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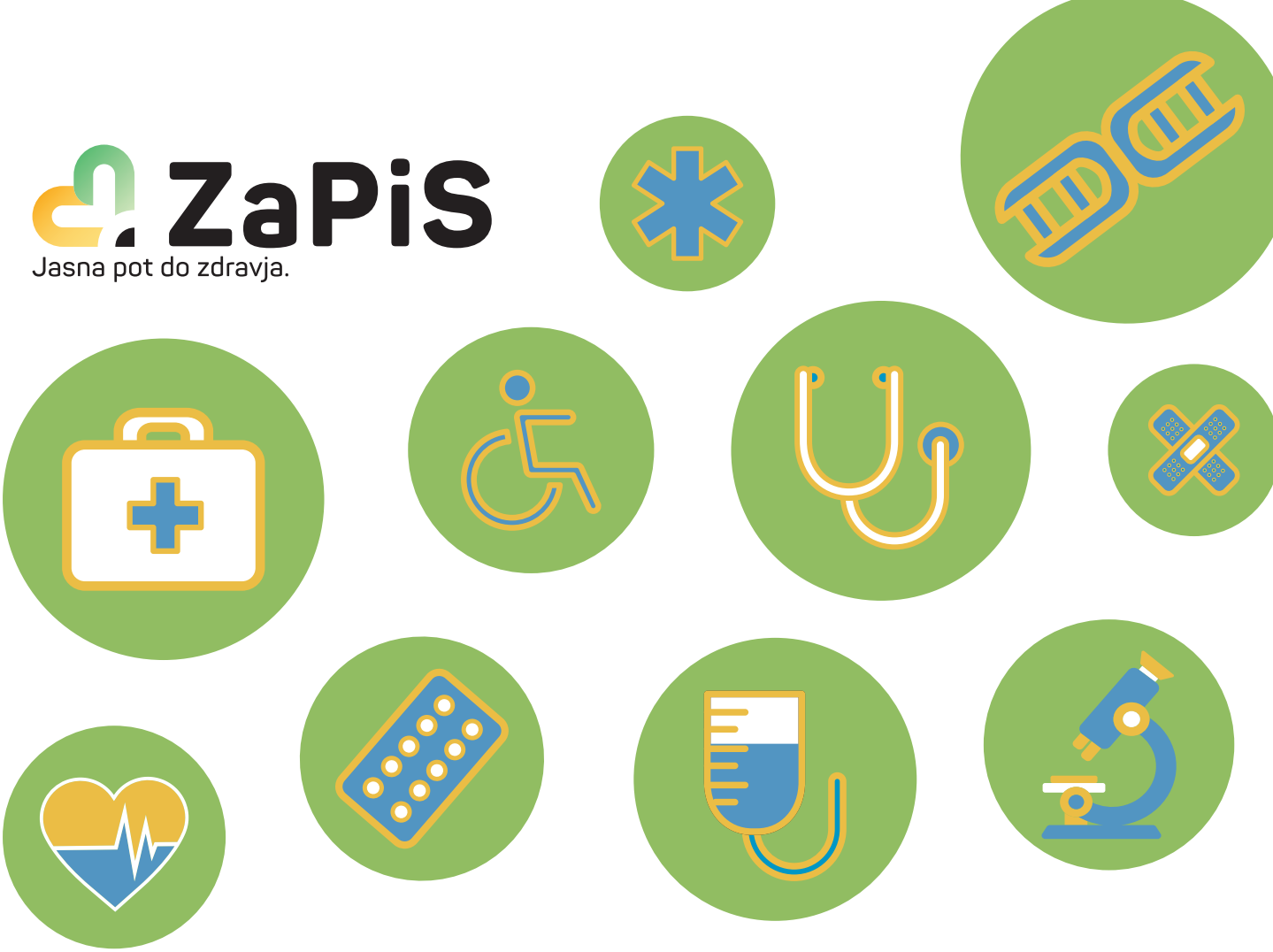

Health literacy of Slovenian adults

Results of the Slovenian Health Literacy Survey

($HLS\text{-}SI_{19}$)

REPUBLIC OF SLOVENIA
MINISTRY OF HEALTH

NIJZ National Institute of Public Health

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Results of the Slovenian Health Literacy Survey (HLS-SI$_{19}$)

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Introduction

The development vision set out in the Slovenian resolution on the national health care plan 2016–2025 ('Together for a Healthy Society', 2016), which presents the basic starting points for the development of health care in Slovenia, includes the adoption and implementation of measures to promote and protect health and prevent disease. It also highlights the need to improve the health literacy of the Slovenian population. A prerequisite for the planning and development of interventions that can help to improve health literacy, and consequently the health and quality of life of the Slovenian population, is research into health literacy at national level. This is made possible by an integrated approach that involves a study of all the basic dimensions of health literacy (accessing, understanding, appraising and applying health information) in the domains of health care, disease prevention and health promotion. In order to develop targeted interventions, it is also crucially important to study the links between health literacy and the social determinants of health, health status, health-related behaviour and the use of health care services. This enables us to identify the population (sub-)groups to which particular attention should be directed.

In 2019 Slovenia joined the Action Network on Measuring Population and Organizational Health Literacy (M-POHL), which was established under the umbrella of the WHO's European Health Information Initiative (EHII) in accordance with the recommendations set out in the 'Health Literacy: The Solid Facts' (Kickbusch et al., 2013) publication. The vision of this network, which covers 28 countries, is to increase the health literacy of people living in the European region of the World Health Organization by ensuring that high-quality and internationally comparative data is available to support political decisions and targeted practice interventions (M-POHL, 2022). The M-POHL network supports health literacy by strengthening cooperation between the research and policy-making spheres: in Slovenia, the former is represented by the national research centre for the study of health literacy at the National Institute of Public Health and the latter by the Public Health Directorate at the Slovenian Ministry of Health.

The European Health Literacy Survey 2019 (HLS-EU 19) was conducted within the M-POHL network and involved 42,445 respondents from 17 countries in the European region of the WHO: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, France, Germany, Hungary, Ireland, Israel, Italy, Norway, Portugal, Russia, Slovakia, Slovenia and Switzerland.

In order to develop targeted interventions, it is crucially important to study the links between health literacy and the social determinants of health, health status, health-related behaviour and the use of health care services. This enables us to identify the population groups to which particular attention should be directed.

The survey looked at general health literacy, at specific types of health literacy (navigational, communicative, digital), vaccination health literacy, and health literacy in relation to health care costs.

The Slovenian Health Literacy Survey (HLS-SI_{19}) was conducted in collaboration with the international M-POHL network by researchers from the National Institute of Public Health in 2020. The survey obtained representative data on the health literacy of adults in Slovenia. Using a probability sample of 3,360 people enabled particularly vulnerable population groups in relation to health literacy to be identified, and a study to be made of the determinants and consequences of health literacy. This report presents the basic results of the Slovenian Health Literacy Survey (HLS-SI_{19}), which focuses on the levels of health literacy in different domains and highlights those key problems that require particular attention going forward.

Concept of health literacy

The Ninth Global Conference on Health Promotion, which took place in Shanghai in 2016 and was attended by 1,260 high-level political representatives from 131 countries, resulted in the Shanghai Declaration on Promoting Health (WHO, 2016), which put health and well-being at the forefront of sustainable development efforts. It stressed that health was a universal right, a basic resource for everyday life, a common social goal and a political priority for all countries. The three key pillars of health promotion are good health governance, healthy cities and health literacy.

Health literacy is a key determinant, mediator and moderator of health. It is the basis for empowering individuals to participate actively in caring for their own health and enabling them to navigate the health system successfully. In everyday life, it is relevant to the adoption of informed decisions about health, managing disease, understanding health messages and communicating with health workers, and is also related to individuals' health outcomes and with the costs of health care. Health literacy is linked to literacy and encompasses the knowledge, motivation and competence individuals have that enable them to access, understand, appraise and apply health information in everyday decision-making processes concerning health promotion, disease prevention and health care (Jakab, 2019; Rademakers and Heijmans, 2018; Sørensen et al., 2012, 2013; Van den Broucke, 2014; WHO, 2016).

However, a comprehensive understanding of the concept of health literacy goes beyond a focus on the individual; rather, it is a wider, relational concept that takes into consideration the individual's level of health literacy and the complexity of the context (e.g. the health care system) in which the individual operates. Health literacy therefore covers the competencies of the individual, but also depends on the characteristics of the health care system and the services that enable (or hinder) the application of relevant health information to decision-making on health. A patient's ability to understand health instructions will, for example, be greater if they are capable of interpreting and of asking for explanations when in doubt, and if the health worker is able to adapt their method of communication to the patient's needs. Health literacy is therefore a two-way process in which the quality of interactions between individuals and the health system can be optimised (Dietscher et al., 2019; Kickbusch et al., 2013; Moreira, 2018). Health literacy is not determined solely by the abilities of individuals within the population, but also by the responsiveness of health systems and services.

Health literacy encompasses the knowledge, motivation and competence individuals have that enable them to access, understand, appraise and apply health information in everyday decision-making processes concerning health promotion, disease prevention and health care.

The latter is referred to as 'organisational health literacy', which is a relatively new concept and one that remains unresearched in Slovenia.

People with a high level of health literacy make better health-related decisions in their everyday lives, use more preventive and fewer acute health care services; this is because, as patients, they are better able to communicate their health problems to health staff, have a better understanding of the treatment options, and are able to take a more active and competent role in treating their disease themselves. People with a low level of health literacy have worse health outcomes, poorer health and survival rates, less knowledge about health, find it more difficult to manage their disease, and are more likely to use health services inadequately and to enter the health system more frequently. Research shows that patients with chronic disease and a low level of health literacy encounter more problems in managing their disease, enter the health system more frequently and have worse health outcomes (Berkman et al., 2011; Brach et al., 2012; Dietscher et al., 2019; Rowsell et al., 2015; Schillinger et al., 2002). This also has an impact on the costs of health care. Health economists estimate that limited health literacy is responsible for between 3% and 5% of health care expenditure (Eichler et al., 2009).

As a low level of health literacy is linked to a variety of negative health outcomes, including self-assessed health, quality of life and mortality, it is one of the biggest health challenges of the 21st century (Geboers et al., 2018) and one that must be addressed in the future in a systematic and systemic way.

Health literacy is not determined solely by the abilities of individuals within the population, but also by the responsiveness of health systems and services.

Methodology

Measuring health literacy

The concept of health literacy has gained in importance in Europe in the last 15 years, in research, political discourse and practice. Until just over ten years ago, we had no information on the level of health literacy among the EU population, despite the growing importance of the topic. This gap was addressed in 2009 by the first European Health Literacy (HLS-EU) project, which aimed to measure and compare health literacy within the populations of a number of selected European countries (HLS-EU Consortium, 2012). In order to carry out the project, the HLS-EU consortium, comprising nine research institutions from Austria, Bulgaria, Germany, Greece, Ireland, the Netherlands, Poland and Spain, developed the European Health Literacy Survey Questionnaire (HLS-EU-Q), which includes the key dimensions of health literacy as established by the definition and conceptual model formulated by Kristina Sørensen and others (Pelikan and Straßmayr, 2021; Sørensen et al., 2012, 2013, 2015).

The HLS-EU-Q was developed for the purpose of measuring the health literacy of the general population and not specific patient groups. For this reason, it does not focus on the clinical or medical aspects, but incorporates a broader public health perspective. Based on a public health perspective, the HLS-EU-Q measures health literacy in three health domains (health care, disease prevention and health promotion) and specifically with reference to accessing, understanding, appraising and applying health information to manage disease and risk factors for health and to maintain health (Pelikan and Straßmayr, 2021; Sørensen et al., 2015). The combination of the four dimensions of health information processing and the three domains is shown in a matrix containing the 12 sub-dimensions of health literacy included in the questionnaire (Table 1).

The measurement instrument of the second European Health Literacy Population Survey ($HLS\text{-}EU_{19}$), which was conducted between 2019 and 2021 and included Slovenia, is based on the HLS-EU-Q.

The Slovenian Health Literacy Survey ($HLS\text{-}SI_{19}$) focused on measuring general, communicative and navigational health literacy, vaccination health literacy and digital health literacy. The **general health literacy** of the population was measured using a scale of 47 items (HLS-EU-Q47), with the respondents assessing the difficulty of 47 tasks across 12 sub-dimensions of health literacy presented in the form of a matrix (Table 1). The questionnaire also included 31 **correlates** (socio-demographic information, general health status, health-related lifestyle, use of health care services, search for health information). For the first time the $HLS\text{-}EU_{19}$ survey also included the measurement of specific health literacies: **communicative health literacy** (assessment of the difficulty of a further 11 tasks), **navigational health literacy** (assessment of the difficulty of a further 12 tasks) and **vaccination health literacy** (assessment of the difficulty of four vaccination-related tasks,

Table 1: Matrix of four dimensions of health literacy applied to three health domains.
Source: Sørensen et al. (2012)

	ACCESS/ OBTAIN INFORMATION RELEVANT TO HEALTH	UNDERSTAND INFORMATION RELEVANT TO HEALTH	PROCESS/ APPRAISE INFORMATION RELEVANT TO HEALTH	APPLY/USE INFORMATION RELEVANT TO HEALTH
HEALTH CARE	Ability to access information on medical or clinical issues	Ability to understand medical information and derive meaning	Ability to interpret and evaluate medical information	Ability to make informed decisions on medical issues
DISEASE PREVENTION	Ability to access information on risk factors for health	Ability to understand information on risk factors and derive meaning	Ability to interpret and evaluate information on risk factors for health	Ability to make informed decisions on risk factors for health
HEALTH PROMOTION	Ability to update oneself on determinants of health in the social and physical environment	Ability to understand information on determinants of health in the social and physical environment and derive meaning	Ability to interpret and evaluate information on health determinants in the social and physical environment	Ability to make informed decisions on health determinants in the social and physical environment

and viewpoints on the safety, effectiveness and importance of vaccination). As far as was possible, the instrument for measuring specific health literacies employed the format used to measure general health literacy.

