INHEAL METHODOLOGY

A PRACTICAL GUIDE ON HOW TO IMPROVE HEALTH LITERACY

INHEAL

Visegrad Fund

LIST OF ABBREVIATIONS

III. WORKING WITH OLDER ADULTS: RECOMMENDATIONS AND BEST PRACTICES EXAMPLES TO DEVELOP HEALTH LITERACY CAPACITY

List of Abbreviations

CZ: Czech Republic

eHEALS: eHealth Literacy Scale

EU: European Union

GP: General Practitioner

ICT: Information and Communications Technology

HU: Hungary

HL: Health Literacy

HL–DIGI: scale measuring the skills related to seeking health information digitally

HLS-EU: European Health Literacy Survey

HLSQ-EU: European Health Literacy Survey Questionnaire

PL: Poland

QOL: Quality of Life

SK: Slovakia

V4: Visegrad 4 (Czech Republic, Hungary, Poland, Slovakia)

WHO: World Health Organization

1. INTRODUCTION

INHEAL – Innovation in Health Literacy

The INHEAL: Innovation in Health Literacy is a project co-financed by the Governments of the Czech Republic, Hungary, Poland, and Slovakia through Visegrad Grants from the International Visegrad Fund – a donor organization established in 2000 to advance ideas for sustainable regional cooperation in Central Europe.

While innovative methods and tools that could strengthen and improve health literacy exist, the region is found to need policies aimed at this objective. INHEAL's objective is to bridge this gap by selecting and gathering promising and successful instruments and practices existing in the V4 countries and to spread their use. Czech Republic, Hungary, Poland, and Slovakia share a common historical and administrative heritage, with many similarities in their current economic conditions and organization, incl. the healthcare system, as well as a comparable, steadily increasing aging population resulting from the events of the past 25 years, which have irreversibly 'catapulted' many post-communist countries into a very high level in terms of the share of seniors to the total population.

Taking into consideration the insufficient levels of health literacy among Europeans and especially EU's older citizens, as well as the phenomenon's disadvantageous impact on their health and the

countries' healthcare systems, INHEAL aims to inform and educate the elderly population from the Visegrad Group countries and beyond about the existence of innovative services that make it more accessible and effective for them to take charge of their health. INHEAL is intending to provide direct training to the targeted group on how to benefit from this knowledge and services through the intermediary of caregivers. The latter shall be equipped with tools and know-how destined to enhance health-preserving skills. More precisely, the project has the ambition to educate older adults in the areas of interpreting medical prescriptions, doctors' recommendations, sensible consumption of healthcare services, and determinant health-related knowledge.

INHEAL deliverables *(national analysis, common methodology, caregivers training, online platform)* target the sensible consumption of healthcare services, maintenance of healthy lifestyles, informed administration of medications, and hands-on instruction on the use of innovative, ICT-based means of accessing health information and services (e-health, m-health, e-receipts, etc.).

INHEAL consortium is composed of partners chosen for their expertise in the fields of health literacy, public health, and senior education, as well as experience in related projects and their constant motivation to improve quality of life (QOL) among the elderly.

Project Coordinator: **Institute for Health Literacy, Czech Republic**
Project Partners:
- **Medicalscan Ltd., Hungary**
- **Leaven Foundation, Poland**
- **Pavol Jozef Šafárik University in Košice, Slovakia**

INHEAL Methodology

One of the specific objectives of the project is to introduce a common innovative health-improving literacy methodology, including innovative methods to enhance health literacy among seniors, instructions for their application and practices, and guidelines on passing the knowledge gained directly to older adults.

The main purpose of this methodology is to inspire and enable organizations associating elderly people in all V4 countries to put into use the knowledge and material resultant developed through the work research and national analyses performed. The methodology is also designed to reach and educate seniors through an online platform that shall be developed and designed to integrate useful health-related information and instructions, reducing the stigma of technology as a tool

unsuitable for elders and ensuring the role of health education in the prevention of health problems.

This methodological guide intends to assist its readers in the understanding of health literacy and digital health literacy and to provide selected good, efficient practices and instruments. The results and recommendations included in this guide have been obtained by the data collected and hereby, the issues and gaps identified upon desk research in all V4 countries. The national analyses conducted have served as a knowledge base to understand the similarities and differences between the V4-s as well as the needs to cover in each country.

I. WHAT IS HEALTH LITERACY & DIGITAL HEALTH LITERACY: FACTS IDENTIFIED

1. Health Literacy Overview

1.1 Understanding Health Literacy: Definitions and Models

The phenomenon of health literacy is not entirely easy to grasp and turns out to be heterogeneous. The description of its content and the definition of the term is the subject of discussion by the academic community, leading therefore to a multitude and increase of definitions and concepts. Anyhow, health literacy is a term that can be described and measured.

The term Health Literacy was first introduced in the 1970s and initially, the emphasis was given to health literacy as the ability to handle words and numbers in a medical context. In recent years the concept has broadened to understanding health literacy as involving the simultaneous use of a more complex and interconnected set of abilities, such as reading and acting upon written health information, communicating needs to health professionals, and understanding health instructions and increasing importance in public health and healthcare. Health Literacy is notably defined by the World Health Organization as a set of cognitive and social skills that determines the motivation and ability of individuals to access, understand and use information in a way that promotes and maintains good health.

To measure and estimate levels of health literacy among the population, surveys have adopted several models throughout the years. For instance, initial surveys, which took place mainly in the United States, focused on the level of functional literacy. In 2014, the first systematic study of health literacy in selected European countries (HLS-EU) was performed and published (Sørensen, et al., 2015). It was prepared based on the model (see Table 1) reported in "WHO Health Literacy: The Solid Facts", published in 2013 (Kickbusch, et al., 2013). A set of 47 questions was created from the mentioned model, which was part of the standardized questionnaire (HLSQ-EU).

Table 1. Health literacy model *(Taken from: Kučera, et al., 2016, p. 235)*

Health Literacy	Access health information	Understand health information	Evaluate health information	Apply health information
Health care	1. Know how to find information on illness and treatment	2 Understand information on illness and treatment	3. Know how to interpret and critically evaluate information on illness and treatment	4. Know how to make informed decisions on illness and treatment
Disease prevention and health protection	5. Know how to find information on health risks	6. Understand information on health risks	7. Know how to interpret and critically evaluate information on health risks	8. Know how to make informed decisions on health risks
Health promotion	9. Know how to find information on health determinants	10. Understand information on health determinants	11. Know how to interpret and critically evaluate information on health determinants	12. Know how to make informed decisions on health determinants

1.2 Health Literacy and Public Health: Impacts on Individuals and Societies

Accordingly, a health literate person is an individual who has the knowledge, skills, and confidence to manage their health daily. This includes the ability to know when to start using the health system and how to navigate it, so that its services are used to the fullest. Alternatively stated, personal health literacy is the degree to which individuals can find, understand, and use information and services to inform health-related decisions and actions for themselves and others. Along with personal health, literacy stands for organizational health literacy, which displays the degree to which organizations equitably enable individuals to find, understand, and use information and services to inform health-related decisions and actions for themselves and others.

Proven to be closely related to three elements – the health system, the field of culture and society, and the sphere of education, health literacy is an important social determinant. The latter affects an individual's health much more than other predictors of health status such as education, income,

ethnicity, or employment. In this sense, health literacy is a determinant that may be controllable at certain levels.

It is common knowledge that the level of health literacy in the population affects the use of health care and the burden on the health system in general (i.e., associated financial costs). Health literacy can therefore also be characterized as a form of social capital. A society with a high level of health literacy and the skills associated with it enjoys better health, a higher standard of living and well-being in general. In this context, there is talk of so-called empowerment. This can be characterized as the ability to affect one's own health. In contrast, countries where health literacy is problematic, face poorer health in general. This is often associated with risky behavior. Social demand for the health literate population should be high.

Health literacy is important because if individuals cannot find, understand, and use health-related information and services, making well-informed health-related decisions and acting on those decisions is proving to be difficult. This affects their overall health and care. People with low health literacy are more likely to be hospitalized, need to go to an emergency department, and have poorer health outcomes. Ultimately, low health literacy affects the safety and quality of health care. The demographic perspective is also crucial. The aging trend of the population is clear. It is quite evident that the health care system will face increasing numbers of chronically ill patients. It is therefore sound and consequent that society's attention is increasingly turning to the topic of health literacy.

1.3 How prevalent is low health literacy in the V4 countries?

According to the aforementioned comparative survey conducted in 2014 in eight EU member states, almost every second respondent (47%) in the sample had inadequate or problematic health literacy, with its levels scoring even lower among people over 66 years old, one of the groups defined as 'vulnerable'.

The results showed that the level of health literacy in the V4 countries is alarming and significantly low, as follows: Czech Republic - 13.3% inadequate and 29.2% problematic; Slovakia - 23% inadequate and 36% problematic; Hungary - 20% inadequate and 32% problematic; Poland - 10.2% inadequate and 34.4% problematic.

Regular health literacy monitoring is important for effective health policy planning, health promotion, and disease prevention on national and European scales. Only based on empirical data is it possible to work effectively with the phenomenon of the level of health literacy of the population.

Czech Republic	The survey conducted in 2019 showed that 29.2% of the Czech population have problematic health literacy and 13.3% of respondents have inadequate health literacy. According to the first systematic study of health literacy (2014), the health literacy of the population of the Czech Republic is surprisingly low, with almost 60% of the adult population having inadequate or problematic health literacy.
Hungary	In 2020, the HLS19 that 46.1% of the examined population in Hungary had limited HL level. In 2016, based on the Short-Test of Functional Health Literacy reading scores, participants were categorized into three groups: 8% had inadequate, 6% marginal and 86% adequate health literacy levels - meaning that 14.3% of the respondents had either inadequate or marginal health literacy. In the HLS-EU survey conducted in 2015, 20% of the respondents possessed inadequate and 32% problematic health literacy.
Poland	The 2020 study in Poland, aimed to determine the level of health literacy in the group of people above 65 years old, and showed that 62% of the surveyed people had insufficient General HL, (11.6% inadequate, 50.4% problematic), and only 7.4% had excellent General HL. The survey, carried out in 2011 showed that out of the Polish respondents, 10.2% possessed inadequate general HL and 34.4% problematic HL.
Slovakia	The survey conducted in 2019-2020 showed the following share of the General HL levels achieved in the Slovak population: problematic (36%), sufficient (31%), inadequate (23%), and excellent (10%). European Social Survey surveys (2017) showed that more than a third of the Slovak population aged 55-64 had not worked with the Internet in the last three months. Such behavior accounted for almost two-thirds of the population and at over 75, only about a tenth of respondents said they had worked with the internet in the last three months.

2. Digital Health Literacy Overview

2.1 Definitions and Components of Digital Health

Digital healthcare can be broadly separated into two categories: eHealth and mHealth (Chan J., 2021).

- **eHealth**: The World Health Organization (WHO) has defined eHealth as *"the cost-effective and secure use of information and communications technologies in support of health and health-related fields, including health-care services, health surveillance, health literature, health education, knowledge and research"*. In other words, it is *"the use of information and communication technologies for health"*. In this respect, eHealth education refers to an individual's ability to search for, identify and assess the reliability of health information from the Internet and to properly manage or solve health problems through the knowledge they gain.

- **mHealth**: The mHealth or mobile health is a sub-segment of eHealth. The EU eHAction defined mHealth as *"the use of mobile communication devices in health and well-being services covering various technological solutions, which support self-management and measure vital signs such as heart rate, blood glucose level, blood pressure, body temperature and brain activity"*. It is the *"medical and public health practice supported by mobile devices, such as mobile phones, patient monitoring devices, personal digital assistants (PDAs), and other wireless devices"*.

Ehealth allows patients and doctors to communicate without meeting in-person. Ehealth includes an electronic application that allows online communication whether on a mobile device (mhealth) or any electronic device (ehealth). "One of the [applications for ehealth] is the practice of telemedicine – the provision of healthcare services and medical information using innovative technologies, especially Information and Communication Technologies (ICT). It enables secure exchange of information and enables people to communicate remotely about health-related issues - such as prevention, diagnosis, treatment, and follow-up - overcoming logistics and long distances.

2.2 Digital Health Literacy measurement

In addition to traditional health literacy, the **eHealth literacy** encompasses:
- traditional literacy (basic ability to read and comprehend written text),
- information literacy (the ability to find and use information),
- media literacy (the ability to think critically about media content and context),

- computer literacy (the ability to use computers for problem-solving) and
- scientific literacy (understanding how knowledge is created with its aims, methods, limitations, and politics.

For the evaluation of eHealth literacy, the eHEALS (eHealth Literacy Scale) was developed and validated in 2006 on Canadian adolescents and has been used most extensively as a subjective measure of eHealth literacy, showing little correlation with traditional health literacy or the objective high-level skills of searching and critically evaluating health-related online information.

The Digital Health Literacy measurement was an optional package in the HLS19 survey. From the V4 countries, Hungary, Czech Republic, and Slovakia implemented it while Poland didn't participate in HLS19 at all. The specific measures of the Digital Health Literacy consist of three blocks:

- Use of digital resources (6 items)
- Digital health literacy (8 items)
- Interaction with digital devices (2 items)

To analyze and report on Digital HL, a scale measuring the skills related to seeking health information digitally (HL–DIGI) was constructed. This scale consists of eight questions related to tasks on how easy or difficult it is to search for, find, understand, and judge health information from digital sources. How easy or difficult is it to:

- judge whether the information is reliable?
- judge whether the information is offered with commercial interests?
- use the information to help solve a health problem?
- judge whether the information is applicable to you?
- find the exact information you are searching for?
- understand the information?
- visit different websites to check whether they provide similar information about a topic?
- use the proper words or search query to find the information you are looking for?

