

e-Health Literacy Learning skills among Nurses working with older people

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Best practice recommendations methodology



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INFORMATION ABOUT THE PROJECT, AIMS, SUMMARY

BACKGROUND

Nurses are the largest group of health care professionals and spend a considerable amount of time with the patients, having a significant impact on their caring experience; this is also the case for older people's care. In many cases, nurses have to face the worried family's questions and pressure with inadequate health literacy and eHealth literacy.

The specific project, eLILY2-RN, is a blended training course (class sessions and eLearning course) for nurses and nursing students and is the continuum of the eLILY project "eHealth Literacy Learning skills among informal carers of older people and people with Dementia".

DURATION OF THE PROJECT

The project lasts 24 months (1.10.2020 – 30.9.2022) and is funded from the EU budget.

PROJECT PARTNERS

The project coordinator is the Cyprus University of Technology (Cyprus). The project also involves educational institutions from

four other European countries: Klaipėda State University of Applied Sciences (Lithuania), National and Kapodistrian University of Athens (Greece), University of Humanities and Economics in Lodz (Poland) and University of Ostrava (Czech Republic). All the participating countries (Cyprus, Poland, Lithuania, Greece and the Czech Republic) are countries with a low rate of health-related internet use among the older adults.

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INFORMATION ABOUT THE PROJECT, AIMS, SUMMARY

SUMMARY / AIMS

The international project ELILY2 is focused on the educational activities of nurses in the field of health literacy in geriatric patients.

During the project, a blended training course was developed and piloted to enhance the knowledge and skills concerning the consequences of low-level Health Literacy and eHealth literacy among nurses and nursing students. This best practice guide aims to promote the project's objectives among stakeholders and policymakers.

The project outcomes will raise awareness on the topic of Health Literacy and eHealth Literacy to the partners' organisations, nurses and nursing students, the participants in the piloting, and older people and their families.



DEFINITIONS OF THE CORE CONCEPTS

- Health literacy is defined as: “people’s knowledge, motivation and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention and health promotion to maintain or improve quality of life during the life course” (Sørensen et al., 2012). OR
- Health literacy is defined as: “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions” (IOM, 2004).
- eHealth literacy: The ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem (Norman and Skinner, 2006).
- Digital health literacy: Set of skills, knowledge, and attitudes that a person needs in order to develop functionally in the Information Society (WHO, 2017).
- Telehealth (and telemedicine): Health services delivery using Information and Communication Technology (ICT), especially where distance is a barrier to receiving health care (WHO, 2017).
- Mobile health (mHealth): is a component of eHealth and is defined as “medical and public health practice supported by mobile devices such as mobile phones, patient monitoring devices, personal digital assistants (PDAs) and other wireless devices” (Ryu, 2012).

INFORMATION ON HEALTH AND e-HEALTH LITERACY

LOW HEALTH LITERACY AND HEALTH OUTCOMES ON PEOPLE

Low health literacy leads to:

- More hospitalizations
- Increased emergency department visits
- Increased skepticism about treatment
- Lower receipt of preventive services (i.e. mammography screening and influenza vaccine)
- Poorer ability to demonstrate taking medications appropriately
- Poorer ability to interpret labels and health messages
- More distrust of health providers
- Decreased satisfaction with care provided
- Among older adults low health literacy may lead to: poorer overall health status and higher mortality rates (Berkman et al., 2011; Zheng et al., 2018; Stewart et al., 2020; Shin et al., 2021; Fan et al., 2021)

High health literacy leads to:

- Better health and wellness
- Reduced costs for the National Healthcare Systems
- Higher quality of life
- Better self-management
- Aging in place and nursing home diversion
- Reduced caregiver burden
- Increased patient satisfaction
- Better communication and coordination between patients, clinicians, and caregivers

(Position Paper: mHealth Technologies: Applications to Benefit Older Adults. Oakland, CA: Center for Technology and Aging; 2011)

e-HEALTH LITERACY AMONG NURSES AND ITS IMPACT ON THEIR HEALTH

High e-health literacy among nurses leads to:

- Increased Health promoting behaviours
- Healthier eating behaviours nurses and healthcare workers, inconsistency of findings
- Likelihood of doing physical activity among healthcare workers and among nurses working on fixed-day and day-evening shifts
- Better Interpersonal relationships
- Increased Self-actualization
- Increased Health responsibility

e-Health Literacy among Nurses and Its Impact on Older People's Health Outcomes

- High quality of nursing performance
- Increased healthcare workers' adherence to infection prevention and control procedures
- Enhanced nurses' knowledge: easy and accurate update of nursing knowledge at a regular basis at the point-of-care
- Improved nurses' competences to answer questions, educate and inform their patients, colleagues, nursing students and the public
- ? time saving or time consuming ? inconsistency of findings
- Better nurses' self-efficacy in service delivery
- Increased patients' satisfaction by the way nurses give them information
- Increased patients' confidence in nurses
- Better quality and safety of care

- Accurate diagnosis may be made by primary health care nurses
- Reduced unnecessary referrals to tertiary level hospitals and relevant costs

(Johansson et al., 2014; Ricks, Benjamin and Williams, 2015; Burkoski et al., 2019)

e-DELPHI RESEARCH OUTCOMES – THE ELILY2-RN CURRICULUM (CUT)

METHODOLOGY OF CURRICULUM DEVELOPMENT

At a European level, there is not enough evidence about health and e-health education in nursing. As part of the eLILY2 project, a literature review of the available trainings for nurses and nursing students and a two-round modified e-Delphi method was conducted. The aim of the Delphi survey was to design a curriculum focusing on the specific competencies required by nurses to support them in the caring of older people, as there is not much information related to the specific content. In total, 20 experts coming from 5 different countries were invited by email to participate in the two-round eDelphi survey.

FINAL CURRICULUM

The curriculum included three modules after the second round and in the final consensus meeting, module 1 was further divided into two modules: an introductory one (module 1) and a module focusing on specific issues of patient safety (module 4).

Module 1. General background of HL and eHL (definitions, prevalence, outcomes on patients)-Leader NKUA

- 1.1 Introduction to Health and eHL (definitions) / eHL training skills (Use and operate media, information and seeking skills) /Learn how to search reliable online health information and scientific resources
- 1.2 Factors associated with HL and eHL

Module 2. Skills in Practice- Identification of patients with limited HL-Leader AHE and CUT

- 2.1 Learn how to administer the most used instruments for measuring HL and eHL available nationally
- 2.2 Training on how to identify common signs that indicate low HL/ Observation of patient behavior / Training on how to recognise the key differences between skilled and poor readers
- 2.3 Communicate and cooperate with low HL adults (Oral and written communication)/ -Best practices- skill-building workshop (use of plain language, teach-back method, AksMe3-training encouraging patients and families to ask 3 specific questions to providers)
- 2.4 Communication skills of social media (how to use Viber, WhatsApp, Skype, Messenger and other social media tools during the provider -patient interaction, assessing fake news, unreliable resources)
- 2.5 Privacy and security issues (e.g., exchange of information, personal data, medical data)

Module 3. feasibility and readability issues and eHealth challenges-Leader KVK and CUT

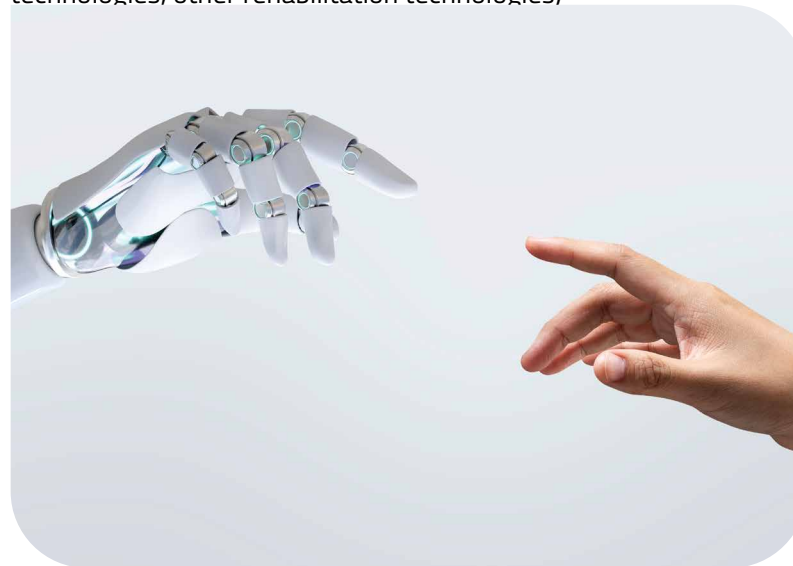
- 3.1 Learn and teach how to identify "plain language" resources/ and evaluate the difficulty of written material with common tools to assess written material in electronic databases
- 3.2 Methods for verification of patient understanding of health care information taught (actionability and understandability, misunderstandings and misinterpretations of information cited in the literature,

dosage instructions using patients' testimonials

- 3.3 Exercise: Design an eHL intervention
- 3.4 Cultural aspects and strategies to promote HL and eHL (explain the need for healthcare professionals to be culturally competent/ health beliefs on self-care, communicate with a culturally diverse patient, cross-communication challenges, identify how race and culture relate to health

Module 4. Patient safety and HL-Leader UO

- 1.1 HL and Patient Safety (e.g. impact of LHL, medication adverse events, medication use and change)
- 1.2 Safety issues at home environment discussing available technologies (applications, assisted living technologies, other rehabilitation technologies)



Practical strategies for improving e-Health literacy: key learning points and recommendations after piloting:

AGING, e-HEALTH TOOLS, AND HEALTH LITERACY (EXAMPLES OF HEALTH INFORMATION SYSTEMS/TOOLKITS IN EVERY COUNTRY)

LITHUANIA

E.SVEIKATA.LT PORTAL

Via the portal patients can connect to the Electronic Health Services and Cooperation Infrastructure Information System - ESPBI IS. In the system, doctor can provide patient's health data and patient can review it:

- diagnoses
- treatment information
- electronic prescriptions
- laboratory test referrals and responses
- referrals for consultations
- medical images
- information about vaccinations
- health certificates.