The respondents rated the difficulty of the tasks on a scale of 1 ('very difficult') to 4 ('very easy'). The number of health literacy points scored per individual domain was calculated as the sum of the assessments of difficulty converted into an interval of between 0 and 100, where a higher number of points indicated a higher level of health literacy.

In order to simplify the interpretation of health literacy levels, individuals could be classified into one of four categories according to number of points scored. Although the boundaries were to a certain extent arbitrary, a lower category indicated a higher likelihood of the occurrence of difficulties in

Table 2: Categories of health literacy level.

Categories defined on the basis of the criteria in the literature (HLS-EU Consortium, 2012; Sørensen et al., 2015).

Number of points scored	Descriptive category of points scored
50 points or fewer	Insufficient health literacy
Over 50–66 points	Problematic health literacy
Over 66–84 points	Sufficient health literacy
Over 84–100 points	Excellent health literacy

addressing health-related tasks and situations. The boundaries of the categories defined on the basis of the literature (HLS-EU Consortium, 2012; Sørensen et al., 2015) are shown in Table 2.

The Slovenian Health Literacy Survey ($HLS\text{-}SI_{19}$) also addressed **digital health literacy**, which was measured using an instrument developed by researchers at the University of Ljubljana's Faculty of Social Sciences (Petrič et al., 2017) and was upgraded before being incorporated into the HLS-SI19 survey. The instrument comprises 32 statements that the respondents assess using a five-point agreement scale. The level of digital health literacy was calculated as the sum of the assessments of selected statements, converted into an interval of between 0 and 100. The agreement scores were coded before being added up, with higher scores indicating a higher level of digital health literacy.

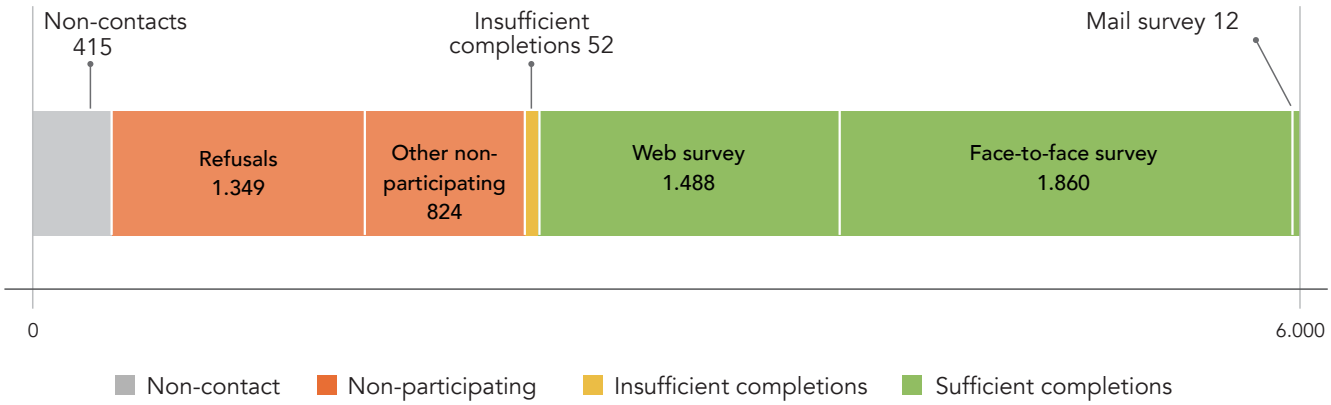
Implementation of the Slovenian Health Literacy Survey ($HLS\text{-}SI_{19}$)

The survey targeted residents of Slovenia aged 18 and over. The sample of participating individuals was selected by probability sampling, with each unit from the population having the known probability of being selected for the sample. Sampling was carried out by the Statistical Office of the Republic of Slovenia using two-stage stratified sampling from the Central Population Register.

Data collection began in March 2020, but was interrupted by the COVID-19 pandemic. It resumed between June and August 2020. The persons selected for the sample were invited by post to complete a web questionnaire. Computer-assisted personal interviews (CAPI) were planned for those who did not wish to take part online. The option was also given of completing the questionnaire on paper and returning it by post.

Of the 6,000 individuals selected, 415 could not be contacted (Figure 1). A total of 3,412 people opted to take part in the survey. However, 52 did not complete the questionnaire to an extent sufficient for inclusion in the final database. The response rate was 60% (5,585 eligible individuals were contacted and 3,360 questionnaires were completed satisfactorily). The final sample was weighted for gender, age, statistical region and education.

Figure 1: Number of people by final survey status.



Results

General health literacy

Respondents scored an average of 67.9 points out of a possible 100 on the general health literacy scale. Most scored between 60 and 70 points (Figure 2), just under 10% scored fewer than 50 points and around the same proportion scored more than 90 points. According to the number of points scored, and taking the criteria for determining the categories of points scored into account, 48% of the population have insufficient or problematic health literacy (Figure 3), which together comprise the limited health literacy category.

48% of the adult population of Slovenia have limited health literacy.

Figure 2: Distribution of the number of points scored for general health literacy.

The number of points scored was calculated on the basis of a self-assessment of the difficulty of carrying out each of the 47 tasks related to general health literacy. The number of possible points ranged between 0 and 100, with a higher number of points indicating a higher level of health literacy. *n* = 3,360

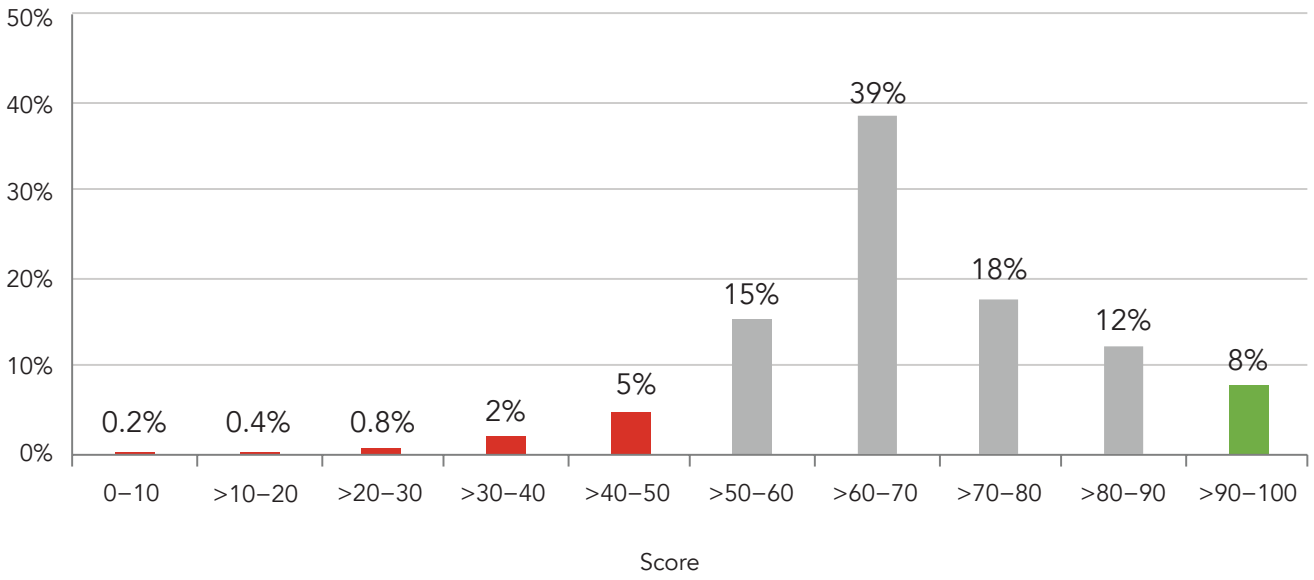


Figure 3: Categories for general health literacy scores.

The categories of scores were established on the basis of the criteria in the literature (HLS-EU Consortium, 2012; Sørensen et al., 2015). *n* = 3,360

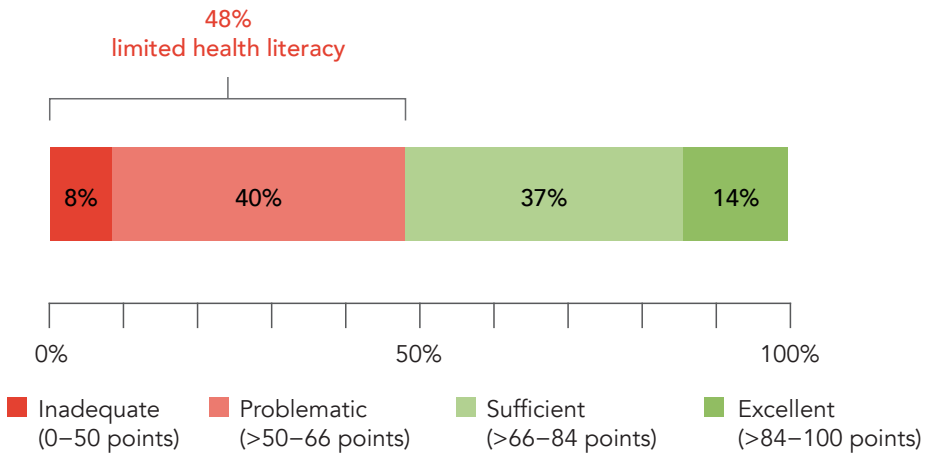


Figure 4: Average number of points scored for general health literacy and its dimensions.

The number of points scored for general health literacy was calculated on the basis of a self-assessment of the difficulty of carrying out each of 47 tasks. For individual dimensions, the number of points was calculated on the basis of the tasks relating to the dimension in question. The number of possible points ranged between 0 and 100 for each dimension. *n* = 3,323–3,360

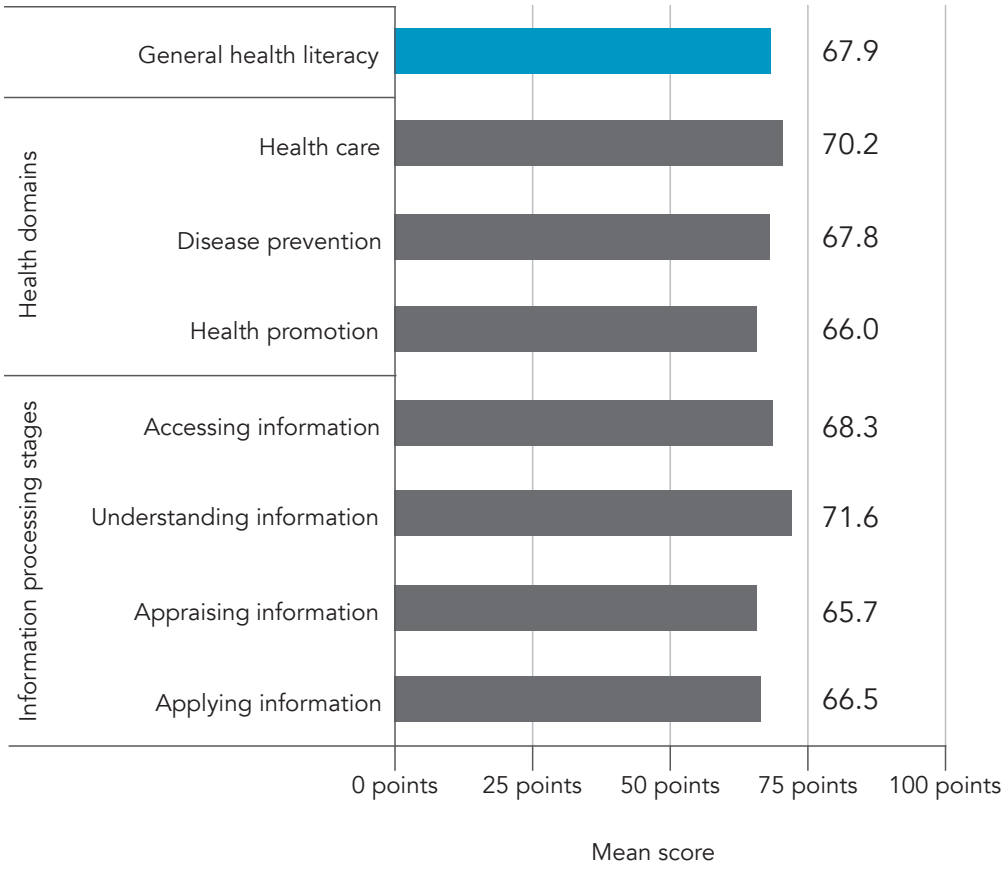


Figure 4 presents the number of points scored in the different dimensions of general health literacy summarised in Table 1.

