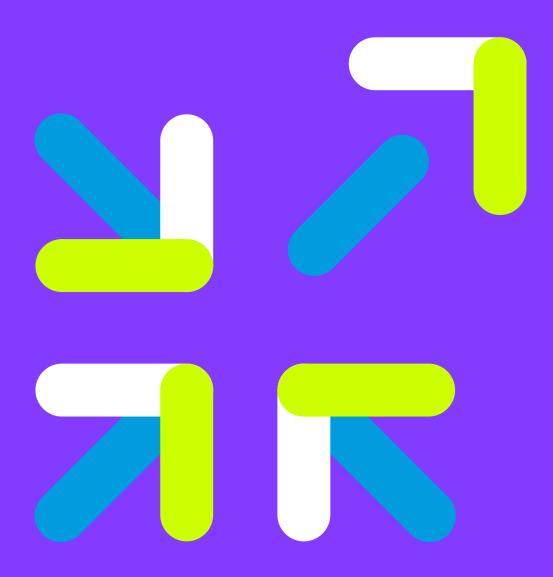


Health literacy development for the prevention and control of noncommunicable diseases

Volume 2

A globally relevant perspective





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Health literacy development for the prevention and control of noncommunicable diseases: Volume 2. A globally relevant perspective

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Volume 2

A globally relevant perspective

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Foreword by the WHO Director-General



The burden caused by the epidemic of noncommunicable diseases (NCDs) and mental health conditions and their modifiable risk factors on people, communities and economies is a major challenge to health, well-being and sustainable and equitable development. Governments need to address the urgency of investing in healthy populations and resilient health systems, with increased investments in prevention, screening, early diagnosis and appropriate treatment for NCDs. They must do so through inclusive, contextual and equity-driven strategies that are fit for local purposes and with a commitment to leaving no one behind.

A key enabler to accelerating progress towards the NCD targets in the Sustainable Development Goals is health literacy, to support people, communities and organizations to understand, recognize and take effective actions to protect and promote their own health.

This report provides practical recommendations for developing health literacy interventions to support countries to systematize the co-design of health literacy actions to enhance the impact of policies, programmes and services for the prevention and control of NCDs and mental health conditions, and their modifiable risk factors and determinants.

These recommendations draw from the findings of 16 case studies from low- to high-income countries, which have generated data supporting the development of locally owned and fit-for-purpose NCD strategies that are more likely to be embraced, implemented and sustained, especially among disadvantaged and poor communities.

The imperative is for rapid development and systematic implementation of country-relevant, context-specific solutions. The wide-scale implementation of the guidance contained in this report by World Health Organization (WHO) Member States will generate implementable and sustainable NCD health literacy development actions that respond to local contexts and demand. This will help to drive progress towards the WHO Triple Billion targets and improve health and well-being for current and future generations.

Tedros Adhanom Ghebreyesus

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This report is based on the findings of the WHO Global Coordination Mechanism on the Prevention and Control of Noncommunicable Diseases (GCM/NCD) Working Group on Health Education and Health Literacy for NCDs; recommendations emanating from the WHO Independent High-level Commission on Noncommunicable Diseases; global health literacy research and practice, including guidance and resources from across WHO and leading partners and stakeholders; consultations with people involved in health literacy practices; and insights from the WHO National Health Literacy Demonstration Projects (NHLDPs) undertaken in diverse contexts, cultures and countries using practical co-design approaches to accelerate responses for the effective prevention and control of NCDs and mental health conditions.

The report was developed under the leadership of Svetlana Akselrod (Director, Global Noncommunicable Diseases Platform), Ruediger Krech (Director, Health Promotion) and Bente Mikkelsen (Director, Noncommunicable Diseases).

The development of the report was coordinated by Guy Fones, Unit Head, Global Coordination Mechanism on the Prevention and Control of Noncommunicable Diseases, with the support, in order of contribution, of Richard H Osborne, Roy Batterham, Shandell Elmer, Melanie Hawkins, Christina Cheng and Ranjit Nadarajah from the Centre for Global Health and Equity, Swinburne University of Technology, Melbourne, Australia.

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Abbreviations

eHLQ

eHealth Literacy Questionnaire

GCM/NCD

World Health Organization Global Coordination Mechanism on the Prevention and Control of Noncommunicable Diseases

HICs

high-income countries

HLQ

Health Literacy Questionnaire

LMICs

low- and middle-income countries

NCD

noncommunicable disease

NHLDP

National Health Literacy Demonstration Project

Ophelia process

Optimising Health Literacy and Access process

Org-HLR

Organisational Health Literacy Responsiveness

SDGs

Sustainable Development Goals

WHO

World Health Organization

Key terms and concepts

Being left behind

Being left behind relates to the motto of the Sustainable Development Goals – "Leave no one behind". This refers to groups or communities that are not included in services or do not have equitable access to health information and services for the prevention and control of NCDs. It indicates a gap in society where groups or communities are missing out on opportunities to prevent and control NCDs or to maintain, manage or improve their health, which leads to poorer health status compared with other groups in the society.

Co-design

This is the active and meaningful engagement and participation of relevant stakeholders (e.g. people with lived experiences, community members, health workers, clinicians and other professionals, managers, policy-makers) throughout the process of designing health-care services and health-promotion activities, drawing on their experience and in-practice wisdom.

Determinants of health

These are the range of personal, social, economic and environmental factors that determine the healthy life expectancy of individuals and populations. Health determinants vary for countries, regions, communities, villages, families and individuals.

Globally relevant perspective of health literacy

A globally relevant perspective of health literacy recognizes the diverse ways in which knowledge is produced, transferred, exchanged and used in different countries, cultures and settings around the world, especially how knowledge accumulates in families, communities and societies through daily, often communal, activities and social interactions within these diverse settings. This perspective recognizes that different strategies will almost certainly be required in different cultures and settings, and that deep engagement with local communities is needed to develop the most appropriate strategies.

Health literacy

This represents the personal knowledge and competencies that accumulate through daily activities and social interactions and across generations. Personal knowledge and competencies are mediated by the organizational structures and availability of resources that enable people to access, understand, appraise and use information and services in ways that promote and maintain good health and well-being for themselves and those around them.

Key terms and concepts

In this report, four different facets of health literacy are explored: community health literacy, health literacy development, health literacy of an individual, and health literacy responsiveness. Distinguishing these is important when taking a globally relevant perspective on health literacy for the purpose of improving health and equity in diverse settings.

Community health literacy

This refers to health literacy-related assets (knowledge, resources, abilities), including:

- knowledge held by people in the community;
- the extent to which knowledge is trusted, circulated and adapted freely in a community;
- health-promoting customs embedded in cultural beliefs and norms, and in traditional or emerging practices of daily life;
- relationships between the community and outside sources of information.

Family, peer and community conversations and interactions are central to determining community health literacy, behaviours and outcomes.

Health literacy development

This refers to the ways in which health workers, services, systems, organizations and policy-makers (across government sectors and through cross-sectoral public policies) build the knowledge, confidence and comfort of individuals, families, groups and communities through enabling environments. Enabling environments support people to access, understand, appraise, remember and use information about health and health care, through verbal, written, digital and other communication channels and social resources, for the health and well-being of themselves and those around them, within the circumstances and demands of their daily lives.

Health literacy of an individual

As viewed from a globally relevant perspective, this is people's knowledge, confidence and comfort – which accumulate through daily activities and social interactions and across generations – to access, understand, appraise, remember and use information about health and health care, for the health and well-being of themselves and those around them.

Health literacy responsiveness

This refers to the extent to which health workers, services, systems, organizations and policy-makers (across government sectors and through cross-sectoral public policies) recognize and accommodate diverse traditions and health literacy strengths, needs and preferences to create enabling environments that optimize equitable access to and engagement with health information and services, and support for the health and well-being of individuals, families, groups and communities.

National Health Literacy Demonstration Projects (NHLDPs)

NHLDPs were designed and supported by the WHO Global Coordination Mechanism on the Prevention and Control of Noncommunicable Diseases Global Expert Working Group on Health Education and Health Literacy for NCDs. NHLDPs implement the Optimising Health Literacy and Access (Ophelia) process in various forms, depending on the needs and resources of each project context.

NHLDP teams develop, refine, test and evaluate health literacy actions that develop and respond to health literacy strengths, needs and preferences. These actions can range from low- or no-cost actions that are easy to implement through to complex multilevel health literacy actions. Each project collects evidence about health literacy actions that prove effective for the prevention and control of NCDs and, importantly, the context in which the actions proved effective and why. The long-term purpose of a programme of NHLDPs is to promote and support sustainable and scalable health literacy development and responsiveness actions in communities, organizations, health systems, and local, regional and national policies to accelerate the prevention and control of NCDs.