To identify the subpopulations that could potentially be disadvantaged in terms of the Digital HL, the HL-DIGI mean scores were compared for selected potential vulnerable or disadvantaged sub-populations to the mean HL-DIGI score observed for the whole population. The vulnerable subpopulations being considered were older people, people with the lowest educational level, people with a low self-reported social status/level in society, financially deprived people, people with poorer health status, and people who most frequently use healthcare services.

Digital solutions can provide multimedia education for different reading levels in multiple languages, such as video, audio, and print, using formal and informal teaching methods. By giving patients a greater voice and empowering them to actively participate in treatment, they can develop their decision-making and shared decision-making skills. Rather than being passive participants, digital solutions offer individuals the opportunity to become active players in health (Conard, 2019).

In the last 10 years, healthcare digital solutions have become more and more common within the V4 countries as well. In the table below, we have summarized a few innovative digital solutions used by each country and their use/specific purpose:

Czech Republic	• Telemedicine: As a result of the COVID-19 epidemic, remote consultation solutions have become part of everyday care. The epidemic strengthened the link between primary and specialist care, and to reduce the number of personal doctor-patient appointments. One of the aims of the Strategic Framework 2030 Program is to provide to every citizen electronic health record by 2030, and hereby enable the sharing of health records between patients, medical professionals, and insurance companies.
Hungary	• Telemedicine • The Electronic Health Services Area (EESZT): Its primary function is to store health data, documentation, and test results in a common repository. The data is available in digitized form to rights holders in the system. The authorized physician, pharmacist can easily and quickly access all the relevant data of a given patient, in one place, 24 hours a day. The data stored about the patient is also available to the patient after their identification on the EESZT's website or on the mobile application platforms. Another important function of the EESZT is the electronic referral (eBeutaló), which is transmitted directly in the system between the doctor who issued the referral and the doctor who performs the examination. The EESZT also functions as the electronic prescription (eRecept), which is often used by patients. The prescription written in the doctor's own

	system automatically becomes an eRecipe and is uploaded to a central repository from which it can be queried at any pharmacy. • Egészségvonal (meaning 'healthline' in Hungarian): owned and operated by National Public Health Centre, it consists of a contact center and the www.egeszsegvonal.gov.hu website. On the egeszsegvonal.gov.hu website available the following information on health care services and interventions; descriptions on healthy way of life and preservation of health state; information on diseases in a plain language (in Hungarian); detailed description and patient information leaflets on drugs (in Hungarian); nearest primary- or special health care provider facility or pharmacy in the search panel of the website.
Poland	• Telemedicine. • The main instrument of the "Support the Senior" program is the distribution of so-called safety bands, which would be equipped with at least three of the several functions listed below: safety button - SOS signal, fall detector, band photo sensor, GPS locator, functions enabling communication with the service center and caregivers and functions monitoring basic vital functions (pulse + saturation). The safety wristband is to be associated with the help operator and in the event of a difficult situation or sudden health threat, it will be possible to press the button that allows you to call for help (MRiPS, 2022).
Slovakia	• Telemedicine • At present, further education of seniors in Slovakia including (D)HL is provided mainly by universities of the third age (UTV) at universities; academies of the third age, which operate mainly with the support of cities and municipalities; seniors' clubs within the Pensioners' Union in Slovakia; Regional Public Health Authorities; other further education institutions or NGOs (i.e the • Association for the Protection of Patients' Rights of the SR provides online information (https://www.liekysrozumom.sk/) on health through collaboration with health professionals and

	patients' organizations). Webinars are organized by the Institute for Prevention and Intervention to educate the general public in the field of chronic disease prevention, hand hygiene, first aid, etc.
	• "Slovak patient" website (https://slovenskypacient.sk/) provides online information on health through collaboration with health professionals and patients' organizations.

3. The Relationship between Older Adults, Aging Population and Health Literacy

In all countries of the Visegrad Group, demographic changes related to the aging of societies are increasingly visible and felt in the social sphere. These changes are also accompanied by the phenomenon of longevity, i.e., extending the predictable life expectancy in relation to the average life expectancy in earlier years and decades. This phenomenon manifests itself in the form of a growing number of the elderly, including people in their nineties or hundred years, whose presence in societies was almost marginal a few decades ago.

A number of data on the biological and psychological functioning of humans indicate that due to biological changes in the body and the resulting psychological changes, the elderly is associated with multiple forms of medical diseases. Therefore, it should be emphasized how important the actions concerning the awareness and health skills of citizens are. Hence, it is possible, among others, to relieve health systems by:

• early detection of diseases, which results in increased probability of cure with lower costs of healthcare and less burden on the treated patient,

• minimizing the risk of civilization diseases, diseases resulting from an incorrect lifestyle (including limitation of physical activity or the use of cigarettes and alcohol), diseases resulting from long-term functioning in a polluted environment (e.g., in environments with polluted air),

• identification and implementation of pro-health life strategies that significantly improve the general psycho-physical condition of the body (such strategies include, among others, maintaining high level of physical activity adapted to age, avoiding harmful substances such as alcohol and tobacco, using healthy eating adapted to age, avoiding and coping with stress, being in environments with clean air and water, maintaining a balance between work and private life, maintaining social contacts carried out in a traditional way, but also on-line, etc).

QUALITY OF LIFE is a key category for reflection on the relationship between older adults, the aging population and health awareness. A growing elderly population characterized by high and growing health awareness will be a population of people living longer in relative health and longer in general. Representatives of this growing community will have a better chance of maintaining the quality of life at a satisfactory level, even despite crossing the next thresholds of old age, in which many older people will suffer from health deficiencies, i.e., chronic diseases or associated diseases. Decreasing health parameters in the elderly reduces the real, subjectively perceived quality of life, but the decrease in this level may be significantly reduced in the case of implementing remedial measures or appropriate responses to the occurring health losses.

Maintaining or at least minimizing the reduction of the standard of living for health reasons may take place through the implementation of responsible life strategies, especially health strategies, identified through educational processes (lifelong education), especially with the participation of various types of institutions. The mission of these institutions towards aging adults should be stimulating psycho-physical well-being (sport, diet, avoiding stimulants, healthy sleep, etc.), supporting the maintenance of extensive social relationships (also those carried out on-line), ensuring an easy way to use medical advice (but also on dietary, psychological, or physical activity).

The following preparatory practices should be distinguished in activities carried out with regards to the elderly, and - what is important - also towards future seniors.
The proposed activities that can be adapted in each country or region include:

(1) PREPARATION FOR AGING, PREVENTIVE HEALTHCARE AND STIMULATION OF PSYCHOPHYSICAL WELL-BEING IN OLD AGE, BUT ALSO IN ADOLESCENCE AND EVEN EARLY YOUTH.

Such activities are implemented and should be intensified by institutions of formal and informal education at each stage of human life (from kindergarten to university), mass media, social campaigns or by consolidating appropriate patterns in culture. The aim is:

- consolidation of the key knowledge about the nature and course of aging processes before the onset of burdensome biological signs of aging,
- preparing individual aging strategies as early as possible,
- better understanding and better response to the needs of older people living in intergenerational families or local communities,

- planning and implementing appropriate preventive measures (including in the field of nutrition) or stimulating (including in terms of health activity), as well as minimizing health risks resulting from lifestyle,
- educate as many elderlies as possible to independently recognize the symptoms of diseases and worsening their psycho-physical conditions
- providing psychological support for people struggling with age-related health losses; people who are in a situation of increased stress because of sudden and serious diseases; living in a life situation of depression and, at the same time, real loneliness (when social relations are significantly reduced).

Thinking about the current population of elderly people and people close to old age means that the key institutions for us are: local social centers gathering elderly people, Universities of the Third Age, non-governmental organizations, public agencies providing monitoring and support services for the elderly, and most of all, medical facilities - focused mainly on treatment, but also having an impact on the creation and development of educational campaigns aimed at seniors of various ages, from various environments and with different perceptual abilities (appropriate to their level of socialization, education level, and above all age, which influences cognitive abilities to the greatest extent).

(2) PROVIDING AN AGE-FRIENDLY INFRASTRUCTURE

- an appropriate number of medical facilities located where the population of elderly people is high (both hospitals and local clinics)
- day care facilities and 24-hour care facilities that also provide basic care services and basic treatment services
- professional carers providing services in the homes of the elderly in accordance with the profile of their needs
- increased number of geriatric doctors responsible for coordinating the treatment of the elderly, who often suffer from several associated diseases
- social centers whose teams understand the needs of seniors, especially those trying to maintain or develop social relations. The number and depth of these relationships affects the quality of life, strengthens monitoring of the health situation of the elderly, and helps maintain intellectual and physical well-being. These centers also include the Universities of the Third Age, rural community centers, etc.
- sports and leisure infrastructure close to natural resources. The key is to provide outdoor gyms, classes dedicated to seniors in existing sports facilities, but also to promote a culture of activity using this infrastructure. It is also necessary to promote the idea of moderate recreational activities, easy to implement, conducted e.g., by group or individual walks (but

also Nordic-waling, cycling, etc.) or tourism in places with favorable natural conditions, where clean air is provided.

- non-medical counseling, i.e. psychological help (both as part of individual or group therapy), diet counseling, counseling in the field of household adaptation to age requirements (e.g. securing surfaces against falls), digital counseling (so as to equip seniors with new digital competences, avoid deepening the phenomenon of the secondary digital exclusion, equip with fact-checking competences, important in the context of gaining new health knowledge), and even consumer counseling (allowing to avoid entering into significant obligations, often in the area of medical products and services, which often results in negative living and psychological consequences).

- efficient, easy-to-use, intuitive systems for providing medical services on-line, allowing for contacts with a doctor, archiving medical data or acquiring practically useful knowledge from authorized sources. Designing such systems should be carried out with the participation of older people of different ages and with different needs, so that the architecture of new solutions will be adapted to the needs of different users.

- digital education programs (courses, thematic lessons, individual counseling) implemented by local institutions to increase the number of digital seniors, equipping them with tools that allow obtaining information (including increasing health awareness), expanding social relations, managing their own health matters.

(3) ENSURE AN EFFICIENT SYSTEM OF RAPID COMMUNICATION BETWEEN THE ELDERLY AND MEDICAL FACILITIES AND SPECIALISTS SUPPORTING HEALTHY AGING, INCLUDING

- eHealth infrastructure allowing for quick communication with General Practitioners, while maintaining wide access to medical workers who provide their services in local clinics, available to people who do not use digital tools or those who prefer direct contact or those who cannot be diagnosed on-line

- expansion of mHealth services dedicated to people who, for various reasons, need to undergo systematic medical monitoring (e.g., those who live in single-person households and have problems with everyday living functions)

- an extensive network of medical workers and good access to specialist doctors in those specialties that are crucial for the elderly (and to geriatricians)

- accessible monitoring services provided by nurses, carried out in the homes of people covered by monitoring, especially people potentially excluded (including digitally), living in solitude (or real home isolation).

For instance, to support the increasing number of elderly people more effectively and to adapt tools to internal demographic changes in a diverse group of elderly people, including especially in relation to the "new" seniors actively using digital technologies or people over 80 and 90, whose share in the group of older people will be significantly higher along with the progressive improvement of the quality of life and easier access to health care).

It is necessary to:

- conducting real-time monitoring of the situation
- conducting the process of dynamic adaptation to predictable demographic changes
- conducting a systematic implementation of good practices based on a highly dispersed network of local services available to urban and rural populations.

II. IMPROVING HEALTH LITERACY FOR OLDER ADULTS: RESOURCES KIT

1. The Areas of Health Promotion, Health Protection and Disease Prevention – Basic Concepts

In 2012 a European research group (Sørensen, et al., 2012) based on comprehensive literature proposed a model which integrates the medical and public health views of health literacy. According to them, health literacy is regarded as an asset for improving people's empowerment within the domains of healthcare and these four specific domains:

1. Access refers to the ability to seek, find and obtain health information.
2. Understand refers to the ability to comprehend the accessed health information.
3. Appraise describes the ability to evaluate the accessed health information.
4. Apply refers to using the information to decide about health.

As already mentioned, the V4 countries share a common historical heritage and many other similarities, including the health system, quality of life and demographic composition of the population. Each of the countries has implemented strategies to improve the health according to its priorities, incorporating the basic European digital health literacy concepts into their long-term. In the following part, we will examine these national programs.

1.1 CZECH REPUBLIC

Health 2020 program - the **National Strategy for the Protection and Promotion of Health and Disease Prevention** (National Strategy) was created in 2014. This is a text created by experts to reflect the needs of the population. The text contains stabilizers for the health support system and has launched a long-term program to improve the health status (Health 2020 - National Strategy for Protection and Support, 2014, p. 11). It is a tool for the implementation of the Health 2020 program and aligns with an inter-ministerial approach.

The strategy team set priorities based on the statistics of the demographic data, the health status of the population and the social situation. The program has many goals, but their main goal is to improve the health of the population. The main goal was to be achieved through two strategic goals, which are to (Health 2020 - National Strategy for Protection and Support, 2014, p. 11):

- Reduce health inequalities and invite the decision-making of society
- Strengthen the role of public health administration

These objectives were to be achieved through four priority areas (Health 2020 - National Strategy for Protection and Support, 2014, p. 21):
- Implement lifelong investments in health and disease prevention
- To prepare against serious health issues and to continuously monitor the health status of the population
- To strengthen people-centered health systems, ensure access to health services, focus on health protection and promotion, disease prevention, to develop public health capacity, to ensure crisis preparedness, and appropriate emergency response.
- Participate in creating an easy transition for resilient social groups.