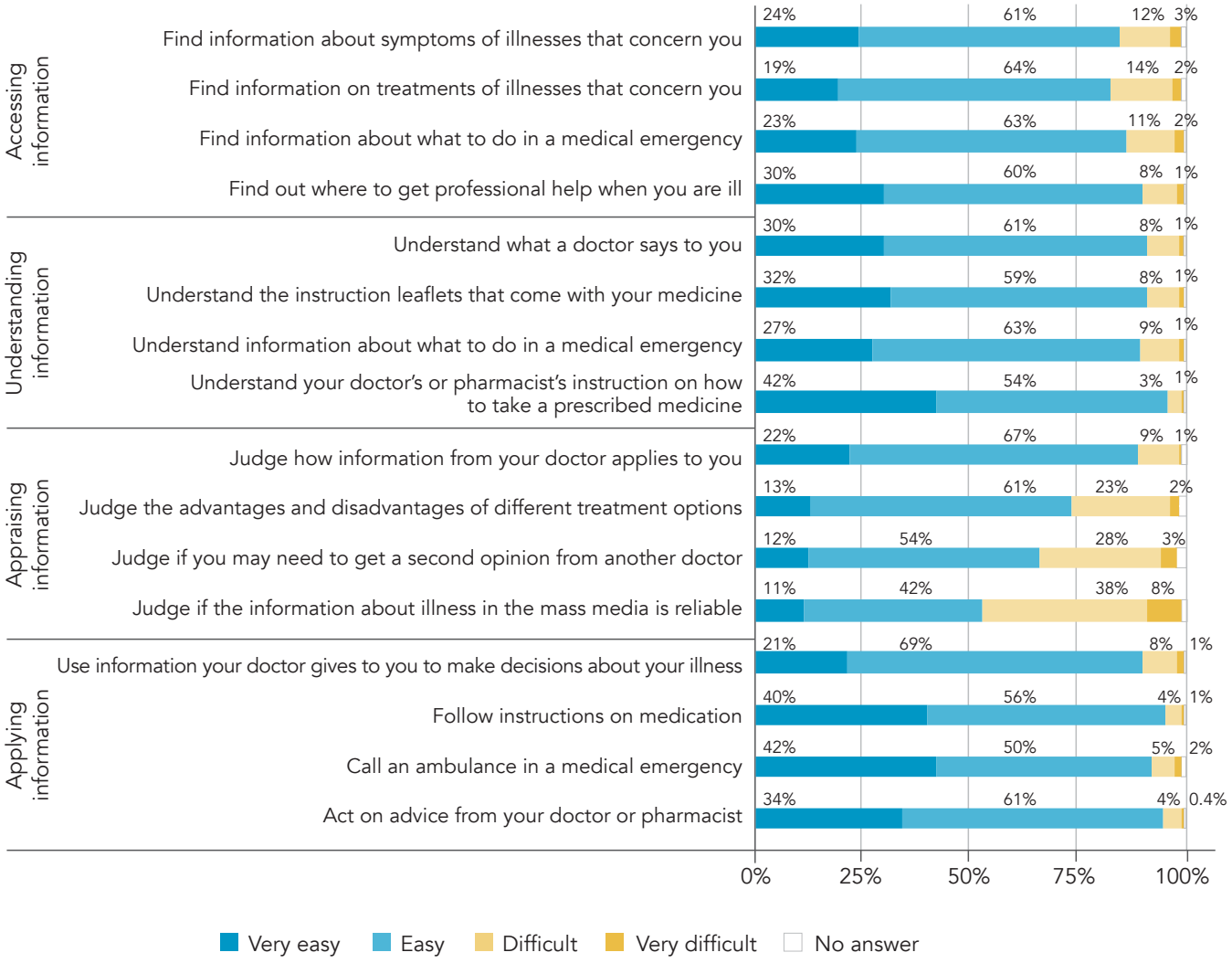
A comparison of all three health domains shows that the average scores are highest in the domain of health care. In relation to the phase of health information processing, the scores are, on average, higher for accessing and understanding information. This means that adults in Slovenia have more considerable difficulties in appraising and applying information, while accessing and understanding information does not present a major problem. The results did show differences in the dimensions of health information processing in the health domain. In the domain of health care, adults in Slovenia have the most considerable difficulties in appraising health information, while in the domains of disease prevention and health promotion, the everyday application of that information presents the biggest problem. One should note that the differences in the scores between the dimensions depend on the difficulty of the specific tasks as measured by individual dimensions in the questionnaire.

Health care

In the domain of health care, the questionnaire included an evaluation of tasks related to the knowledge and competencies required by people who are ill or are patients. In this domain, the respondents (Figure 5) rated appraisal of the reliability of information on diseases in the mass media as the most difficult task (46% of the assessments were 'difficult' or 'very difficult'), followed by appraisal of the necessity of a second medical opinion (31%) and appraisal of the strengths and weaknesses of different treatment options (25%). The assessed difficulty of searching for information on the symptoms and treatment of disease and on how to act in urgent medical situations stands out slightly, with between 13% and 15% of respondents rating it as 'difficult' or

Figure 5: Assessments of the difficulty of performing tasks related to general health literacy in the domain of health care.

The tasks are divided into four phases of information processing in the domain of health care. The wording of some items is shortened in the chart. *n* = 3,360



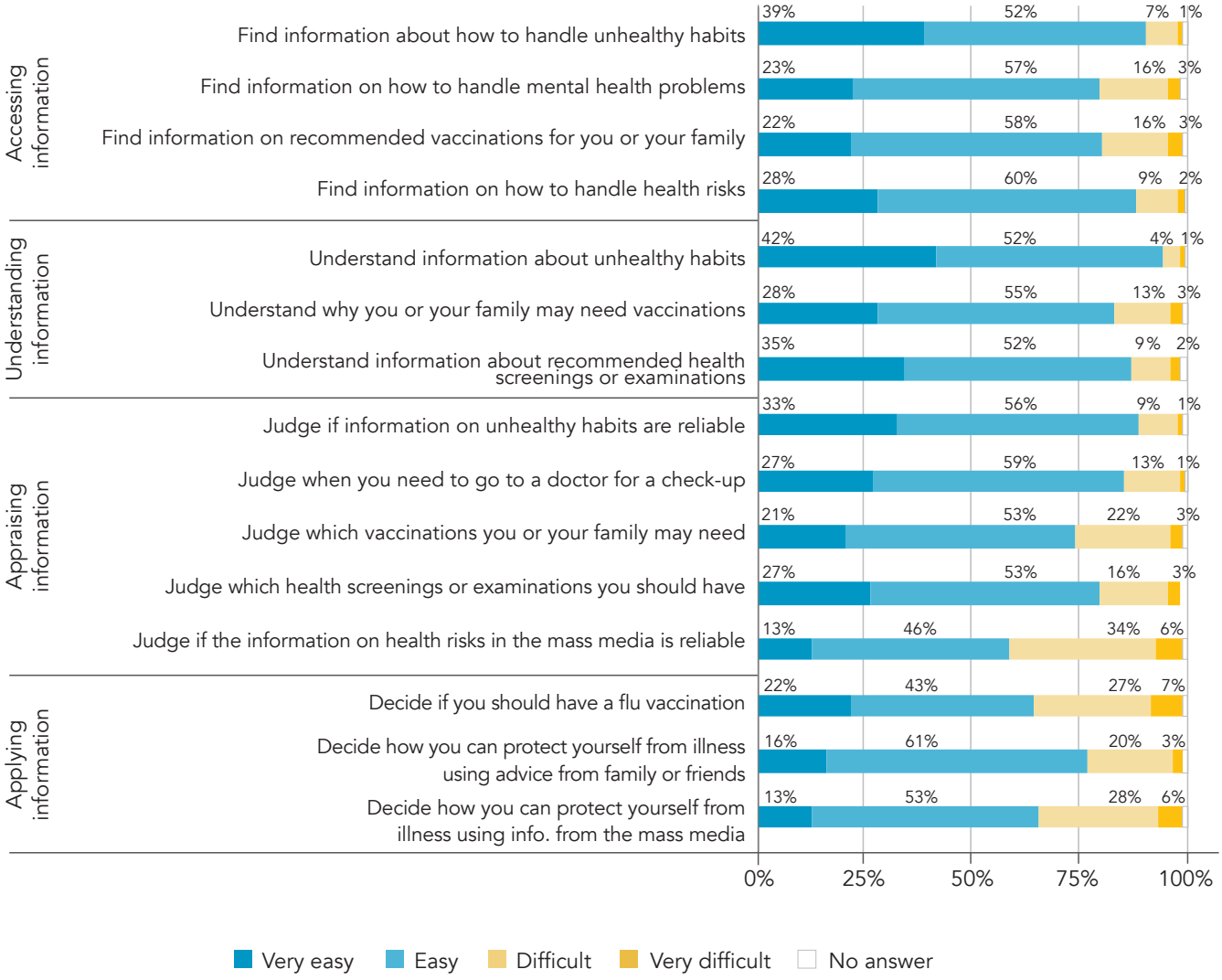
'very difficult'. No more than a tenth of respondents rated the other tasks in the domain of health care as 'difficult' and 'very difficult'.

Disease prevention

Individuals with risk factors for the development of disease require knowledge and skills to process health information in the domain of disease prevention. The research shows that the respondents rated tasks in the domain of disease prevention as more difficult than tasks in the domain of health care. Again there are higher shares of 'difficult' and 'very difficult' (Figure 6) for the appraisal of information, and particularly of the reliability of media information on risks to health (40%), the necessity of vaccination

Figure 6: Assessments of the difficulty of performing tasks related to general health literacy in the domain of disease prevention.

The tasks are divided into four phases of information processing in the domain of disease prevention. The wording of some items is shortened in the chart. *n* = 3,360

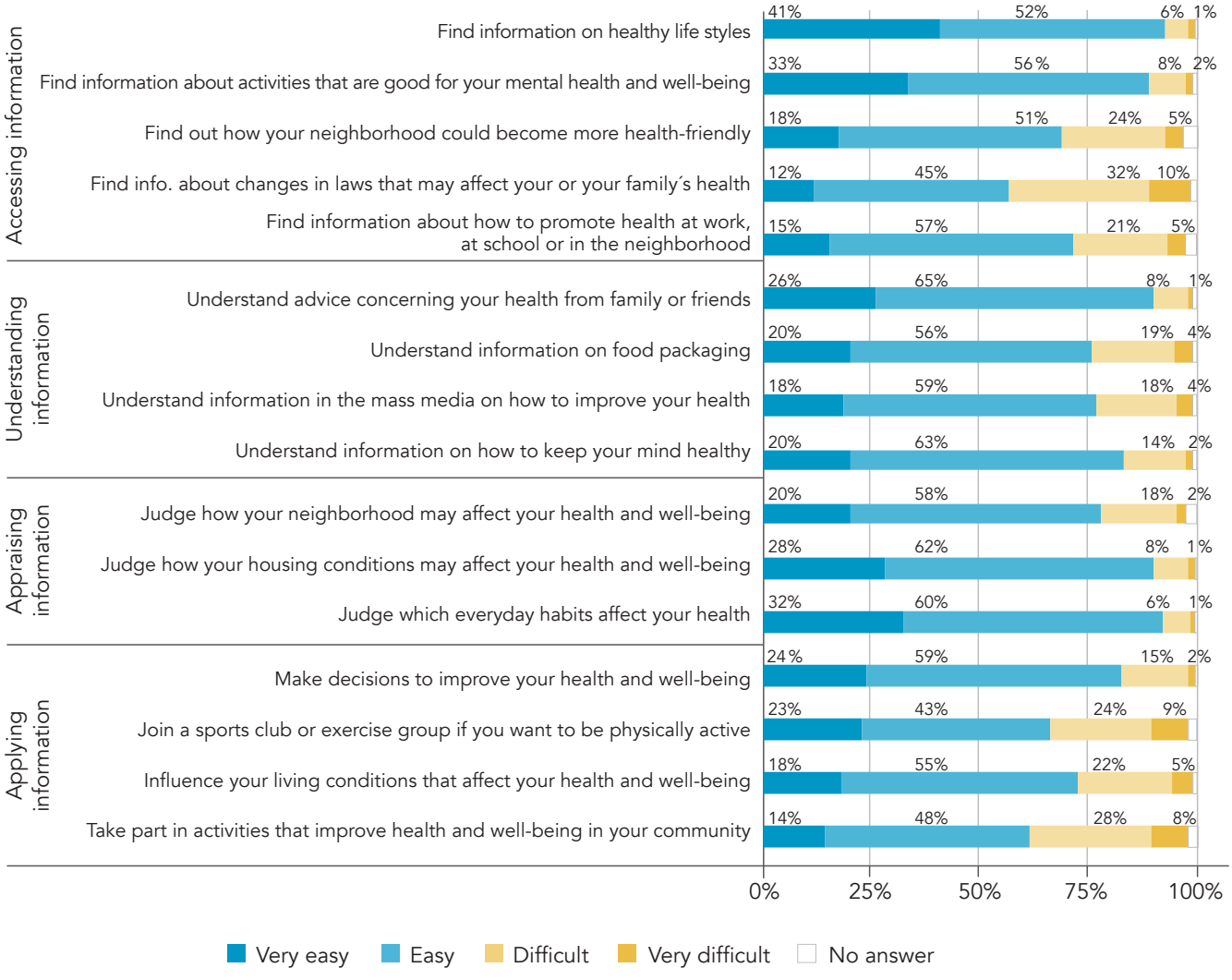


(25%) and the necessity of screening tests (19%). There are also marked difficulties in applying information to prevent disease: decisions on whether to get vaccinated against flu (34%), decisions on how to protect oneself against disease from information in the mass media (34%) and decisions on how to protect oneself against disease from information supplied by family members or friends (23%).