Optimising Health Literacy and Access (Ophelia) process

This is a co-design approach used frequently in health literacy development. It generally uses multidimensional health literacy or digital health literacy questionnaires such as the Health Literacy Questionnaire (HLQ) and the eHealth Literacy Questionnaire (eHLQ), which specifically investigate the diverse health literacy strengths, needs and preferences of individuals and groups of people. In this way, the process uncovers who is being left behind and why services are not effective for them, and provides information about what to do next. The Ophelia process uses meaningful engagement to understand and build on local knowledge and wisdom and international evidence to co-design, develop and implement health literacy actions that are accessible, sustainable and useful for the people who need them. The Ophelia Manual (1) provides a detailed step-by-step method to undertake health literacy development projects, including the NHLDPs.

People

In this document, the term "people" refers not only to individuals but also to collectives such as families, communities and groups associated by kinship or land, and nations.

Settings

Health literacy development is undertaken across all settings where people's knowledge, understanding and behaviour about health can be influenced. This includes prenatal environments, people's homes, villages and cities, schools and workplaces – that is, all the places where people are exposed to health-related information and where their health behaviours may be influenced.

Guide to using this document

The report is a designated WHO Global Public Health Good and, as such, is in line with the primary function of WHO to ensure access to authoritative and strategic information about matters that affect human health. Effectively delivering on this function involves influencing the actions of others in ways that can be shown to improve health outcomes and equity. To accelerate efforts to prevent and control NCDs and mental health conditions, Member States are encouraged to explore and implement a wide range of health literacy development and responsive actions.

Health literacy development for the prevention and control of noncommunicable diseases

This report has 4 volumes. You are in Volume 2.











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Overview

Volume 2

A globally relevant perspective

Volume 3

Recommended actions

Volume 4

Case studies from WHO National Health Literacy Demonstration Projects

Introduction

Noncommunicable diseases (NCDs) are the leading cause of death in the world, resulting in 277 million deaths among people aged 30–70 years between 2000 and 2019, most living in low- and middle-income countries (LMICs) (2).



An estimated 40.8 million people worldwide died from NCDs in 2019, equivalent to 74% of all deaths. Four NCDs caused most of these deaths: cardiovascular diseases (17.9 million), cancer (9.3 million), chronic respiratory diseases (4.1 million), and diabetes (1.5 million). Among these deaths, 17 million were premature deaths before age 70 years, of which over 86% were in LMICs (2).

The World Health Organization (WHO) estimates that the prevalence of current tobacco use among people aged 15 years and over declined globally from 27.3% in 2010 to 23.6% in 2019 (3). Only 32 Member States are currently on track, however, to achieve the WHO voluntary target of a 30% relative reduction in tobacco use between 2010 and 2025 (3).

Since 2010, little progress has been made in reducing the harmful use of alcohol, and development and implementation of effective alcohol control measures have been uneven between countries and WHO regions (4).

In 2016, the prevalence of physical inactivity for adults aged 18 years or over was 27.5%. Prevalence of insufficient physical activity is twice as high in high-income countries (HICs) as in low-income countries, and insufficient activity increased by 5% in HICs between 2001 and 2016 *(5)*.

The burden of mental health conditions remains high. According to the latest global burden of disease estimates for 2019, mental, neurological and substance use disorders make up 10% of disability-adjusted life-years lost worldwide and 25% of years lived with disability (compared with 7% and 26%, respectively, in 2010) (1). About 700 000 people died by suicide in 2019, and it was the fourth leading cause of death in people aged 15–29 years (6).

In 2016, 9 out of 10 people breathed air that did not meet the WHO air quality guidelines, and more than half the world's population was exposed to air pollution levels at least 2.5 times over the safety standard set by WHO (7).

Recognizing the challenge posed by NCDs and their risk factors and determinants, the United Nations Sustainable Development Goals (SDGs) prioritized responses to the global burden of NCDs with a commitment to reduce by a third premature mortality from NCDs through prevention and treatment and the promotion of mental health and well-being by 2030 (Target 3.4) (8).

The world is currently off track to achieve SDG Target 3.4 and other NCD-related SDGs with irregular progress across the world according to the latest United Nations report (9). The WHO World Health Statistics 2021 (10) reveals that the world has seen progress in combatting NCDs since 2000 (10), but this progress is not comparable to that made for curbing communicable diseases and is unequal across regions and income groups.

Despite the rapid progress made between 2000 and 2019 in reducing the risk of premature death from each of the four main NCDs, the momentum of change dwindled during 2010–2016, with annual reductions in premature mortality rates slowing.

In addition, global ambitions to accelerate progress on universal health coverage are increasingly unlikely unless concerted action on NCDs occurs (11). All income categories of countries have demonstrated almost no progress since 2000 in expanding universal health coverage service capacity and access coverage for the prevention, screening, early diagnosis, and appropriate treatment of NCDs (12).

A crisis such as the COVID-19 pandemic further highlights the vulnerability of people living with or affected by NCDs when health services for prevention and control are disrupted. In May 2020, WHO conducted a rapid assessment of the initial impact of the COVID-19 pandemic on NCD resources and services, to which 163 Member States (84%) responded (13). Data revealed that people living with NCDs appear to be two to four times more likely to become severely ill with or die from COVID-19, while measures such as lockdowns increase behavioural risk factors such as physical inactivity, unhealthy diets, higher alcohol consumption, and mental health issues.

In addition, more than 60% of responding countries reported complete or partial disruptions to management services for NCDs during the COVID-19 pandemic (14). Governments need to progressively cover their populations with cost-effective high-impact policies and legislative and regulatory measures to reduce risk factors for NCDs, and to provide health services, medicines, vaccines and health technologies for the prevention, screening, early diagnosis and treatment of NCDs and rehabilitation of people living with NCDs. Investment in the prevention and control of NCDs is possible because cost-effective, high-impact interventions already exist, but they are not sufficiently tailored, implemented and scaled up in LMICs. Progress in NCDs towards relevant targets needs a major boost.

As evidenced during the COVID-19 pandemic, another challenge to the prevention and control of NCDs is the proliferation of health information, health misinformation and health disinformation, online and offline, which have been described as "infodemics" (15). The spread of inaccurate health information is not new, but the internet has enabled such information to be diffused at a much greater speed, leading to potential negative health consequences. For example, the misconception that the measles, mumps and rubella vaccine leads to autism was the likely cause of several measles outbreaks in the United States (16). The flood of information, misinformation and disinformation combined with a substantial amount of marketing messages, means that health literacy is undeniably an essential skill in the twenty-first century (17).

Health literacy is central to the prevention and control of NCDs (18). Improving the health knowledge of individuals is seldom enough, however, to achieve behaviour change, because NCDs are a combination of genetic, physiological, environmental, economic, commercial, cultural and behavioural factors of both individuals and communities (19). When healthy options are not available, accessible and affordable, efforts to support behaviour change of individuals will likely be futile. Hence, it is essential to think about health literacy from a social-ecological perspective (Fig. 2.1). In this way, health literacy support makes sense when the people, organizations, societal contexts and public policy issues surrounding individuals are all taken into consideration. As such, a whole-of-society approach involving multisectoral policy activities using both top-down and bottom-up practices is needed in the pursuit of developing health literacy for the prevention and control of NCDs.

2.1 Introduction 3

Fig. 2.1. The social-ecological perspective of health literacy showing the determinants of health literacy from the individual to public policy



- The aim of health literacy development is to support WHO Member States to develop and implement locally relevant health policies, systems, services and workforces that are able to respond to the health literacy needs of people and communities for the prevention and control of NCDs across settings.
 - This report advances health literacy from an abstract concept to practical action areas to prevent and control NCDs. It details a co-design approach, informed by health literacy, to support Member States to collaboratively address and redress local health disparities and health and equity outcomes. Collaboration occurs through national NCD policies and programmes, and through partnerships with regional, city, community and village organizations, health services and community members. The co-design process commences with diverse situational analyses and meaningful engagement with community members, and people living with or affected by NCDs, and deliberately includes groups missing out or excluded. This approach is important to achieve the depth and breadth of health and equity improvements within and across Member States through the health literacy development processes and activities detailed in this report.

A globally relevant perspective of health literacy



Key message

A globally relevant perspective of health literacy recognizes that health knowledge accumulates in individuals, families, communities, and societies through daily, often communal, activities and social interactions in diverse contexts, cultures and countries.

