



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

DUTCH NATIONAL REPORT SUMMARY



Co-funded by
the European Union

DIGITAL, HEALTH, AND DATA LITERACY IN THE NETHERLANDS

79% of Dutch citizens aged 16-74 have **basic digital skills**

Digital proficiency **drops** significantly **with age**

Age Group	Digital Proficiency (%)
18-35	92
35-55	84
55-75	64
75+	28

Digital skills are **equal** between men and women aged **18-55**, but **better** among **men** aged **55-75**

Digital literacy is most **influenced by**:

- Education
- Employment
- Income

DIGITAL LITERACY

Most **difficulties** are perceived in:

- Health Promotion & Disease prevention

6% of Dutch interviewees had **poor eHealth skills**

63% of Dutch interviewees had **low food literacy**

Health literacy is most **influenced by**:

- Education
- Income
- Social status

HEALTH LITERACY

93% of Dutch citizens aged 16-74 have **basic data skills**

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

- Education
- Income
- Employment
- Migratory background

Both **younger** (16-25) and **older** (65+) individuals are **less apt** in **online data security**

DATA LITERACY

Low education and income negatively affect:

- Nutrition
- Sport
- Lifestyle

18% of Dutch citizens is considered **low literate**

Unemployment is linked to:

- Low education
- Migratory background

Roughly **30%** of **social media posts** about health topics contains **misinformation**

SOCIETAL AND ECONOMIC IMPACTS

Results of the desk research

Digital literacy

79% of the Dutch population between the ages of 16 to 74 was determined to have basic or above basic digital skills in the year 2021. The Netherlands are therefore very close to achieving the European target in digital proficiency which is set at 80% by 2030. However, a disproportionate amount of digital illiterates are present among older people. This could be linked to the fact that a large majority of people need a working internet connection and decent computer skills for work or school activities, but after the retirement age of 67 there is less incentive to keep up with the rapidly changing digital world, resulting in a large group of people being left out when more and more public systems, including healthcare, are digitalised. This problem is reinforced by the decreasing participation in society among older people; as age increases people are less likely to work, visit friends, do social activities, or volunteer, and are therefore less exposed to digital systems, like for instance in the work environment, social media, or sport and leisure accommodations.

There is also a clear correlation between digital ability and education, employment, residential setting and place of birth. The biggest disparity is in education level, where only 60% of people with a low formal education have basic or above basic digital skills, compared to 93% of individuals with a high formal education. Socio-economic factors like low education and low income are likely linked and include immigrants from outside of Europe and people who are unemployed. It is evident that these individuals are disadvantaged when it comes to learning digital skills.

Health literacy

According to the HLS-EU conducted in 2011 general health literacy levels in the Netherlands were deemed to be 'sufficient' (scoring 37.06 out of 50). Overall the topics of accessing and understanding health information, accessing information on health promotion and applying information on disease prevention are the areas that people struggle with the most. Difficulties with health promotion and disease prevention are deeply rooted in our society and include nutrition and lifestyle choices. Food literacy rates in the Netherlands are far below adequate, especially among younger people (<40 years of age). This is visible in our current population's health condition, where 44% of people is overweight and 80% of individuals do not consume enough vegetables. In 2018 the Dutch government has started the 'National Prevention Agreement', with the intention to drastically reduce smoking, excessive drinking and overweight by 2040. In a progress report from 2020, however, was concluded that many of the ambitions, especially those on alcohol consumption and overweight, are considered to be not feasible with the current measures. With unhealthy options lurking around every corner, people need more easily accessible healthy options, as well as clear and easy to understand information on good practice and the risks of unhealthy lifestyles.

In addition, there are socio-economic and demographic variables that impact Dutch health literacy rates. Low education and low income have a negative effect on health literacy, especially in regard to accessing and understanding health information. Age on the other hand, gave varying results per domain, while gender seems to have a much larger impact on health literacy than it does on digital literacy. This may be explained by the fact that our socio-cultural environment drives women to be much more invested in their looks and their health, making them more motivated to actively learn health literacy skills, especially concerning health promotion, disease prevention and food literacy. These are also the areas that have a positive correlation with higher age groups (41 years and above). The reason for this is not entirely clear, although it could be related to the declining adherence to a healthy lifestyle among younger generations.

Data literacy

Information and data literacy rates among Dutch citizens are generally very high; with 93% at a basic or above basic level. Like in both digital and health literacy, a negative correlation exists between data literacy and social-economic factors, including education level, income, employment, and immigration status, though data literacy rates among these groups remain well above 80%. Digital data skills tend to drop with age, which is unsurprising given the digital literacy rates, but of the digitally proficient individuals online data security is lowest among younger people (16-25). It can be speculated however, that this is more due to carelessness than it is to inability.

Societal and economic impacts

Both people with a low education and individuals with a non-Western migration background are less likely to be employed and more likely to have a low income and a low social status. Although these aspects also negatively impact digital and data skills, the main problem is the overall lower health literacy. This group of people is especially vulnerable since they are more likely to make unhealthy life choices and suffer from chronic conditions earlier in life. Because of the lower employment rate, these already disadvantaged groups get trapped in their low socio-economic status, impacting their own health and wellbeing, and that of their children as well.

In addition, special attention needs to be paid to combatting low literacy in general. According to the *Feiten & Cijfers 2018*, 18% of Dutch citizens have low literacy skills. Low literacy has proven to be directly linked to lower health conditions and is mostly prevalent among lowly educated people. People with low literacy skills have more difficulty understanding information about health and healthcare and therefore form a vulnerable group. In order to improve their situation, participation to preventive health programmes and adherence to a healthy lifestyle should be stimulated, and self-management support for low literates with a chronic condition should be facilitated.