These topics were elaborated into individual implementation documents. However, it should be noted that Health 2020 was not prepared based on an active strategic decision of the Ministry of Health of the Czech Republic. The **Health 2030** Program is thus a strategic framework for the development of health care in the Czech Republic until 2030. It is based on the National eHealth Strategy and the Psychiatric Care Reform Strategy.

The program is further defined by 2 strategic goals:
1. Health system optimization
2. Support for science and research.

The proposals for their implementation are explained in 3 specific objectives, which will be implemented in 7 consecutive implementation plans.

Specific objectives no. 1

- Primary care reform
- Primary/secondary disease prevention, increasing health literacy and citizens' health responsibility

Specific objectives no. 2

- Implementation of integrated care models
- Personnel stabilization of the health sector
- Digitization of healthcare
- Expansion of reimbursement systems in healthcare

Specific objectives no. 3

- Involvement of science and research in solving priority tasks of health care

1.2 HUNGARY

The "**Strategy for Long-Term Care 2030**" and the policy objectives set out in the five National Health Programs development programs hope to develop a complex package of measures option, magnitude of the available resources, over time availability, etc. The package includes national health programs such as the National Cancer Control Program. Within this National program there is no specific reference about the elderly. The planned interventions in the field of public health have been identified along 2 pillars in a total of 9 sub-programs by the government. The first pillar is the "Protection and development of the health of priority target groups." Within this, a key target group is the seniors.

Due to the aging of society, the steady increase in the proportion of the elderly makes it essential to improve the physical and mental health as well as the quality of life for the elderly. Maintaining and improving the health of the elderly and maintaining functional abilities is a primary task. The protection and development of the health of the elderly require methods that are tailored to the needs of the elderly group and support an active and a healthy lifestyle. These methods could reduce the individual, family, and social burdens of aging by prolonging healthy life expectancy and expanding the range of people who can take care of themselves.

The overall sectoral goal is to ensure the longest and healthiest life possible for the whole Hungarian population, regardless of who, where and under what socio-economic circumstances they live with. The "**Healthy Hungary 2021-2027**" health sector strategy kept the overall objectives of the "Healthy Hungary 2014-2020" strategy to help the Hungarian population:

- Increase the years in healthy life expectancy.
- Increase the individual and social value of physical and mental health.
- Promote health-conscious behavior, enforcing individual responsibility.
- Reduce the regional health inequalities and the differences in life expectancy at birth.

These objectives are intended to be achieved by achievement of 6 sub-objectives:

1. A healthy start of life and give priority to development of children's health.
2. Promote a healthy lifestyle and reduce health risks through increase of health literacy.
3. Reducing the burden of chronic diseases by providing professionally established health promotion and prevention services, with access to transparent health care.
4. Protect the health of the population from epidemics and environmental damage.
5. Improve the health of disadvantaged populations by reduction of health inequalities.
6. Strengthening the public health system.

Further, the **National Public Health Centre** (Nemzeti Népegészségügyi Központ, NNK) is one of the main healthcare authorities of Hungary. The head of the NNK is the chief medical officer of Hungary. NNK's role is to coordinate public health, epidemiology, health promotion and development, health care management and coordination, and employee health nationwide. NNK monitors and evaluates public health status and epidemiologic situation in Hungary. NNK also has a central role in the epidemiologic management of the COVID-19 pandemic as well as organized screenings are carried out under the direction of the NNK.

To achieve a more health-conscious approach among the population, the government called for the establishment of a health promotion network. By 2014, with the financial support of the Széchenyi Plan, a new health promotion network was established consisting of 61 **Health Promotion Offices** (EFI). The aim of the Health Promotion Offices is to increase health awareness, change the attitude, etc. Currently 113 offices operate in the country under the professional guidance of the National Public Health Center.

Egészségvonal (meaning 'healthline' in Hungarian) owned and operated by NNK consists of a contact center and the egeszsegvonal.gov.hu website with the purpose to:

- provide reliable, authentic information and help citizens with health-related subjects

- optimize and help patient pathways by making citizens familiar with the structure

- decrease the workload of emergency care providers

- abolish avoidable patient-doctor interactions thus controlling the spread of COVID-19

- increase the spread of information on public health topics and services

- increase citizens' health-consciousness and awareness

- improve the quality of health care services to deepen citizens' trust.

On the egeszsegvonal.gov.hu website available the followings:

- information on health care services and interventions

- descriptions on healthy way of life and preservation of health state

- information on diseases in a plain language (in Hungarian)

- detailed description and patient information leaflets on drugs (in Hungarian)

- nearest primary- or special health care provider facility or pharmacy in the search panel of the website.

Another program called **Hungary's Comprehensive Health Care Screening Program / 2010-2020-2030 (MÁESZ)** has a general objective of strengthening prevention and supporting modern and high-quality treatment of lifestyle related and largely preventable diseases. It supports the monitoring of the health status of the Hungarian population through bringing preventive health services closer to people and raising awareness and knowledge about the multidimensional nature of health protection. The Program focuses on prevention by presenting information on healthy lifestyle choices. The attendance on the program events is free of charge for the population, there is no need for a TAJ (Hungarian Public Health Insurance) card so the disadvantaged people can benefit from the opportunities provided by the program too. Between 2010 and 2021 the program successfully met its goals at the national level.

In 2019 the "**Three Generations for Health**" (Három generációval az egészségért) program was launched. The goal of the program is to implement a cardiovascular prevention and care program, a screening and early detection of malignant cancers program and health promotion programs for children. Another goal is to improve the health and healthy lifestyle of the Hungarian population.

1.3 POLAND

In the **National Health Program for 2021-2025**, one of the six operational objectives is the promotion of healthy and Active Ageing. There are tasks related to health prevention and health care systems' preparation. However, supporting older people by enabling the use of modern

technologies is the most important objective (Ministry of Health, 2020). In the formally binding strategy "**Policy towards the elderly until 2030**" adopted in 2018, we find Section IV. Among the recommended activities we read: "promoting knowledge in using ICT (e.g., systems, applications, etc.) to improve the quality of life.

In June 2021, the Ministry of Health also prepared a draft strategy titled "**Healthy Future**". In the document, one of the key directions is: "Development of digital health care services". It is to be implemented through two tools:

1. development of public digital eHealth services
2. Building the digital competencies of the patients and the medical staff

As for the second tool, it is to be implemented by:
- organizing information campaigns, trainings, and practical sessions
- popularizing digital health solutions at university levels
- applying the principle of "simplicity by design;"
- use of communication channels known to users (e.g., internet, mobile devices, etc.)
- increasing the competence of the staff. (Ministry of Health, 2021).

It is worth noting that an extension to the draft strategy "A Healthy Future" - entitled: Deinstitutionalization - has been devoted to the elderly. Care for the elderly" (Ministry of Health, 2021). However, in this material, as its title indicates, the elderly is thought of mainly in terms of care, not prevention or health promotion.

Further, the **Active + program** for the years 2021-2025, which replaced the previous "ASOS" programme, is to provide financial support for initiatives and nongovernmental organizations. Part of ASOS incorporates digital inclusion and includes activities that increase the digital competences of seniors. The program can not only equip seniors with digital competences, but it also directly allows for the cofinancing of initiatives in digital health. The weakness of the program seems to be its limited budget causing the program to not be very common.

In 2020, due to the ongoing pandemic, a support program for the elderly was also launched, "**Support the senior – solidarity support corps**", one of the modules - "Digital volunteer" was to support older people in moving to the digital sphere (www.gov.pl). The support program includes safety bands. These can be associated with help operators that help in a difficult situation or sudden health threat. (MRiPS, 2022). The **"Safety Bands" program** is probably the first systemic program to popularize tele-care solutions for the elderly. Safety wristbands can be useful both for seniors who are still fit as for well as those with limited fitness or even requiring constant care. The

challenge seems to be to convince the elderly and the caregivers about the benefits of joining the program and to prepare them to use the technological devices.

Another program that supports healthy ageing is the **40+ prevention program**. It addresses all people over 40 years of age. It consists of access to free diagnostic tests that may allow faster diagnosis of diseases or people at risk. This project is a pilot project and has been extended – still as a pilot – until June 2022.

Tools to stimulate physical, social and a healthy life are important. During the beginning of the pandemic, the Ministry of Health together with the National Chamber of Physiotherapists created the "Active senior at home" program that contains home exercise videos. A certain barrier to its use is the high level of digital exclusion of older people as well as the limited publicity.

Additionally, the main instrument of e-health is the medical tele-advice. In the current legal status, they are therefore legally allowed as a guaranteed medical benefit for use by family doctors, nurses, or midwives of the Primary Health Care Doctor (POZ – Lekarz Podstawowej Opieki Zdrowotnej). However, whether it will be used in each case, informally speaking, should depend on the patient. Standards have not been introduced for specialist care services.

It should also be noted that older people can acquire digital and health-promoting awareness and attitudes. These include institutions such as Senior Clubs, day care facilities under the Senior+ program, etc., which includes computer classes as well.

1.4 SLOVAKIA

The **Strategic framework for health for 2014-2030** (Strategický rámec starostlivosti o zdravie 2014-2030) incorporates disease prevention, health protection and promotion that was approved by Slovak Government since 2013 (Vláda SR, 2013). It determines the direction of Slovak health policy. In this strategic document four priority areas were identified:

1. Investing in personal health throughout life and empowering people
2. Tackling the major health challenges in the region including all diseases
3. Strengthening people-centered health services, public health capacity, emergency preparedness, surveillance, and response
4. Formation of healthy communities and supporting the environment.

In relation to priority area 1, the framework declares that *„Healthy and active aging of the population is a policy priority. The major problem in prevention and treatment of mental diseases is social isolation, especially for seniors (who live alone, respectively in social services centers)."*

Regarding priority area 2, it is stressed that: "It will be important to develop health literacy among young people. Among the seniors, it will be important to engage in initiatives aimed at active and healthy aging. These strategic objectives are presented for three specific health areas:

1. Public health
2. Integrated outpatient healthcare
3. Inpatient healthcare.

The purpose of the **National Health Promotion Program** (NPPZ) is to promote health for all with the aim to achieve a full life. The NPPZ is based on the policy of the WHO, the strategic health policy framework, and the Program Statement of the Government of the SR. Its aim is to increase the level of health awareness in the following areas (ÚVZ SR, 2021):

A. Preventive measures aimed primarily at promoting a healthy lifestyle (e.g., diet, physical activity, etc)
B. Preventive measures aimed at preventing the prevalence of infectious diseases
C. Raising awareness about the importance of vaccination to selected diseases

The expected impacts of the NPPZ implementation include an increased (digital) health literacy (knowledge and attitudes) in the field of healthy lifestyle in relation to vaccination (ÚVZ SR, 2021). Given that the level of HL is closely linked to general literacy, public policies aim at increasing general literacy. Slovakia therefore has developed a Strategy for Lifelong Learning and Counseling for the years 2021-2030 (MŠVVaŠ SR, 2021). Although the target population for basic skills education is the general population, meaning in terms of interventions and support from public funded programs, they are primarily low-skilled adults (e.g., people affected by COVID-19) (MŠVVaŠ SR, 2021, p. 22).

Further, **National Active Aging Program for 2021-2030** (NPAS-II) builds on previous experiences with the application of policies aimed at promoting active aging implemented under the NPAS-I (2014-2020). It reflects the broader commitments that Slovakia has (Repková et al, 2020, p. 9; Skyba, 2017). The document includes the support of general literacy for seniors through the strategic goal: Employing the potential of people for active aging as a basis for sustainable development of society, fulfilled through two objectives and actions (MPSVR SR, 2021, p. 19):

- Objective 1

Legislation supporting lifelong learning

- Action

Incorporation of support for the further education of older people

- Objective 2

Awareness of older people for the possibility of further education

- Action

Introduction of free counseling for older people for the possibility of further education for people at the age of 50 or more.

In addition, seniors' health literacy support is included in the strategic goal which is: Affordable and quality health care supporting the initial potential of people for active aging, fulfilled through one objective and two measures (MPSVR SR, 2021, p. 22):

- Objective 3

Promoting active aging, a healthy lifestyle and overall health of older people

- Action

Improving the awareness and information of older people in the preventive vaccination area

- Action

Implementation of educational and counselling activities from regional public health authorities regarding the support for active aging, healthy lifestyle, and physical activities.

2. Making Healthy Lifestyle choices – Official Recommendations

Healthy aging is defined as the "process of developing and maintaining the functional ability that enables well-being in older age". **Functional ability** is "all the health-related attributes that enable people to be and to do what they have reason to value". It reflects a person's intrinsic capacity (the composite of all their physical and mental capacities) and the interaction with their specific environment (the broader determinants of health that accumulate over the life-course and contribute to heterogeneity in strengths and vulnerabilities) (WHO, 2015).

There are two main risks to health as people get older:
- **Lifestyle diseases** which are associated with physical inactivity, overeating, smoking and alcohol misuse. These diseases increase the risk of heart attack, stroke, cancer, and diabetes.
- **Age-related illnesses or disabilities** such as dementia, arthritis or sight and hearing loss.

Researchers show that making **healthy lifestyle choices** related to diet, exercise, alcohol intake, smoking status, sleep duration, and weight management result in a longer lifespan (Fig. 1). The

benefits of healthy choices were also seen among older individuals and those with one or more serious chronic health conditions.