To prepare Member States to respond to their health literacy needs, it is important to first understand how health literacy is developed. In recent years, the concept of health literacy has evolved from a narrow focus on reading and numeracy skills to a multidimensional concept inclusive of social and cultural contexts (20-23). It is now recognized that most of what people do in accessing, understanding, appraising, remembering and using health information involves conversations, interactions and shared thinking with others. There is also increasing evidence that when we focus health education and health promotion activities on families and local social networks, and the ways in which health is discussed in these groups, it is possible to achieve greater change than through activities that focus on individuals alone (24-26).

In the past, theories and research about health literacy occurred mainly in Australia, Europe and North America, where discourses of individual autonomy and choice over health and well-being are most common. Recent thinking has drawn on the perspectives and experiences of many more countries, and indigenous and minority communities, to expand the understanding of the role of traditional knowledge, the cultural practices through which people learn, and especially the importance of day-to-day interactions with family, friends, peers and other social networks, including social media. The reality is that for many people in most parts of the world, health decisions and actions are part of family, community or cultural processes, practices, beliefs or religious teachings (22, 23, 27-30).

A presumption of individual autonomy has often led to health literacy programmes, interventions and activities that focus solely on encouraging behaviour change in individuals. These individualistic approaches do not recognize that health literacy is a social practice, especially in contexts where making decisions is a result of collective action (23, 29, 31). Individualistic approaches have also overlooked the infrastructures, policies and environments that shape and guide societies, and that these can be barriers to or enablers of health-related decision-making (32, 33). A lack of recognition of the ways health literacy is influenced by social practices and settings means that health literacy actions that target individuals are often insufficient because they do not respond to community-level health literacy strengths, needs and preferences. They also miss opportunities to positively, and communally, influence health behaviours and promote enabling policies and environments to improve community disparities and health outcomes. The shortcomings of individualistic approaches have important implications for the development of health literacy for most (6 billion out of 7 billion) of

the world's people who live in societies characterized by communal cultures (34, 35) where community needs, goals and actions take precedence over those of individuals.

To ensure broad applicability and relevance, this report is based on a definition of health literacy that takes a globally relevant perspective, inclusive of the view of health literacy as a social practice. Health literacy initiatives, from local through to national, that recognize and accommodate local social practices will contribute to health and equity improvements among individuals, families, groups, communities, organizations, services and systems.

A globally relevant perspective of health literacy includes:

People's knowledge, confidence and comfort – which accumulate through daily activities and social interactions, and across generations – to access, understand, appraise, remember and use information about health and health care, for the health and well-being of themselves and those around them.



A globally relevant perspective of health literacy acknowledges, respects and works within local social and cultural contexts to enable meaningful activities to improve health and equity outcomes.

A great challenge that we have to overcome is to understand how we can learn with each other, respecting the local context and needs. How can we overcome the challenges for adaptation or taking context into account when transferring complex interventions? We need to understand how the interventions can interact within different contexts to produce similar outputs.



Sónia Dias, National School of Public Health, Coordinator, Public Health Research Center, and Vice-President, Scientific Council, Universidade Nova de Lisboa, Portugal

Health literacy: a social practice



Key message

People usually get health information, decide on what it means for them. and make decisions about how to use the information through interactions with other people in their families and communities. as well as in health services and systems. As such, health literacy is developed through daily activities and social interactions, especially in societies characterized by communal cultures.

People rarely make decisions about sustained daily activities or major life issues in isolation from the other people in their lives (36-38). In many cultures, communities and social contexts, decision-making for health has various levels of involvement from other people, including friends, family, village members, health workers, and other community networks that may involve organizations, services and systems (23, 28, 39, 40). The degree to which individuals have responsibility for and take action to access, understand, appraise, remember and use health information and services depends largely on the family, community or society in which they live. Thus, health literacy develops through people's daily activities and social interactions where ideas and information about health and health care are exchanged. In these ways, health literacy is a characteristic not only of individuals but also of groups of people and of whole communities.

A helpful way to look at how health literacy exists in diverse communities is to consider communal (or collectivist) and individualistic cultures, social contexts and cultural norms as existing on a continuum. At one end are societies that operate communally and where individuals belong, from birth, to groups such as a family or extended family, or a village, ethnic group or nation. An individual's role in the group is usually defined, and group goals, conformity, loyalty and (at least superficial) social harmony are prioritized.

Past health literacy research originates mainly from western countries where discourses of individual autonomy over and choice about health and well-being tend to prevail, and these lend themselves to activities that focus on encouraging behaviour change in individuals. For many people in most parts of the world, however, health decisions and actions occur within family, community and cultural practices and beliefs, which means that health choices are often restricted by social and environmental factors beyond the control of individuals.

At the other end of the continuum are societies in which individuals have a great deal of autonomy (individualistic social contexts), where ties between individuals are loose, and individual achievement, freedom and uniqueness are valued. Personal goals are prioritized over group goals, and differences and confrontations are common and acceptable (31, 41-43). The most strongly individualistic cultures identified in global research include Australia, the United Kingdom of Great Britain and Northern Ireland, the United States, and some Western European countries (e.g. Germany, the Netherlands) (44). These are the same cultures in which the majority of health literacy research has been undertaken over the past 30 years (20).

2.2.1

Between the two ends of this continuum are contexts in which varying degrees of communal and individualistic influences are embedded in the society or in groups within the society. The care of children, young people, elderly people, people with disabilities, and many migrant and refugee groups function on principles of communal (e.g. family, community or societal) decision-making and group goals, including within otherwise individualistic social contexts. Social changes in countries may affect these cultural dimensions; for example, a trend towards individualistic attitudes has been observed among the generally communal culture in Japan (45). There can also be variations of individualistic or communal attitudes among individuals in different social contexts and social relations (46). Health literacy development and population-wide measures and surveys need to recognize and accommodate this range of social and cultural perspectives.



Most people live in communal societies and this profoundly affects health literacy development

Communal and individualistic cultures exist on a continuum.

At one end of the continuum are societies that primarily operate communally. An individual belongs to groups and social harmony is prioritized. In Africa, Asia, Central and Eastern Europe, the Middle East, much of Oceania and South America, communal cultures dominate. At the other end of the continuum are primarily individualistic societies where personal goals are prioritized. These are the main societies in which the conceptualization of health literacy has occurred, and typical health literacy measurement and response approaches largely reflect these cultures; examples include Australia, the United Kingdom, the United States and some western European countries.

There are varying degrees of communal and individualistic influences embedded in all societies – for example, migrant groups from communal cultures living in primarily individualistic cultures, or social changes toward individualistic attitudes within communal cultures. There can also be variations of individualistic or communal attitudes among individuals in different social contexts and social relations. Hence, health literacy development needs to recognize the diverse range of social and cultural perspectives.

Understanding the relationship between NCDs and health literacy



Key message

Health literacy is essential for people to understand what NCD risk factors and determinants are, whether or not they are at risk, the chronic nature of NCDs, and the daily health-related decisions they may need to make for the prevention and control of NCDs for themselves, their families and their communities.

NCDs are recognized as the one of the major challenges of the twenty-first century (47). The main NCDs are heart disease and stroke, chronic lung disease, diabetes, cancer and mental health conditions. These conditions have common risk factors (Fig. 2.2) and social, economic, environmental and commercial determinants. There is a complex interplay between these risk factors, physical health, the determinants and mental health conditions. Declining physical health can lead to poor mental health, and poor mental health can accelerate the development of physical NCDs.

NCDs are known as chronic diseases because of their long duration (19). Over a lifetime, exposure to risk factors makes the prevention and control of NCDs complicated and challenging. Thus, daily health-related decisions are required, and health literacy plays a central role in the prevention and control of NCDs. Challenges include people being aware of risk factors and being able to modify them or engage in long term behaviour change. Health literacy is also important for palliative care, home-based care for people who are chronically ill, focusing on self-efficacy, and competency of family members and care givers to manage chronic illness. There may also be misinformation and disinformation (especially through digital media), and local or regional vested commercial interests such as income gained from sales of unhealthy commodities (e.g. alcohol, tobacco products, sugary drinks). Public health campaigns have frequently had a focus on provision of information only, omitting actions that would reduce causal mechanisms that lead to exposure to or uptake of NCD risks.



Misinformation is defined as "information that is contrary to the epistemic consensus of the scientific community regarding a phenomenon" (16). Studies of disease outbreaks such as Ebola and H1N1 found that a lot of misinformation is political in nature and indicates a lack of trust in government or traditional institutions (48, 49). Marketing from groups with vested interests, and from the politicization of health issues, can lead to vast media coverage and generate mixed messages, which can affect how individuals and policy-makers view and understand health problems (50). Hence, transparency in health communication is essential to build trust (51).