Health promotion

General health literacy in the domain of health promotion encompasses the knowledge and competencies that individuals require to maintain and improve health in the community, at the workplace, in the education system, in policy-making and in the market (Sørensen et al., 2012). The results show that there is a significant variety in the assessments within individual phases of health information processing in this domain (Figure 7). With regard to accessing information, the assessments 'difficult' and 'very difficult' were highest in relation to accessing information on legislative changes that

Figure 7: : Assessments of the difficulty of performing tasks related to general health literacy in the domain of health promotion. The tasks are divided into four phases of information processing in the domain of health promotion. The wording of some items is shortened in the chart. *n* = 3,360

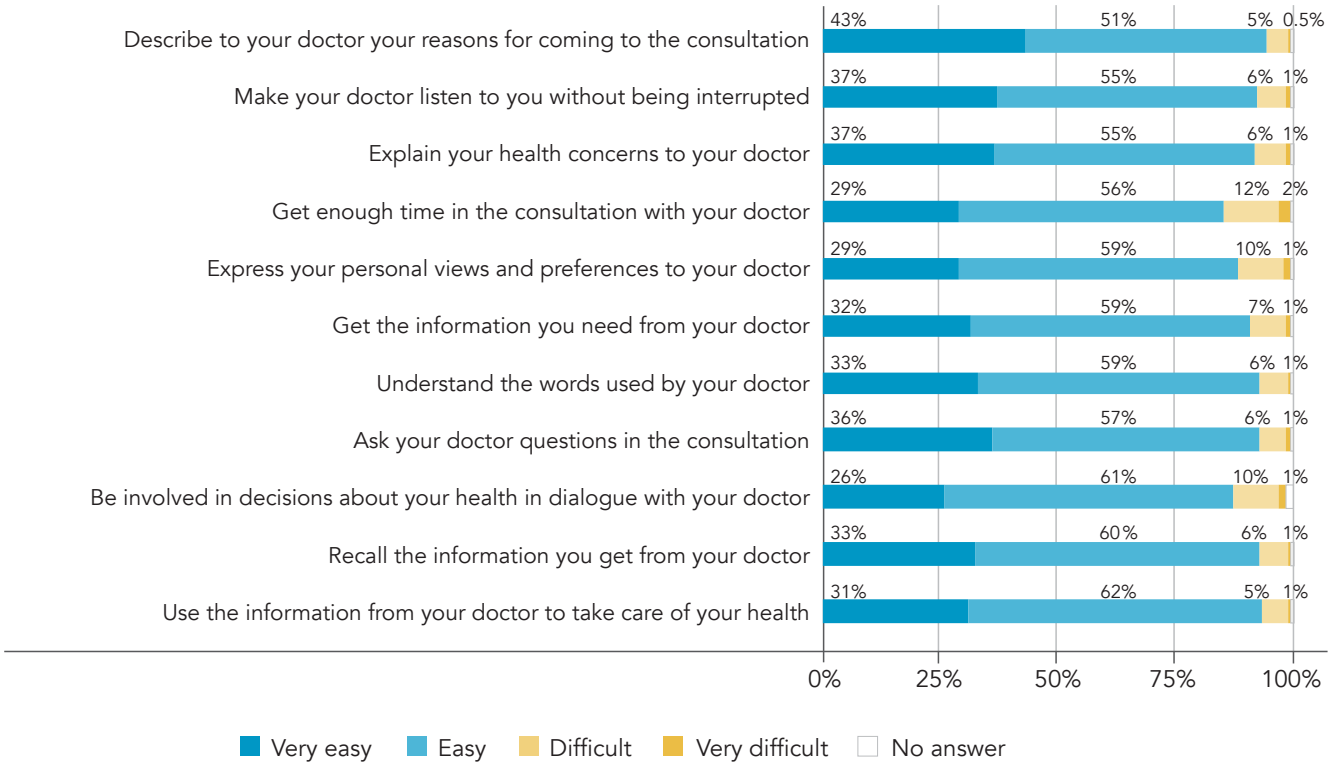


could affect the health of the individual or their family (42%), information on how a neighbourhood could become more health-friendly (29%) and information on promoting good health in the individual's social environment (26%). Just over a fifth of respondents rated understanding information on medical packaging (23%) and information in the mass media on improving health (22%) as 'difficult'. The percentages are also high in the tasks of applying health promotion information/taking part in community health-related activities (36%), joining a sports club or exercise group (33%) and influencing living conditions for health or well-being (27%).

Communicative health literacy

Communicative health literacy refers to those communicative and social skills of patients that enable them to participate actively in one-to-one encounters with health professionals, provide and find information, judge the importance of information, and apply information in support of

Figure 8: Difficulty of performing tasks related to communicative health literacy.
The wording of some items is shortened in the chart. *n* = 3,360



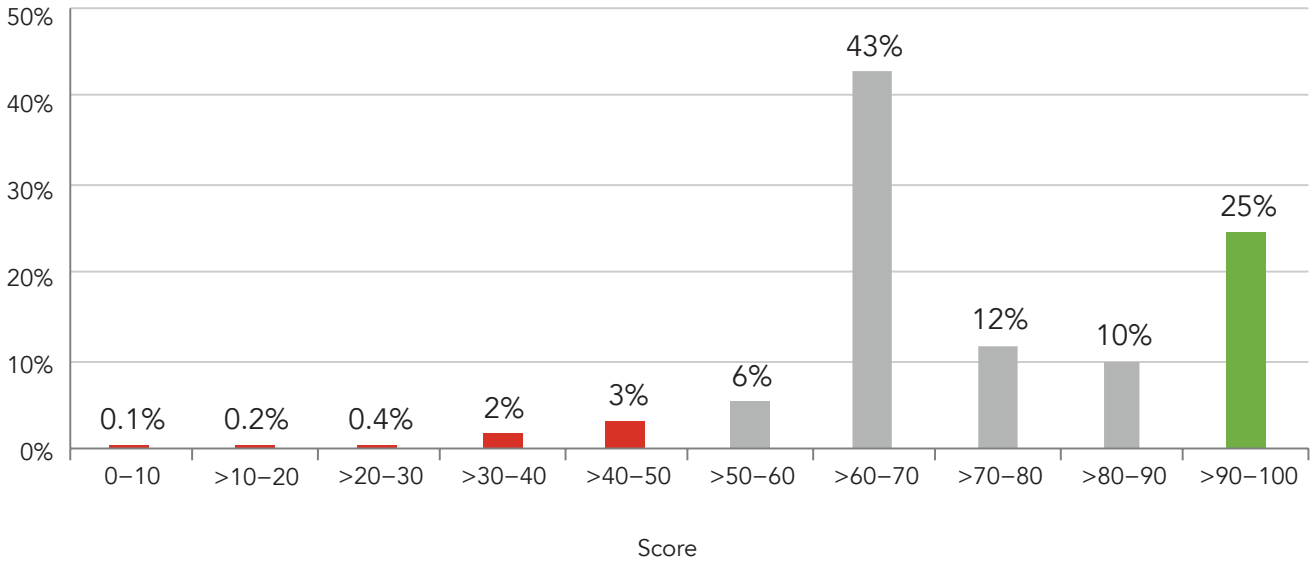
the joint production of their own treatment and the decision on treatment. The HLS-EU19 survey focuses on communication between doctor and patient (Nowak et al., 2021). The measurement of communicative health literacy is based on the conceptual framework of the Calgary-Cambridge model of medical interview (Calgary-Cambridge Guide to Medical Interview, Silverman et al., 2013).

The results of the survey show that most of the tasks related to communicating with a doctor were rated as 'difficult' or 'very difficult' by fewer than a tenth of respondents (for no task did more than 2% of respondents respond with 'difficult' or 'very difficult'). More than a tenth of respondents indicated difficulty with obtaining enough time during a consultation with their doctor (12%), expressing their personal opinions and wishes to a doctor (11%) and being involved in making decisions on their own health in consultation with a doctor (11%). The difficulty of performing tasks related to communicative health literacy as indicated by Slovenian respondents is shown in Figure 8.

20% of adults in Slovenia have limited communicational health literacy.

Figure 9: Distribution of the number of points scored for communicative health literacy.

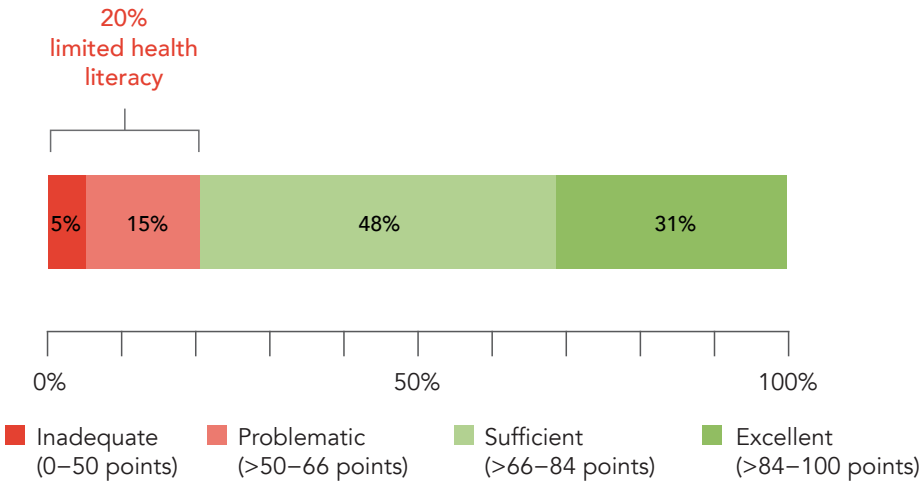
The number of points scored was calculated on the basis of a self-assessment of the difficulty of carrying out each of the 11 tasks related to communicative health literacy. The number of possible points ranged between 0 and 100. *n* = 3,347



The low-rated difficulty of most of the tasks is reflected in the relatively high scores for communicative health literacy (an average of 74.7 points out of a possible 100). A quarter of respondents scored over 90 points and only 5% scored half or less than half of the possible number of points available (Figure 9).

Figure 10: Categories for scores of communicative health literacy.

The categories of scores were established on the basis of the criteria in the literature (HLS-EU Consortium, 2012; Sørensen et al., 2015). *n* = 3,347



Almost one third of respondents had excellent communicative health literacy according to the scoring criteria (Figure 10) and a fifth had limited (i.e. insufficient or problematic) communicative health literacy. Despite the relatively high score in this domain, a not insignificant proportion of respondents indicated that they had certain difficulty in communicating with doctors.

Navigational health literacy

With the growing complexity of health systems comes an increase in the requirements faced by users of those systems when attempting to find their way through them. They are required, for example, to locate a suitable entry point into the health system, orient themselves within that system and find the right place for resolving their problems.

Specific navigational health literacy is therefore necessary in order to confront the many challenges placed in front of users by a complex health system and by its structure, standards and functions. It includes the ability to manage information in a way that enables a person to navigate through the health system without difficulty so that they are able to find the right treatment at the right time in the right place. Navigational health literacy comprises the knowledge, motivation and skills that people require in order to access, understand, appraise and apply information, and to communicate in a way that enables them to navigate the health system adequately so that they receive the most suitable health care for themselves or their loved ones. The instrument for measuring navigational health literacy in the HLS-SI$_{19}$ survey comprised 12 items covering specific tasks at the system (macro) level, organisational (mezzo) level and interactional (micro) level. They are operationalised by measuring the difficulties that patients and users encounter in accessing, understanding, appraising and applying information for the purpose of navigating through the health system (Griese et al., 2020; Schaeffer et al., 2021).

According to the assessments made by the respondents, tasks relating to navigational health literacy were markedly more difficult than those relating to general and communicative health literacy, as more than 15% of respondents rated all of them as 'difficult' or 'very difficult' (Figure 11). Relatively high shares of such assessments can also be found in several key tasks related to orientation through the health system, such as assessing the scope of insurance coverage for a specific service (38%), familiarity with patents' rights (38%), deciding on a specific health care service (29%) and finding a person able to answer their question at a health care institution (28%). Almost a third of respondents also rated as 'difficult' or 'very difficult' the tasks of obtaining information on the options available for making navigation through the health system easier and standing up for oneself if the care does not meet one's needs.

61% of Slovenian adults have limited navigational health literacy.

Slika 11: Difficulty of performing tasks related to navigational health literacy.

The wording of some items is shortened in the chart. *n* = 3,360

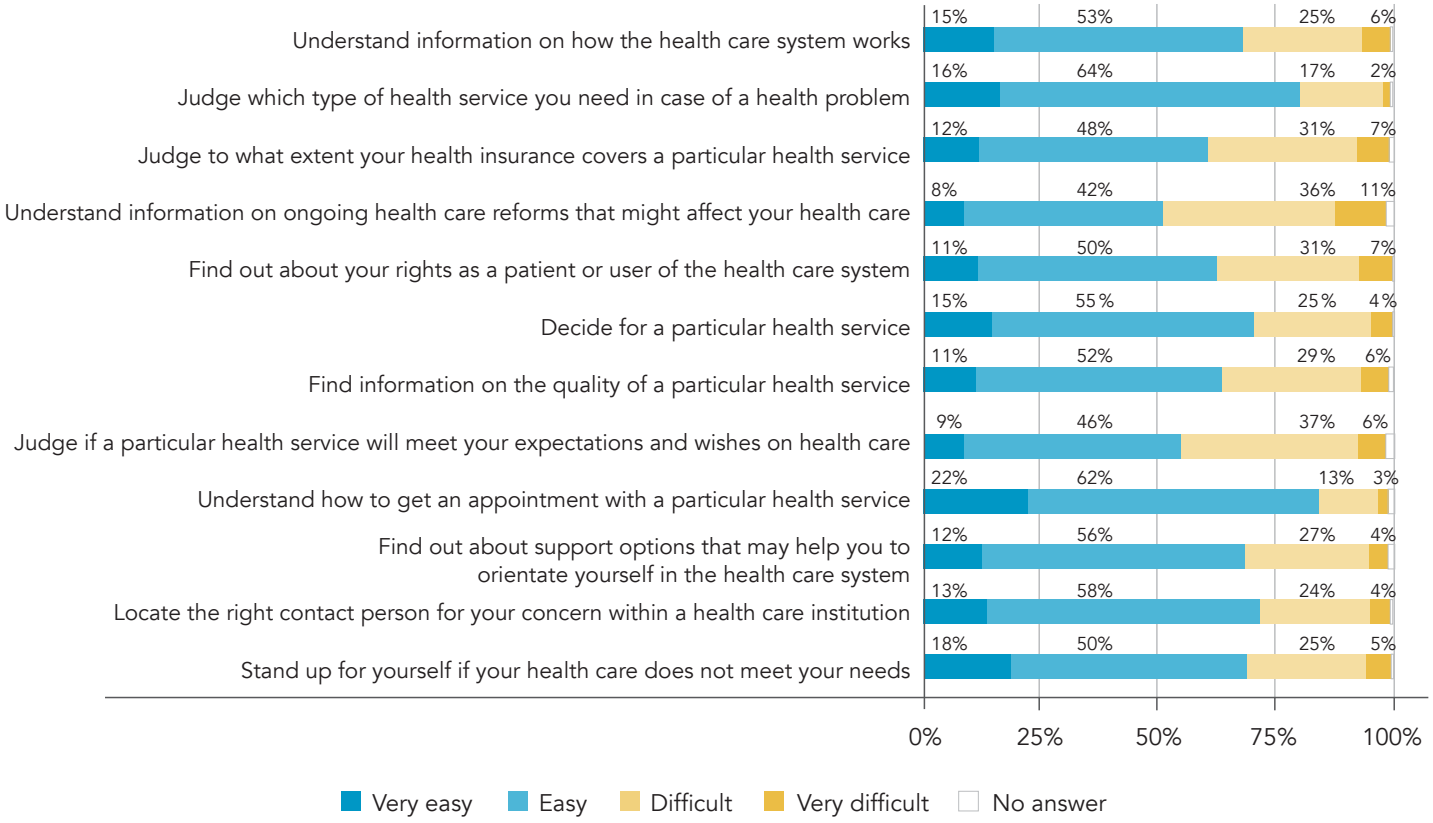


Figure 12: Distribution of the number of points scored for navigational health literacy.