Figure 1. Choices for health
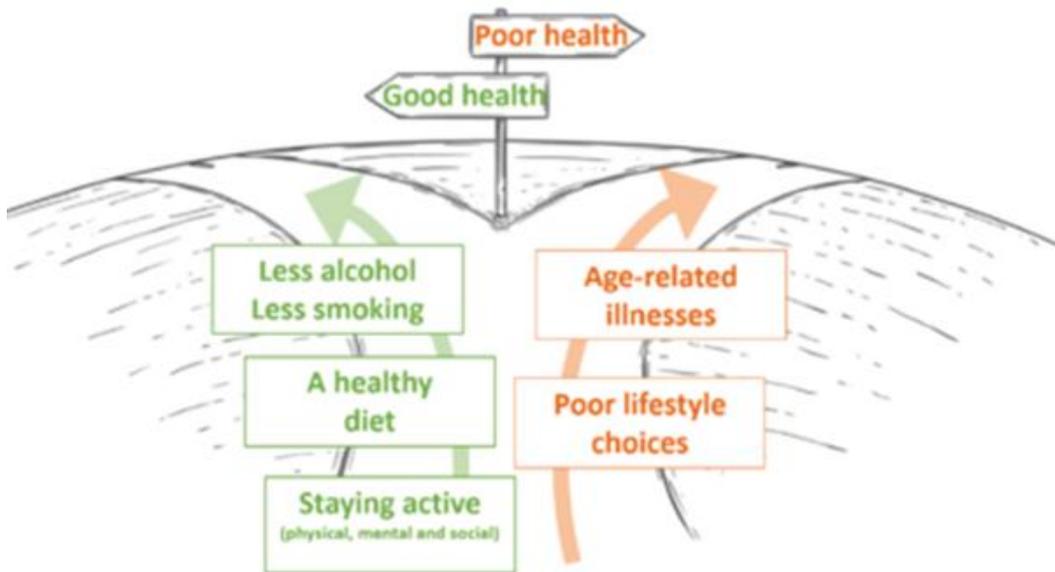
2.1 Proper nutrition and eating habits: qualitatively and quantitatively balanced nutrition

Nutrition is an important contributing factor on health and well-being in seniors. **Malnutrition** and **dehydration** are widespread, and **obesity** is an increasing problem in older age.

In 2018, the **ESPEN** (European Society for Clinical Nutrition and Metabolism) **guideline on clinical nutrition and hydration in geriatrics** was released. It is intended to be used by all health care providers involved in geriatric care, e.g., medical doctors, nursing staff, nutrition professionals and therapists but also welfare workers and informal caregivers. The aim of clinical nutrition in older persons is first and foremost to provide adequate amounts of energy, protein, micronutrients, and fluid to meet nutritional requirements and thus to maintain or improve nutritional status. The basic questions and general principles are linked to 11 out of 82 recommendations (Volkert et al., 2019):

1.1 How much energy and nutrients (EN) should be offered/delivered to older persons?

R1: Guiding value for energy intake in older persons is 30 kcal per kg body weight and day; this value should be individually adjusted regarding nutritional status, physical activity level, disease status and tolerance.

R2: Protein intake in older persons should be at least 1 g protein per kg body weight and day. The amount should be individually adjusted regarding nutritional status, physical activity level, disease status and tolerance.

R3: For EN, fiber-containing products should be used.

R4: Provided that there is no specific deficiency, micronutrients should be delivered according to the recommendation for healthy older persons.

1.2 How should nutritional care be organized in older persons?

R5: All older persons - independent of specific diagnosis and including also overweight and obese persons - shall routinely be screened for malnutrition with a validated tool to identify those with (risk of) malnutrition.

R6: A positive malnutrition screening shall be followed by systematic assessment, individualized intervention, monitoring and corresponding adjustment of interventions.

R7: In institutional settings, standard operating procedures for nutritional and hydration care shall be established and responsibilities well regulated.

1.3 How should nutritional care be performed in older persons?

R8: Nutritional and hydration care for older persons shall be individualized and comprehensive to ensure adequate nutritional intake, maintain or improve nutritional status and improve clinical course and quality of life.

R9: Nutritional interventions for older persons should be part of a multimodal and multidisciplinary team intervention to support adequate dietary intake, maintain or increase body weight and improve functional and clinical outcome.

R10: Potential causes of malnutrition and dehydration shall be identified and eliminated as far as possible.

R11: Dietary restrictions that may limit dietary intake are potentially harmful and should be avoided.

The nutritional care process for seniors consists of several steps (Fig.2) which are based on **systematic screening** for malnutrition. In addition to standard screening parameters (BMI, weight loss, reduced intake, disease), the most common screening tool developed and validated for older persons is the short form of **the Mini Nutritional Assessment** (MNA; Vellas et al, 1999). If there are any indicators of nutritional risk, a detailed assessment should follow to substantiate the diagnosis and as a basis for the definition of individual treatment goals and the development of a comprehensive nutritional care plan. Interventions need to be implemented, checked for their effectiveness and adjusted, if necessary, until treatment goals are achieved (Volkert et al., 2019):

Figure 2. Process of nutritional care for older persons.
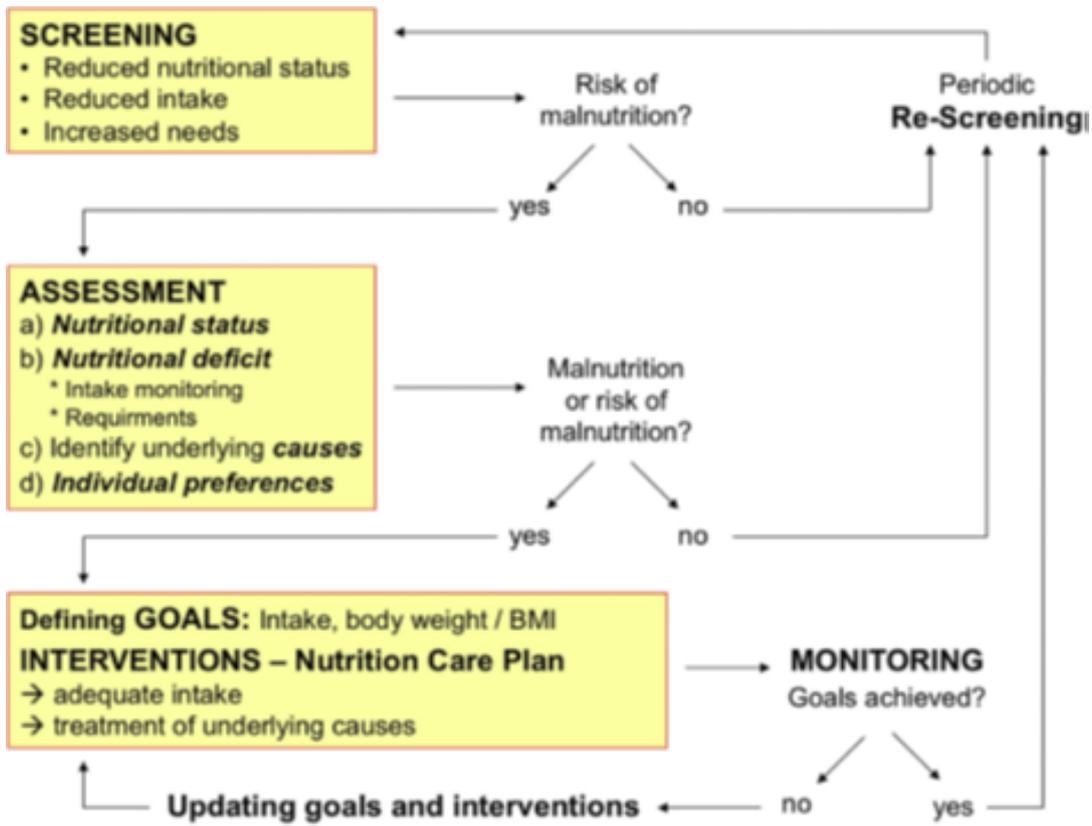
Figure 3. The new Canadian Food Guide recommends eating 'plenty of vegetables and fruits, whole grain foods and protein foods (https://food-guide.canada.ca/en/)
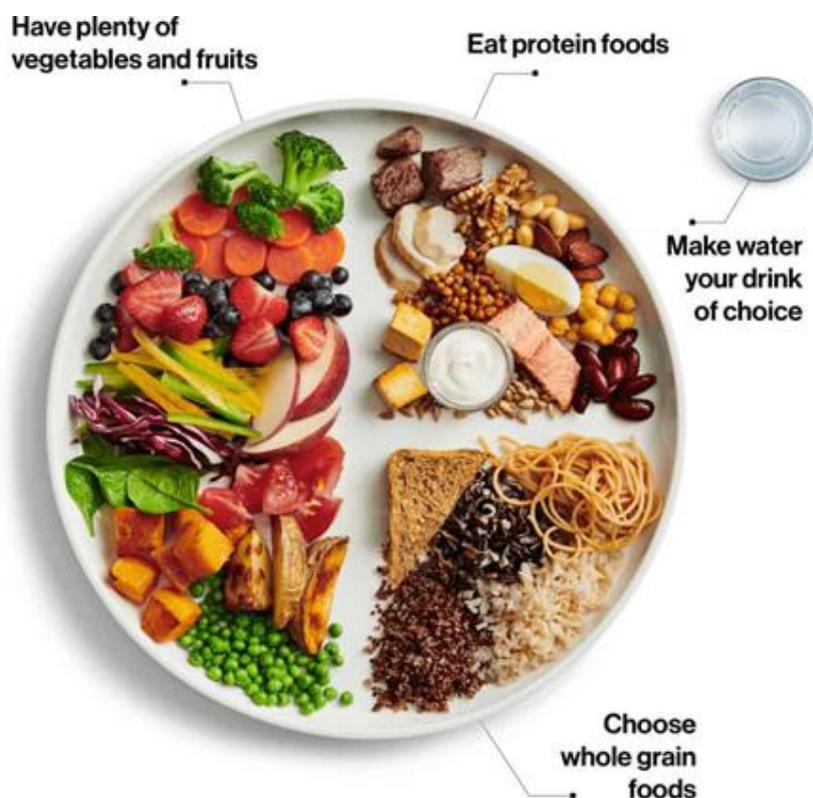
PHYSICAL ACTIVITY

In accordance with the National Health Service (NHS) guidelines (2021), doing some type of physical activity every day can help to improve health and reduce the risk of heart disease and stroke in older age. However, it may not be appropriate for those adults aged 65+ who have not exercised for some time or are living with a disability or a medical condition. It is important to speak to a GP and make sure the activity and its intensity are appropriate for the individual's state of health.

Adults aged 65+ should (Table 2):

- Aim to be physically active every day, even if it's just light activity[a]
- Do activities that improve strength, balance, and flexibility on at least 2 days a week
- Do at least 150 minutes of moderate intensity exercise [b] a week or 75 minutes of vigorous intensity exercise [c] if you are already active, or a combination of both
- Reduce time spent sitting or lying down, break up long periods of not moving with some activity.

Table 2. Types of physical activity by intensity and oxygen supply (aerobic[a-c], anaerobic[d])

Activity	Short description	Examples
[a] **Light**	moving rather than sitting or lying down	• getting up to make a cup of tea • moving around your home • walking at a slow pace • cleaning and dusting • vacuuming • making the bed • standing up
[b] **Moderate intensity**	raises your heart rate, and makes you breathe faster and feel warmer, you can still talk, but not sing	• walking for health* • water aerobics • riding a bike • dance for fitness • doubles tennis • pushing a lawn mower • hiking
[c] **Vigorous intensity**	makes you breathe hard and fast, and you are not able to say more than a few words without pausing for breath	• running • aerobics • swimming • riding a bike fast or on hills • singles tennis • football • hiking uphill • dance for fitness • martial arts

[d]**Muscle-strengthening**	do them to the point where you need a short rest before repeating the activity; in addition to 150 minutes of aerobic activity, on the same or different days; at home or in a gym	• carrying heavy shopping bags • yoga • pilates • tai chi • lifting weights • working with resistance bands • doing exercises that use your own body weight, such as push-ups and sit-ups • heavy gardening, such as digging and shovelling

* https://www.nhs.uk/live-well/exercise/running-and-aerobic-exercises/walking-for-health/

SLEEP

To promote optimal health, adults should sleep 7 or more hours per night on a regular basis. Sleeping less than 7 hours is associated with adverse health outcomes, including weight gain and obesity, diabetes, hypertension, heart disease and stroke, depression, and increased risk of death, with impaired immune function, increased pain, impaired performance, increased errors, and greater risk of accidents. Sleeping more than 9 hours per night on a regular basis may be appropriate for young adults, individuals recovering from sleep debt, and individuals with illnesses (Watson et al, 2015). Based on the National Sleep Foundation **people over 65 should get seven to eight hours of sleep each night** (Hirshkowitz et al, 2014).

Several common sleep disturbances have been found related to aging (Newsom, deBanto, 2022):

- **Shifting sleep schedule:** As people age, the body's circadian rhythms shift forward in time. Many seniors experience this shift as getting tired earlier in the afternoon and waking up earlier in the morning.
- **Waking up at night:** As people get older, they often experience changes in their sleep architecture that refers to how people cycle through the different stages of sleep. Older adults spend more time in the earlier, lighter stages of sleep and less time in the later, deeper stages. These shifts may contribute to waking up more often during the night and having more fragmented, less restful sleep.
- **Daytime napping:** It is estimated that about 25% of older adults take naps. A short daytime nap may be beneficial, but extended napping or napping later in the day can make it harder to fall asleep at bedtime and create night-time sleep disruptions.
- **Longer recovery from changes in sleep schedule:** Alterations in how the body regulates circadian rhythms make it more difficult to adjust to sudden changes in their sleep

schedules, like during daylight savings time or when experiencing jet lag. It is also estimated that 40% to 70% of older adults have chronic sleep issues that can significantly interfere with their daily activities and reduce their quality of life. Common sleep issues more prevalent in older age include (Newsom, deBanto, 2022).