In daily life, the causal relationships between risk factors and disease development may go unnoticed or may be inconsistent with how people experience disease development in themselves or in people they know. Health literacy development approaches are needed to support individuals and the communities they live in to understand NCDs and take action to reduce NCD risk factors.

Fig. 2.2. The noncommunicable diseases (NCDs) health literacy dilemma: disconnect between people's experiences of, and beliefs and attitudes about disease risk factors and the determinants of disease



People may or may not know something is a risk, or they may know it is a risk, but may not be able to avoid it because it is endemic or a cultural or social norm. In daily life, the causal relationship between risk factors and disease development may go unnoticed or may be inconsistent with how people experience disease development in themselves or other people they know. Health literacy development approaches are needed to support individuals, and the communities they live in, to understand NCDs and take action to reduce NCD risk factors.

The management of NCDs is also affected in similar complicated and challenging ways. Providing information to a community about how to manage a NCD may not be effective if people feel they are not permitted to use a service for fear of social exclusion or stigma, or if they cannot navigate a complex health-care system, or if health professionals are not sensitive and responsive to people's health literacy needs.

Context-specific, culturally sensitive, age-appropriate NCD health literacy interventions that consider the full range of mechanisms leading to exposure to risk factors and service engagement need to be put in place to complement policies and programmes, including regulatory and fiscal measures, that governments and other authorities have in place. An understanding of mechanisms related to health literacy will assist in the development and implementation of effective NCD prevention and control activities (52, 53). See also *Volume 4. Case studies from WHO National Health Literacy Demonstration Projects* and the Ophelia Manual (1) for planning and implementing NHLDPs.

It is important to address the various social, economic, environmental, technological and commercial determinants of health by creating accessible and enabling environments where people feel confident, empowered and supported to effectively address NCD risk factors.

By recognizing the centrality of daily health-related decisions, modifiable risk factors and determinants can be seen within the context of the daily lives of individuals, families and communities, and across the lifespan. This view of health in social contexts allows for a holistic approach to health such that organizations and policy-makers can recognize that:

- people are often unaware that they are exposed to risk factors;
- the impacts of risk factors and determinants of health are cumulative;
- people experience their health and well-being as a resource for daily life.

Therefore, ill-health is viewed as a limitation to what people need or want to do, rather than as discrete and separate pathologies or diagnoses, which is the dominant disease paradigm in most forms of health care (54).

The recognition of health literacy as a social practice is important because it promotes a whole-of-society approach to tackling NCDs, risk factors and determinants. When addressing modifiable risk factors, health literacy is relevant across the WHO Best Buys and other recommended interventions (55). Health literacy provides information about the strengths and limitations that communities and community members may have for engaging in NCD prevention and care. It also allows for understanding and advocating for policy, regulatory and legal measures to reduce exposure to risk factors (e.g. alcohol, tobacco products, sugary drinks). Health literacy information can be used to improve health and social care systems, educational systems (for children and health professionals), and workplaces to increase the quality, access and reach of information and services for NCDs.



Considering the pervasive influences of NCD risk factors across different sectors, health literacy actions should not only focus on individuals but also be undertaken in communities and organizations and embedded in policies. Health promotion activities should engage Member State and non-Member State actors in a multisectoral way. It is expected that applying health literacy thinking to create environments in which it is easier for people to make healthy choices and adopt healthy practices will reduce health inequities.

NCDs: a health literacy challenge



Key message

NCD interventions that seek only to change the behaviour of individuals are not likely to be effective when people have little or no knowledge of, or control over, the NCD risk factors and determinants affecting them. To manage the NCD health literacy challenge, it is necessary to know and work within the context of local traditions, people's daily activities and social interactions, and to understand the drivers of the interconnected risk factors and social, economic and environmental determinants of NCDs.

NCDs are a complex health literacy challenge because they can be caused by activities, environments and circumstances that are integral to people's daily lives, and sometimes these are unavoidable or even unnoticeable.

Considering health literacy as a social practice recognizes that daily life often involves routine and socially accepted activities, including some that are not necessarily healthy (e.g. tobacco use, harmful use of alcohol, diets high in trans fats, sugar or salt). Adopting alternative behaviours to promote health and prevent and control NCDs can be difficult or impossible for individuals when those behaviours go against expected and familiar social or cultural behaviours (56, 57). Therefore, it can sometimes be inappropriate or even unsafe (culturally, socially or psychologically) for individuals to change their health behaviours if the change would result in a risk of them being stigmatized or discriminated against or going against strongly held traditions and beliefs.

On the other hand, circumstances (e.g. being in a socioeconomically disadvantaged position) may limit healthy choices: such as being able to access or afford food for a healthy diet. These circumstances can also lead to psychosocial stress triggering mental health issues or uptake of NCD risk behaviours such as the use of alcohol or tobacco. Systemic inequities (e.g. due to race, gender or religion) and social stigma are often part of the daily lives of many people who live in disadvantaged circumstances (e.g. refugee camps, chronic childhood malnutrition, oppression in many forms). When these factors are daily life circumstances, changing behaviours for health, including mental health, can be a low priority (58).

Furthermore, NCD risk factors can be part of the environment in which people live, sometimes for decades (e.g. air, land or water pollution; lack of safe space for exercise; lack of access to healthy food; abundance of and ease of access to obesogenic foods; use of tobacco or alcohol); for example, in 2016, air pollution contributed to 24% of cases of stroke, 28% of lung cancer and 43% of chronic obstructive pulmonary disease (59). Risk factors may be present in the available resources (e.g. fuel for cooking, cooking with fire in an enclosed space, the only food they can afford to buy).

NCDs are described as "a slow-motion disaster" given that overt symptoms may take years to emerge (47). For many people, especially when whole communities are exposed, it is difficult to comprehend that continuous exposure to unhealthy lifestyles and environments can lead to the development of a disease that has no early warning signs. The slow onset of symptoms

also means that many people do not know they need to alter their behaviours now, or they do not want to change their behaviours now to prevent a disease that may, but may not develop in the future. Effective prevention and control of NCDs rely largely on people being able to engage in healthy behaviours daily, often within the contexts of their families, communities and environments. Health literacy is therefore a strategic approach to address the NCD epidemic.

Providing information (e.g. through posters, pamphlets, television and radio) for knowledge acquisition is a common approach to educate people about NCDs and their risk factors to encourage them to change their health behaviours (60, 61). Such information can be a good starting point for sensitizing a population about simple health issues. The provision of written information alone, however, may create health inequities because more educated and resourced individuals or communities tend to better understand the information, and more easily adopt the healthy recommendations, than poorly educated or under-resourced individuals and communities. Information alone may not lead people to change their daily activities when their social practices, circumstances and environments prevent them from doing so (62, 63). These factors need to be considered when planning for any health promoting activities. Hence, a whole-of-society approach using both top-down and bottom-up actions is needed.



To prevent and control NCDs, health literacy needs must be addressed, and social, environmental and economic determinants of health must be systematically tackled.

Behaviour change is possible only in environments that enable the change and make healthy decisions the easy decisions. Given the slow onset of NCD symptoms, governments need to provide regulatory policies, early detection, screening and prevention programmes, and treatment of NCDs (19, 64, 65). Understanding people's health literacy needs within their societal contexts is important for enabling healthy behaviours. Communities, health services, government agencies, private sectors and policy-makers need to be responsive to these needs and work collaboratively to create the necessary enabling environments.



Enhancing health literacy by providing information alone often does not generate meaningful behaviour change. Behaviour change in response to simplistic information campaigns is more likely to occur in people who are already well-educated, well-informed and well-resourced. It is important to provide an enabling environment (e.g. regulatory, legal, fiscal, environmental, economic) to make healthy choices readily available.

Health literacy development: a priority for the prevention and control of NCDs



Key message

Health literacy development needs to prioritize contextappropriate, locally co-designed initiatives, services, environments and, importantly, national health literacy-informed NCD policies in order to leave no one behind. Health literacy development works across health and non-health sectors to embed health literacy into clinical, organizational and national processes and policies. In this way, health literacy development supports meaningful health literacy actions to build the strengths and resilience of communities, organizations and political structures for the prevention and control of NCDs.

Health literacy development refers to:

The ways in which health workers, services, systems, organizations and policy-makers (across government sectors and through cross-sectoral public policies) build the knowledge, confidence and comfort of individuals, families, groups and communities through enabling environments. Enabling environments support people to *access*, *understand*, *appraise*, *remember* and *use* information about health and health care, through verbal, written, digital, and other communication channels and social resources, for the health and well-being of themselves and those around them, within the circumstances and demands of their daily lives.

