# PORTUGUESE NATIONAL REPORT
## SUMMARY
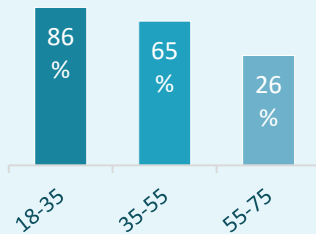
# DIGITAL, HEALTH, AND DATA LITERACY IN PORTUGAL
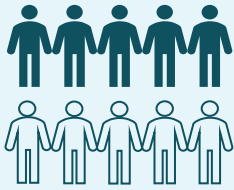
**55%** of Portuguese citizens aged 16-74 have **basic digital skills**

Digital proficiency **drops** significantly **with age**
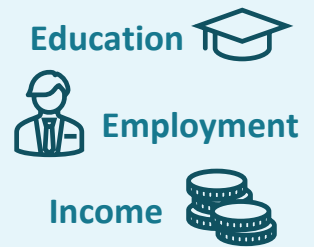
- 18-35: 86%
- 35-55: 65%
- 55-75: 26%

Digital skills are **higher** among **women** than men between the ages of **18-55**, but **better** among **men** aged **55-75**

Digital literacy is mostly **influenced by**:

**Education**

**Employment**

**Income**

## DIGITAL LITERACY

Most **difficulties** are perceived in: **Health Promotion.** **Disease Prevention** and **Health Care** are slightly **lower**

**73%** of the population has difficulty accessing, understanding and using **health information**
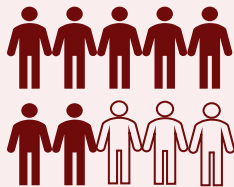
**17%** of Portuguese are **overweight**

Health literacy is most **influenced by**:

**Education**

**Income**

## HEALTH LITERACY

**77%** of Portuguese citizens aged 16-74 have **basic data skills**

Data literacy is (highly) **influenced by**:

**Education**

**Income**

**Employment**

**Older** (65+) individuals are **less apt** in **online data security**

## DATA LITERACY

Low education and income negatively affect:

**Nutrition**

**Sport**

**Lifestyle**

**3%** of Portuguese citizens are considered **illiterate**

Unemployment is linked to: **Low education** & **Age** (16-24)

**49%** of Portuguese citizens search for health information **online** with the risk of **misinformation**

## SOCIETAL AND ECONOMIC IMPACTS

# Results of the desk research

## Digital literacy

Portugal ranks 15th of the 27 EU Member States in the 2022 edition of the Digital Economy and Society Index (DESI), climbing one step up from the previous year's ranking. However, such ranking result still calls for a greater effort to accelerate digitalisation, and this is why Digital Transition is one of Portugal's current strategic priorities. The digital skills deficit in Portugal hinders the adoption of e-government solutions by users, and over-reliance on advanced e-government may leave too many people behind.

Regarding digital skills by age, there is a decreasing trend as age goes up. Among the youngest, the percentage of digital skills is 86%, while only 25% of the population over 55 holds basic digital skills, and above the age of 55 only 26%.

Digital skills are higher among women than men between the ages of 18-55, but better among men aged 55-75. However, the gender difference is not very significant. Digital literacy is most influenced by education level, employment, residential setting, and income.

The education level has a large influence on digital ability levels. Of the population with a low level of education, only 24% have basic or above basic overall digital skills, increasing to 72% in the population with a medium level of education and 88% in the population with a high level of education. This is also positively correlated with age, as the older population is part of the group with a lower level of education. Employment also has a large influence on digital ability levels. Of people employed, 65% have basic or above basic overall digital skills while of the unemployed only 48%.

As there is a direct correlation between the different socio-demographic variables, the Portuguese population with higher levels of education have higher employability and consequently a higher income, mostly living in cities, conditions that allow them greater access to both digital devices and the internet.

To tackle the existing challenges, the programme "EU SOU Digital" aims to empower adults with digital skills, with the vision of helping to reduce inequities in access. The Digital School Programme was created to promote digital skills in schools and the Digital Academy Portugal platform aims to stimulate the digital skills of the active population.

## Health literacy

There are different studies on health literacy in Portugal with relatively different outcomes, presenting a huge difference from 2016 to 2021.