PATIENT REGISTRATION SYSTEM (IPR IS)

IPR is an advance patient registration system, part of e.health (e.sveikata) platform, which allows both patients and specialists to automate the processes of pre-registration with a doctor, to carry out the registration transparently, with proper identification of the patient.

Pre-registration is carried out remotely and is faster than other existing measures, such as by phone or visiting a health care facility. It is aimed that as many as possible of health care facilities and patients use the IPR system.

The IPR system allows patients remotely reserve an appointment, receive notifications and reminders about a scheduled visit to a doctor, cancel a visit, and monitor the history of all their planned and completed visits online.

The system reminds patient of an upcoming visit to the doctor, so if patients arrive at the doctor's appointment on time, medical facilities can serve more patients, and patients avoid waiting queues. IPR is associated with e. health system, making it easier for patients to register for services that require e. referral

E-Prescription Information Provision to the Patient Service
E.health (e.sveikata) portal enables patients to receive information on the status of issued prescriptions, drugs or compensatory medical aid kits, drugs ordered or specially produced at the pharmacy electronically. There are functionalities enabling patients' social workers, caregivers or other carers to receive e-prescriptions and collect medicines or medical aid kits accordingly.

CYPRUS

THE WEBSITE OF THE NEW NHS

<https://www.gesy.org.cy/launchpad.html>

Two important subsystems of the IT system are the Beneficiary Portal and the Provider Portal, which are available online via GHS website to Beneficiaries and Providers respectively. Access to these Portals, require the setup of an access account via the GHS website and an

activation through a secure procedure, set in accordance with the information security policy of the Organisation.

ICU HEALTH CARE PROFESSIONALS' AND PATIENTS' AND FAMILY'S TRAINING, TELECONSULTATION (TELEPROMETHEUS)

The project aimed to enrich the working environment for healthcare professionals with effective and readily available and easily accessible information and knowledge, enhance distance-learning and train patients and their families.

SHAPES_ SMART AND HEALTHY AGEING THROUGH PEOPLE ENGAGING IN SUPPORTIVE SYSTEMS

The SHAPES Innovation Action (IA) intends to build, pilot and deploy a large-scale, EU-standardised open platform. The SHAPES project has 36 partners across 14 countries.

eCREST (ELECTRONIC CLINICAL REASONING EDUCATIONAL SIMULATION TOOL)

online educational tool designed to help improve medical students' clinical reasoning skills

e-HEALTH LAB – UNIVERSITY OF CYPRUS

- Integrated National eHealth Ecosystem (The eHealth4U is a research project that undertakes the challenge of defining the structure and the content of the national integrated EHR system in Cyprus and developing a prototype of it.
- Long Lasting Memories

HEALTH CARE APPLICATIONS

- Stay on Track app, a web platform and app to help with adhering with prescribed medication (<https://www.stay-on-track.3ahealth.com>)
- Prolepsis (<https://prolepsis.eu> -app for breast cancer prevention for informal carers)
- Apps4carers (www.apps4carers.eu),

- Dianoia (cognitive training for people with dementia and tips for carers) (<https://www.scify.gr/site/el/impact-areas/assistive-technologies/dianoia>)
- Cyprus Pharmacies app
- medication reminder apps
- Patients' forums, fb groups and disease-specific websites

CZECH REPUBLIC

NATIONAL HEALTH INFORMATION SYSTEM (NHIS)

<https://www.uzis.cz/index.php>

In the Czech Republic, there is a unified national information system of public administration - the National Health Information System (NHIS), which is used to collect and process data on the health of the Czech population and the Czech health care system. Personal and other data from the basic registers of public administration bodies, ministries, health service providers and other persons are collected and processed here. The operation of this system is defined by legislation. It processes data about:

- health status of the population, determinants of health, need and consumption of health services and satisfaction with them and expenditure on health services
- activities of providers and their economy
- on health workers and other professionals in the health sector for the purpose of obtaining information on the scope and quality of the health services provided, for the management of the health sector and the creation of health policy
- National health registers and data kept in them
- the need for science and research in the field of healthcare.

The founder of the NZIS is the Ministry of Health of the Czech Republic, which entrusted the administration to the Institute of Health Information and Statistics of the Czech Republic. The published content is guaranteed by the Ministry. Data to the NZIS is also provided by the Czech Social Security Administration, which manages the Work Incapacity Information System.

NATIONAL HEALTH INFORMATION PORTAL

<https://www.nzip.cz/>

The goal of the National Health Information Portal (NZIP) is to provide the general public with a place where they can find reliable and guaranteed information from various areas of the Czech healthcare system, which is also understandable to the lay public.

It is divided into several main thematic modules: Health care map, Life situations, Prevention and healthy lifestyle, Information about diseases, Recommended sites, Index of terms.

In the event that the visitor has a topic on a topic that he could not find, a simple form is available.

HOSPITAL INFORMATION SYSTEMS

Current hospital information systems in the Czech Republic focus on the integration of all clinical, financial and administrative information associated with the provision of health care to patients. In this context, they are also referred to as patient-centred systems. The goal of today's NIS is the greatest possible integration of all parts into one functional unit.

Most hospitals today still maintain electronic and paper medical records simultaneously. Healthcare facilities in the Czech Republic do not currently use a unified clinical information system, each has its own supplier. All hospital information systems support the ePrescription service (<https://www.epreskripcce.cz/>).

GREECE

AUTOMATED APPOINTMENT SCHEDULING SYSTEM

This system allows somebody to make an appointment with the medical specialty and the public hospital of his/her choice. By dialing a five-digit number and speaking to an automated answering machine everyone can easily and quickly schedule an appointment.

EXAMS RESULTS VIA EMAIL

The private diagnostic health centers send via email the results of blood or imaging exams. For the protection of personal data should the interested person, firstly, give consent to the sending of the results and give his/her personal email address. Then, he/she receives a personal code which must fill in, in order to download and open the file with the exam results.

E-PRESCRIPTION

Physicians prescribe medicines and exams electronically. Every prescription has a unique code. The patients receive this e-prescription via email and sms and they use this code (or they forward this email/sms direct to the pharmacy or the private diagnostic centers) at the pharmacy to take their drugs or at the hospital/diagnostic center in order to schedule an appointment for their blood or imaging tests.

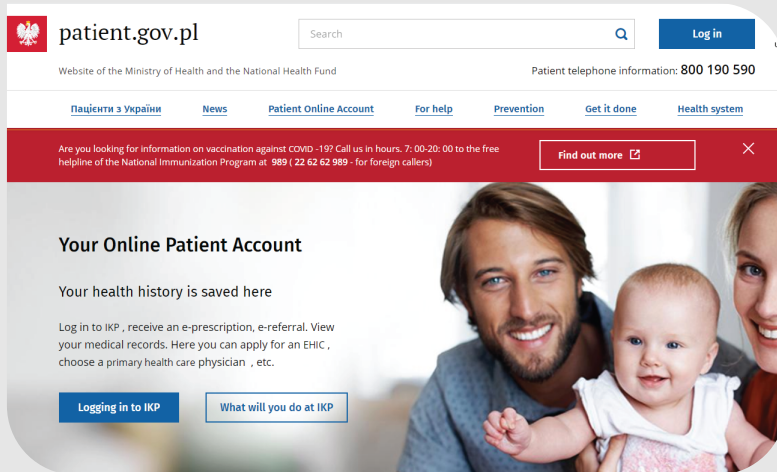
GREEK E-LIBRARY FOR GERONTOLOGY AND GERIATRICS

HAGG / EGGE has developed an e-library of gerontology and geriatrics designed for different kinds of readers: for the public – whether older people, family members, local authorities, NGOs, or civil servants. It includes educational and research data, and findings. A list of Foundations, NGOs, and professional associations which have worked on ageing issues is considered useful for all readers. Specific publications by some of these bodies are found under the other headings, but the link enables the reader to check on the specific contributions of these organizations. Available at: <https://www.gerolib.gr/>



POLAND

Polish government delivered a special website for whole patients in Poland. It is website of the Ministry of Health and the National Health Fund. It is called Patient Online Account. Anyone with a PESEL number has an Internet Patient Account. You just have to log in.