The number of points scored was calculated on the basis of a self-assessment of the difficulty of carrying out each of the 12 tasks related to navigational health literacy. The number of possible points ranged between 0 and 100. *n* = 3,318

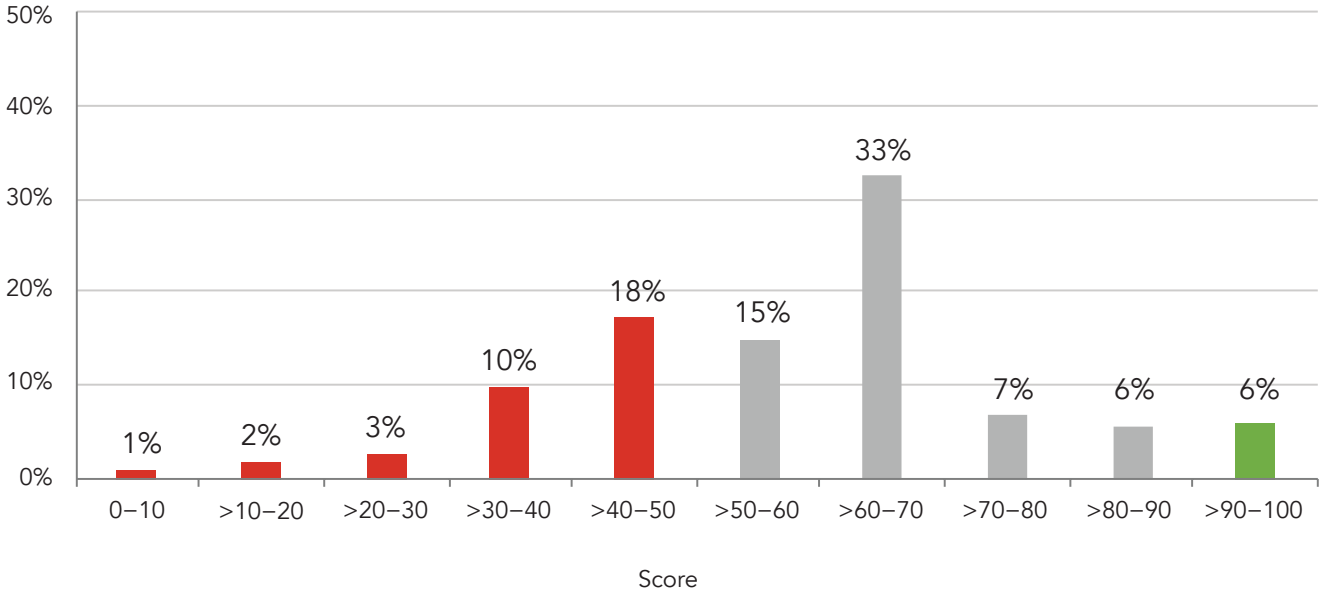
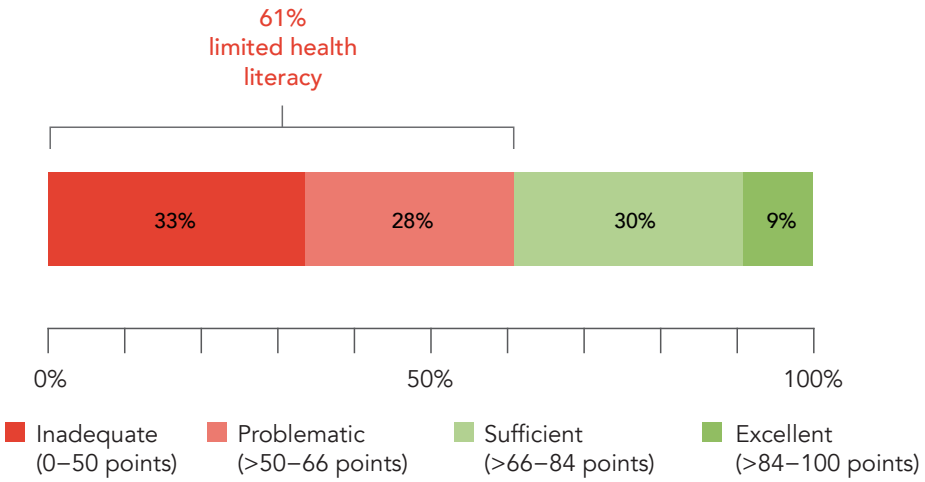


Figure 13: Categories of scores for navigational health literacy.

The categories of scores were established on the basis of the criteria in the literature (HLS-EU Consortium, 2012; Sørensen et al., 2015). *n* = 3,318



The average score for navigational health literacy was 58.6 points out of a possible 100, which confirms the general, relatively high perceived difficulty of tasks in this area. One third of respondents scored half the available number of points or fewer, and only just over 5% scored more than 90 points (Figure 12). Sixty-one per cent of Slovenian adults have limited and just 10% have excellent navigational health literacy (Figure 13).

Vaccination health literacy

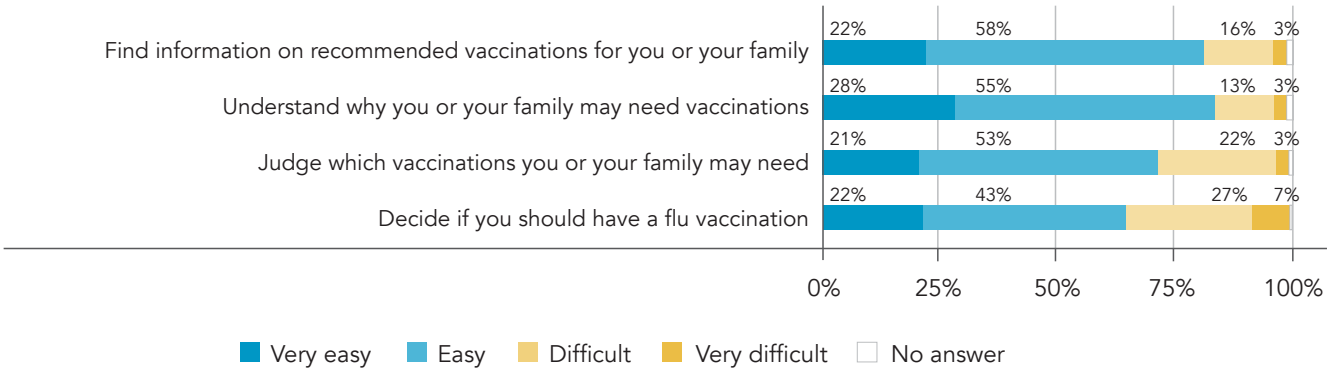
Vaccination health literacy encompasses individuals' knowledge, motivation and skills with regard to finding, understanding and appraising vaccination-related information and applying this information to make a vaccination decision. In order to better understand the concept, a distinction must be drawn between vaccination health literacy and other relevant determinants of vaccination-related behaviour. Research into the determinants of vaccination or non-vaccination has shown that decisions for or against vaccination are based on individual and collective experiences and beliefs, knowledge, situational/contextual conditions (information on vaccination, views and knowledge of doctors, pro- and anti-vaccination lobbies, etc.) and vaccination itself. Although it has been shown that reluctance regarding vaccination depends on both context and the vaccine itself, several general factors have been identified that affect vaccination or non-vaccination (Biasio et al., 2020; Griebler et al., 2021; Lorini et al., 2018).

The HLS-SI$_{19}$ survey measured vaccination health literacy using four items in the HLS-EU-Q47 questionnaire on general health literacy and a further nine items in the additional set on health literacy in connection with vaccination: one item on the individual's behaviour in connection with vaccination in the past five years, four items relating to personal trust in vaccination, three items on the myths regarding possible vaccination risks, and one item on the risk of developing a disease for which a vaccine exists (Griebler et al., 2021).

Figure 14 shows assessments of the difficulty of carrying out vaccination-related tasks selected from the set of items for measuring general health literacy. When interpreting the findings, we should point out

Slika 14: Difficulty of performing tasks related to vaccination health literacy.

The distribution of the assessment shares is shown for each task, from 'very easy' to 'very difficult'. The wording of some items is shortened in the chart. *n* = 3,360



that the survey was carried out immediately after the first wave of the COVID-19 pandemic and before a vaccine against this disease had become available. The respondents most often reported difficulties in assessing the need for vaccination against flu and in deciding whether to receive the flu vaccine (rated as 'difficult' or 'very difficult' by a quarter and just over a third of respondents, respectively). A fifth of people rated finding information about recommended vaccinations as 'difficult'.

Approximately one third of respondents believed that the selected myths about the supposed undesirable consequences of vaccination were true (Figure 15). The share of respondents who were unable or did not wish to take a position on a specific statement was also relatively high. Nevertheless, the respondents expressed predominantly positive attitudes towards vaccination (Figure 16). A total of 90% of respondents agreed that vaccination was an important tool for protecting against the

Figure 15: Opinions on the truth of selected statements on the undesirable consequences of vaccination. *n* = 3.360

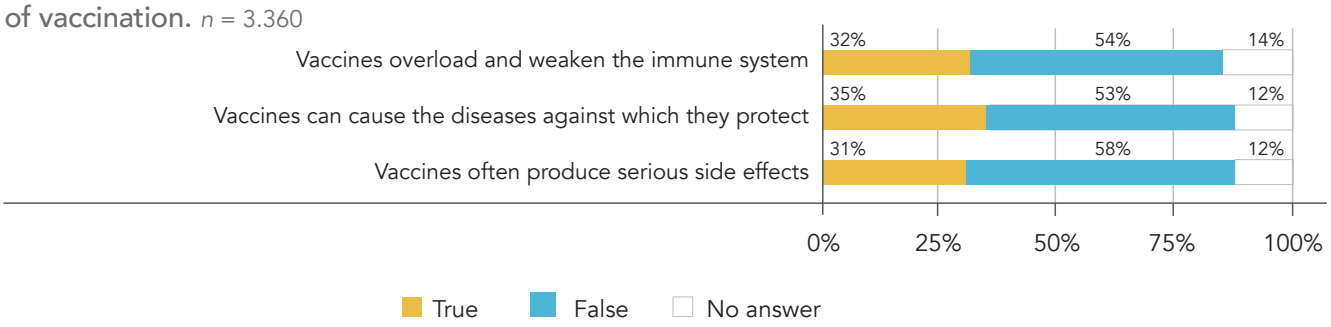
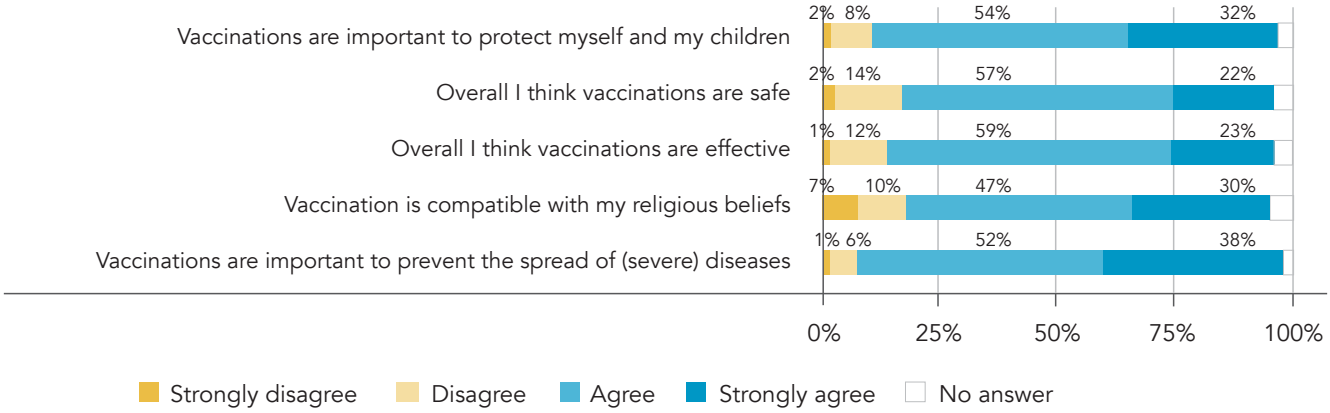


Figure 16: Opinions on the safety, effectiveness and importance of vaccination. *n* = 3.360



spread of serious disease, and only a slightly smaller share agreed that vaccination offered important protection for them and for children. The lowest level of agreement was with the statement on the compatibility of vaccination with the respondent's own religious beliefs.