In order to ensure policy-makers understand and provide effective health literacy-responsive actions, they too need to have enhanced capacity to make health-related decisions using a broad health literacy lens to understand the impacts of their decisions about health policies on populations. It is important to support key policy-makers to have health literacy actions for NCDs across sectors that deal, for example, with trade agreements and the many sectors that affect the environments that can profoundly determine health (e.g. for Ministry of Commerce, Ministry of Environment, Ministry of Urban Planning, Ministry of Foreign Affairs). Of course, the Health Ministry needs to have capacity to enhance the health literacy responsiveness of other sectors.



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2.2.4

Health literacy is critical to the success of equitable health policies and programmes that seek to accelerate prevention and control of NCDs because investigation into the health literacy of communities provides insight into who is being left behind and who is not accessing or receiving benefit from health services. Ultimately, health literacy development needs to be undertaken by Member States to improve existing programmes and to develop new programmes to effectively prevent and control NCDs.

Health literacy is one of the three pillars in the WHO Shanghai Declaration on Health Promotion (2016) to achieve sustainable health development by 2030 (66). Health literacy is also included in WHO NCD-related policy documents to guide NCD policies, programmes and interventions to be more effective and to reach more people (67). Not every country, however, has initiatives to measure, develop or research health literacy. It is also possible that some countries are implementing effective programmes and using practices that could be considered as health literacy development, but are not labelled as such (68). Some countries have already developed health literacy policies that seek to reduce inequities and improve health outcomes (69, 70). Health literacy policies usually function in two ways: standalone policies to advance health literacy among sectors and stakeholders, and integrated policies that seek to integrate health literacy into new or existing policies (70).

In recent years, some HICs have developed standalone health literacy policies: for example, Austria, Canada, Germany, Norway, Portugal, Scotland, Switzerland and the United States (68, 69, 71). The focus of these policies is on health literacy progress at the national level and in a general way. Integrated health literacy policies have been developed by HICs and LMICs: Australia, Bhutan, China, the Islamic Republic of Iran, Israel, Myanmar, Nepal, New Zealand, the Russian Federation, Sweden and Thailand (68, 72, 73). Policies and programmes in these countries include health literacy progress in multisectoral collaborations to improve communication between health care practitioners and clients, and improve people's general awareness and knowledge about NCDs and associated risk factors (70).

Policies and programmes that make health concepts and services locally understandable, meaningful, appropriate and accessible are health literacy-responsive. Health literacy responsiveness is a practice of recognizing and responding to the health literacy needs of people and communities in meaningful ways according to sociocultural contexts.

Health literacy responsiveness refers to:

The extent to which health workers, services, systems, organizations, and policy-makers (across government sectors and through cross-sectoral public policies), recognize and accommodate diverse traditions and health literacy strengths, needs and preferences, to create enabling environments that optimize equitable access to and engagement with health information and services, and support for the health and well-being of individuals, families, groups and communities.

A health literacy-responsive approach to the prevention and control of NCDs enables and supports health behaviour changes within the social structures and practices of communities. Importantly, health literacy responsiveness prioritizes the effort of gaining insights into why some NCD interventions, particularly those that target individual behaviour change, have limited reach or are ineffective in some social contexts.

Health literacy policies and initiatives in some countries have enabled progress in some areas of health (68, 72). The individualistic approach still dominates health literacy research and measurement, however, and this can perpetuate health disparities, especially in communal cultures. Member States need to prioritize national policies to prevent and control NCDs that embed a globally relevant perspective of health literacy development and responsiveness.



Health literacy responsiveness identifies people who are being left behind, what their needs are and how to address them, with the aim to inform targeted, contextual and appropriate national, organizational and local responses.

Strengthening the health literacy of populations



Key message

Improving the health literacy of populations is a continuous process of health literacy development and health literacy responsiveness and requires a whole-of-society approach.

To tackle the NCD health literacy challenge through effective actions, a whole-of-society approach is required. Improving the health literacy of populations is a continuous process of health literacy development and health literacy responsiveness. It involves:

- understanding the health literacy needs and strengths of different population groups;
- identifying which groups in which communities are missing out;
- working with local communities to co-design fit-for-purpose solutions to address local needs;
- improving access to health information and services;
- creating enabling environments this is important for every person in a community, and particularly for groups experiencing vulnerability.

Understanding how health literacy is developed, and responding to health literacy strengths, needs, and preferences, will support Member States to develop comprehensive health literacy policies and strategies that:

- advocate for the recognition of health literacy diversity across sectors;
- make health systems responsive to the health needs of all community groups;
- provide health literacy-responsive education across populations about what healthy practices and health choices are and what effective use of health services means;
- support communities to strive for healthy options and reject unhealthy influences;
- reduce overall health care cost in the long term.

Fig. 2.3 shows the influence of context and how health literacy is developed among communities, and on practical action areas for multisectoral health literacy development to improve health and equity outcomes. Determinants of health are the foundations of health literacy development because they influence social practices, education and media, which lead to the diverse health knowledge that can be held within and across communities. Fig. 2.3 also displays the health literacy actions, learnings and barriers that are influenced by individual, community, organizational and policy settings and in which practical actions for health literacy development can be taken.

Health literacy Settings and health determinants development is influenced by History and Armed conflict, Norms and Traditional Ancestral Regulatory, Economic and settings and humanitarian cultures, knowledge and religious fiscal and legal commercial geography health determinants and emergency health care requirements environments environments settings and beliefs **Social practices** Health literacy is developed over Mother's knee a, stories and myths, cultural and community practices, family, time through social friends, peers, workplace, health workers practices, education and media Formal education Literacy, numeracy, biology, health Conventional and digital media Television, radio, film, print, advertising, social media Health literacy Five actions of health literacy is put into action **Accessing Understanding Appraising** Remembering **Using** Ways of learning Community The arts Printed Communication Conventional Digital media conversations materials and interaction mass media with health workers There are barriers **Access barriers** to putting health literacy into action Availability or Service quality Service Cultural Gender inequality physical access responsiveness safety and stigma Language Cost or availability Racism and other Information and Complexity and of universal health discriminatory communication comorbidity coverage practices technologies **Health literacy** development needs to occur across **Public policy** Community and different levels Organizations Individual and society interpersonal responses Practical Prepare for national health literacy development and responsiveness action areas for health literacy development and **Build community** Build health literacy Target priority responsiveness responsive health systems health literacy groups Integrate health literacy at the national level through to local levels

Mother's knee is a concept whereby infants learn about social practices and health-related information from the people caring for them, often while sitting on their knee.

Social determinants of health



Key message

Health literacy
development must
first seek to understand
the determinants of health
that influence how
people (as individuals,
groups, organizations,
communities and
societies) access,
understand, appraise,
remember and use health
information to develop
appropriate and
meaningful health literacyinformed NCD responses.

Health literacy is strongly influenced by determinants of health (the top block of Fig. 2.3), which underpin social structures, norms and practices, and are the starting points for health literacy development. These health determinants vary among countries, regions, communities, villages, cities, families and individuals, and so it is expected that health literacy also varies across these different contexts.

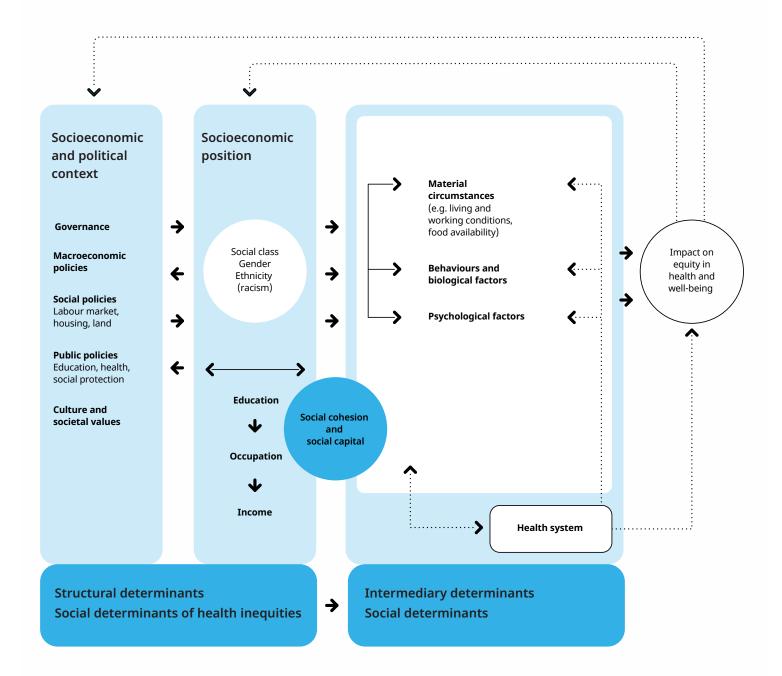
Each country, and the diverse communities within each country, have deeply embedded historical, geographical, legal, political, sociocultural, environmental, economic, commercial, traditional, ancestral and religious characteristics that influence health and health behaviours. Some of these health determinants can change, however, to promote or inhibit health literacy and subsequent health and equity outcomes in communities. For example, globalized marketing of unhealthy commodities has directly moved some populations away from following traditional active lifestyles with whole foods to inactive lifestyles with processed foods, leading to a decline in health and well-being and a rise in NCDs (74-76). Creating active change to these determinants of health should be the focus of health literacy-responsive approaches by governments, communities, families and individuals for the prevention and management of NCDs.