What are the facilities?

If you would like to receive your e-prescription and e-referral easily?

If you forgot what dose of medicine the doctor has prescribed for your child? You just log in to the Internet Patient Account (IKP) and gain access to your medical data.

You can also reach easily updated information about:

- health system in Poland
- health prevention
- contacts to emergencies in Poland and its regions
- updated information about pandemia.

Ministry of Health also provided many on-line tutorials for patients on how to navigate the platform.

The Social Insurance Institution is a state organisational unit with legal personality. Its tasks are defined in the Act of 13 October 1998 on the social insurance system. ZUS also fulfils various functions empowered by virtue of other laws.

The Social Insurance Institution:

- establishes entitlement to:
 - old-age pensions,
 - disability pensions,
 - survivors' pensions,
 - sickness allowances,
 - maternity allowances,
 - care allowances,
 - compensatory allowances,
 - rehabilitation allowances,
 - funeral grants;
- pays benefits to which it has established entitlements;
- issues decisions for the purposes of establishing the entitlement to social insurance benefits, other benefits payable by ZUS and for non-insurance purposes;
- checks the correctness of certification for temporary incapacity for work;
- authorises doctors to issue medical certificates of temporary incapacity for work and withdraws these authorisations in case of mistakes in issuing medical certificates;
- performs disability prevention tasks, including medical rehabilitation and accident pre-vention;
- establishes the social insurance obligation, assesses and collects social insurance contributions;
- keeps a part of the pension contribution on the insured person's account and the re-maining part on the sub-account, unless the insured person has submitted a declara-tion that a part of the contri-

bution should be transferred to OFE; in such a case ZUS divides the part allocated to the sub-account and transfers the amount set by law to the relevant OFE;

- divides and pays to eligible persons the funds kept on sub-accounts of insured person;
- collects and accounts for the health insurance contribution and transfers it to the National Health Fund (NFZ);
- collects the contribution to the Labour Fund and transfers it to the Ministry of Family, Labour and Social Policy;
- collects the contribution to the Fund of Guaranteed Employee Benefits;
- collects and accounts for the contribution to the Old-age Bridging Pensions Fund (Fundusz Emerytur Pomostowych, FEP);
- conducts the calculation of contributions held in contribution payer's accounts and keeps contributions on insured persons' individual accounts;
- controls contribution payers in discharge of their contribution payment duties and checks the correctness of exercising the tasks entrusted to payers by law (such as payment of various types of allowances), as well as vindicates liabilities in respect of social insurance and health insurance contributions;
- maintains the insured persons' individual accounts and the sub-accounts under these accounts, as well as the Central Register of Insured Persons;
- maintains the Central Register of Open Pension Funds Members;
- maintains the contribution payers' records and the Central Register of Contribution Payers;
- has at its disposal the financial resources of the Social Insurance Fund and the resources of the Maintenance Fund;
- manages the Demographic Reserve Fund (Fundusz Rezerwy Demograficznej, FRD);
- in the name of pensioners transfers personal income tax to Polish tax offices and submits health insurance contributions to the National Health Fund;

- awards and pays social pensions;
- awards and pays pre-retirement benefits;
- promotes knowledge about social insurance in Poland; carries out its own educational initiatives for school children and partnership projects for university students;
- cooperates with governmental administration bodies, foreign insurance institutions and international organisations;
- plays the role of a competent institution and a liaison body in the implementation of international conventions and agreements in the field of social insurance, and handles benefits payable in accordance with these conventions and agreements;
- plays the role of a competent institution and a liaison body in the field of EU coordination of social security systems in the area covered within ZUS competence (general social insurance).

Due to the range of exercised tasks, the Social Insurance Institution is one of the biggest public institutions in Poland. On the one hand, ZUS holds financial functions, such as e.g. contributions collection, benefits payment, tax payment on behalf of pensioners, and on the other hand it endeavours to be an institution that should provide its clients – persons insured, beneficiaries and contribution payers – with a sense of security connected with efficient, friendly and reliable services.

TRANSFERABILITY AND INTEROPERABILITY TO OTHER REGIONS / AREAS

CURRENT STATE OF KNOWLEDGE IN INDIVIDUAL COUNTRIES

People with low health literacy are more likely to use health services, especially the elderly. There is a need to improve the health literacy of seniors and their careers and loved ones. This can be done by nurses who care for the elderly. Nurses are the largest group of healthcare professionals, spending a significant amount of time with patients, which has a significant impact on patients' experiences of care, including care for the elderly. These nurses should have sufficient knowledge of how to properly and consistently educate seniors and their loved ones in the field of health literacy. The issue of health literacy also includes the topics of prevention of various diseases, how to prevent mistakes in medication, how to ensure a safe home for the elderly, how to follow a treatment plan. All this can help to shorten hospital stays in healthcare facilities.

It is necessary:

- work to deepen the knowledge and skills of nurses but also nursing students on the concepts of health and eHealth literacy
- teach nurses and future nurses (nursing students) to correctly identify the low health literacy of patients and their families
- teach nurses to properly educate selected groups
- repeatedly address issues of proper communication
- the need to teach nurses and future nurses (nursing students) to be able to search for and select information from the right sources
- teach nurses to get feedback, find out if the education was

effective, or re-educate

- explain the impact of health literacy and e-health literacy on the safety of elderly patients living in the community
- describe safety issues in the home environment
- discuss available technological applications, assisted life technologies and other rehabilitation technologies
- explain the issue of remote monitoring of patients and various types of electronic documentation so that patients can better understand the principles of eHealth
- describe and use available technologies and applications for seniors to increase the level of health literacy of patients
- explain the impact of low health literacy on patient outcomes so that patients adhere better to treatment
- recognize the importance of using modern technologies in the field of health literacy for the effectiveness of patient education

This makes it possible to positively influence awareness of the possibilities of health literacy of health care users and prevent negative consequences.

LOW HEALTH LITERACY AND PATIENT SAFETY

Health literacy is an important factor for the correct understanding of health-related information and is a prerequisite for the right decisions in relation to one's own health. Low levels of health literacy affect patient safety and can have negative consequences for his health, (e.g.

including increased mortality. In seniors, the level of health literacy is usually low, resulting in non-compliance with the treatment regimen and insufficient care for their own health.

The most common consequences of low health literacy include:

- medication error
- falls in the home environment.

HEALTH LITERACY AND SAFE ENVIRONMENT OF SENIORS

Medication errors are the biggest threat to the safety of patients in the home environment. To maintain a safe home environment, the nurse may provide or repeat information about the medications being used, and recommend aids to reduce the risk of medication misuse (e.g. drug dispensers).

The primary source of information needed is the nurse, but may recommend other resources to families, such as available time-reminiscent applications or medication information.

How do they avoid medication mistakes? During the prescription, the nurse will explain to the senior:

- what disease does the drug affect (its name, strength)
- what the prescribed medicine looks like
- at what time of day, the medicine is to be taken
- other measures related to use (e.g. before or after a meal, exclusion of certain foods)

It is advisable to have the patient repeat the information provided and offer him the possibility of telephone contact if he is unsure.

The following rules should be followed when communicating

medication-related information:

- use plain language, not technical jargon
- do not use abbreviations and symbols used by health professionals (e.g. ATB,
- use the common name of the medicine, not chemical labels
- clearly describe the dosing frequency
- clearly describe restrictions or recommendations related to the use of drugs.

For successful education of seniors, it is necessary for nurses to have up-to-date information on the impact of low health literacy on health status and sufficient knowledge to increase health literacy in the problem area. This assumes that they are able to find relevant and up-to-date information that they can obtain at any time in the online environment. Preferred sources of information include electronic databases (e.g. PubMed, Science Direct, ProQuest), where articles with research results are published on an ongoing basis.

The risk population where a low level of health literacy is expected include:

- seniors
- unemployed
- low income people
- people with basic education or training
- people from ethnic minorities

Low health literacy may be evidenced, for example, by patients' avoidant behaviour if they are to comment on a health situation, a statement of incomplete medical history or a description of the drugs used by size, colour or shape, not by name. In these people, we also encounter non-compliance with the treatment regimen and insufficient frequency of preventive examinations.