Digital health literacy

The rise of digital media has enabled wide access to information on health, produced an ever-greater quantity of information on preventing and managing disease and on boosting health, and created a growing number of information channels for the dissemination of this information. Along with the increasing availability and use of digital (electronic) tools in health care (electronic health records, telemedicine solutions, digital health apps, the possibility of interactive communication with health professionals, e.g. booking appointments or reporting medical results), this presents new challenges and requires people to develop the skills that will enable them to seek out and apply this knowledge. In the information age, mastering a large volume of information and appraising its quality and reliability have become basic skills of digital health literacy, which is derived from the overarching concept of health literacy. Digital health literacy encompasses the cognitive and social skills needed to obtain, understand, communicate and apply health information in order to function within today's health system and exercise adequate self-care. It also includes the capacity of the individual to navigate their way sensibly and effectively through the online environment (Levin-Zamir et al., 2021; Nutbeam, 2021; Petrič et al., 2017; Squiers et al., 2012).

In the HLS-SI$_{19}$ survey, digital health literacy was measured using 32 statements within the framework of six concepts: being smart on the net, awareness of sources, understanding information, recognising quality, validating information and perceived efficiency. The respondents rated their level of agreement with the statements.

Survey participants who had used at least one online source to seek out health information in the last 12 months responded to the questions on digital health literacy (two-thirds of respondents). Of the key findings, it is worth highlighting the fact that almost half the respondents preferred reading short, simple health explanations online over complex specialist explanations. At the same time, just over a third of respondents frequently did not understand technical terms in some of the online health resources they read and, because of the quantity of information, were unable to identify high-quality information important to their own health. A significant proportion of respondents regarded web browser algorithms and number of followers as a potential aid to separating high-quality from low-quality health information (21% and 17%, respectively). Figures 17 to 22 show the degree of agreement with statements related to digital health literacy.

Figure 17: Agreement with statements related to digital health literacy – Being smart on the net.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250

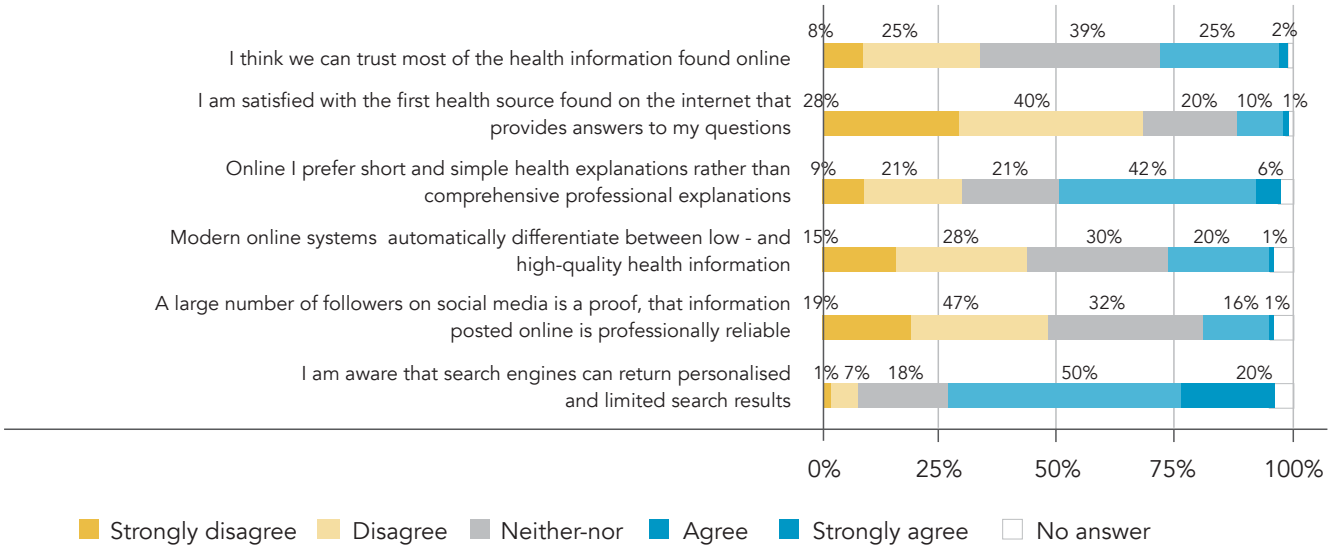


Figure 18: Agreement with statements related to digital health literacy – Awareness of sources.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250

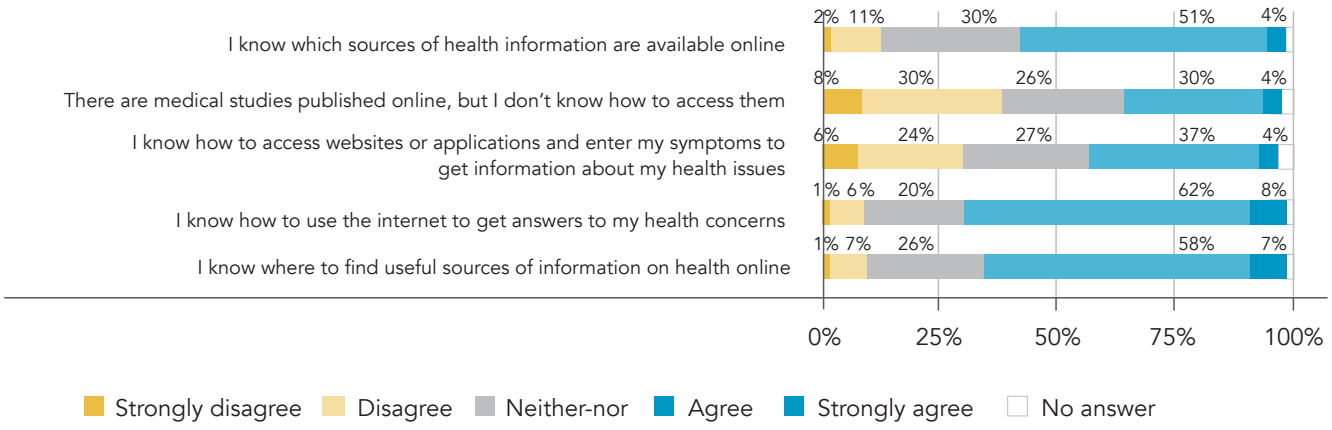


Figure 19: Agreement with statements related to digital health literacy – Understanding information.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250

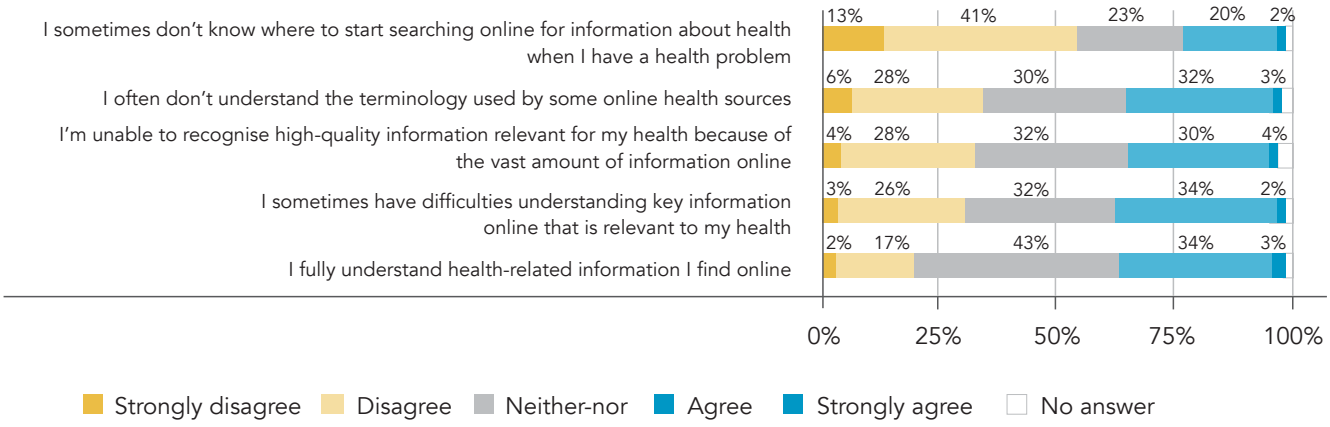


Figure 20: Agreement with statements related to digital health literacy – Recognising quality and meaning.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250

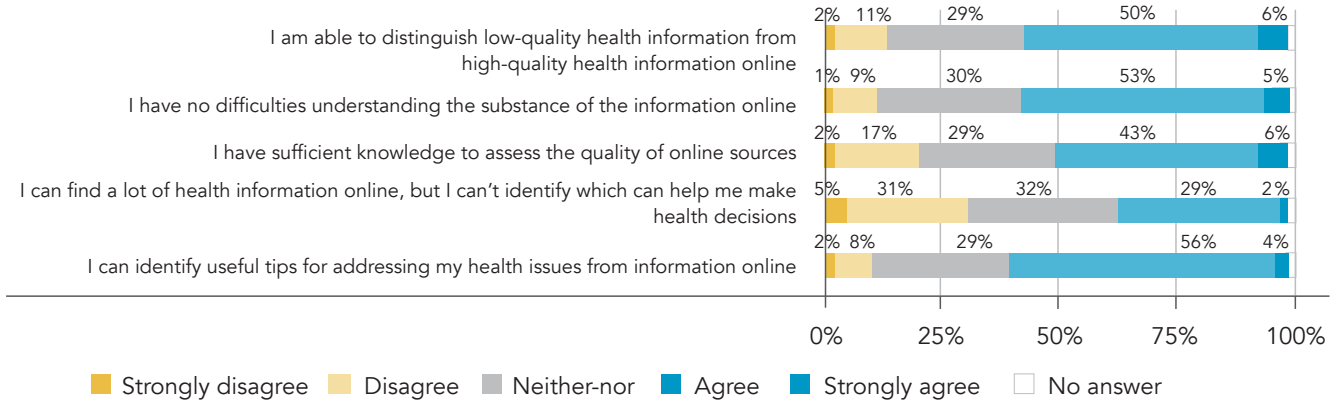
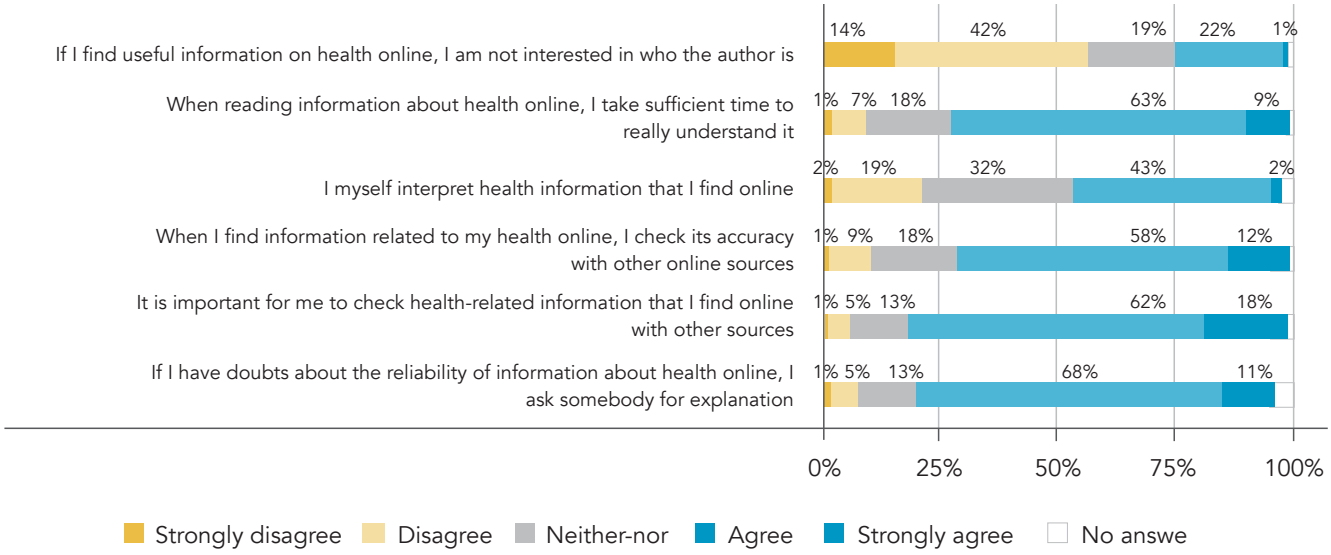


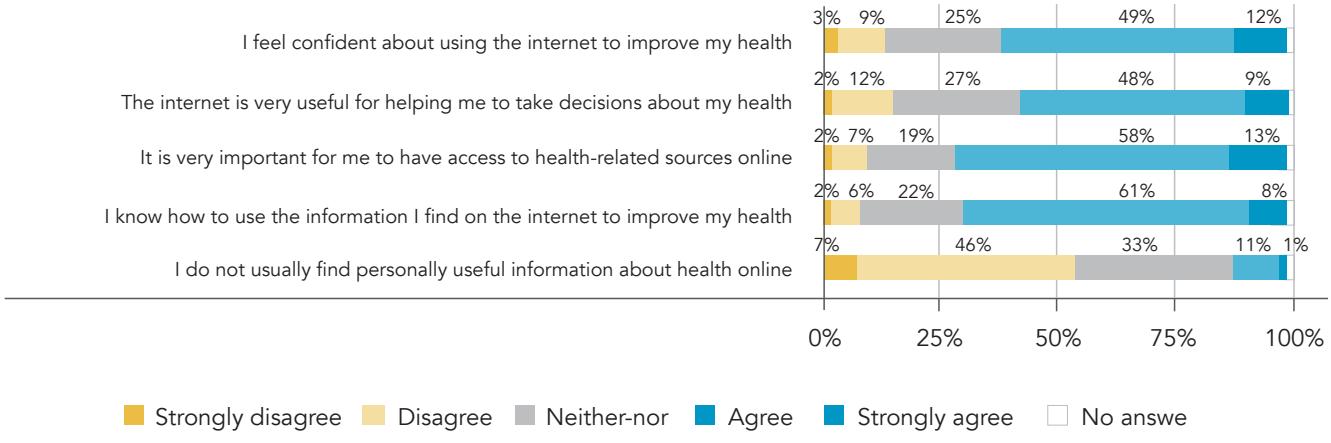
Figure 21: Agreement with statements related to digital health literacy – Validating information.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250



Slika 22: Agreement with statements related to digital health literacy – Perceived efficiency.

