socioeconómicos o de salud o personas de edad avanzada, a formarse para mejorar sus conocimientos digitales relacionados con la salud y con el manejo de datos?

¿Quiere seguir participando en el proyecto en el futuro? ¿Le gustaría participar en la sesión de cocreación?

Preguntas dirigidas para la entrevista a expertos

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Organización:

Perfil profesional:

- Q1** Por el desempeño de su trabajo, ¿conoce a muchas personas con escasos conocimientos digitales, sobre la salud o sobre el manejo de datos?
- Q2** Si es así, ¿cree que dicha brecha está ligada a factores socioeconómicos o demográficos?
- Q3** En su opinión, ¿qué beneficios y qué problemas surgen de la digitalización del sistema sanitario?
- Q4** Personalmente, ¿utiliza herramientas digitales relacionadas con la salud, como portales sanitarios, páginas web sobre salud o asistencia sanitaria virtual?
- Q5** En su opinión, ¿cuáles son las herramientas digitales relacionadas con la salud más útiles para las personas? Ejemplos: ¿Alertas médicas en el teléfono móvil? Sí o no. ¿Publicaciones sobre el seguimiento médico, como el peso, la presión arterial o los niveles de azúcar? Sí o no. ¿Acceso a las recetas médicas? Sí o no.
- Q6** ¿Qué herramientas digitales para la salud faltan o no están disponibles para todos?
- Q7** ¿Cuáles cree que son las principales barreras que impiden a las personas el uso de herramientas digitales para la salud?
- Q8** ¿Cómo podemos utilizar las políticas para ayudar a más personas a tener acceso a su información sanitaria en línea?
- Q9** ¿Cree que las personas saben dónde se almacenan sus datos médicos? ¿Sabe dónde se almacenan los suyos?
- Q10** ¿Considera que es importante para las personas tener acceso a su historia clínica mediante una plataforma virtual? ¿Cree que es fácil de utilizar?

Las siguientes preguntas se refieren exclusivamente al proyecto TRIO.

- Q11** ¿Qué información debería contener la plataforma de aprendizaje de TRIO para que resulte útil? ¿Qué tipo de información sería la más adecuada: textos explicativos, imágenes, vídeos, ejercicios, etc.?
- Q12** ¿Qué debería contener una plataforma de aprendizaje virtual para resultar más atractiva a las personas con menos oportunidades (por ejemplo, con problemas socioeconómicos o de salud o personas de edad avanzada)? ¿Cómo podemos ayudarles a habituarse al uso de plataformas de aprendizaje virtual? ¿Qué necesitan?
- Q13** ¿Cómo podríamos motivar a las personas con escasas competencias digitales relacionadas con la salud a participar en una plataforma de aprendizaje virtual?
- Q14** ¿Tiene alguna idea o conoce ejemplos que sirvan de inspiración para mejorar el acceso y la comprensión de los datos digitales sobre la salud?

¿Quiere seguir participando en el proyecto en el futuro? ¿Le gustaría participar en la sesión de cocreación?

6. Suggested input for TRIO training and education

The desk research performed and the answers to some of the questions made to interviewed led to the suggestion of 7 educational topics described in Table 7 and covering at least one of the three TRIO literacies. From the interviews with the age group representatives, it can be extracted that the inclusion of gamification techniques, short videos, and the interaction with participants through social media channels, using a plane language and clear examples can help to keep adherence to the learning method.

	Digital	Health	Data
How to use web browsers and search engines			
Basics for online shopping (how to know if a online store is safe and legit)			
How to make basic online procedures (i.e.: how to get a digital certificate, how to renovate the driving license, how to get the European health card, etc.)			
How the national and regional health systems work.			
The digital tools of the regional health service “Cita Previa App” and how to use it for making and managing medical appointments (physical or by phone), getting vaccinations.			
The digital tool of the regional health service “Portal del Paciente” and how to use it for making tele-consuls with physicians/nurses, access to the medical history, etc.			
Trustful health tools to improve someone’s health at nutritional, physical, mental level, to control a certain disease (i.e.: diabetes, heart failure, etc.).			

Table 7: Suggested input for TRIO learning content.

7. Relevant stakeholders and potential cooperation partners



FFIS is the foundation for health training and research of the Region of Murcia. They promote and manage health-related training activities for professionals and society in general, and for patients self care.