USE OF TECHNOLOGIES AND APPLICATIONS TO INCREASE THE SAFETY OF SENIORS

Thanks to technical progress, applications / technologies related to health are also available for obtaining information, which can be used by seniors. They can be divided into two groups:

- mobile devices – e.g. smartphone, tablet, laptop
- wearable electronics (e.g. wearables) – e.g. smart watch, smart bracelet, smart clothes

Various applications can be installed on mobile devices that help or enable, for example:

- take your medicine at the right time (e.g. MyTherapy, Pill Reminder & Medication Tracker - TakeYourPills)
- communication with other people (e.g. Skype, Elementique Senior Launcher)
- increase the font size to make it easier to use mobile devices (The Tree Team Big Launcher - Launcher for Old Age People)
- call for help in case of deterioration by pressing a button (SOS button) or by launching the relevant application (in the Czech Republic, e.g. Ambulance)
- find a pharmacy or information about the drug (in the Czech Republic, for example, najdi-lekarnu.cz)
- consult your health problems online (in the Czech Republic, e.g. ulekare.cz)

Some medical facilities have developed their own applications for smartphones, which provide their patients with fast and convenient access to the provided health services (e.g. programhplus.cz).

We are increasingly encountering telemedicine in practice, which is part of eHealth, where physiological data and subjective patient data are transmitted to healthcare professionals via telecommunications and information technology, enabling early intervention when a problem is identified.

A prerequisite for the use of these technical means is basic literacy in their control by both seniors and nurses. The nurse can acquaint the senior with their use, explain the benefits of use, or help with downloading and securing access.

Suggestions for improvement, strategies

The use of the resources available so far could lead to the improvement of eHealth literacy:

- mixed course
- face to face course
- study of the created data of the given issue
- openness to new knowledge - the area of eHealth is constantly evolving and it is necessary to bring new innovative ideas into the already developed documents.

EHealth literacy strategies include:

- introduction of available technologies (wearables, accessories, techniques, operating systems)
- teach nurses, future nurses, their senior patients and their loved ones to work with available technologies - to acquaint them with their possibilities and proper use
- to acquaint nurses, future nurses, their senior patients and their loved ones to safe use - to prevent erroneous steps in use, to ensure patient safety when using modern technologies
- to inform nurses, future nurses, their senior patients and their loved ones who to contact if data has been lost or leaked
- links to other technologies - eHealth is constantly evolving, as are the technological possibilities associated with the daily life of the individual all around us. Therefore, other options are offered as another step after mastering basic skills. These may include, for example, the possibilities of assisted living for the elderly, etc.

Options for portability and interoperability

Opportunities for portability and interoperability lie in understanding the needs of target participants - existing eHealth materials and eHealth courses, which are adapted to the languages of individual partner organizations, should also be adapted to the needs of individual countries, especially in relation to:

- the system of providing health services
- mental and cognitive level of target users
- the economic level of the country
- the cultural specificities of the country
- mutual understanding of values.

Interoperability and subsequent use of existing facilities is possible thanks to the use of websites, social networks, and other dissemination outputs and awareness of the project.

Usability

The usability is very wide, thanks to the creation of facilities on the web, social networks, online courses. Especially thanks to the common version of the documents in English. In order to maintain usability, regular inspections are needed:

- already created documents in English - whether the mentioned professional terminology is up-to-date
- whether the issue is explained in such a way that it is understandable even for laymen - feedback analysis
- whether the listed sources and documents are functional (accessible)
- whether these resources are still interesting, have something to offer, whether they are no longer obsolete and do not need innovation
- whether they still comply with legal, legislative norms.

5) Inclusion in the educational curriculum of nurses in individual countries

Nurses are the largest group of health professionals who provide

health education to patients and their loved ones. It is therefore necessary to pay attention to the proper education of nurses. It is also necessary to:

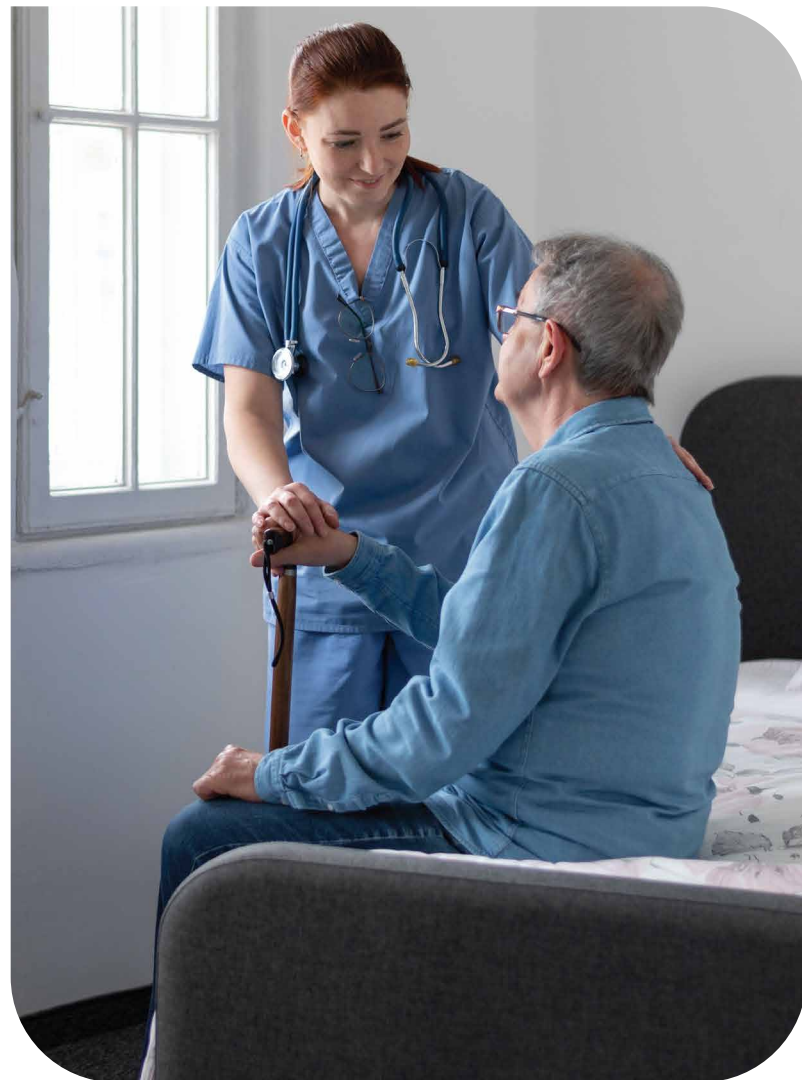
- cooperate with individual professional organizations of individual partner countries
- cooperate with international professional organizations
- monitor possible changes in the education of nurses, cooperate with experts who participate in the modification of study program materials
- monitor professional resources, publications on the topic
- monitor possible legislative changes within the competencies of nurses
- inspire each other.



OLDER ADULTS AND THE PRACTICE OF OBTAINING HEALTH INFORMATION

The process of obtaining health information by seniors is determined by individual characteristics and environmental conditions (the presence and access to information sources, the "friendliness" of these sources, the degree of information processing, the presence of intermediaries helping to find and process information, etc.) The efficiency of their implementation is influenced by psychosocial factors and mechanisms on which both competency and information behavior depend. The literature review shows that the practice of obtaining health information among seniors is carried out during the following activities:

- visits to the family doctor
- A conversation with a primary health care nurse during a visit to a clinic, community service during a home visit
- conversation and information exchange with family and friends
- the use of information contained in the Internet
- TV (programs about health-related content, health advice)
- additional activities - University of the Third Age, participation in Senior Facilities, occasional promotional campaigns
- applications for seniors (e-advice, e-prescription, e-referral, WhoMaLek, Home medical care)



IMPROVING e-HEALTH LITERACY FOR OLDER ADULTS

According to GUS data, the level of digital IT skills in Poland varies according to age groups. In the age group between 55–64 years – 30.0% has more than basic (intermediate) IT skills, and in the oldest age group (65–74 years) it was only 14.2%.

This situation influences on the level of health competences and determines the quality of self-management of health and disease.

Improving e-health skills among elderly people is a process in which the patient, based on his knowledge and skills, takes up health-enhancing activity and is in control of his disease.

Skills related to self-management of health and disease include:

- having adequate knowledge,
- recognizing and monitoring health condition,
- active attitude and full involvement in the therapeutic process,
- adaptation to the changing health situation and
- a sense of self-confidence in interactions with health care personnel.

It is also the ability to deal with emergency situations (exacerbation of the disease), compliance with medical recommendations (appropriate use of medications), rational nutrition, maintaining physical activity, using the social resources and maintaining proper relations with others. **In order to improve e-health skills among seniors, we offer courses and trainings for seniors prepared in a professional way and addressed to this group of recipients, carried out in:**

- traditional formula (senior clubs, community day-care centers, associations)

- on-line formula (nationwide e-Senior portal, offering free courses for the elderly people, including thematic courses, eg Navigation for seniors, Online Medicine, Social media and communication, Online-Culture cyber- Safety.
- Seniors Digital Support Points (where older people can gain basic knowledge related to the use of digital devices. Digital Advisors will teach how to use: a computer, tablet, telephone (SMARTPHONE), camera. Seniors can also learn to use electronic mail, how to send an e-mail, set up and use an Individual Patient Account on the e-Patient portal, register for a medical appointment, complete an e-prescription, use websites related to health issues.