The wording of some items is shortened in the chart. Only respondents who had used at least one online source for obtaining health information in the last 12 months were included. *n* = 2,250



Conclusion

Health literacy is one of the key determinants of health. Data on health literacy in the population, something that we have not had up to now, provides starting points for the planning and development of interventions and activities to improve the health literacy of adults in Slovenia. This gap has been filled by the first Slovenian Health Literacy Survey (HLS-SI_{19}), performed on a probability sample of 3,360 adults and conducted as part of the international Action Network on Measuring Population and Organizational Health Literacy (M-POHL). The survey obtained representative data on the health literacy of adults in Slovenia. This survey report presents the key results of a basic descriptive data analysis, with an emphasis on identifying the difficulty of individual tasks of health information processing in different domains of the individual's health: health care, disease prevention and health promotion.

The survey showed that every second Slovenian adult had limited general health literacy. From the point of view of general health literacy, which covers accessing, understanding, appraising and applying health information, adults in Slovenia have fewest difficulties in making decisions on health in the domain of health care. They encounter the most difficulties with the dimension of appraising health information, but were slightly better at accessing and understanding this information. The three most difficult tasks in this domain were appraising the reliability of information in the media, appraising the necessity of seeking a second medical opinion, and appraising the strengths and weaknesses of different treatment options. The processing of health information in the domains of disease prevention and health promotion was rated as slightly more difficult by respondents, with tasks involving the use of health information in one's everyday life being rated the most difficult. Of the eight tasks relating to general health literacy and rated as most difficult, three related to appraising and applying information from the mass media, with particularly pronounced difficulties arising in relation to the appraisal of the reliability of information on diseases in the mass media. There are many reasons for this, but the intensive development of the internet and new technologies in recent years, along with the 'mediatisation' of society, are undoubtedly two of the most important. The COVID-19 pandemic and the epidemic of competing information, both adequate and inadequate, have also made a major contribution to the increasing complexity of information and the consequent difficulty in identifying proper and credible information.

Several other tasks that can be of essential importance to making decisions on one's health have also been shown to be problematic: for example, respondents rated as difficult, on a relatively frequent basis, the tasks of appraising different treatment options and screening examinations, understanding information contained on medical packaging, and joining a sports club or exercise group (for those who were looking to be more physically active).

The survey showed that the adult population of Slovenia encountered most difficulties in orienting themselves within the health system, with almost two thirds of adults having limited navigational health literacy. This also indicates the importance of strengthening navigational health literacy skills within the population and of implementing user- and patient-friendly pathways through health care organisations and the health system generally.

A fifth of the adult population of Slovenia have limited communicative health literacy. Respondents did not generally rate the various aspects of communication with doctors as difficult, although the highest share of respondents rated as most difficult the task of securing enough time with their doctor.

The need to address these difficulties adequately is also evident in relation to vaccination: despite the generally positive attitude towards vaccination, a relatively high proportion of respondents said they had difficulty deciding whether to get vaccinated against flu and appraising the need for various vaccinations. This problem was further highlighted by a fairly significant proportion of people who believed various myths about vaccine side-effects.

Finally, it is also worth highlighting the importance of critically evaluating online health information. The quantity of accessible and frequently questionable information presents a challenge to internet users, and to specialists and health organisations who are keen to provide users with relevant specialist information. The position taken by many respondents shows that they would like to receive information in a suitably simplified form.

From the point of view of digital health literacy, the survey also pointed up the issue of a lack of critical appraisal of information retrieved from the internet. Around a quarter of respondents claimed that they were not interested in who the author of online information was, and a similar proportion believed that they could trust most of the health information on the internet. It is important for online sources of reliable health information to be adequately optimised for search engines, as a relatively high proportion of respondents believed that search engines made a distinction between low- and high-quality information.

The results of the HLS-SI19 highlight the key problems requiring further action. The data will be analysed in detail as part of further research activities with the aim of identifying particularly vulnerable groups with low levels of health literacy and of studying the determinants and consequences of health literacy in Slovenia. Together with the results of other activities conducted as part of the 'Improving Health Literacy in Slovenia (ZaPiS)' project, these findings will lay the foundation for targeted public-health interventions to improve the health literacy of the adult population in Slovenia.

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Appendix 1

Questionnaire of the Slovenian Health Literacy Survey (HLS-SI$_{19}$)

A version of the Slovenian questionnaire back-translated to English is presented in this part. For the original wordings used in the source questionnaire of the European Health Literacy Survey, consult the M-POHL report at **https://m-pohl.net/Int_Report_methdology_results_recommendations**

Prior permission of the National Institute of Public Health is required for reuse of the questionnaire or any of its parts.

NIJZ Nacionalni inštitut za **javno zdravje**

Thank you for your willingness to participate in the Health Literacy Survey (HLS19). It covers health literacy, i.e. the ability to access, understand, appraise and apply relevant health information in daily decisions concerning medical care, disease prevention, and health promotion.

The HLS19 survey will be carried out in several European countries with a view to describing and comparing health literacy and providing information to those determining health policy.

You have been randomly selected for this interview. Your answers will be confidential and only anonymised data will be used for analysis; furthermore, only group data will be reported. All data protection requirements will be followed.

You can withdraw from the survey at any time and can also choose to remove your answers at any time.
By participating you agree that your anonymised answers will be used for scientific purposes.

Health literacy

The following questions are aimed at identifying the ease or difficulty of tasks related to the handling of medical information.The following questions are related to health literacy in health care.

How easy (on a scale from »very easy« to »very difficult«) would you say it is to:

Fill in the table by rows.		HLS-EU			
		Very easy	**Easy**	**Difficult**	**Very difficult**
1	…find information about the symptoms of illnesses that concern you?	4	3	2	1
2	…find information on the treatment of illnesses that concern you?	4	3	2	1
3	…find information about what to do in a medical emergency?	4	3	2	1
4	…find out where to get professional help when ill? [For example a doctor, nurse, pharmacist, psychologist]	4	3	2	1
5	…understand what your doctor says to you?	4	3	2	1
6	…understand the leaflets that come with your medicine? [written information or instructions concerning the medicinal product]	4	3	2	1
7	…understand information about what to do in a medical emergency?	4	3	2	1
8	…understand the instructions your doctor or pharmacist gives you on how to take a prescribed medicine?	4	3	2	1
9	…judge how information from your doctor applies to you?	4	3	2	1
10	…judge the advantages and disadvantages of various treatment options?	4	3	2	1
11	…judge when you may need to get a second opinion from another doctor?	4	3	2	1
12	…judge whether the information about illness in the media is reliable? [For example newspapers, TV, the internet]	4	3	2	1
13	…use your doctor's information to make decisions regarding your illness?	4	3	2	1
14	…follow the instructions on the leaflet that comes with your medicine?	4	3	2	1
15	…call an ambulance in an emergency?	4	3	2	1
16	…follow the advice of a doctor or pharmacist?	4	3	2	1

The following questions are related to health literacy in disease prevention.

How easy (on a scale from »very easy« to »very difficult«) would you say it is to:

	Fill in the table by rows.	HLS-EU			
		Very easy	**Easy**	**Difficult**	**Very difficult**
17	…find information about how to manage unhealthy behaviour such as smoking, low physical activity and drinking too much?	4	3	2	1
18	…find information about how to cope with mental health issues? [such as stress, depression or anxiety]	4	3	2	1
19	…find information about vaccinations recommended for you and your family?	4	3	2	1
20	…find information on how to manage health risks such as obesity, hypertension or high cholesterol	4	3	2	1
21	…understand information about unhealthy behaviour such as smoking, low physical activity and drinking too much?	4	3	2	1
22	…understand why you and your family may need a certain vaccination?	4	3	2	1
23	…understand information about recommended health screenings and tests? [For example screening for the early detection of colorectal cancer – SVIT, cervical cancer screening – ZORA, breast cancer screening – DORA, blood sugar level]	4	3	2	1
24	…judge the reliability of information on unhealthy habits such as smoking, limited physical activity and excessive drinking?	4	3	2	1
25	…judge when you need to go to a doctor for a check-up?	4	3	2	1
26	…judge which vaccinations you and your family may need?	4	3	2	1
27	…judge which health screenings or tests you should take? [SVIT, ZORA, DORA, blood sugar level]	4	3	2	1
28	…judge whether the information on health risks in the media is reliable? [For example newspapers, TV or the internet]	4	3	2	1
29	…decide whether to get a vaccination against the flu?	4	3	2	1
30	…decide how to protect yourself against illness based on advice from your family or friends?	4	3	2	1
31	…decide how to protect yourself against illness based on information in the media? [Instruction for interviewers: for example newspapers, TV or the internet]	4	3	2	1

The following questions are related to health literacy in health promotion.

How easy (on a scale from »very easy« to »very difficult«) would you say it is to:

	Fill in the table by rows.	HLS-EU			
		Very easy	**Easy**	**Difficult**	**Very difficult**
32	…find information about healthy lifestyles, such as about exercise or healthy diets?	4	3	2	1
33	…find information about activities that are good for your mental well-being? [For example relaxation, physical activity, yoga]	4	3	2	1
34	…find out how your neighbourhood could be made more health-friendly? [For example noise and pollution reduction, creation of green spaces, recreational facilities]	4	3	2	1
35	…find information on changes in legislation that may affect your or your family's health? [For example new screening programmes, modified health services, tobacco pricing or prohibitions on smoking, etc.]	4	3	2	1
36	…find information on how to promote health at work, at school, in the neighbourhood?	4	3	2	1
37	…understand advice on health from your family members or friends?	4	3	2	1
38	…understand information listed on food packaging?	4	3	2	1
39	…understand information in the media about how to improve your health? [For example newspapers, TV or the internet]	4	3	2	1
40	…understand information on how to maintain mental health? [regardless of the information source]	4	3	2	1
41	…judge how your neighbourhood can affect your health and well-being?	4	3	2	1
42	…judge how your living conditions can affect your health and well-being?	4	3	2	1
43	…judge which everyday behaviours are related to your health? [Drinking and eating habits, physical activity, etc.]	4	3	2	1
44	…make decisions to improve your health and well-being?	4	3	2	1
45	…join a sports club or exercise class if you want to be physically active?	4	3	2	1
46	…influence your living conditions that affect your health and well-being? [Workplace, change of residence, mobility, leisure behaviour, etc.]	4	3	2	1
47	…engage in activities in your community that improve health and well-being? [Noise and pollution reduction, creation of green spaces, recreational facilities]	4	3	2	1

Health information

The following question relates to your experience in searching for health-related information.

C-HI1 Have you ever searched any source for information on health or health topics? [Sources of information include books, brochures, newspapers, magazines, the internet and social networks, information on products, etc.]

1	–	Yes.
2	–	No.

Personal information

The following questions refer to you.

C-DET1 Sex:

1	–	Male.
2	–	Female.

C-DET2 How old are you?
[Enter the completed years of age.]

C-DET3 Country of birth?

C-DET4 In which country was your father born?

C-DET5 In which country was your mother born?

C-DET6 What is the highest level of education you have successfully achieved?

1	–	No formal education or below ISCED 1.
2	–	ISCED 1 Primary education.
3	–	ISCED 2 Lower secondary education.
4	–	ISCED 3 Upper secondary education.
5	–	ISCED 4 Post-secondary but non-tertiary education.
6	–	ISCED 5 Short-cycle tertiary education.
7	–	ISCED 6 Bachelor's or equivalent level.
8	–	ISCED 7 Master's or equivalent level.

C-DET7 What is your current status of employment?

1	–	Employed .
2	–	Self-employed.
3	–	Unemployed.
4	–	Retired.
5	–	Unable to work due to long-standing health problems.
6	–	Student, trainee.
7	–	Fulfilling domestic tasks.
8	–	Other : _____

C-DET8 Have you ever undergone training for a healthcare profession (for example as a nurse, doctor, pharmacist?)

1	–	Yes.
2	–	No.

C-DET9 How typically easy or difficult it is for you to pay for medicines when needed?
[For example the copay for prescription medicines or the cost of OTC medicines]

1	–	Very easy.
2	–	Easy.
3	–	Difficult.
4	–	Very difficult.

C-DET10 How easy or difficult it is for you to pay for medical check-ups or treatment if needed?
[Instructions for the interviewers: medical check-ups and treatments that are not fully covered by your health insurance, for example dental prostheses, glasses, alternative treatments, therapeutic medicines and accessories, etc.]

1	–	Very easy.
2	–	Easy.
3	–	Difficult.
4	–	Very difficult.

C-DET11 How easy or difficult it is for you to pay your monthly bills?

1	–	Very easy.
2	–	Easy.
3	–	Difficult.
4	–	Very difficult.

C-DET12 On the scale shown below, »1« corresponds to the »lowest level of society« and »10« to the »highest level of society«. Please indicate how you would rate your position.