According to the report prepared by the Calouste Gulbenkian Foundation | Centre for Research and Studies in Sociology of the University Institute of Lisbon, in 2016 Portugal was characterised by 11% of the population having an "inadequate" level of literacy and about 38% of the population having a level of health literacy considered "problematic". Of the total Portuguese population, 50% had "excellent" or "sufficient" literacy, but the percentage at the "excellent" level (8.6%) was the lowest among all countries, followed by Spain and Greece, with 9.1 and 9.9%, respectively.

It was among the older population that a higher proportion had lower levels of health literacy, a tendency that decreases progressively with younger age, being the youngest the ones with the highest percentage of 'excellent' literacy levels.

On a quite different note, the study based on the Health Literacy Survey (HLS19-Q12) of 2021 reports that most participants presented high levels of health literacy: 65% "adequate" and 5% "excellent" levels, with only 7.5% of participants presenting "inadequate", and 22% "problematic" levels of health literacy. The results suggest that 7 out of 10 people have high levels of health literacy, representing very significant increase compared with previous studies.

In what concerns the different dimensions of health literacy - health promotion, disease prevention, and health care - participants presented higher levels in health promotion (71.6% and 8.9% sufficient and excellent, respectively), while disease-prevention dimension was the most challenging task (with 18.4% and 21.3% problematic and inadequate, respectively).

The competence of "understanding information" was associated with the highest levels of health literacy (75%) but, "appraising health-related information" was considered the most challenging aspect for many participants, with 34.1% presenting problematic and inadequate levels of literacy. Regarding specific health literacies, the data revealed poorer levels of navigational health literacy.

High levels of education tend to correspond to high levels of health literacy. In Portugal, more than 65% of respondents with higher education have excellent or sufficient literacy levels. In contrast, more than 65 per cent of respondents with very low education have problematic or even inadequate levels of health literacy.

In this way, the search for health information on the internet is closely related to age and education. For example, older people with low education prefer direct contact with health professionals to obtain health information.

Despite the reported high levels of health literacy, this still does not influence behaviours sufficiently. In 2019, approximately one third of all deaths in Portugal were due to behavioural risk factors. In 2018, 22 % of 15-yearolds were overweight or obese, which is higher than the EU average.

## Data literacy

According to the Eurostat, the number of Portuguese with basic or advanced information and data literacy is 77%, in line with the EU levels. Data literacy skills are largely influenced by age, but not significantly different by gender. Individuals with low education, low income, unemployed and living in rural areas tend to have lower information and data literacy rates. Statistics for digital data use per age group show a significantly larger gap than information and data literacy. In general, people aged 55+ have significant difficulties in understanding data security.

In Portugal, there is legislation that allows individuals to access their health-related data in an EHR. However, people still need more skills to be able to manage and access their data.

## Societal and economic impacts

When analysing the societal and economic impacts, in 2020, life expectancy in Portugal was 81.1 years but gender inequalities in life expectancy are significant and persist, with women allowed to expect to live over six years longer than men (84.1 years versus 78.0 years). The education level also influences healthy life expectancy, having the highly educated Portuguese people 1-4 years longer life than the least educated.

Overweight and obesity are growing public health issues among adults and young people. Lack of physical activity and low vegetable consumption contribute to increasing rates of overweight and obesity, which are public health issues of concern.

However, regarding self-perceived health, 50.2% of the Portuguese population indicated having a "very good or good" state of health in 2021, especially 16-64 years old, men, employed and with a high education level. In addition, the percentage of people who indicated having a reasonable state of health increased and the percentage who indicated having a "bad or very bad" state of health decreased.

According to the OECD, in Portugal, 43,9% of citizens have chronic conditions, affecting more women than men, especially the population aged 65 and over, with a low education level. The lack of physical activity, as well as being overweight and obese, are situations that directly influence mental health. Another factor influencing this situation is the significant percentage of people who do not maintain regular social contact, specially the oldest, synonymous of worrying levels of isolation and loneliness in this age group.

More than ¼ of the population reported experiencing the negative effect of the COVID-19 pandemic on their mental health: more by women than men and in quite similar proportions in the population under 65; the older population and the unemployed population reached the highest value.

Portugal still has a total of 3.08% illiterate people, of which 2.10% are men and 3.96% are women, but the evolution of illiteracy in Portugal from 2011 to the 2021 census shows a considerable decrease, especially in women. According to the Trading Economic indicators, in 2018, the literacy rate of young people in Portugal was 99.7%, was of 96% in adults and 88.3% in older people. Moreover, considering gender, the female literacy rate was 85%, while the male literacy rate was 93%. In 2021, the Portuguese population with low levels of education in adults was 66%, while in older people this was of 34%.