- **Pain:** Pain and sleeplessness can lead to inadequate rest and become a vicious cycle, in which less sleep can lead to more pain, so it's important to consult a doctor if pain is interfering with sleep.
- **Night-time urination (nocturia):** Nocturia increases with age due to physical changes in the urinary system among other factors and contributes to increased sleep disruptions.
- **Insomnia:** Having persistent difficulty in falling or staying may be caused by a variety of overlapping factors but can get better with treatment.
- **Daytime drowsiness:** Excessive daytime sleepiness may be a symptom of health issues like sleep apnea, cognitive impairment, or cardiovascular issues, and could not be considered as a normal part of getting older.
- **Sleep Apnea:** Sleep apnea causes fragmented sleep and can affect oxygen levels in the body, leading to headaches, daytime sleepiness, and difficulty thinking clearly.
- **Restless Leg Syndrome (RLS) and Periodic Limb Movements of Sleep (PLMS):** RLS causes an urge to move the legs while resting or sleeping and affects 9% to 20% of seniors. PLMS causes involuntary movements in the lower limbs, most commonly in the feet, and affects 4% to 11% of seniors. Both disorders can significantly impact overall quality of life.
- **REM sleep behaviour disorder (RBD)** While most people's bodies are still while they're dreaming, RBD can cause people to act out their dreams, sometimes violently.

Sleep tips for seniors are linked to practising **"sleep hygiene"** which means to develop or improve the following good habits (Newsom, deBanto, 2022; Age UK, 2021):

- Keep a regular sleep schedule – go to bed and get up at the same time every day
- Avoid lying in
- Develop a bedtime routine – relax by reading a book or having a bath
- Make sure that your bed and bedding are comfortable
- Avoid caffeine, nicotine, and alcohol in the evening
- Don't eat a heavy meal late at night, and eat dinner at least four hours before bedtime
- Do exercise regularly, but avoid exercise in the evening
- Keep your bedroom cool and dark – the ideal bedroom temperature is 18°C
- Reduce bedroom distractions – TV, cell phones, computers and bright lights can make you more awake

- Try to avoid napping during the day or if you do enjoy a daytime nap, schedule this for roughly the same time each day.

The Canadian 24-Hour Movement Guidelines (CSEP, 2021) are relevant to adults aged 65+, irrespective of gender, cultural background, or socio-economic status. Following these guidelines is associated with a lower risk of mortality, cardiovascular disease, hypertension, type 2 diabetes, several cancers, anxiety, depression, dementia, weight gain, adverse blood lipid profile, falls and fall-related injuries; and improved bone health, cognition, quality of life and physical function. There are three core recommendations to keep in mind (Fig.4):

- Move more
- Sleep well
- Reduce sedentary time

Figure 4. A healthy 24 hours based on the Canadian 24-Hour Movement Guidelines.

PHYSICAL ACTIVITY

Performing a variety of types and intensities of physical activity, which includes:

- **Moderate to vigorous aerobic physical activities** such that there is an accumulation of at least 150 minutes per week
- Muscle strengthening activities using major muscle groups at least twice a week
- Physical activities that challenge balance
- Several hours of **light physical activities**, including standing

SLEEP

Getting 7 to 8 hours of good-quality sleep on a regular basis, with consistent bed and wake-up times

SEDENTARY BEHAVIOUR

Limiting sedentary time to 8 hours or less, which includes

- No more than 3 hours of recreational screen time
- Breaking up long periods of sitting as often as possible

2.2 Prevention of injuries - higher risk of falls and poisoning in old age

The main causes of **unintentional (accidental) injuries** are motor vehicle accidents, poisoning, drowning, falls and burns. **Intentional injuries (or violence)** can be divided into the categories of self-directed (as in suicide or self-harm), interpersonal (child, partner, elder, acquaintance, and stranger) or collective (in war and by gangs), and other injuries (including deaths due to legal

intervention). In addition to intention and cause, injuries can also be addressed according to their settings – such as the home, sports and leisure, workplace, or road (Bauer & Kisser, 2014).

Among older people, the **home** (almost 60%) and "the streets" (20%) are the most relevant places for occurrence of non-fatal injuries. **Falls** account for more than 60% of all injuries and are more common than strokes in older age. The highest mortality rates due to injury relate to 60 years and older (Fig.5), falls being a major cause of these deaths in both sexes (Bauer & Kisser, 2014).

Figure 5. Main causes of fatal injuries in older people in the EU (60+). Source: WHO MDB 2005-2007, reproduced from Bauer R, Steiner M (2009)
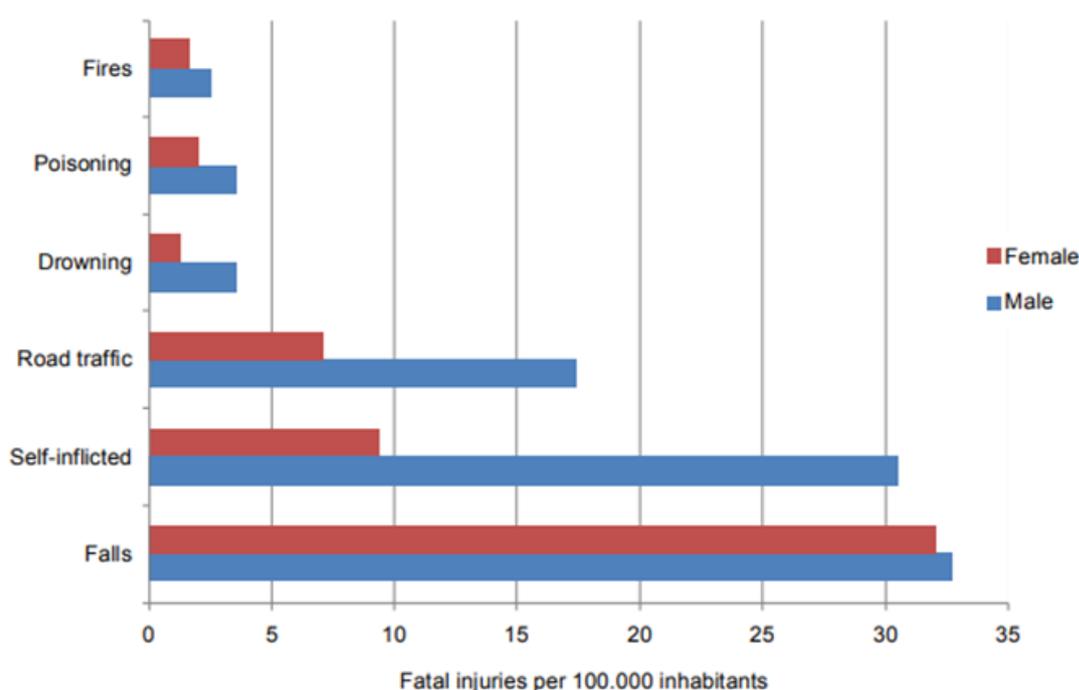
Most evidence on injury risks in older people is on falls and traffic accidents, including factors both personal (for example, muscle strength and flexibility, balance, physical function, mental function, osteoporosis, sensory impairment, and medications), and environmental (such as uneven pavements, slippery surfaces, poor lighting, carpeting, steps etc.). Fortunately, the evidence of proven and promising strategies for the **prevention of unintentional injuries** in older people is considerable. These include **physical activity and balance training, medication review, home modification or promoting safety equipment and associated devices** (Bauer & Kisser, 2014).

FALLS

A fall is defined as a person coming to rest on the ground or another lower level; sometimes a body part strikes against an object that breaks the fall. Events caused by acute disorders (e.g.,

stroke, seizure) or overwhelming environmental hazards (e.g., being struck by a moving object) are not considered falls (Rubenstein, 2021).

About 30% of people over 65 years living independently fall each year, for people in residential settings the incidence is even higher. There is an increased risk of falling with age. About 20% of falls require medical care and almost then 10% result in fractures. At least 1 in 5 people need further increased care more than a year after the fracture (Bauer & Kisser, 2014).

Falls threaten the independence of the elderly and cause a cascade of individual and socioeconomic consequences. However, physicians are usually unaware of falls in patients who do not present with an injury because a routine history and physical examination do not include a specific evaluation for falls as standard. Moreover, older people tend to be reluctant to report a fall because they attribute falling to the aging process or because they fear being subsequently restricted in their activities or institutionalized (Rubenstein, 2021).

In the case of elderly, falls are usually caused by a complex interaction among the different risk factors:

- **Intrinsic factors (age-related decline in function, disorders, and adverse drug effects):** Age-related changes (e.g. declining in visual acuity, contrast sensitivity, depth perception, and dark adaptation; changes in muscle activation patterns and ability to generate sufficient muscle power and velocity) can impair systems involved in maintaining balance and stability (e.g. while standing, walking, or sitting) or the ability to maintain or recover balance in response to perturbations (e.g. stepping onto an uneven surface, being bumped).
- Chronic **and acute disorders and use of drugs** (Table 3 and 4): The risk of falls increases with the number of drugs taken. Psychoactive drugs are the drugs most reported as increasing the risk of falls and fall-related injuries.
- **Extrinsic factors (environmental hazards):** Risk of falls is highest when the environment requires greater postural control and mobility (e.g., walking on a slippery surface) and when the environment is unfamiliar (e.g., relocation to a new home).
- **Situational factors (related to the activity being done):** Certain activities or decisions (e.g., rushing to the bathroom at night or answer the telephone, walking while talking or being distracted by multitasking) may increase the risk of falls and fall-related injuries.

Table 3. Some disorders that contribute to risk of falls
https://www.msdmanuals.com/professional/geriatrics/falls-in-older-people/falls-in-older-people#v1136449

Functional Impairment	Disorder
Blood pressure regulation	Anemia Arrhythmias Cardioinhibitory carotid sinus hypersensitivity COPD (chronic obstructive pulmonary disease) Dehydration Infections (eg, pneumonia, sepsis) Metabolic disorders (eg, diabetes, thyroid disorders, hypoglycemia, hyperosmolar states) Neurocardiogenic inhibition after micturition Postural hypotension Postprandial hypotension Valvular heart disorders
Central processing	Delirium Dementia Stroke
Gait	Arthritis Foot deformities Muscle weakness
Postural and neuromotor function	Cerebellar degeneration Myelopathy (eg, due to cervical or lumbar spondylosis) Parkinson disease Peripheral neuropathy Stroke Vertebrobasilar insufficiency
Proprioception	Peripheral neuropathy (eg, due to diabetes mellitus) Vitamin B12 deficiency

Table 4. Some drugs that contribute to risk of falls
https://www.msdmanuals.com/professional/geriatrics/falls-in-older-people/falls-in-older-people#v1136523

Drugs	Mechanism
Aminoglycosides	Direct vestibular damage
Analgesics (especially opioids)	Reduced alertness or slow central processing
Antiarrhythmics	Impaired cerebral perfusion
Anticholinergics	Confusion/delirium
Antihypertensives (especially vasodilators)	Impaired cerebral perfusion
Antipsychotics	Extrapyramidal syndromes, other antiadrenergic effects, reduced alertness, or slow central processing
Diuretics (especially when patients are dehydrated)	Impaired cerebral perfusion
Loop diuretics (high-dose)	Direct vestibular damage
Psychoactive drugs (especially antidepressants, antipsychotics, and benzodiazepines)	Reduced alertness or slow central processing

The interventions to prevent falls across in older age include, but are not limited to, the following (WHO, 2021):

- Tai Chi (strengthens both the lower and upper extremities and the core muscles of the back and abdomen.)
- Home assessment and modifications
- Reduction or withdrawal of psychotropic drug

- Multifactorial interventions (individual fall-risk assessments followed by tailored interventions and referrals to address identified risks)
- Vitamin D supplements for those who are Vitamin D deficient

POISONINGS

A poison is anything that can harm a person if used in the wrong way, by the wrong person or in the wrong amount. Some poisons are harmful if they come into direct contact with the eyes or skin, while others are toxic if you swallow them or breathe them in. One of the reasons for increased vulnerability in elderly is that they are often left by themselves for long periods. In addition, the older the people are, the more health concerns they have, and the more medications they use. Furthermore, older adults are more likely to have a serious adverse drug event (ADE) that requires hospitalization. There are several factors that increase incidence of ADEs in older adults (Rich, 2018):

- **Polypharmacy**: Adults over 65 years old take more prescription medications than younger patients, in addition to over-the-counter drugs and supplements, which can interact with each other.
- **Physiological changes:** Kidney and liver function decline with age, affecting drug metabolism and excretion. Dosages may need to be adjusted to accommodate for these changes, but often they're not.
- **Cognitive challenges:** older adults may experience cognitive difficulties that interfere with medication self-management.
- **Lack of clinician expertise:** older adults have unique care needs, which include appropriate prescribing and managing of medications. Unfortunately, there's a shortage of geriatric health professionals, and many prescribers do not have gerontology training. Also, few studies on older adults and medications exist; more current, evidence-based information and statistics are needed.

Judicious use of medications like avoidance of polypharmacy and appropriate dosage of the prescribed drugs due to narrow therapeutic range are effective ways to prevent poisoning (especially unintentional/accidental situations) among seniors. However, medications aren't the only way an older person can be accidentally poisoned. Chemicals, household cleaners, and sprays can all have adverse reactions on a body.

Some tips on avoiding accidental poisoning include (Pathways Home Health and Hospice, 2022):

- Keep all medicines, as well as potentially poisonous substances, in locked cabinets or out of the reach of your senior loved ones.

- Keep medicines in their original containers, make sure they are labelled properly, and store them appropriately.

- Do not share prescription medicines. If your loved one is taking more than one medication at a time, check with their health care provider to learn more about possible drug interactions.

- In fact, place the local poison control number in, on or near the phone.

- Install a carbon monoxide alarm in every bedroom of the home.

- Make sure appliances, furnaces, fireplaces, and wood-burning stoves are working properly all year long.

- Use child-resistant packaging, especially if grandchildren will be visiting.