In Poland there is a Program for the development of e-health in Poland for the years 2022 – 2027 delivered by The Ministry of Health. The e-Health Development Program is an operational and implementation document. It was established to implement the "Healthy Future" public policy in the area of e-health solutions. The main areas to be addressed by the eHealth Development Program are as follows:

Greater involvement in their the health - e-health solutions should support the patient and the health care system in being involved in their own health. The patient should be able to count on support in leading a healthy lifestyle and participation in preventive examinations, screening and balance sheets.

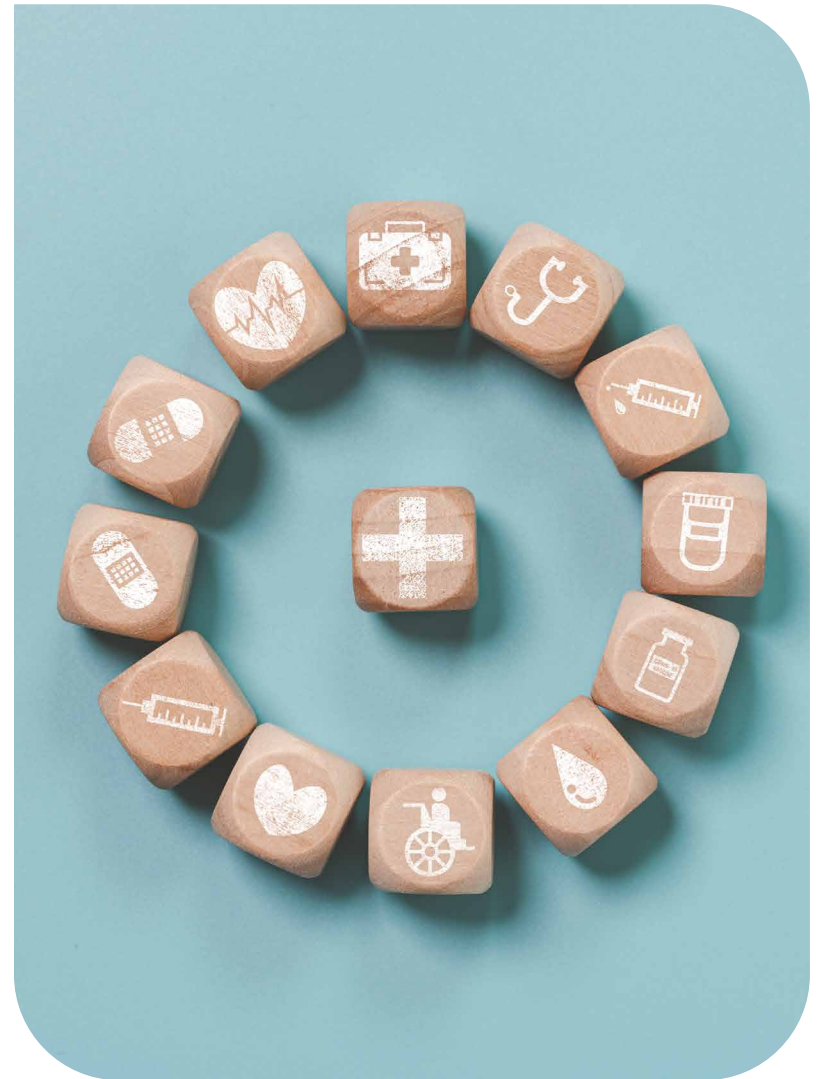
Patient health prediction and decision support - e-health solutions should use the potential of artificial intelligence and advanced analytical methods to predict patient health, population health, as well as diagnostics and treatment.

Deinstitutionalization, coordination of care - "Healthy Future" as one of the directions of transformation indicates the development of home and community care.

Communication and consultation - an important element is the creation of solutions that will support communication (including consultation of the diagnostic process) between individual participants of the health care system (patients, medical workers, healthcare providers).

Coordinated development of medical registers - it is necessary to coordinate the creation of ICT systems that support medical registers. It is important to organize and improve the quality of data collected in medical registers.

Competency development - digital competences of patients and medical staff should be developed and the competences of other medical professions should be expanded.



FUNCTIONAL UNDERSTANDING OF HEALTH INFORMATION AMONG OLDER ADULTS

Cognitive skills include basic reading ability and math skills. As primary users of health services, older adults must confront a range of cognitively demanding tasks, such as learning about new health conditions, making medical decisions, and remembering protocols for use of medications or home medical devices.

At the same time, older adults experience age-related cognitive changes that affect the processing of medical information, medical compliance, and, ultimately, medical outcomes. For example, age-related declines in basic cognitive abilities such as online working memory capacity may limit older patients' ability to acquire new medical information and use medical services. On the other hand, older adults also have substantial knowledge and experience with illnesses that they may bring to bear in certain health situations. However, health professionals and clinicians have rarely addressed the issue of age-related cognitive changes when delivering information and services to older patients (Brown, 2003).

Research on more effective delivery of medical information to older adults that takes into account their cognitive functioning should therefore result in better treatment compliance, better informed decisions, and fewer hospitalizations.

Psychosocial factors include:

- self-efficacy skills
- communication skills
- expectations
- experiences that people bring to their encounters with the health care system.

The path to making informed medical decisions involves:

- being able to obtain information
- and then to process,
- understand,
- act on that information.

Comprehension of e-Health information

Age declines in basic cognitive resources could adversely impact older adults' ability to comprehend several types of medical information, including medication instructions. For example, Morrell, Park, and Poon (1989, 1990) found that older adults incorrectly comprehended up to 21% of the information on prescription drug labels when they were asked to use this information to develop a specific medication schedule.

Communication with and comprehension by patients is facilitated when:

- specific content
- specific format of prescription drug labels.

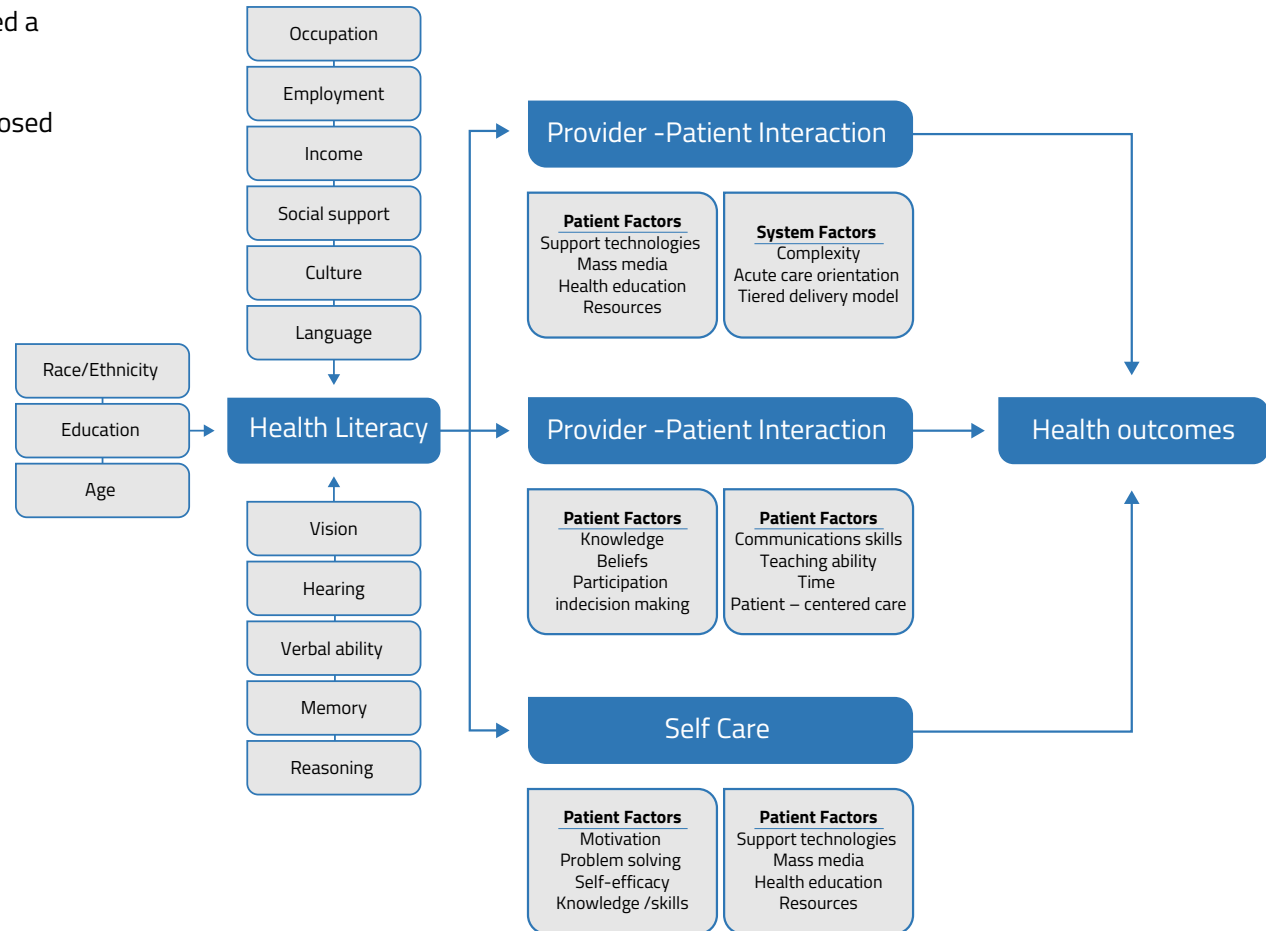
Efforts to improve the labels should be guided by such evidence, although an additional study assessing the influence of label design on medication-taking behavior and health outcomes is needed. Several policy options exist to require minimal standards to optimize medical therapy, particularly in light of the new Medicare prescription drug benefit. (Jeetu, Girish, 2010).