When relating employment with the level of education in the different age groups, there is an increase in the higher level of education. The highest employability is in the 25-54 age group, reaching the top percentage in the population with the highest levels of education, with no gender difference. In the population with a low or medium level of education, the gender difference is already more significant, with men having higher percentages of employability.

As levels of health literacy decrease with age and low levels of education, adding to low levels of digital literacy among older and less educated people, access to online health information is limited to such groups. With the increasing use of the Internet and social media, non-credible sources are increasingly consulted, leading to more misinformation. The Portuguese seek diagnosis, help and advice through Internet searches and self-help tools, considering them reliable sources of health information, transforming fake news an increasing danger for health misinformation.

According to the Eurostat, the age group that least uses the Internet to search for health information is the 55-74-year-olds and the groups that use it the most are the 25-34 and 35-44-year-olds. The Portuguese with the lowest levels of education are those who least use the Internet to search for health information and those who use it the most are those with the highest levels of education. Almost half of the Portuguese (49%) aged between 16 and 74 years searched online for health information related to injuries, illnesses, nutrition, health improvement or similar in 2020.

## Results of the interviews

### Digital, health, and data literacy

From the interviews conducted in Portugal within the TRIO project with citizens and experts, it can be concluded that it is essential to rationalise health information in an accessible, simple, and appealing way, as a way of reducing inequalities in access to eHealth, with regard to educational qualifications, income and age.

In addition, it is essential to extend access to broadband networks in more remote locations (an exclusion factor that the CoVID-19 pandemic highlighted) and improve digital skills as a way to enable the Portuguese population with a more general access to online services.

Given that patients overvalue the role of the doctor-patient relationship as a facilitator of communication in the consultation, there is also a need to clarify the cost/benefit of using digital tools, being able to access health services/information. This is also related to the need to make the differentiation and analysis between what is urgent and what is not urgent, using the SNS 24 options that allow triage, essential for referral, either to hospital or to health units, reducing the large influx to hospital emergency services.

Due to the ageing of the Portuguese population and the increase in chronic health situations, it is also vital to increase the provision of primary health care and health promotion programmes.

The Personal Health Record should include all clinical data of the user, whether from the public or private health system, with an electronic health record that can be accessed anywhere, even in another country, taking into account the Directive on Cross-border Care.

### The Healthcare system

The National Health Service in Portugal (SNS – Serviço Nacional de Saúde) is the set of institutions and services, under the Ministry of Health, whose mission is to guarantee access to health care for all citizens, within the limits of the human, technical and financial resources available. Portugal's SNS is a universal tax-financed health system, covering all residents.

The Portuguese SNS covers a broad benefits package, including GP visits and outpatient specialist care, as well as other services prescribed by doctors such as pharmaceutical products.

Although the SNS guarantees universal coverage for all citizens, barriers to access persist for some population groups, particularly for people on low incomes. People with lower incomes have unmet medical needs due to cost, distance or waiting time. Most of these unmet needs among people in the lowest income quintile were for financial reasons.

The healthcare sector has been under unprecedented pressure, resulting mainly from the gap between increasing demand and decreasing capacity, accentuated by the COVID-19 pandemic. Waiting times for elective surgery have worsened over the past decade, with the number of elective surgery appointments decreasing by 21% in 2020 compared to 2019.

### The TRIO project

The interviewees were interested in the use of an online learning platform to improve their digital health and data literacy. The type of information that people prefer are games, intuitive items, content

for television viewing (Youtube or similar), micro-content (nuggets) for leisure time consumption, favour multi-platform approaches and solutions of universal design principles.

The platform should:

- address basic information on health, pathologies, taking medication;
- use simple and direct language;
- ensure protection of users' rights (e.g. complaints);
- provide information on the functioning of the NHS, namely primary health care;
- explain how and where to find credible health information;
- information that helps the younger ones to "support" the older ones to use the tools;
- information about rights, duties and precautions to have in relation to medical data;
- identification of available services and devices with tutorials for their use;
- information on health promotion and well-being and its relation to the prevention of some pathologies;
- information on payment models/acquisition of medical devices.