- Store medicines and household products in a different place than food.

- Take medications in a safe manner. Make sure the lights are on, put on your glasses, and read the label every time before taking the pills. Follow instructions exactly.

- If your senior relative is forgetful, set alarms for medication reminders. Additionally, use pill separators and containers to keep track of daily doses.

- Use household products as directed. If you mix products, dangerous gases can be released.

- Keep an up-to-date list of all the medicines being taken, including prescription medicine, over-the-counter medicine, vitamins, and supplements. Have this list handy whenever visiting the pharmacy or seeing the doctor.

2.3 Tobacco and alcohol use

Older adult smokers are more prone to worse management and outcomes of common age-related diseases such as diabetes, osteoporosis, cardiovascular disease, chronic kidney disease, and respiratory problems, and smoking also may decrease vaccine efficacy and increase the risk of infections in the older population. There are proven health benefits in quitting tobacco use in older adult smokers. Quitting tobacco use can lessen the risk of cognitive decline and brain atrophy and prevent polypharmacy arising from the management of complex morbidities associated with smoking (such as cardio-metabolic, musculoskeletal, and cerebral), as well as improve health outcomes. Smoking cessation, even in later years of life, can significantly reduce mortality and improve quality of life, including in those older individuals with underlying smoking-related diseases.

Health benefits can be immediate, as early as within the first hour, and continue for days, weeks, months, and years after stopping (Nguyen & Chen, 2020-2021).

2.4 Mental Health – depression and dementia

Optimizing well-being is one of the main goals in all areas of health care, including geriatric care. Previous studies have shown that well-being in the elderly is influenced by selected socio-demographic and clinical characteristics, such as overall health status and disability. Earlier research has also shown that well-being in the elderly may be related to personal resources, such as coping behaviors, size of social network and the level of social support, and spirituality or religion.

Promoting intrinsic and extrinsic spiritual and/or religious activities can be a valuable source of enhancing the cognitive subjective well-being of older adults, better adaptation to old age, and successful aging. Thus, health and social care professionals should be aware that interventions aimed at spirituality enhancement may help improve cognitive subjective well-being of older people. Given that, older people should be treated in line with a **holistic care approach**. Spirituality is a mediator between depressive symptoms and subjective well-being in older adults (Soósová et al, 2021).

DEPRESSION

Prevalence of depression has been estimated at 4.4% of the world-wide population with a higher incidence in women and an increasing age. It is one of the main causes of disability worldwide and is a significant factor in the global burden of illness. Depression is widespread in older adults living in the community and its prevalence increases with comorbidity of chronic diseases, reduced cognitive functions, and in hospitalized and/or institutionalized older adults (Soósová et al, 2021).

Depression is common in people with Alzheimer's and related dementias. It can be an early warning sign of possible dementia, but dementia can also cause some of the depressive symptoms. Suicide attempts may increase in people recently diagnosed with dementia. Thus, it is important to have support systems in the field to help patients coping with a dementia diagnosis and possible depressive symptoms that follow. More research is needed to determine effective depression treatment options for people with dementia (NIH, 2021).
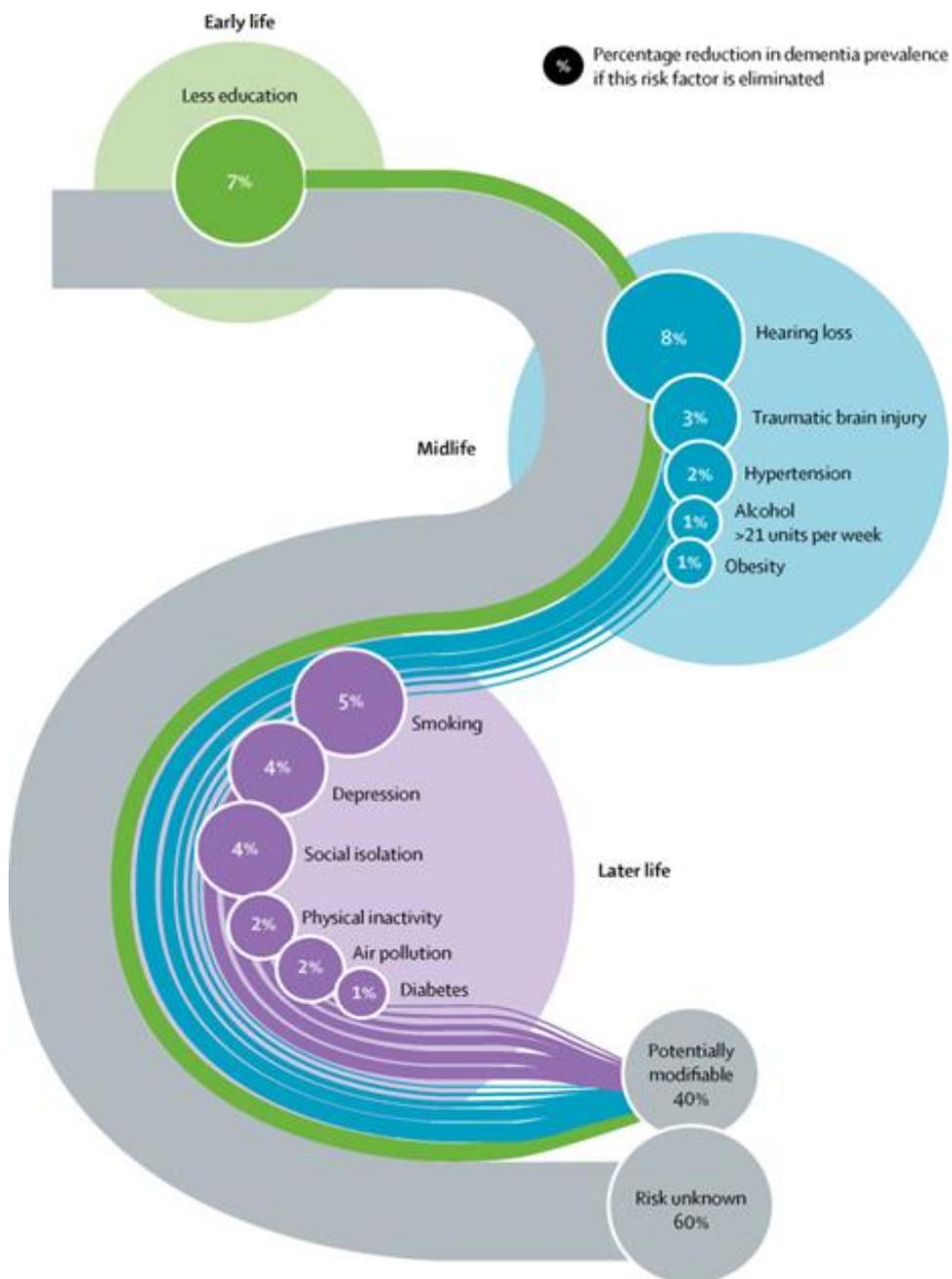
DEMENTIA

Dementia is a rapidly growing global public health problem. Worldwide, around 50 million people have dementia, with approximately 60% living in low- and middle-income countries (LMIC). Every year, there are nearly 10 million new cases. The total number of people with dementia is projected to reach 82 million in 2030 and 152 million in 2050. Dementia leads to increased costs for

governments, communities, families and individuals, and to loss in productivity for economies. In 2015, the total global societal cost of dementia was estimated to be US$ 818 billion, equivalent to 1.1% of global gross domestic product (GDP).

Crucially, while age is the strongest known risk factor for cognitive decline, dementia is not a natural or inevitable consequence of ageing. Several recent studies have shown a relationship between the development of cognitive impairment and dementia with lifestyle related risk factors, such as physical inactivity, tobacco use, unhealthy diets, and harmful use of alcohol. Certain medical conditions are associated with an increased risk of developing dementia, including hypertension, diabetes, hypercholesterolemia, obesity, and depression. Other potentially modifiable risk factors include social isolation and cognitive inactivity (Fig. 6). The existence of potentially modifiable risk factors means that prevention of dementia is possible through a public health approach, including the implementation of key interventions that delay or slow cognitive decline or dementia (WHO, 2019).

Figure 6. Population attributable fraction of potentially modifiable risk factors for dementia (Livingston et al. 2020).

Early life

Less education

7%

Percentage reduction in dementia prevalence if this risk factor is eliminated

8% Hearing loss

3% Traumatic brain injury

2% Hypertension

1% Alcohol
>21 units per week

1% Obesity

Midlife

5% Smoking

4% Depression

4% Social isolation

2% Physical inactivity

Air pollution

2%

1% Diabetes

Later life

Potentially modifiable
40%

Risk unknown
60%

2.5 Use of Media Information: How to Better Access, Understand, Evaluate and Apply Information and Prevent Diseases or Risks?

An important aspect of health literacy is being able to sensibly consume the health-related information - to understand and use available information and recognize their reliable sources to make proper and appropriate health decisions.

Age is a key factor in older adults' Internet use. National surveys have shown that numbers of seniors browsing the Internet, using ICTs, and approaching social media have been significantly increasing in recent years. Nonetheless, Internet use has also proven to decrease with age – with a breakout age appearing to be above 75.

Consequently, surveys and studies have concluded that older adults require appropriate training on how to use the Internet, as training can help them overcome psychological and social barriers that limit their use of the Internet. When developing new technological devices or services that are aimed at improving cognitive functions, distinct age groups, i.e 55-64 years old, 65-74 years old, 75 and more years old (Klimova et al., 2016; Klimova, 2017) should therefore be considered as they depend on different specific needs.

INTERNET USE

By using social media, seniors acquire many positive instances related to their personal and social life as they are more engaged in constructive activities and focus on self-education. However, along with the benefits it can provide *(i.e., remain updated with the latest news and trends, reduce cognitive illness and depression, etc)* certain risks are to be anticipated when a senior adult is engaged in online activities and social media due to scams and phishing among others, as well as to misinformation.

When it comes to health-related facts, one of the major limitations posed by social media is credibility. It becomes difficult to sift through a plethora of information available online and tell right from wrong. Quality and reliability issues need to be taken care of while trusting social media for health-related communication. However, misinformation around the mass media has grown considerably during the recent pandemic crisis. The phenomenon of infodemics – availability of too much information including false or misleading information in digital and physical environments, leading to confusion and risk-taking behaviors that can harm health (WHO, 2020) – may affect everyone using the Internet but if the concept of misinformation and fake news is more and more familiar to young people, it is still an unexplored area for older adults and seniors. The wise and prudent use of social networking sites and platforms can go a long way in promoting individual as

well as public health. Yet, the careless use of these platforms may also have a significant impact on the healthcare sector as well as the seniors' mental and/or physical health.

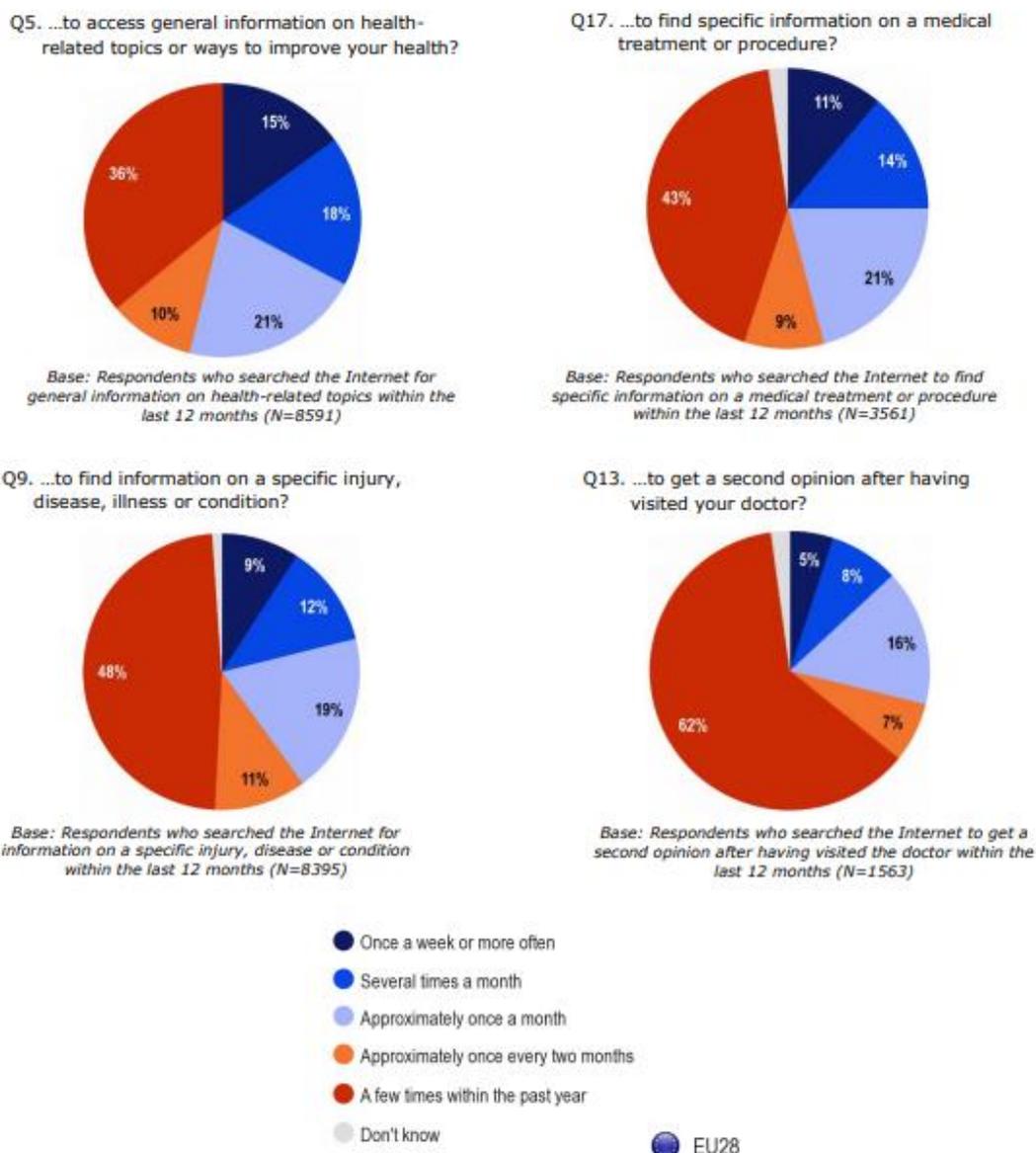**On average, within the last 12 months, how often have you used the Internet...**

Q5. ...to access general information on health-related topics or ways to improve your health?