Industries related to unhealthy commodities play a large role in spreading misinformation and misleading the public. People are bombarded with marketing in many forms, many unhealthy products are provided at low cost and this makes it even harder for people to get access to accurate health literacy information to make informed choices, afford and choose healthy options.



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Fig. 2.4 presents the Conceptual Framework for Action on the Social Determinants of Health from the WHO Commission on Social Determinants of Health (77). The integrated conceptual framework for health literacy development (Fig. 2.3) seeks to build on this original framework in some areas but affirms the need for action at the identified levels.



Source: Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Geneva: World Health Organization; 2010.

2.3.1

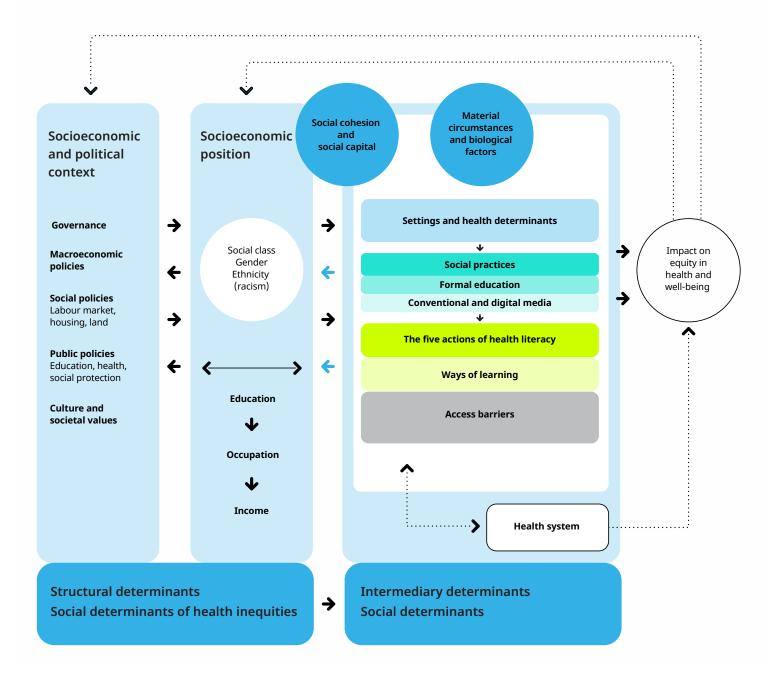
The WHO Conceptual Framework for Action on the Social Determinants of Health can be strengthened in two ways by a health literacy perspective (Fig. 2.5).

The first way is to add detail to the right side of the diagram, which relates to processes in the direct lived experiences of people in communities, particularly about how the social determinants of health affect people in their daily lives. Overlaying elements of Fig. 2.3 highlights the need for a deep understanding of how the determinants of health interact with the ways in which knowledge, thinking and action about health really develop for people in their communities, across their lives, and within the demands of everyday life – this now reflects a lived experience perspective. Even top-level policymaking processes and activities require deep and realistic bottom-up understanding of the lived experiences of people and communities.

The second way to strengthen the framework in Fig. 2.4 is to have the arrows between the two sides going in both directions. Currently, the arrows go only from left to right, which implies a lack of agency for communities, families and individuals to influence the social determinants of health. This change recognizes that people and communities can be empowered to advocate for themselves and to influence and take some control of many determinants of health. This is often referred to as critical health literacy and is achieved through ongoing meaningful engagement with communities.



Responding to health literacy as a determinant of health requires health literacy actions that recognize and accommodate social practices and support healthy behaviours in ways that are appropriate and meaningful for people in their daily lives.



See Fig. 2.3 for details.

Source: Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Geneva: World Health Organization; 2010.

Health literacy is developed over time through social practices



Key message

The central mechanisms for health literacy development in many communities are people's daily accumulated experiences and conversations they have about health with their family, neighbours, peers, colleagues and health workers.

Health knowledge is developed from birth through the social practices of the communities and environments in which people live. Knowledge is held within communities and shared through stories and experiences with family, friends, peers, community leaders and teachers. People see, hear and talk about what happens to them and other people and, over time, they learn from this informal and formal instruction. Social practices influence how health information becomes health knowledge. Understanding the physical and social environments in which people and communities accumulate knowledge is important for understanding their health beliefs, how they are able to shape their behaviours, and how they develop health literacy (23, 29, 31).

The earliest and usually the strongest influences on health literacy are those that come from the experiences of young children interacting with their caregivers. Early childhood learning about health is accumulated from parents, formal and informal childcare settings, and family and educational networks where children are socialized and educated in social practices. As young people develop and enter adulthood, the information they gain from formal education, and their experiences and interactions with peers, work colleagues, and especially with health-care providers, contribute to the development of their health knowledge.

Health information is filtered through social norms and practices to influence community health knowledge and, consequently, community health literacy. This means people's knowledge may change over time, and it may even create conflicts with and within their communities as they are exposed to different social interactions and contexts across different life stages (23). Nevertheless, in many settings, social norms and practices are one of the main drivers of people's health beliefs, health behaviours, and health literacy.

Social (cultural, community and peer) norms and practices are strong determinants of the behaviour of individuals (78–80). For example, young people may see respected people in their community smoking or eating unhealthy staple foods (81) but they may not see the link to the consequences of those behaviours later in life. Shared knowledge about the impact and the management of risk factors is often not part of regular stories, experiences, and social norms and practices, especially in communities and countries where NCDs and their risk factors are relatively new.

2.3.2

Young people with access to social media may face a different type of challenge. Popular trends such as leading a healthy lifestyle may bring about motivation to support health behaviour, but some studies have found that these trends can lead to negative effects such as compulsive exercise, disordered eating and body image dissatisfaction (82–84). This means that interventions, even powerful ones, that are directed at individuals may be effective for only a small number of people who have the determination and personal resources to enable them to resist the norms or have access to healthy choices and behaviours. Such interventions that intend to change the behaviour of individuals may increase inequities if implemented widely and taken up more readily by socially and economically advantaged people.

Many people live in settings where social norms and practices endorse or even encourage risky behaviour such as tobacco use, harmful use of alcohol or consumption of highly processed foods. This is most strongly evident in settings where community or peer cohesion is important to preserve community values and traditions, such as in close communities, village or city settings, workplaces, and specific peer networks, including among youth or clubs and organizations.



Great care must be taken when attempting to change unhealthy behaviours that are linked to social norms. The behaviour may be deeply coupled with strong positive cultural practices, such as a sense of belonging, status, social support and respect for tradition or the wishes of tribal ancestors that are linked to future prosperity. It is important that health literacy-responsive approaches are undertaken in the context of social and cultural backgrounds.

Formal education: its contribution to health literacy



Key message

Health attitudes and behaviours formed during childhood influence adult health patterns. Children need support and education to become knowledgeable and critical consumers of health information, complemented by ensuring the enabling environment to make and access the appropriate behavioural choices.

More than 80% of children in the world receive basic formal education (85). This formal education provides opportunities for children to learn concepts of health, including human biology and its risk factors and determinants, and skills to find, appraise and understand information that will come to them from many sources over their lifetimes. By the time children enter formal schooling, however, the foundations of their health information and knowledge have already been influenced by their community's social norms and practices. Furthermore, the school curriculum, including language and numeracy skills, is usually delivered within and alongside accumulating family, community and cultural information and knowledge.

When the skills of reading and understanding information are applied to health, they are often called functional health literacy. Basic understanding of science, such as biology (e.g. germ theory, blood sugar and obesity) and anatomy (e.g. body parts and how they work) helps people to make sense of information provided by health workers and found online. Formal education may also equip people with the confidence and skills to ask questions about health, to critically appraise information, and to understand the health risks and determinants associated with NCDs, and the slow onset and chronic nature of these diseases.