Older adults have particular difficulty in understanding warnings that are complex or that require making inferences, which is a resource-intensive process.

FACTORS THAT INFLUENCE OLDER ADULTS COMPREHENSION OF HEALTH INFORMATION

In 2007, Paasche-Orlow and Wolf created a conceptual model that illustrates the causal pathways between limited health literacy and health outcomes. They proposed that “health literacy should be viewed as both a patient and system phenomenon” with three points along a continuum that are influenced by health literacy:

- Access and Utilization of Health Care
- Provider-Patient Interaction
- Self-Care.



1 figure. Causal Pathways between Limited Health Literacy and Health Outcomes (Paasche-Orlow, Wolf, 2007)

FEASIBILITY AND READABILITY ISSUES AND e-HEALTH CHALLENGES

ACCESSING ELECTRONIC HEALTH INFORMATION

- Clarify the importance of accessing and searching reliable ehealth resources
- Learn how to search for ehealth resources

ASSESSMENT OF WRITTEN INFORMATION MATERIALS

- Learn how to identify digital health resources or written health material in plain writing
- Learn how to use tools to assess the readability of written information materials
- Learn how to evaluate written information materials in terms of context and content

DEVELOPMENT OF PLAIN LANGUAGE WRITTEN HEALTH MATERIALS

- Describe basic principles to take into consideration in developing health information materials in plain writing

PATIENTS' MISUNDERSTANDINGS AND MISINTERPRETATIONS

- Understand the impact of misunderstandings and misinterpretations on health outcomes and patient safety
- Learn how to recognize and eliminate factors that can lead to misunderstandings or misinterpretations in clinical setting

HEALTH LITERACY AND PATIENT SAFETY

Nurses are the largest group of healthcare professionals and spend a significant amount of time with patients, which has a significant impact on patients' experiences of care, including care for the elderly. Therefore, it is a need:

- improve the knowledge and skills of nurses, nursing students in the field of health and e-health literacy, how to identify low health literacy and e-health literacy of seniors and their families, users of health care services
- indirectly improve health literacy and e-health literacy of seniors and their families
- raise users' awareness of health literacy and e-health literacy within the health care sector.

LOW HEALTH LITERACY AND PATIENT SAFETY

Health literacy is an important factor for the correct understanding of health-related information and is a prerequisite for the right decisions in relation to one's own health. Low levels of health literacy affect patient safety and can have negative consequences for his health, including increased mortality. In seniors, the level of health literacy is usually low, resulting in non-compliance with the treatment regimen and insufficient care for their own health.

The most common consequences of low health literacy include:

- medication error
- falls in the home environment.

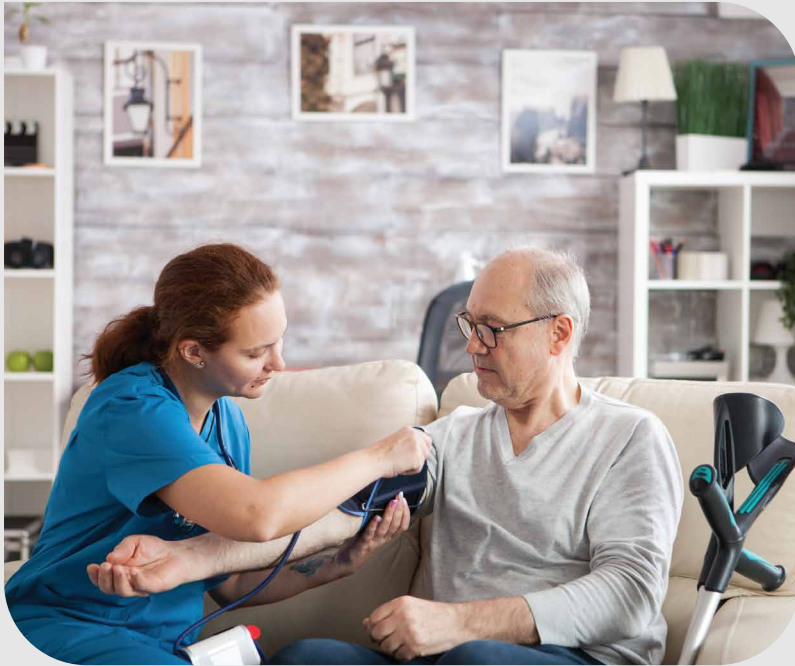
Therefore, it is necessary:

- explain the impact of health literacy and e-health literacy on the safety of elderly patients living in the community
- clarify health literacy and medication adherence
- describe safety issues in the home environment
- discuss available technological applications, assisted life technologies and other rehabilitation technologies
- identify the negative effects of low health literacy on patient safety and the need for effective patient education
- explain the issue of remote monitoring of patients and various types of electronic documentation so that patients can better understand the principles of eHealth
- describe and use available technologies and applications for seniors to increase the level of health literacy of patients
- explain the impact of low health literacy on patient outcomes so that patients adhere better to treatment
- recognize the importance of using modern technologies in the field of health literacy for the effectiveness of patient education

HEALTH LITERACY AND SAFE ENVIRONMENT OF SENIORS

Medication errors are the biggest threat to the safety of patients in the home environment. To maintain a safe home environment, the nurse may provide or repeat information about the medications being used, and recommend aids to reduce the risk of medication misuse (e.g. drug dispensers).

The primary source of information needed is the nurse, but may



The following rules should be followed when communicating medication-related information:

- use plain language, not technical jargon
- do not use abbreviations and symbols used by health professionals (e.g. ATB)
- use the common name of the medicine, not chemical labels
- clearly describe the dosing frequency
- clearly describe restrictions or recommendations related to the use of drugs.

For successful education of seniors, it is necessary for nurses to have up-to-date information on the impact of low health literacy on health status and sufficient knowledge to increase health literacy in the problem area. This assumes that they are able to find relevant and up-to-date information that they can obtain at any time in the online environment. Preferred sources of information include electronic databases (e.g. PubMed, Science Direct, ProQuest), where articles with research results are published on an ongoing basis.

The risk population where a low level of health literacy is expected include:

- seniors
- unemployed
- low income people
- people with basic education or training
- people from ethnic minorities

Low health literacy may be evidenced, for example, by patients' avoidant behaviour if they are to comment on a health situation, a statement of incomplete medical history or a description of the drugs used by size, colour or shape, not by name. In these people, we also encounter non-compliance with the treatment regimen and insufficient frequency of preventive examinations.

recommend other resources to families, such as available time-remiscent applications or medication information.

How do they avoid medication errors? During the prescription, the nurse will explain to the senior:

- what disease does the drug affect (its name and strength)
- what the prescribed medicine looks like
- at what time of day, the medicine is to be taken
- other measures related to use (e.g. before or after a meal, exclusion of certain foods)

It is advisable to have the patient repeat the information provided and offer him the possibility of telephone contact if he is unsure.