Base: Respondents who searched the Internet for general information on health-related topics within the last 12 months (N=8591)

Q17. ...to find specific information on a medical treatment or procedure?

Base: Respondents who searched the Internet to find specific information on a medical treatment or procedure within the last 12 months (N=3561)

Q9. ...to find information on a specific injury, disease, illness or condition?

Base: Respondents who searched the Internet for information on a specific injury, disease or condition within the last 12 months (N=8395)

Q13. ...to get a second opinion after having visited your doctor?

Base: Respondents who searched the Internet to get a second opinion after having visited the doctor within the last 12 months (N=1563)

- Once a week or more often
- Several times a month
- Approximately once a month
- Approximately once every two months
- A few times within the past year
- Don't know
- EU28

Figure 7. Internet usage, European Citizens' Digital Health Literacy, 2014.

The main gaps in seniors' digital literacy can be found in the European Citizens' Digital Health Literacy survey released in 2014, which provides a satisfying overview of the level of Internet usage among Europeans, their health, and other health-related issues. Overall, at EU level, eight out of ten respondents (80%) have used the Internet for private purposes within the last 12 months. Most respondents (59%) say that they have used the Internet to search for health-related information within the last 12 months. Amongst these, over half of the respondents (55%) say that they looked for general information on health-related topics or ways to improve their health. A similar proportion (54%) looked for information on a specific injury, disease, illness, or condition.

Just under a quarter of people (23%) looked for specific information on a medical treatment or procedure, while a tenth of respondents (10%) used the Internet to look for information to get a second opinion after visiting their doctor.

The following analysis shows the need to help to develop and promote strategies for decreasing the digital divide avoiding inadequate communication between providers, a situation affecting mainly children, elderly patients, and patients with mental illnesses, or other forms of disadvantage.

3. Recommendations and safety guidelines

To avoid any negative health outcomes and try to tackle the problem of misinformation, bearing in mind some safety guidelines for using media for healthcare is essential.

Safety guidelines

for using media for healthcare

- Use credible sites and apps for getting medical information
- Use online forums to share experiences
- Know who is behind the site or app
- Do not diagnose yourself and always check with a doctor before taking any medications
- Never enter any personal information on a site or an app until you are certain about its legitimacy

Regarding the health-related media information, national and international sites and apps providing medical information and advice exist. Some are useful for such things as understanding how specific drugs work or getting an overview of an illness or condition. For instance, it is possible to have access to online forums where people dealing with similar conditions share experiences and answer each other's questions, as well as to detailed information related to specific products on companies' websites. These sites can be extremely valuable; however, it is important to question oneself before acting on anything read on any website or app. It is crucial to begin by knowing who is behind the site or app. In general, sites operated by the government (ending in.gov) or well-regarded medical institutions have reliable information, but some commercial sites promoting products might have questionable purposes – this does not necessarily mean that it does not have useful information, but it is something that one should keep in mind.

Even with legitimate sites, online advice for diagnosing an illness is not reliable as some may contain information that has not been vetted by medical professionals. Having a symptom associated with an illness does not necessarily mean that a senior is affected by that illness. Besides, seniors should always check with a medical doctor or trusted healthcare provider before taking any action or medications.

It is important to never enter any personal or health information on a site or an app until it is certain that it is legitimate and will respect and protect their privacy.

Finally, lots of information can be found online about food, including nutritional information and some great recipes. Exercise videos can be found on YouTube and other sites that show viewers

how to do specific exercises. These instructional videos can be extremely helpful, but seniors must be aware of their own limitations and consider consulting a doctor or a personal trainer before engaging in any new exercise.

III. WORKING WITH OLDER ADULTS: RECOMMENDATIONS AND BEST PRACTICES EXAMPLES TO DEVELOP HEALTH LITERACY CAPACITY

Health literacy is an outcome of effective health education, increasing individuals' capacities to access and use health information to make appropriate health decisions and maintain basic health. This relationship is illustrated in greater detail in Figure 8. Health education focuses on building individuals' capacities through educational, motivational, skill-building and consciousness-raising techniques. On the other side, healthy public policies provide the environmental supports for encouraging and enhancing behaviour change (WHO, 2012).

Figure 8. Relationship between major health concepts
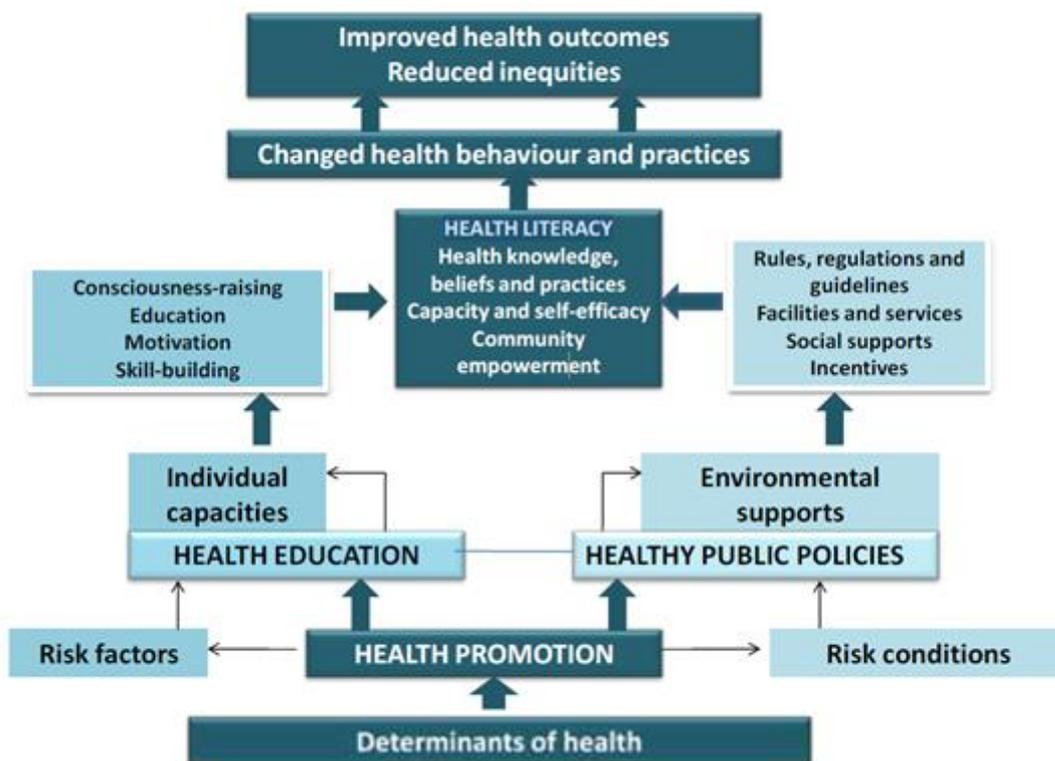
1. Strengthening Systems & Organizations (Universities of Third-Age, Nursing Homes) to make them more health-literate

Table 5. Examples of strategies, programs and action plans available in the V4 countries to strengthen the HL among seniors

System level	CZ	HU	PL	SK
· **Strategies**				
The National eHealth Strategy of the Czech Republic 2016-2020	o			
Strategic framework for health for 2014-2030				o
Strategy for Lifelong Learning and Counseling for the years 2021-2030				o
2030 Digital Transformation Strategy for Slovakia				o
Strategy for Long-Term Care 2030		o		
· **Programs**				
Health 2020 - National Strategy for Health Protection and Promotion and Disease Prevention	o			
Health 2030 - Strategic framework for the development of health care in the Czech Republic until 2030	o			
National Health Promotion Program				o
National Active Aging Program for 2021-2030 (NPAS-II)				o
National comprehensive health screening program		o		
National Health Program for 2021-2025			o	
Active + programme for the years 2021-2025			o	
Support Seniors program			o	

· **Action Plans**				
National Action Plan Supporting Positive Aging	**o**			
Action Plan for the Digital Transformation of Slovakia for 2019-2022				**o**

2. Introduction of health literacy in Adult Education: The Kit Resources in Practice

2.1 Some Tips for Teaching Health Literacy in Your Organization

- **Create a supportive learning environment.** You do not have to be a health educator, imparting knowledge to your clients, to effectively integrate health literacy skills into your group. Your goal is to create a learning environment that teaches the skills that matter to help adult learners find, understand, evaluate, communicate, and use health information for themselves and their families.

- **Draw on learner health beliefs, experiences, and knowledge.** People sometimes learn best from one another. A learning environment in which adults' contributions are valued will make them eager to share what they know and think, to value one another's ideas, and to learn and evaluate new information and incorporate new information into the decisions they make.

- **Collaborate with local health organizations.** Working with a local health organization provides opportunities for real-life experiences such as field trips and speakers. Such connections can improve peoples' knowledge about available services and build their confidence to move toward using these resources independently.

- **Prepare health professionals before they speak in your class.** Many health professionals and even health educators are not prepared to present information in ways adult learners will understand. Supply presenters with tips for communicating clearly. Use visual aids, define new words, and break information into manageable chunks.

- **Have adults share what they learn with others.** The act of presenting health information to others can encourage people to share what they have learned with family and friends. It also gives learners opportunities to use new health information and reinforces what they have learned.

See example of video which shows the components for teaching a health literacy lesson: https://www.youtube.com/watch?v=ppyqEqSQWuE - TSTM Toolkit: Health Literacy in Action

2.2 Implementation of Communication Techniques

a) Tools to improve SPOKEN communication

- **Using open-ended questions.** e.g., "Tell me what you will do when you get home?"
- **Teach-back method.** For care providers it helps to confirm that the patient understands the information received. It has been shown to be a top safety practice e.g., for diabetic patients with low literacy. Health care professional may ask, "*I want to be sure that I explained your medication correctly. Can you tell me how you are going to take this medication?*" or "*What are you going to do when you get home?*" Such questions are helpful in determining the extent of understanding and what parts of the action plan the patient may not have understood fully. Care providers can react with immediate feedback and educational efforts to correct items the patient did not comprehend. Demonstrations of this method are available e.g.:
    - https://www.youtube.com/watch?v=puyNz4f_J3o - Teach-back for Understanding, CCMI
    - https://www.youtube.com/watch?v=bzpJJYF_tKY – What is Teach-back?, IHI Open School
    - https://www.youtube.com/watch?v=IKxjmpD7vfY - North Carolina program on health literacy
    - https://www.ahrq.gov/sites/default/files/wysiwyg/professionals/education/curriculum-tools/shareddecisionmaking/tools/tool-6/share-tool6.pdf - AHRQ. The SHARE Approach
    - https://cdn.pfizer.com/pfizercom/health/help-your-patients.pdf - Pfizer
- **Ask Me 3 program**. This program is designed to promote communication by encouraging patients to ask three questions at each visit to ensure that patients understand the answers: "*What is my main problem? What do I need to do? Why is it important for me to do this?*".
- **L.E.A.R.N model.** Listen, Explain, Acknowledge, Recommend, Negotiate; Berlin & Fowkes Jr, 1983
- **Picture stories.** Picture stories are designed to help educators address topics that affect the health and well-being of their clients. It is useful for adults with lower literacy as they tend to have the least awareness of and access to health care services. Words are kept to a minimum in the stories to give just enough information to convey an idea without becoming too distracting. The stories are designed to be safe, impersonal prompts to allow people to discuss difficult topics, ask questions, and obtain information. See example on: Singleton, https://www.cal.org/caela/esl_resources/Health/

Other selected strategies that care providers can apply in helping seniors overcome limited health literacy are presented in Table 6 (Peng, Valpreda & Lechelt, 2015).

Table 6. Recommendations for helping patients with limited health literacy.

Strategy	Key points
Greet patient warmly	Maintain eye contact when you greet patients warmly and during the interaction to encourage questions and disclosure
Modify clinical skills	Use plain language (e.g., high blood pressure rather than hypertension, heart attack, not myocardial infarction) Speak slowly and clearly Be specific and concrete
Limit content	Focus on 3-5 key points per visit and repeat them
Use multiple forms of communication	Use more than one communication modality Draw simple pictures, use illustrations, demonstrate with 3D models Show videos or interactive computer programs Adapt format for patients with limited English proficiency
Provide encouragement	Encourage patients to ask questions about their health and treatment plans and to take an active role in managing their own health care
Confirm comprehension	Stop asking, "Do you understand?" Instead, you can ask, "What questions do you have for me?" Confirm understanding by using "teach back" – asking patients to explain to you the information you provided to them
Provide additional patient support	Promote adherence and self-management skills by instituting group visits, implementing telephone/online coaching, reminders or monitoring linking patients, as needed, to one or more members of an interdisciplinary healthcare team

Key things to consider before <u>designing materials</u> on making health decisions for seniors (CDC, 2021) <u>https://www.cdc.gov/healthliteracy/developmaterials/audiences/olderadults/understanding-decisions.html</u>:

- **Make it empowering.** Older adults want control of their health. Frame your messages so they feel confident they can use the information in a way that will impact their lives.
- **Make it from a trusted source.** Older adults are more likely to act when the health message is from a trusted source. Using survey research findings and asking leaders of organizations that serve older adults can help you determine which sources are credible with the seniors in your intended audience.
- **Make it self-directed.** Older adults like to learn new health information through a variety of methods. While some may prefer to receive information through spoken or printed words, others may be visual learners and some, a combination of both. Think about using different approaches to present your information, such as pamphlets, brochures, videos, and audiotapes.
- **Make it solution oriented.** Many older adults do not like being bogged down with tons of health information. They prefer quick and clear solutions to their health issues. Provide short, concise health messages that detail the specific action steps your older adult audience should take to achieve the desired health goal.