As school children come to understand the potentially dangerous long-term impacts of exposure to common NCD risk factors (e.g. how tobacco products can cause cancer, the physical and social impact of harmful consumption of alcohol, or the impacts of diets high in salt and fats), they may transfer this knowledge to their family and broader community. This may, in turn, lead to actions that improve their own and their family's health. School education and the schooling environment, if well informed and evidence-based, is one of the most important health literacy development opportunities available and needs to be systematically developed. There has been a recent call for school health education to be re-branded and reimagined as education for health literacy in order to position health education alongside and integrated with literacy, numeracy and technology (86). As such, a health-promoting school that continuously develops its capacity as a setting for healthy living, learning and working can be a major contributor to health literacy development among children (87, 88). WHO has provided guidance on how to make every school a health-promoting school, including implementation, standards, indicators and case studies (89-91).

Unfortunately, schools often reinforce misinformation about risk factors for NCDs, provide the unhealthy foods in school cafeterias, don't promote enough physical education, have sponsorship of alcohol in school parties (e.g. for fund raising) and the children are also now consumers of social media and internet, which often have aggressive marketing promoting all the bad stuff. Overall, the school curriculum in most settings is totally insufficient and often outdated in relation to risk factors (maybe the exception is tobacco).



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Conventional and digital media: the friends and foes of health literacy



Key message

Information from conventional and digital media can be evidence-based and helpful, or false or misleading and unhelpful. Judging the usefulness of information is becoming more difficult with the increasing speed and quantity of global digital information transfer. The media can both build and undermine health literacy.

Conventional media (e.g. newspapers, books, television, radio, film) were the main channels for wide dissemination of health information before the digital revolution. Digital technology and social media are now powerful tools to disseminate evidence-based public health information to educate, inform and develop health literacy. Widespread misinformation from digital sources, such as social media, however, can undermine useful public health information and responses, as evident during the COVID-19 pandemic (15). Proliferation of confusing and conflicting information makes it difficult or impossible for people to know what to believe and what to do for their health. Consequently, the digital world can both build and undermine health literacy.

Under the influence of the media, where information spreads through the fast-moving digital world, the health literacy of a community is challenged from day to day or even from hour to hour. For people who have access to digital devices and online platforms, the volume of information can be too large to understand, interpret and appraise easily or properly. The usergenerated content feature of web 2.0 means anyone can post and share anything. As a result, the quality of digital information can vary from excellent, evidenced-based and useful through to misleading, or even false and damaging. Hence, digital literacy is an important asset for health literacy development in the digital age.

Despite the proliferation of digital health information, however, conventional media platforms still have a role to play in influencing the attitudes, knowledge and behaviour of communities, and in developing health literacy, particularly in settings where digital technologies are less prevalent.



Digital media can be part of the solution. Broadcasting of media conferences on television remains an important channel of communication for most governments around the world to disseminate critical evidence-based health information during the COVID-19 pandemic. These broadcasts provide rapid and accurate information to all media outlets and can be accompanied by an array of official government sponsored social media posts.

Conventional and digital media are also influential marketing tools used by private-sector actors. Commercial actors can be detrimental or beneficial for health. While some private-sector actors align to national efforts for NCD prevention and control, others invest immense resources in tactics to undermine science and public health approaches, especially unhealthy

2.3.4

commodity industries such as the tobacco, alcohol and food and beverage sectors. These advance their interests directly or indirectly through, for example, strong industry interference in policy decision-making processes, lobbying, advertising, and marketing that promote their products and choices detrimental to health in order to attract new customers, keep customers, and create new markets, especially in emerging economies in Africa, Asia and the Eastern Mediterranean. In many cases, these industries use corporate social responsibility to fund local communities to gain more benefits from selling their products and increasing their profits. Communities may come to regard new unhealthy, but socially attractive, commodities as more desirable than traditional lifestyles (92). Growing recognition of the significant impact of these strategies, conveyed through both conventional and digital media, has created the new public health frontier of commercial determinants of health (93, 94). These same companies sponsor a variety of health literacy campaigns, school education, training for parents and health professionals, with confusing and misleading messages related to the value of their products and who is responsible for them.

There are clear positive sides to digital media that need to be cleverly applied to enhance health literacy and support people (especially younger generations) to screen information and find the right source of information. Social media is able to provide people with exactly the right information to support healthy behaviours in a timely and supportive way. Media literacy for health is needed.

Policy-makers need to set clear policy and legislative measures to manage rumours and false information. Laws need to be enacted to make people aware of the penalty for disseminating false information. People need to know how to inform law enforcement if there is suspected false information given to people that causes harm. This includes cyber bullying of children and adolescents that causes mental health issues such as low self-esteem and depression, and that leads to tobacco, alcohol and drug use, or over nutrition causing childhood obesity.



Suvajee Good, Regional Advisor, Health Promotion and Social Determinants of Health, Programme Coordinator, Department of Ethics and Social Determinants

Five actions of health literacy



Key message

Health literacy
development involves
five actions people need
to do in relation to health
information and services:
access, understand,
appraise, remember
and use. These actions
are rarely undertaken
through individual effort
alone because they usually
involve social practices.

Health literacy is demonstrated in the ways that people access, understand, appraise, remember and use health information and services as needed and over time (e.g. during a specific health event, over a lifetime). These five health literacy actions are not consciously undertaken as separate stages, and neither are they necessarily undertaken in this order, and there may be some overlap. Individuals rarely undertake these actions on their own. Rather, they are part of joint or collective activities with others such as family, peers, health workers, educators and elders. These actions are key to people successfully turning health information into health knowledge and being able or being supported to engage in healthy behaviours to prevent and control NCDs.

- 1. Access
- 2. Understand
- 3. Appraise
- 4. Remember
- 5. Use











Health literacy development involves five actions people need to do.



2.3.5.1 Access

People have different preferred learning styles, and they access different types of information according to these preferences (see section 2.3.6. for more on learning preferences). They may access information from physical environments (e.g. libraries, schools, community centres, medical centres, written information, conversations with health workers), digital environments (e.g. devices, internet, telehealth services) or social resources (e.g. conversations with family or friends, support groups). A foundational understanding of the concepts of biology, health, well-being and disease (e.g. through formal education) is helpful for usual daily prevention and management of many NCDs. For specific health issues, people need timely, meaningful, appropriate and accessible information about what to do, why it needs to be done, and how to do it.



2.3.5.2 Understand

People have different levels of knowledge and understanding of health and well-being. Some people have little to no understanding; some may be able to follow a conversation about health well enough to not feel confused; some may understand partially and attempt to seek information online or elsewhere; some may understand health well enough to be able to explain information and actions for health to other people; and some understand health well enough to be able to problem-solve and take action for themselves or others.



2.3.5.3 Appraise

Being able to appraise health information from a range of sources (e.g. doctors, healers, friends, written or digital media) is more than just believing or judging information to be scientific. Appraisal includes deciding if the information and the source of information are trustworthy; being able to resolve conflicts between information or information sources; and deciding if information is relevant to the context or even possible.



2.3.5.4 Remember

Health information and knowledge needs to be remembered and retrieved at the time it is needed. This may include prioritizing healthy behaviours or remembering to do routine activities such as taking medicines or attending regular appointments, or it may include needing to remember quickly what to do in an unexpected health crisis, such as for a dog bite, a burn, a road accident or a heart attack.



2.3.5.5 Use

Using health knowledge is rarely a one-time decision. Often, people need to make repeated and daily decisions about what to do for their health, such as implementing preventive measures or managing symptoms or health appointments. Using health information and services requires building practical knowledge over time. Solving problems and making decisions through trial and error helps people, groups and communities to learn to use their health knowledge to prevent and control NCDs and their risk factors.

2.3.5

With the increasing infodemic and misinformation about health and prevention of NCDs through commercialization of health products, it will be important to empower individuals, families, and communities to have the skills to appraise and screen health information. Policy-makers need to be able to address and manage misinformation and the infodemic in their country context as soon as it arises.



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How people learn



Key message

Understanding how people learn can support the development and delivery of information for health literacy actions. People are exposed to, understand and use information in different ways over time. Learning, whether it is at home, school or work, tends to happen through a combination of six main ways: through community conversations, the arts, printed materials, conventional mass media, digital media, and communication and interaction with health workers.

In support of the five actions of health literacy and to respond to the diverse health literacy needs of different populations, it is important to understand how people learn. Such understanding can also be applied in different settings to facilitate learning, such as in the educational system or training facilities. Learning is more than just acquiring information; it is also about coming to understand if information is meaningful, how it is relevant, and how it can be used, and being able to remember the information when it is needed. In fact, learning involves all the health literacy actions of accessing, understanding, appraising, remembering and using information. Indeed, people often learn the most from their trial-and-error attempts to put information they receive into action (95, 96).