APPLICATIONS AND TECHNOLOGIES FOR SENIORS

Thanks to technical progress, applications / technologies related to health are also available for obtaining information, which can be used by seniors. They can be divided into two groups:

- mobile devices – e.g. smartphone, tablet, laptop
- wearable electronics (e.g. wearables) – e.g. smart watch, smart bracelet, smart clothes

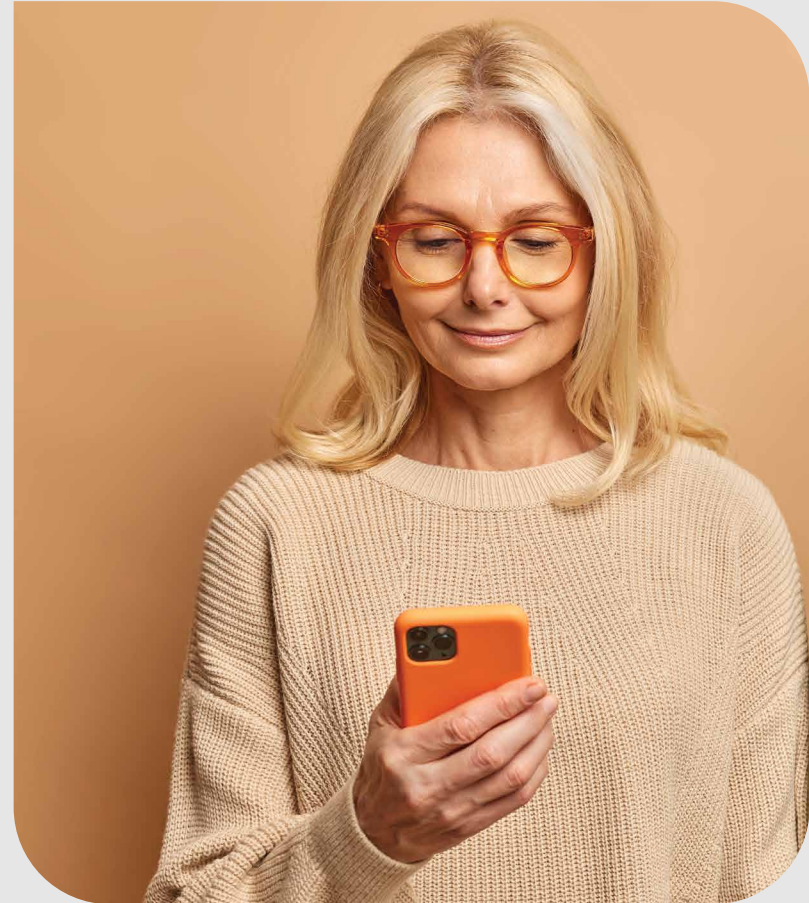
Applications that help or enable, for example, may be installed on mobile devices:

- take your medicine at the right time (e.g. MyTherapy, Pill Reminder & Medication Tracker - TakeYourPills)
- communication with other people (e.g. Skype, Elementique Senior Launcher)
- increase the font size to make it easier to use mobile devices (The Tree Team Big Launcher - Launcher for Old Age People)
- call for help in case of deterioration by pressing a button (SOS button) or launching an application (in the Czech Republic e.g. Rescue)
- find a pharmacy or information about the drug (in the Czech Republic e.g. najdi-lekarnu.cz)
- consult your health problems online (in the Czech Republic e.g. ulekare.cz)

Some medical facilities have developed their own applications for smartphones, which provide their patients with fast and convenient access to the provided health services (e.g. programhplus.cz).

We are increasingly encountering telemedicine in practice, which is part of eHealth, where physiological data and subjective patient data are transmitted to healthcare professionals via telecommunications and information technology, enabling early intervention when a problem is identified.

A prerequisite for the use of these technical means is basic literacy in their control by both seniors and nurses. The nurse can acquaint the senior with their use, explain the benefits of use, or help with downloading and securing access.



LEGAL AND ETHICAL ISSUES OF HEALTH LITERACY

Health literacy includes several legal and ethical issues (e.g. consent form, human rights, discrimination on low health literate people, justice allocation etc). This document presents the legal and the ethical perspective of health literacy, with a main focus on recent updates of regulations/documentations in international level. The legal issues are divided in two categories (overall and understanding health information). Ethical issues contain two main categories: 1) human rights and 2) the Beauchamp and Childress' four principles ethical frame on health literacy. Furthermore, quality of life and dignity issues are also presented in this document as literature (Pithara, 2020, Nairn, 2014) has evident that are highly associated with the level of health literacy.

Legal Issues

OVERALL

- Some policy initiatives have taken place, that promote health literacy. More specifically national action plans have been developed from the U.S., Germany, and Scotland. In addition, other countries also have created national action plans or issued other major policy statements that incorporate health literacy as a priority, including Austria, Australia, New Zealand, China, Canada, Ireland, the Netherlands, Singapore, Switzerland and Wales. Organizations like

CDC (Centres for Disease Control and Prevention) have also created their own health literacy action plan.

- The cornerstones of the US National plan propose a healthcare system that: (1) provides people with "access to accurate and actionable health information" (2) "delivers person-centered health information and services" and (3) "supports lifelong learning and skills to promote good health" (Trudeau, 2020)

- The inclusion of health literacy in these areas led a collaboration among government agencies to create Health Literacy Online- a toolkit to help organizations create better websites and digital health tools.

- Health literacy can be conceptualized as a form of discrimination, depending on the way that an organization chooses to communicate with patients with disabilities, decline or with language barriers. Also, how patients' data regarding his/her level of health literacy are going to be managed? To whom the results will be communicated?

The Plain Writing Act of 2010 is a broad statute that can be particularly helpful for advocates seeking to advance health literacy improvement effort. The Act requires federal agencies to designate a 'plain language' officer, train staff on using plain language, establish procedures for ensuring compliance with the Act, and write annual compliance reports on the agency's progress. Regarding agency content itself, the Act requires that all federal agencies use plain language in any document related to the public.

- Many laws and regulations in many countries, emphasize concepts related to health literacy, such as plain language, patient

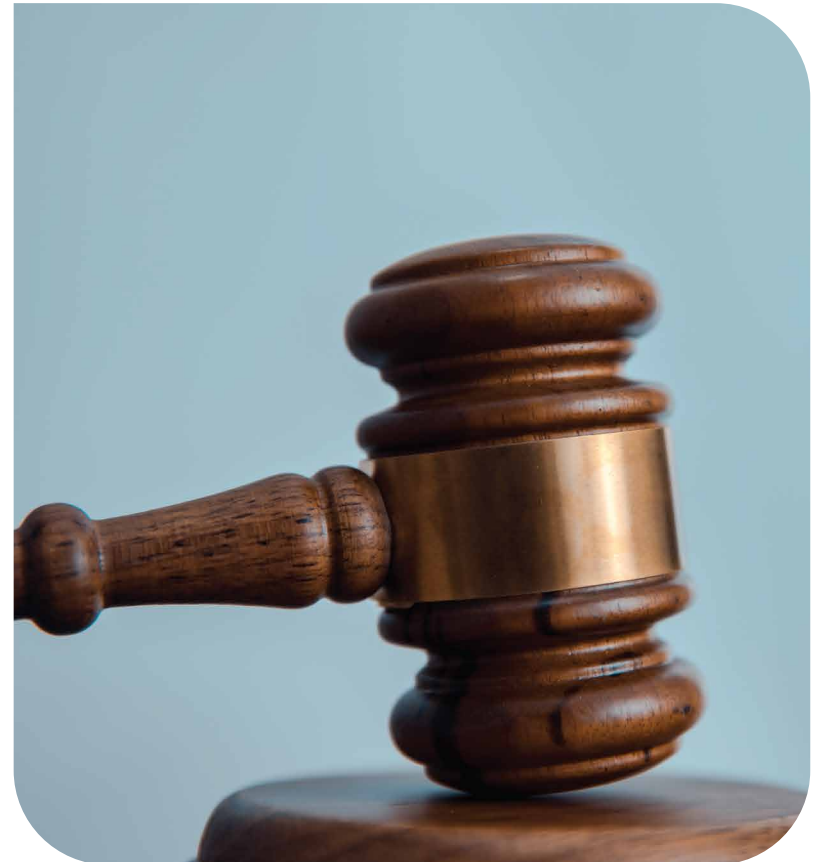
understanding, or clear, transparent disclosure of information (e.g. South Africa has long regulated its insurance industry by requiring that all information to policyholders be “in plain language” to help “avoid uncertainty and not be misleading” and Ireland during 2019 proposed a law which requires that “every government department and State body must use plain writing in every new and updated document it produces for the public”).

- Some CARE Acts (AARP, 2018) have requirements that directly relate to health literacy and improving public understanding. For instance, Arkansas’ Lay Caregiver Act requires that a hospital “educate the caregiver concerning the aftercare of the patient in a manner that is consistent with current accepted practices and is based on the learning needs of the caregiver.”
- By not adopting health literacy best practices, an organization can be subject to fines, penalties, or other money damages. Combining health literacy advances can help strengthen the legal and policy justifications to reduce the burden a healthcare organization places on the persons served (Trudeau, 2020).

UNDERSTANDING THE HEALTH INFORMATION

- The legal doctrine of informed consent does not take into consideration patients’ (health) literacy (Flinn, 2009). Being more explanatory on this argument, patients’ level of health literacy is an essential part during communication with health professionals. The genuinity of patients’ informed consent patient can be doubted, since patients’ understanding of the terms of the consent is not a pre-requisition prior patient’s signature. Informed consent should properly be regarded as patients’ behalf only if an adequate level of health literacy is achieved (e.g. how the patient interprets the information and the risks of the consent form or how he/she is influenced by this kind of information).