2.3 Challenges Affecting Health Literacy of Older Adults (CDC, 2021)

Aging results in normal changes in cognition, specifically in reduced processing speed, greater tendency to be distracted, and reduced capacity to process and remember new information. Many older adults have problems with vision and hearing loss is common in older adults as well. Use the following strategies with people who have:

<u>Cognitive challenges</u>:
- Repeat essential information
- Focus on the important meaning of the information, that is, the gist
- Use <u>plain language</u>
- Emphasize directions that the person must follow
- Use reminders to aid memory (i.e., brochures, pamphlets)
- Include skill-building activities with your information to reinforce meaning

Visual challenges:

- Make information easy to see and read
- Contrast: Text should be printed with the highest possible contrast. Achieve the best contrast by using black text on a white background.
- Font Size: Use 16- to 18-point font size or larger when developing materials for older adults.
- Spacing Between Lines of Text: People with low vision may have difficulty finding the beginning of the next line when reading, so make the space between lines of text at least 25 percent of the point size.
- Paper Finish: Avoid paper with a glossy finish because it can cause glare.
- Reduce the amount of text.
- Provide audio information

Hearing challenges:

- Limit background noise
- Speak clearly with more volume
- Do not chew gum or eat while speaking
- Always talk face to face

3. Implementing Educational Programs and Activities dealing with Health Promotion, Health Protection and Disease Prevention for Older Adults

Government activities addressed to adults concerning the issues of health education differ in their scope and subject matter in the V4 countries. Guidelines for health protection and promotion may be included in thematic programs on aging, building a culture of lifelong learning – Lifelong Learning (example of the Czech Republic) or be part of larger but specialized programs (such as in Poland, as part of the National Oncology Strategy – a long-term program for 2020-2030).

The COVID-19 epidemic has further highlighted the needs of adults in terms of health knowledge and educational needs in this area. Susceptibility to fake news related to pandemic topics, the associated reluctance to vaccinate and fear of potential complications led to low levels of vaccination in each of the Visegrad Group countries. In Poland, one of the highest levels of deaths was recorded, despite these reports, the level of vaccination of the population did not increase significantly.

Most preventive health programs are addressed to children and young people and their subject matter is planned for implementation as part of school programs (example: Poland, Hungary).

In the Visegrad Group countries, there are various bodies dealing with the implementation of activities related to health policy – these are both the Ministries of Health, Justice, and Education. On the one hand, this may cause difficulties in coordinating inter-ministerial activities and, on the other hand, it may distribute responsibility for the assumed results to be achieved under the programmes.

At the European Union level, there is the European Centre for Disease Prevention and Control (ECDC). Its mission, however, is not to educate on health – although this action is carried out indirectly – but above all to collect data on the risks present, analyze them and present recommendations regarding public health in the EU.

Activities related to education – and here it should be emphasized that the topic of gerontological education in the field of health is clearly visible – is carried out by the WHO. Like other international agencies, however, it is an organization whose activities may or may not be implemented within the framework of the activities of individual governments. What's more, the materials available there are not translated into all languages, but only the most widely used and most popular in the world (m. in English, Chinese, Arabic or Spanish) – which means that residents of countries where these languages are not widely known do not have access to the materials made available there.

Activities carried out at the level of government and local government are carried out in national languages – and this ensures and more effective reaching of target groups and the ability to monitor the needs and progress of the Programmes on an ongoing basis. However, the condition for their good operation is that they are coherent, adaptable, respond to local needs and are carried out as part of a long-term policy (this is already happening, for example, in the Czech Republic or Slovakia), and not short-term programmes.

The key challenges in Health Promotion, Health Protection and Disease Prevention for Older Adults are:

1. In terms of building channels to reach target groups and shaping attitudes in these groups:

- reaching people from key groups (building communication channels) to provide them with reliable knowledge (certified as true to the actual state of health sciences) about the ways of living in health (to maintain activity and independence as long as possible)
- reaching people from key groups (building communication channels) to promote analog (direct) and digital (remote) tools allowing for acquiring new information, choosing pro-

health strategies, communicating with specialists providing high-quality services in various areas (medical, nutritional, regarding physical activity, etc).

2. In terms of building common knowledge and attitudes through available or newly created communication channels:

- distribution of reliable information and advice on key issues relating to health, diet, physical and social activity. This is to promote specific attitudes and practices, but also to promote the attitude itself consisting in a conscious and careful approach to health and quality of life,
- proactive animation of pro-health attitudes through social campaigns carried out by the media and health care workers / social workers / industry NGOs, national and local preventive campaigns, ambassadors and influencers, community local actions (like blood donation or mammography).

Effective actions require:

- significant budgets and long implementation perspectives (minimum several years)
- ongoing monitoring and evaluation of effects
- carrying out activities according to the established parameters
- distributing certified information (in line with the state of scientific knowledge and leaving as little doubt as possible about its truthfulness or intention to disseminate)
- unification of communication channels to effectively reach various groups, including older people living in single-person households (the channels may be mass media, local media - television, radio, internet, press; infrastructure of medical and social workers; in the case of the largest domestic hybrid programs and mass compilation of both ways of reaching).
- decentralization of a significant number of activities so that they are carried out as close as possible to the final beneficiaries and that they have the impression that activities towards them are taken with care and respect.
- the use of digital media, but most of all traditional media, which is still the most often used by the elderly.

An example of an interesting campaign to build health awareness was the campaign "Understanding the aging" carried out in Poland in 2018-2020. The campaign was organized by the Leaven Foundation with a small budget of less than EUR 100,000. The campaign had several equal goals, and each of the actions was so successful in different channels and towards different audiences. Such an extensive campaign was planned because all other national campaigns focusing on elderly health covered very narrow topics (e.g., prevention of specific diseases) and did not present a complex and true picture of aging or infantilized issues related to taking care of the elderly (a typical picture from photo banks, where a cheerful nurse gives a tablet to a laughing senior…).

The goals of the "Understanding Aging" campaign were:

- making the society aware that in Poland there are over 1 million people 60+ who live in real social isolation and loneliness
- strengthening pressure on governmental decision-makers on the need to implement new tools for providing medical and social care services to the elderly
- making younger people aware of the challenges of aging physically and mentally (the specific goals were to increase the level of empathy towards seniors and to make people aware of their own challenges in aging)
- providing practical knowledge and information to caregivers who provide services to seniors (the need to start providing care usually arises suddenly, without adequate preparation of people caring for dependent seniors) or who want to provide care services professionally.
- disseminating among seniors' positive models of caring for their own health, allowing for good aging and maintaining independence as long as possible (including in terms of diet, physical activity, etc.).
- providing detailed advice on health, diet, exercise, etc.

The campaign lasted for 2.5 years. It was conducted at a low cost, which was possible thanks to the broad institutional contacts of the Leaven Foundation and its status of a non-profit non-governmental organization. As part of the campaign, an expert team was established consisting of medical specialists, geriatricians, social gerontologists, but also specialists in the field of social communication. Various activities were carried out as part of the campaign. These actions had the following effects and revealed significant health and care needs / deficits:

ACTION	EFFECT	Need/deficit indicating the need to implement further actions
Preparation and broadcasting of a TV and radio spot about the problems of lonely elderly people living in isolation, although most often having families and being within the reach of social services. A 45-second spot was made. Its commercial distribution could not be covered by the Foundation. However, there is a law in Poland that allows for free broadcasting of spots prepared by non-governmental organizations with the status of a Public Benefit Organization. The TV and radio spots were accepted by public broadcasters and were broadcast on all public television and public radio channels. In total, the spot was broadcast over 500 times.	The spots have been broadcast over 500 times. A total of 10 million contacts with viewers. Media coverage of the campaign goals and presentation of the problematic issues related to aging in over 20 national mass media publications	The openness of the mass media to the problems of the elderly was revealed. Contrary to popular belief, the mass media was prepared to focus on topics related to the significant challenges of an aging population (which are often perceived as unattractive and difficult). It turned out that the media is willing to reach groups of people 60+ who are not considered "commercial groups" in the V4 countries. It seems that budget support for campaigns or educational programs dedicated to health issues would guarantee significant ranges. To ensure the cost-effectiveness of such campaigns, it would be necessary to build a longer perspective of cooperation with the media. Emphasizing the challenges of aging should be one of the principles of media, both public and commercial.
Construction of "aging simulators" and events during which these simulators were used. LF has developed "aging simulators". These are coveralls	More than 1,000 people from many key groups have used aging simulators. More than 10,000 people attended the workshop operating the suit. Feelings "from the body of an	It turned out that mass media, educational institutions and public entities are open to disseminating non-standard messages related to aging. The key is an interesting formula and an original excuse.

composed of textile materials, weights, stiffeners, special glasses, and headphones. They allow a younger person to feel the physical functioning of seniors with numerous dysfunctions and deficits. The coveralls allow the wearer to be sensitive to numerous limitations. The suits were modeled on the existing solutions but were constructed without infringing patent rights.

LF visited over 50 schools with the suits (over 500 students put them on, and over 5000 watched how the functioning of their colleagues changed), 15 editorial offices of local and national media, 10 start-ups designing solutions for the elderly, public institutions having a real impact on the creation of legislation and solutions beneficial for seniors, 15 geriatric wards and medical facilities. We also visited two popular breakfast TV shows and appeared in several other shows. On vision, their hosts dressed aging simulators and discussed emerging barriers to their functioning. The aim was to strengthen viewers' empathetic attitudes towards the elderly, especially towards

elderly person" were reported in over 20 national journalistic materials and by several local editorial offices.

TV and radio programs and Internet publications reached 5 million people.

Each of the media materials presenting the "curiosity" that is the suit also focused on a selected problem aspect related to aging, health awareness, goals to be taken for the benefit of the aging society by public administration, etc.

the physical and health aspects of their functioning.		
Online guidance page on "Understanding Aging".

A special guide page dedicated to caregivers was launched. These people most often have significant gaps in knowledge and skills. The sources of information intended for them are scattered. Special webpage contains over 200 educational materials prepared by experts. These materials concerned health care, good caring practices, good psychological support practices (both for seniors and caregivers). The articles also deal with legal, financial, and organizational issues. Much of the articles are about general health issues, and their readers are also seniors looking for guidance for themselves. | The constantly updated website has so far recorded over 1 million visits and over 100,000 unique users. | The popularity of the website revealed an evident lack of reliable sources of information for both seniors and caregivers. It is necessary to launch comprehensive websites that aggregate numerous valuable advice, especially tailored to two groups: the seniors themselves and the caregivers (with no commercial content). |
| "Understanding Aging" guide for caregivers.

A dozen specialists have developed the first comprehensive guide in Poland dedicated to caregivers. The guide focuses on good practices of providing care in the residence of a senior, principles of caring for health | LF have printed and distributed over 3,000 copies of the guide.
However, its digital version was downloaded from our website a total of 89,000 times. | The activity revealed the lack of reliable, easy-to-access publications building the knowledge base for carers of the elderly, most often surprised by the sudden challenge of taking care of older people. |

and mental well-being, methods of recognizing diseases and health deficits. It contains rules and good care practices, including taking care of the mental condition. The more than 200-page guide also discusses issues related to finances, entitlement to financing services, communication with medical and care facilities.		
Actions with influencers

Content with influencers active on Instagram or YouTube, popular among people 15-25 years old, was created. Influencers have used aging simulators and broadcasted videos on which they reported their own feelings. The influencer's messages also emphasized the issues of aging prevention, especially the importance of diet and exercise. | One of the videos prepared with a very popular youth influencer had over 400,000 views on YouTube. Overall, the campaign resulted in over 1,000,000 contacts with all content prepared by influencers. | The effect of these activities indicated that young people do not have any major objections to interacting with non-pushy content that makes them aware of the challenges of aging.

So far, there has been no other campaign in Poland to build sensitivity to the needs of seniors dedicated to such a young audience. And yet we are talking about a group of people who today are in relationships with the elderly and who should have an empathetic approach to seniors. These people should also be able to find helpful examples for shaping their own aging strategies, including health awareness, approach to diet, exercise, social activities, etc. |
| Expert counseling | 1000 specialist consultations | Good quality and accessible |

Our experts have provided over 1,000 individual advice, both to seniors and caregivers. Unfortunately, we were not able to provide more advice.	were provided. After the closing of the call for applications, we received 11,000 more questions that were logistically impossible to answer. Many people have asked questions related to geriatrics. Many of them argued that in their regions it is not possible to obtain geriatric counseling under the public health care system due to the lack of these specialists (the availability level of geriatricians in Poland is the lowest in the entire EU).	counseling are needed (online, telephone, face-to-face). It is necessary to build a system that allows the use of a library of knowledge and experience and that obtains various types of advice through various communication channels.

The "Understanding Aging" campaign received many awards and was characterized by record results. The campaign is not an exceptionally innovative activity. Rather, it duplicates available elements that are easy to scale. It must be said that its cost was even a dozen times less than the government campaign limited to one thematic topic. The campaign is therefore an example of how to build health awareness in various social groups and implement practical actions.