There should be increased caution about ethical issues and the risks of stigmatization and exclusion (particularly by socio-economic and/or demographic factors).

## Suggested learning needs target groups

### Age-group 18-35

For the youngest age group, the biggest challenges highlighted are **poor knowledge on the healthcare system and food literacy**. This age group needs:

- greater knowledge of how the health system works;
- changes in eating habits and healthier lifestyles.

### Age-group 36-50

Generally speaking, it was not possible to identify needs on the basis of age alone, as we would have to take into account education level, employability and income.

### Age-group 50+

For older people the focus should be on improving their **eHealth skills**. This includes the need to:

- improve digital skills;
- how to search for information;
- read health data;
- save data digitally;
- use the alert function of the mobile phone;
- use an application to track health;
- read information data with graphics;
- access health data on the internet;
- identify what is important to accept/not accept in an application.

## Societal and economic variables

In general, the main focus should be on improving their understanding on **health care, health promotion and disease prevention**:

- how to find online nutrional and lifestyle advice;
- how to implement healthy choices in daily life;
- which digital tools are available to track their health.

People with a low education, older and young people need more information on:

- the functioning of the Portuguese medical system, in clear and understandable language;
- know how the SNS24 works (app, online);
- tools and devices, how to get them and how they work;
- where to look for reliable health.

## General

In general, in the Portuguese population, there is a need to **develop skills**, namely:

- improve general literacy, digital literacy, health literacy and data literacy;
- improve personal knowledge, skills and attitudes to go through the health system;
- measure and understand the risk factors and adopt preventive measures;
- provide access to their health data;
- ensure health data is protected;
- decide with whom health data will be shared;
- identify the veracity of health information on the internet;
- identify why some health applications are safer than others and distinguish which health service to go to in a given situation (emergency/non-emergency).

# References

- Arriaga, Miguel, Rita Francisco, Paulo Nogueira, Jorge Oliveira, Carlota Silva, Gisele Câmara, Kristine Sørensen, Christina Dietscher, and Andreia Costa. 2022. "Health Literacy in Portugal: Results of the Health Literacy Population Survey Project 2019–2021" International Journal of Environmental Research and Public Health 19, no. 7: 4225, https://www.mdpi.com/1660-4601/19/7/4225/htm.
- European Commission, Digital Economy and Society Index (DESI), Portugal, 2022, https://digital-strategy.ec.europa.eu/en/policies/countries-digitisation-performance.
- Eurostat, Data browser. https://ec.europa.eu/eurostat/databrowser/explore/all/all_themes.
- Fundação Calouste Gulbenkian, 2015, "Health literacy in Portugal", 2016, https://cdn.gulbenkian.pt/wp-content/uploads/2016/05/PGISVersCurtaFCB_FINAL 2016.pdf.
- INE, Instituto Nacional de Estatística (NIS, National Institute of Statistics), 2021, https://censos.ine.pt/xportal/xmain?xpid=CENSOS&xpgid=ine_censos_indicador&contexto=ind&indOcorrCod=0006731&selTab=tab10.
- OECD/European Observatory on Health Systems and Policies, "Portugal: Country Health Profile 2021, State of Health in the EU", OECD Publishing, Paris, 2021. https://doi.org/10.1787/8f3b0171-en.
- Paiva, Dagmara, "Lost in translation: health literacy in type 2 diabetes mellitus care", Doctoral dissertation submitted to the Faculty of Medicine of the University of Porto, 2018, https://repositorio-aberto.up.pt/bitstream/10216/119016/2/314603.pdf.
- Pedro, Ana Rita, Odete Amaral, Ana Escoval, "Health literacy from data to action: translation, validation and application of the European Health Literacy Survey in Portugal", Revista Portuguesa de Saúde Pública, Volume 34, 2016, https://doi.org/10.1016/j.rpsp.2016.07.002.
- SNS, Serviço Nacional de Saúde (NHS, National Health Service), accessed October 30, 2022, https://servicos.min-saude.pt/utente/.
- Trading Economics, Portugal | World Bank Development Indicators, https://tradingeconomics.com/portugal/indicators-wb-data.html?g=education.
- WHO - World Health Organisation, Regional Office for Europe, "Legislation exists that allows individuals electronic access to their own health-related data when held in an EHR2022", https://gateway.euro.who.int/en/indicators/ehealth_survey_22-legislation-for-individuals-access-to-own-data/.

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