The **SMS** (Servicio Murciano de Salud) is the responsible for health care in the Region of Murcia, integrating a total of 11 hospitals, with 3,651 beds and 508 outpatient appointments of primary care, and providing healthcare to 1.47 million inhabitants (about 3.09% of the whole Spanish population). <https://sms.carm.es/portalserviciosSMS/>



Besides primary and specialized healthcare, in the exercise of its functions, the SMS provides services on health promotion and disease prevention.



The Telecommunication Networks Engineering Group from the Technical University of Cartagena (UPCT) works in implementing e-health systems and training users from such systems.

The department of socio-health sciences of the Faculty of Medicine from the University of Murcia works in the field of Health Literacy and was involved in the first EU project related to Health Literacy: Improving digital health literacy in Europe, moreover they are part of the Spanish Council on Health literacy.



8. Quotes of interviewees

[On the topic of benefits and problems arise from the digitalisation of the healthcare system] *Our health care system is a very high level, but very costly at the same time, based on waiting for things to happen, digital solutions can help turn our health system more preventive and lead us to healthy lifestyles.* (Stakeholder #1, Physician)

[On the topic of variables linked to poor digital literacy skills] *It is precisely those patients with the least digital skills who stand to benefit most from the advantages that healthcare digitisation brings.* (Stakeholder #1, Physician)

[On the topic of how to use policies to promote online access to health information] *Primary care must be emphasized, physicians are the first contact with the patient in terms of health and care. They have the power to convince the patients of the benefits that digital health tools can bring.* (Stakeholder #2, Dentist).

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Nivel educativo (CINE 2011, nivel 0-8):

Experiencia laboral o en trabajos de voluntariado:

Q1 ¿Cree que la asistencia sanitaria básica (atención primaria) de su país es igual de accesible para todos? A nivel económico, pero también en relación con la capacidad física o mental.

- Q2** ¿Sabe cómo buscar información relacionada con la salud en internet? Si es así, ¿cómo lo haría?
- Q3** ¿Cómo sabe si la información que ha encontrado en internet es correcta (y no incorrecta o confusa)?
- Q4** ¿Cómo de útil cree que es internet para ayudarlo/la a tomar decisiones sobre su salud?
- Q5** ¿Utiliza algún portal médico en internet? [*Proporcione un ejemplo concreto del país. Si no existiera en su país, la pregunta es: ¿Utilizaría algún portal médico en línea si estuviera disponible?*]. Sí/No. ¿Por qué?
- Q6** ¿Sabe dónde se almacenan sus datos médicos? Si es así, ¿dónde?
- Q7** ¿Sabe quién tiene acceso a sus datos médicos? Si es así, ¿quién?
- Q8** ¿Cree que es fácil entender su historia clínica (la información que se guarda sobre su salud)? Por ejemplo, ¿tiene dificultades para leer documentos médicos, como informes de reconocimientos o análisis de sangre? ¿Entiende las instrucciones para tomar medicamentos?
- Q9** ¿Sabe si puede y cómo puede acceder a su historia clínica y hacer cambios en su contenido y accesibilidad? Por ejemplo, si quiere eliminar parte de su historia clínica o asegurarse de que otros profesionales sanitarios no puedan acceder a ella, ¿sabe cómo hacerlo?
- Q10** ¿Utiliza alguna herramienta digital para registrar sus citas médicas o el horario de su medicación, como un calendario en el teléfono o una alarma? Si es así, ¿le parece que es fácil de usar? Si no, ¿sabe dónde encontrar alguna y cómo usarla?
- Q11** ¿Utiliza alguna aplicación que lo/la ayude a controlar su salud, por ejemplo, llevando un seguimiento del peso, de la tensión o de los niveles de azúcar? ¿Es algo que usa? Si es así, ¿qué función tiene?

Las siguientes preguntas se refieren exclusivamente al proyecto TRIO.

- Q12** ¿Estaría interesado/a en utilizar una plataforma de aprendizaje virtual o un manual para mejorar sus habilidades digitales relacionadas con la salud? Sí/No. ¿Por qué?
- Q13** Si usara ese tipo de plataforma, ¿cómo le resultaría más útil que apareciera la información: textos explicativos, imágenes, vídeos, ejercicios, etc.?