Furthermore, it can be stated that a relatively large amount of false and misleading health information is being spread online and that this is likely to influence people's digital health data appraising abilities, but specific figures on which people are more susceptible to this were not found.

Results of the interviews

Digital, health, and data literacy

From the interviews can be concluded that age does not have a significant impact on health literacy skills, but the amount of experience a person has with the medical system does. This experience is likely to grow with age, while younger individuals often never sought medical attention before and are therefore quite clueless as to how the healthcare system works. Additionally, the study or profession a person does has a very large influence on their health literacy, especially when someone works in the medical sector.

When looking at eHealth skills in particular, younger individuals more often make use of applications or webservices related to health, like fitness- or health tracking apps. Even though they do not have (much) experience with searching for health information online, they are often able to find reliable health information and make adequate health decisions by using their digital skills. Some individuals from the age group of 51 and above were more hesitant when it comes to looking for health information online, but they usually have more knowledge as to which official websites or medical portals are available to them.

Information on where personal medical data is stored, who has access to it, and how to view its content is mostly unknown to the participants, although many can make well educated guesses on the topic, especially those with a higher education. For some individuals retrieving medical data can be more

challenging, because different organisations may keep their own file and tracking down this data is unnecessarily complicated.

Data sharing is also a problematic topic for some people. One of the interviewees, who is working as a nurse in a home for formerly homeless people, indicated that many of her patients have refused to give permission for their medical data to be shared between healthcare providers. These people are often lowly educated and do not fully understand what this data sharing means for them. As a result they often have to re-explain their medical history, which can lead to misunderstandings, and it prevents healthcare providers to share valuable health information about these patients.

Medical documents are generally seen as difficult to understand for a wider range of people, but dosing instructions for medicines are regarded as very understandable. One of the interviewees (high education, 50+) does indicate however that medicine packaging does not clearly indicate what the medicine is for. Packaging usually includes the name of the drug and the brand, but not what it is meant to treat. This can have serious consequences for people that take several kinds of medication and accidentally mix them up.

The Healthcare system

In general the Dutch healthcare system is seen as mostly equally accessible. In fact one of the interviewees has heard that access to top clinical care in the Netherlands is regarded as one of the best in the world. However, most participants agree that this does not mean that all people have equal access to medical care in general. Individuals with a language or culture barrier may experience problems finding their way through the Dutch healthcare system. So even though the Dutch medical system can theoretically be accessed by everyone, for many it is too complicated to understand, especially for people with a lower educational background. Furthermore, due to the high own risk policy and limited compensation in the basic care package, specialistic care can be too expensive to afford for people with the lowest incomes.

Professionals indicate that policy is often unsatisfactory and there are not enough financing options for the use of digital tools in healthcare or the financing options are unsustainable. There are for instance several projects in which new digital or technological innovations are tested and participants receive adequate compensation to use these tools. After the end of the test phase, however, financing is no longer available. Moreover, the requirements to qualify for financial compensation for existing tools are unreasonably strict. People with a low education or a migratory background often do not know which technologies are available to them and they lack the financial means to personally buy devices or licenses.

The TRIO project

Many interviewees were not personally interested in the use of an online learning platform to improve their digital health and data literacy at this moment, but most saw the creation of one as positive and indicated they would use it if they ever felt they needed to in the future. The type of information that people prefer varies from person to person, but most often a combination of methods is preferred, like text and images, or videos and exercises.

Several interviewees have indicated that it would help to have a specific website or platform where they can find a clear and easy to understand overview of the medical system, including links to official and reliable websites. Even the individuals that do not feel the need to use an online learning platform indicated that they would find it useful to be able to access such a webpage. This environment should also include information on where to find your personal medical file and why sharing your medical history with other healthcare professionals might be important.

Two participants, who work as policy makers for the government, indicated that there already exist several platforms offering digital and/or health literacy training material, but these do not seem

to meet the needs of the target groups, they do not reach the target groups, or they require too much own initiative to access. It is therefore necessary that the TRIO solution clearly defines which target groups it is meant for, and that it meets the needs and demands of these target groups. In addition, the e-learning course needs to be known and easily accessible. For older people it is important to also include their network to help them navigate the digital environment.

Suggested learning needs target groups

Age-group 18-35

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

- a clear overview of how the medical system works;
- information on the risks of sharing personal data online;
- more promotion and awareness on proper nutrition and lifestyle choices.

Age-group 36-50

The range of needs for this group is diverse and is related to their education level, socio-economic status, experience with the medical system, and profession. No specific needs could be found that apply for this group based on their age alone.

Age-group 50+

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

- how to find health information online;
- how to tell if a website is reliable;
- how to access their personal medical data;
- which digital devices are available and how to use them.

Societal and economic variables

For individuals with a overall low socio-economic status the main focus should be on improving their understanding on **health promotion and disease prevention**:

- how to find online nutritional 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 and/or a migratory background need more information on:

- the Dutch medical system, in clear and understandable language;
- which digital health tools and devices are available and how to get them;
- which websites to go to when in need of more health information;

General

- More clarity is needed on **the topic of personal medical data**; where it is stored, how to access it, who it is shared with, and what this means for the patients themselves.
- Institutions need to be made aware about **the growing problem of low literacy** and how this affects these people in regard to accessing the medical system and finding (online) health information.
- Educational programs to improve general literacy, digital literacy, and health literacy need to be **clearly communicated and promoted**.

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