1	–	The lowest level of society.
2		
3		
4		
5		
6		
7		
8		
9		
10	–	The highest level of society.

C-SSUP1 How many people are so close to you that you can count on them if you have serious personal problems?

1	–	None.
2	–	1 or 2.
3	–	3 to 5.
4	–	6 or more.

C-SSUP2 How much interest do people show in what you are doing?

1	–	A lot of concern and interest.
2	–	Some concern and interest.
3	–	Uncertain.
4	–	Little concern and interest.
5	–	No concern and interest.

C-SSUP3 How easy is it to get help from neighbors if you need it?

1	–	Very easy.
2	–	Easy.
3	–	Possible.
4	–	Difficult.
5	–	Very difficult.

Lifestyle and health

Next questions are about your height and weight as well as your health related habits..

C- HLFST1 How tall are you (without shoes)?

			cm

C- HLFST2 How much do you weigh (without clothes and shoes)?
[Check for women aged 50 or younger whether they are pregnant and ask for weight before pregnancy..]

			kg

C-HLFST3										
In an average week, how many days		**I don't/ never**	**Less than one day per week**	**1 day**	**2 days**	**3 days**	**4 days**	**5 days**	**6 days**	**7 days**
A	…do you smoke any tobacco products?	99	0	1	2	3	4	5	6	7
B	*…do you drink beverages containing alcohol?* **[For example beer, wine, spirits, cocktails, ready-made carbonated alcoholic beverages, liqueurs, homemade alcoholic beverages, etc.]**	99	0	1	2	3	4	5	6	7
C	*…were you engaged in physical activity for 30 minutes or more so that your breathing or heart rate accelerated at least a bit?* **[For example sports or other leisure activity, at work, doing chores or gardening, or travelling from one place to another.]**	99	0	1	2	3	4	5	6	7
D	*…do you eat fruit, vegetables or lettuce?* **[Excluding potatoes, freshly squeezed fruit and vegetable juices, and juices from concentrate.]**	99	0	1	2	3	4	5	6	7

HS: general health

Next I would like to ask you about your health.

C-HSTAT1 How is your health in general?

1	–	Very good.
2	–	Good.
3	–	Fair (neither good nor bad).
4	–	Bad.
5	–	Very bad.

C- HSTAT2 Do you have any long-term illness or health problem? By long-term I mean problems which have lasted, or are expected to last, for 6 months or more?

1	–	Yes.
2	–	No.

C- HSTAT3 For the last 6 months, how much have your health problems limited the activities you would usually do?

1	–	Severely limited.
2	–	Limited but not severely.
3	–	Not limited at all.

UZO: medical care utilisation

The following questions refer to your contacts with health services. When answering, only consider those contacts that related to your own health (not the contacts you had when accompanying your child, spouse, etc.).

C-HCUT1 How many times in the last 24 months have you used an emergency medical service? [Only the use of emergency services for your own needs is considered, for example ambulance, on-duty service, etc.]

			-krat

C-HCUT2 How many times in the last 12 months have you consulted a general practitioner or family doctor for your personal health issues? [Only consultations for personal needs are considered; consultations when accompanying your child, spouse, etc. are excluded]

			-krat

C-HCUT3 How many times in the last 12 months have you consulted a specialist doctor for your personal health issues? [Only consultations for personal needs are considered; consultations when accompanying your child, spouse, etc. are excluded]

			-times

C-HCUT4 How many times in the last 12 months have you been admitted to a hospital for an overnight stay or longer period?

			-times

C-HCUT5 How many times in the last 12 months have you been to a hospital for out-patient care, i.e. for diagnostics, treatment or other medical care that required no overnight stay?

			-times

C-HCUT6 How many days in the last 12 months have you been absent from work due to health issues? [Consider all diseases, injuries and other health issues that caused your absence from work]

			-times

Communication in health services

The interviewer: We would now like to know how easy or difficult it is for you to communicate with your doctor. When answering these questions, give a general assessment of your experience regarding communication with your doctor. [Instructions to the interviewer: Your doctor means the doctor you visit most frequently and who is responsible for monitoring your health. If the respondent has no selected doctor at the moment, they are asked to refer to their previous doctor.]

OP-COM How easy (on a scale from »very easy« to »very difficult«) would you say it is to:

Fill in the table by rows.		**Very easy.**	**Easy.**	**Difficult.**	**Very difficult.**
1	…describe to your doctor the reasons why you come for consultations?	4	3	2	1
2	…make your doctor listen without interrupting you?	4	3	2	1
3	…explain your health concerns to your doctor?	4	3	2	1
4	…get sufficient consultation time with your doctor?	4	3	2	1
5	…express personal opinions and wishes to your doctor?	4	3	2	1
6	…get the information you need from your doctor?	4	3	2	1
7	…understand the words your doctor uses?	4	3	2	1
8	…ask your doctor questions during consultations?	4	3	2	1
9	…participate in making decisions about your health during consultations with your doctor?	4	3	2	1
10	…remember the information you received from your doctor?	4	3	2	1
11	…use the information provided by your doctor to care for your health?	4	3	2	1

Navigational health literacy

We would now like to know how easy it is to get information on how to navigate the health system. This question includes when you use this info for yourself or for someone else. »Health service« refers to a doctor, a specialist doctor, a hospital, a nursing clinic and a rehabilitation or mental health facility

OP-NHL How easy (on a scale from »very easy« to »very difficult«) would you say it is to:

Fill in the table by rows.		**Very easy.**	**Easy.**	**Difficult.**	**Very difficult.**
1	…understand information on how the health system works? [For example the types of health services available]	4	3	2	1
2	…judge what type of health service you need if you have a health issue?	4	3	2	1
3	…judge the share of health service covered by your compulsory health insurance? [For example whether additional payments are necessary]	4	3	2	1
4	…understand information about current health reforms that could affect your medical care?	4	3	2	1
5	…get to know your rights as a patient or health system user?	4	3	2	1
6	…decide on a specific health service? [For example choose among different hospitals]	4	3	2	1
7	…find information on the quality of a particular health service?	4	3	2	1
8	…judge whether a given health service will meet your expectations?	4	3	2	1
9	…understand how to make an appointment with a particular health service?	4	3	2	1
10	…find information on possible sources that can help you navigate the health system?	4	3	2	1
11	…find a person within a given medical institution to answer your question? [For example in a hospital]	4	3	2	1
12	…stand up for yourself if medical care fails to satisfy your needs?	4	3	2	1

Vaccinations

The following set of questions refer to the vaccination behaviour and to your opinion on vaccination.

OP-VAC1 Have you or anyone in your family been vaccinated in the last five years?

1	–	Yes
2	–	No
3		- 1 - I don't know, I would prefer not to answer.

OP-VAC2 Please indicate for each of the following statements whether they hold true or false.

		True	False
1	Vaccines overload and weaken the immune system.	1	2
2	Vaccines may cause diseases against which they are supposed to protect.	1	2
3	Vaccines often produce serious side effects (in addition to normal and temporary response in the first few days).	1	2

OP-VAC3 To what extent do you agree with the following statements (on a scale from »strongly agree« to »strongly disagree«):

		Strongly agree.	Agree.	Disagree.	Strongly disagree.
1	Vaccination is important for my personal protection and the protection of my children.	1	2	3	4
2	I generally believe that vaccination is safe.	1	2	3	4
3	I generally believe that vaccination is effective.	1	2	3	4
4	Vaccination is compatible with my religious beliefs.	1	2	3	4
5	Vaccination is important to prevent the spread of (serious) diseases.	1	2	3	4

OP-VAC4 How high do you believe the risk is of falling ill with a disease otherwise preventable by vaccination?

1	–	Very high.
2	–	High.
3	–	Low.
4	–	Very low.

E-health

EZ1 Do you use eZdravje on the zVEM web portal, for example e-appointments, access to your medical file, etc.

1	–	Yes.
2	–	No.

EZ4

Only ask EZ2 if the respondent answered with 1 – "Yes" to the EZ1 question

EZ2 How many times have you arranged your specialist appointment/specialist examination via e-appointment?

1	–	Never.
2	–	1 time.
3	–	Between 2 and 5 times.
4	–	Between 6 and 10 times.
5	–	11 times or more.

Only ask EZ3 if the respondent answered with 1 – "Yes" to the EZ1 question.

EZ3 How often do you access your medical documentation on the web portal zVEM?

1	–	Never.
2	–	Once a week.
3	–	Once a month.
4	–	Once a year.
5	–	Several times a year.

Only ask EZ4 if the respondent DID NOT answer with 1 – "Yes" to the EZ1 question.

EZ4 Why don't you use eZdravje on the zVEM web portal, for example e-appointment, access to your medical file, etc. Multiple answers are possible.

1	–	I don't know the eZdravje services.
2	–	I do not have enough information about eZdravje services.
3	–	I do not have sufficient knowledge/skills to use eZdravje services.
4	–	I don't use (have) a computer.
5	–	I don't have a digital certificate.
6	–	I have no confidence in such operations.
7	–	I did not need eZdravje services.
8	–	Other (specify): _____.

Digital literacy

V1 How often have you used any of the following online applications and/or services to obtain health-related information in the last 12 months?

	Fill in the table by rows.	**Every dan.**	**A few times a week.**	**A few times a month.**	**Less than ones a month.**	**Never.**
A	Search engines (for example Google, Bing, Yahoo).	1	2	3	4	5
B	Facebook pages related to health.	1	2	3	4	5
C	Online forums in Slovenia (for example Med.over.net, Tekaskiforum.net, Ringaraja.net).	1	2	3	4	5
D	Foreign online forums.	1	2	3	4	5
E	Slovenian specialised health-related websites (for example nijz.si, vizita.si, zdravje.si)	1	2	3	4	5
F	Foreign specialised websites for health-related issues.	1	2	3	4	5
G	Other health-related websites. Which?	1	2	3	4	5

V2 We are also interested in your experience in searching online for health-related information. On a scale from 1 (strongly disagree) to 5 (strongly agree), please indicate the extent to which you agree with the following statements.

	Fill in the table by rows.	**Strongly disagree.**	**Not agree.**	**Neither agree nor disagree.**	**Agree.**	**Strongly agree.**
A	I feel confident about using the internet to improve my health.	1	2	3	4	5
B	The internet is very useful for helping me to take decisions about my health.	1	2	3	4	5
C	I think we can trust most of the health information found online.	1	2	3	4	5
D	I am satisfied with the first health source found on the internet that provides answers to my questions.	1	2	3	4	5
E	When searching online, I prefer to read short and simple health explanations rather than comprehensive professional explanations.	1	2	3	4	5
F	Modern online systems are so highly developed that they automatically differentiate between low- and high-quality health information.	1	2	3	4	5
G	It is very important for me to have access to health-related sources online.	1	2	3	4	5
H	I know how to use the information I find on the internet to improve my health.	1	2	3	4	5
I	A large number of followers (of a person or an organisation) on social media is a proof, that information posted online is professionally reliable.	1	2	3	4	5
J	I do not usually find personally useful information about health online.	1	2	3	4	5
K	I am aware that search engines can return personalised and limited search results when I search for health-related information.	1	2	3	4	5

V3 Have you ever bought any medicine, dietary supplement, cosmetics, or medical device online (such as in an online pharmacy)?

1	– Yes.
2	– No.

V4 The following are statements related to the use of the internet to search for health-related information. To what extent do you agree or disagree with them?

	Fill in the table by rows.	Strongly disagree.	Not agree.	Neither agree nor disagree.	Agree.	Strongly agree.
A	I sometimes don't know where to start searching online for information about health when I have a health problem.	1	2	3	4	5
B	If I find useful information on health online, I am not interested in who the author is.	1	2	3	4	5
C	I often don't understand the terminology used by some online health sources.	1	2	3	4	5
D	When reading information about health online, I take sufficient time to really understand it.	1	2	3	4	5
E	I'm unable to recognise high-quality information relevant for my health because of the vast amount of information online.	1	2	3	4	5
F	I myself interpret health information that I find online.	1	2	3	4	5
G	When I find information related to my health online, I check its accuracy with other online sources.	1	2	3	4	5
H	I sometimes have difficulties understanding key information online that is relevant to my health.	1	2	3	4	5
I	I fully understand health-related information I find online.	1	2	3	4	5
J	It is important for me to check health-related information that I find online with other sources (for example doctors, books, friends, relatives).	1	2	3	4	5

V5 Have you ever sent an e-mail to your personal doctor or their nurse?

1	–	Yes.
2	–	No.

V6 To what extent do the statements on searching online for health information apply/not apply to you?

	Fill in the table by rows.	**Strongly disagree.**	**Not agree.**	**Neither agree nor disagree.**	**Agree.**	**Strongly agree.**
A	I know which sources of health information are available online.	1	2	3	4	5
B	There are medical studies published online, but I don't know how to access them.	1	2	3	4	5
C	I am able to distinguish low-quality health information from high-quality health information online.	1	2	3	4	5
D	I have no difficulties understanding the substance of the information online.	1	2	3	4	5
E	I have sufficient knowledge to assess the quality of online sources.	1	2	3	4	5
F	If I have doubts about the reliability of information about health online, I ask somebody for explanation.	1	2	3	4	5
G	I can find a lot of health information online, but I can't identify the information that can help me make health decisions.	1	2	3	4	5
H	I know how to access websites or applications and enter my symptoms to get information about my health issues.	1	2	3	4	5
I	I can identify useful tips for addressing my health issues from information online.	1	2	3	4	5
J	I know how to use the internet to get answers to my health concerns.	1	2	3	4	5
K	I know where to find useful sources of information on health online.	1	2	3	4	5

Could you please provide us with your telephone number, which we will use only for the purpose of potential monitoring and data verification?

Telephone number:

THANK YOU FOR YOUR PARTICIPATION!