Q14 ¿Cuál cree que sería una buena forma de animar a las personas, por ejemplo, aquellas con problemas socioeconómicos o de salud o personas de edad avanzada, a formarse para mejorar sus conocimientos digitales relacionados con la salud y con el manejo de datos?

¿Quiere seguir participando en el proyecto en el futuro? ¿Le gustaría participar en la sesión de cocreación?

Preguntas dirigidas para la entrevista a expertos

Introducción al proyecto TRIO:

Nuestro sistema sanitario se está digitalizando cada vez más rápido, pero no todo el mundo tiene las competencias digitales, sobre la salud y sobre los datos para seguir el ritmo de este cambio. El objetivo de TRIO es ayudar a las personas a mejorar este conjunto de competencias para que el sistema sanitario sea accesible a todos. Para ello, estamos desarrollando distintos instrumentos: un manual, un conjunto de herramientas, un informe verde y una plataforma de aprendizaje virtual para la educación para adultos. Sin embargo, necesitamos investigar sobre las carencias y las necesidades para personalizar estos instrumentos y que puedan satisfacer dichas necesidades. Por eso, estamos entrevistando a personas de diferentes grupos de edad y niveles educativos, así como a profesionales sanitarios y responsables de políticas.

Uso de la información:

Primero, resumiremos la entrevista y, después, se la enviaremos para que pueda revisarla. El resumen se utilizará como fuente de información en nuestro informe nacional, pero no se transcribirá literalmente. Las respuestas que nos dé serán completamente anónimas. Quizás le preguntemos si podemos incluir alguna cita en el informe, pero nunca mencionando su nombre. Lo que haremos será agrupar a los entrevistados por edad y nivel educativo, y utilizar esa información como referencia.

Solicite la versión firmada del formulario de autorización

Organización:

Perfil profesional:

Q1 Por el desempeño de su trabajo, ¿conoce a muchas personas con escasos conocimientos digitales, sobre la salud o sobre el manejo de datos?

Q2 Si es así, ¿cree que dicha brecha está ligada a factores socioeconómicos o demográficos?

- Q3** En su opinión, ¿qué beneficios y qué problemas surgen de la digitalización del sistema sanitario?
- Q4** Personalmente, ¿utiliza herramientas digitales relacionadas con la salud, como portales sanitarios, páginas web sobre salud o asistencia sanitaria virtual?
- Q5** En su opinión, ¿cuáles son las herramientas digitales relacionadas con la salud más útiles para las personas? Ejemplos: ¿Alertas médicas en el teléfono móvil? Sí o no. ¿Publicaciones sobre el seguimiento médico, como el peso, la presión arterial o los niveles de azúcar? Sí o no. ¿Acceso a las recetas médicas? Sí o no.
- Q6** ¿Qué herramientas digitales para la salud faltan o no están disponibles para todos?
- Q7** ¿Cuáles cree que son las principales barreras que impiden a las personas el uso de herramientas digitales para la salud?
- Q8** ¿Cómo podemos utilizar las políticas para ayudar a más personas a tener acceso a su información sanitaria en línea?
- Q9** ¿Cree que las personas saben dónde se almacenan sus datos médicos? ¿Sabe dónde se almacenan los suyos?
- Q10** ¿Considera que es importante para las personas tener acceso a su historia clínica mediante una plataforma virtual? ¿Cree que es fácil de utilizar?

Las siguientes preguntas se refieren exclusivamente al proyecto TRIO.

- Q11** ¿Qué información debería contener la plataforma de aprendizaje de TRIO para que resulte útil? ¿Qué tipo de información sería la más adecuada: textos explicativos, imágenes, vídeos, ejercicios, etc.?
- Q12** ¿Qué debería contener una plataforma de aprendizaje virtual para resultar más atractiva a las personas con menos oportunidades (por ejemplo, con problemas socioeconómicos o de salud o personas de edad avanzada)? ¿Cómo podemos ayudarles a habituarse al uso de plataformas de aprendizaje virtual? ¿Qué necesitan?

Q13 ¿Cómo podríamos motivar a las personas con escasas competencias digitales relacionadas con la salud a participar en una plataforma de aprendizaje virtual?

Q14 ¿Tiene alguna idea o conoce ejemplos que sirvan de inspiración para mejorar el acceso y la comprensión de los datos digitales sobre la salud?

¿Quiere seguir participando en el proyecto en el futuro? ¿Le gustaría participar en la sesión de cocreación?