- This is also the case with individuals without cognitive decline. A person might be fully capable of management on several tasks in everyday life, but fight to understand a diagnosis, a health information or to navigate in a large hospital.
- Another major issue regards patients with cognitive impairment and informed consent. Who can make decisions on patients’ behalf?



Ethical issues

HUMAN RIGHTS

Limited health literacy has a significant impact on patients' ability to comprehend their rights and entitlements in health care. Health literacy is tightly linked to ambitions for entitlements, duties and freedom related to the advancement of sustainability and human development as reflected in the Declaration of Human Rights (Sorensen, 2013)

Health literacy as a right emphasizes the responsibility of the person to be healthy, stimulates self-definition and make the person to realise the importance of his/her value-driven decisions. In this manner the person exercises the right of freedom of choice, taking into considerations not only the positive impact of his'/her decision, but also the possible diverse outcomes, as well.

THE BEAUCHAMP AND CHILDRESS' FOUR PRINCIPLES ETHICAL FRAME ON HEALTH LITERACY

Justice

- Health literacy as a social justice issue.
- Social inequities and inequalities are essential elements for health literacy.
- A critical literature review (Sorensen & Stapleton, 2013) stipulated that limited health literacy is an outcome of injustice in the healthcare system. People with limited health literacy experience inequalities in access to care, either due to their fear to visit a hospital, either due to their lack of awareness.
- Education can be beneficial on one hand, but on the other hand it could be detrimental for people with limited health literacy; as they

wouldn't' understand the importance to participate in educational workshops, regarding health literacy in contrast with people with intermediate health literacy. Therefore, the chasm among the moderate literate people and limited literate people will be even bigger. Health literacy educational approach should not use a paternalistic understanding of the concept; instead, it should encompass a conceptual shift emphasising critical aspects of health literacy. This will be an important step to address one of the social justice goals ("Health literacy for all").

- Health literacy is also affected by social, economic and environmental determinants, therefore people living in poverty, minority groups or living in unhealthy living or working conditions are more likely to have limited health literacy. Those groups have been found to have lower levels of health literacy, poorer health outcomes and face inequalities in quality of care and barriers to healthcare access (Pithara, 2020).



Beneficence

- The ethical concern of beneficence regards communication among health professionals and patients. There is a clear need to fill up the communication gap among health professionals and the patients, in order to aligned with the principle of beneficence.

- Personal liability of the health professional to ensure that the pertinent information was well-understood by the patient, taking in mind patients' background and skills.
- A literature review (Sorensen & Stapleton, 2013) argued that health professionals are ethical responsible to recognise patients with limited health literacy and formulate health information according to patients' level.

Non-maleficence

- The lower health literacy the higher possibility of misunderstanding or misinterpretation of the information. These were identified in a literature review (Sorensen & Stapleton, 2013) as a severe consequence of limited health literacy, that could possibly have a negative effect on patients' health status or outcomes. This is in contrast with the principle of non-maleficence.

Respect for autonomy

- The main ethical concern regarding respect for autonomy relates to methods of informed decision-making that can impair self-determination.
- Health literacy is one concept capturing skills and abilities that enable positive health choices and patient participation during shared decision- making (Pithara, 2020). Patients' autonomy is undermined when methods are designed to manipulate rather than to empower the patient.
- Modern societies and latest health models promote the engagement of the patient during the decision-making process, regarding their health and well-being. In this way they will be led to a higher standard of living. In order for the patient to be able to get actively involved in this process, a moderate level of health literacy is a requirement.
- Literature supports (Buchanan, 2006, Nussbaum, 2011) to focus on

the improvement of peoples' capabilities for practical autonomy. This focus could lead to the increase of patient's autonomy and decision-making capacities.

- The issue of loss of autonomy is also raised in the discussion regarding the consent form (Vollandes et al, 2007, Marks, 2009). Frequently those forms are written in a complicated language making it too difficult for patients with limited health literacy to comprehend. Not necessarily because of the complexity of the language, but also because of the reading level of the form or the use of medical jargon, or even some cultural barriers (Vernon et al, 2007).
 - Patients with limited health literacy also find difficulties to understand their rights, obligations, and entitlement in health care (Schillinger, 2007, Marks, 2009), feeling unsure or unable to express themselves (Wilson, 2003). This could impair the ability of the patient to participate in the decision-making process or to limit patient's' self-determination (Schillinger, 2007).



QUALITY OF LIFE

- Quality of life is associated with equity and social justice (Sorensen, 2013). This underlines the importance of equal opportunities, so as to achieve a higher level of quality of life. Therefore, advancing health literacy among the societies quality of life will be upgraded and simultaneously social justice will be established, as well.
- Literature suggest the application of Aristotle prism in the context of health literacy (Sorensen, 2013, Pithara, 2020). Health information should not be provided or to be applied only in the presence of illness, but also it should be pursued in the absence of illness. According to Aristotle's prism the ultimately goal of human existence is eudaimonia; since quality of life is an important aspect of eudaimonia it should be achieved by all the human beings. This could be attained by the expansion of health literacy, as if this is accomplished people will be able to take informed decisions or to actively participate in the process, resulting in the human development. Eudaimonia is highly associated with the quality of life and health literacy is leading the path towards Aristotle's goal.

DIGNITY

- Human dignity entails a person's well-being or living a good life (Nussbaum, 2011).
- People with limited health literacy might experience stigma and this constitutes a barrier to make full use of health services (Pirsi, 2000).
- Those whose dignity has been questioned by the wider society are exactly those who lacks health literacy and are already intimidated to visit health care settings (Nairn, 2014).
- Health literacy claiming that health literacy is best situated when a person's competencies fit the requirements of the health systems and context. (Parker & Ratzan, 2010). In this way human dignity in the terms of health literacy is respected.

SUGGESTIONS

Legal Perspective

- A re-evaluation of the legal standards of disclosure, changes to the requirements of informed consent form and the requirements of disclosure communication are mandatory, so that legal consideration on patients' health literacy will be accomplished (Flinn, 2009).
- The use of the teach-back technique was supported by the Supreme Court of Kansas to overcome the flaws of the consent form.
- The use of videotapes was also supported in the literature (Flinn, 2009) as a way to enhance the process of consent form (using plain language and no medical jargon)
- The use of translation or interpret services is highly recommended (Vernon et al, 2007) as this will ensure patients' understanding and increase the likelihoods to comply with health care instructions.
- A harmony among legal informed consent doctrine and the ethical principles can guarantee the authenticity of an informed consent. Among all the ethical theories that can be applied in the legal perspective of health literacy autonomy seems to be the predominant.

Ethical Perspective

- The international scientific literature suggest the application of the capabilities approach for the establishment of health literacy in public health (Nussbaum, 2001, Pithara, 2020). This kind of approach encompasses an ethical perspective of health literacy regarding social justice. The capabilities approach also supports that health literacy is a dual responsibility of citizens and societies and should be promoted as a normative social practice, so as to ameliorate health, quality of life and human development, taking into consideration the right of freedom of choice (Nussbaum, 2001).
- The capabilities approach commits itself to respect for people's powers of self-definition and allows interventions and evaluation to

offer opportunities or to evaluate the abilities of the people to become health literate.

- More particular, the capabilities approach is a normative framework emphasising one's freedom or capability to achieve desired states and provides the theoretical tools to conceptualise and evaluate phenomena specific to poverty, inequality, or well-being (Pithara, 2020). This approach can also inform policymaking and resource allocation (Robeyns, 2006, Venkatapuram, 2012).
- Health literacy is limited among the vulnerable and underrepresented social groups (e.g. migrant, minority ethnics groups), even though these groups are disproportionately affected by ill health and might be the groups that are in greater need to become health literate. Therefore, health literacy educational models needed to refine their target and include methods to make the topic of health literacy approachable and easy to understand for the particular group of people.
- Health literacy should cultivate a more interactive concept and not be limited to the functional concept. The interactive application of the concept will include patients' personal values and beliefs and how these elements could be fitted in a healthcare setting. Moreover, these components could be used by the health professionals to find eligible ways to form the health information and the patient to be motivated and self-confident to use the information on his benefit.
- Societies should focus on how to address health disparities (Sorensen, 2013) and promote health literacy as an significant part of right to health.
- An active role of the patients in decision-making should be encouraged. Accomplishing this, self-management and self-determination will be benefited as well. Furthermore, it will be in line with the Health 2020 strategy of the World Health Organisation's European Office, 2012, which recommends the inclusion of 'people-centered health' as a core value (World Health Organisation's European Office, 2012).

- All in all, ethical perspective of health literacy is an under-investigated topic, opening a new era for research in the context of health policy and public health.



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