Learning is not only about copying ideas and actions from other people and communities. Learning also involves creativity and is a lifelong activity. For example, when a community considers recommendations for healthy action from experts or ideas from other communities, it usually develops its own ways of putting those ideas into practice using its knowledge of local environments, resources and culture. In such cases, the community learns through its own experimentation. For the purposes of health literacy development, six general ways of learning information are identified: community conversations, the arts, printed materials, conventional mass media, digital media, and communication and interaction with health workers.

People can be learning constantly throughout their life, and often in the context of specific major life experiences. Learning is not always driven by structured or conscious efforts. But life lessons can lead to active learning. For example, people may actively learn about healthy diets when they find out that they have cancer and need to manage their diets.



Suvajee Good, Regional Advisor, Health Promotion and Social Determinants of Health, Programme Coordinator, Department of Ethics and Social Determinants

2.3.6.1 Community conversations

Conversations with family, friends and neighbours are probably the most influential for how people access, understand, appraise, remember and use information. Parents pass down their knowledge to children daily through conversations. People share their problems with friends, peers and family by talking to them so they can hear their experiences, find solutions to their problems and seek emotional support. By taking part in conversations, people can learn from others' experiences and know what works and what does not work without going through the trial-and-error process themselves. It is also a way to feel connected to others by taking on their experiences (97, 98). Learning can become even more effective when the other five ways of learning are used to stimulate conversations between and among people rather than only to impart information to individuals.

2.3.6.2 The arts

When people feel connected to a story, they may be inspired by the experience, which can facilitate learning. Songs, plays, paintings and drawings are different forms of stories. Traditional wisdom is usually passed down in these art forms and connects people to their culture and history. A beautiful song or a memorable play can be much easier to remember than plain health information. The variety of art forms also caters for the different learning styles of different people. Art and stories are powerful for making information feel meaningful and relevant, for helping people see how they may be able to use it in their lives, and for stimulating conversations (99–102).

2.3.6.3 Printed materials

Printed materials are a commonly used format to deliver health information (103–104). Posters are displayed in public places to convey public health messages. Pamphlets or brochures are often used as a primary tool to distribute health information. Printed materials are more useful as supplements to other methods of providing information such as verbal communication from health-care professionals. Printed materials are especially valuable for two of the components of health literacy: remembering and using information. Printed materials can help people remember information that they receive in other ways, and they are helpful for providing detailed information about how people can put information and advice into practice (e.g. recipes, exercise sheets, photographic step-by-step guides to injecting insulin, or recognizing dangerous symptoms).

Printed text-based materials may not be effective for people who have limited reading skills, who are living with disabilities, or who simply do not like to read. Care needs to be taken when designing printed materials to suit the different reading needs and cultural backgrounds of people to ensure accessibility. As with other ways of learning, printed materials are often more valuable when they are designed to be discussed among families and friends rather than to be read by individuals.

2.3.6.4 Conventional mass media

Conventional mass media such as television, radio and newspapers have an important role in the dissemination of health messages, especially in low-resource settings with limited access to digital technologies. Health knowledge can be gained by reading the health columns of newspapers and listening to or watching health programmes on radio and television. Governments around the world continue to distribute public health messages, such as COVID-19 updates, through conventional media channels. Messages distributed through television and radio provide an easy-to-understand format for people with low reading skills. Radio has often been found to be particularly useful for engaging specific communities or groups within a population because it is relatively easy to set up local radio stations, and it enables real-time, two-way discussions with community members. Radio is also often available in places where television and newspapers are not (106, 107).

2.3.6.5 Digital media

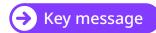
The advancement of information and communication technology has enabled people to access information and interact with each other at anytime, anywhere. It can be a powerful way to facilitate delivery of evidence-based information and interactive and tailored learning. Simple text messaging using mobile phones can deliver instant health information in low-resources settings. Telehealth offers health services and consultations and can be a platform to deliver health information. The internet provides the gateway to huge amounts of health information in a wide variety of formats. Apps bring novel ways to manage and monitor health but evidence of effectiveness is mixed (108, 109). Social media platforms allow instant sharing of experiences, but at the same time they can promote commercial interests through influencer marketing. The overwhelming amount of misinformation circulating on the internet and social media can also have adverse effects on health information learning (110–112).

2.3.6.6 Communication and interaction with health workers

It is important to recognize that health workers are usually perceived to have high authority and are in a strong position to inform and influence communities and individuals. Even if an individual is not from an oral language tradition (i.e. no or only recent history of a written language), learning can be rapid when listening to a health worker because there can be an exchange, leading to substantial behaviour change (113). Traditional healers tend to be embedded in communities, are some of the first contacts for health, and may have the absolute trust of communities (114, 115).

In many countries, the role of community health workers or volunteers who are part of the community and who usually do not have professional qualifications is particularly important. Many LMICs have decades of experience with these workers, who work in teams with health professionals and have local knowledge and established relationships within their communities. HICs have also experienced the value of the role of peer workers (113, 116, 117).

Access barriers



There are many overt or hidden barriers that can inhibit access to and the effectiveness of health literacy development efforts. Many communities and individuals experience multiple overt or hidden barriers to accessing information and services, which makes it difficult for them to improve or maintain their health (118–121). Individuals and communities can have good health literacy and be provided with a good mix of ways to learn and make decisions, but they may experience multiple barriers that prevent their health literacy development. The following are examples of factors that may limit the effectiveness of health literacy development efforts. This is not an exhaustive list, and there is some overlap between groups of barriers. In the setting of humanitarian crises, the COVID-19 pandemic and other determinants of health (see the first block in Fig. 2.3), some communities may have an overwhelming range of barriers that slow or stop learning and health literacy development.

2.3.7.1 Availability or physical access

Many people cannot access health services because the services do not exist, they are not entitled to receive them, or they cannot travel to use them because of physical distance, travel costs, or the ability or safety to travel (118, 122). Access may be limited by active or passive exclusionary processes arising from public policy (123). Some people with mental or physical disabilities may have additional barriers to accessing health information and services.

2.3.7.2 Service quality

Poor-quality services can be a result of inadequate resources such as limited facilities, availability of medicines, number of staff, skills, qualifications or attitudes of staff, or procedures to maintain quality (118, 122).

2.3.7.3 Service responsiveness

This can be determined by service quality (see above), whereby the physical structures of services make access difficult, signage makes it difficult for people to know where to go, access pathways are limited (e.g. online booking, only imited language options), or the services are uninviting to particular cultural or social groups (118, 122). Some services may not respond to age, sex, physical ability or other characteristics of people within communities.

2.3.7.4 Cultural safety and stigma

Many countries have a variety of cultural groups that can be linked to indigenous peoples, people with migration or refugee histories, religious groups, and other minority groups. When health service providers lack cultural skills and competencies, the affected individuals, their families and their wider community may receive services of poor quality and feel excluded or stigmatized. This may deter people from certain groups from engaging with health services. Lacking an understanding of cultural norms among health service providers may also affect access to and use of certain health information and services (122, 124). Stigmatization and stereotyping may be silently practised, leading to health information being withheld or limiting access to services.

2.3.7.5 Gender inequality

Gender discrimination, unconscious gender bias, and assumptions of binary gender continue to cause visible and invisible inequalities in many countries. In some cultures, for example, it is more difficult for women to access services, and bias against women getting appropriate services is common (120). Toxic (hegemonic) masculinity (the need to aggressively compete with and dominate others) also leads to increased NCD risk factors (e.g. ignoring symptoms, unhealthy use of alcohol, use of tobacco) in men and is a barrier to service engagement (125, 126). People from lesbian, gay, bisexual, transgender, queer or intersex (LGBTQI) communities may be excluded or persecuted in some societies (127). People with diverse gender identities often face exclusion, violence, stigma and discrimination, including in health-care settings (128).

2.3.7.6 Language

People from language minority groups seeking or needing health services are frequently underserved. Even people from language majority groups can have difficulty accessing and understanding information and services when the language is overly complex or unclear or uses technical medical terms (122). Pictorial messages have been advocated to promote understanding of health information, but studies have found that poor readers may be drawn to irrelevant aspects of the images, and cultural differences may interfere with comprehension of the messages (129). Language minority groups also include people with hearing or sight impairment, and people with intellectual or developmental disabilities. Efforts must to be made to systematically identify all groups of people with potential language challenges and to have appropriate communication channels ready to meet their needs.

2.3.7.7 Cost and universal health coverage

In settings without universal health coverage, or when people are unaware of their rights, or where access to universal health coverage is limited, people may not receive adequate services in a timely way. In settings without universal health coverage, poor people and people without adequate insurance, may forgo prevention and treatment and be at risk of catastrophic health effects, leading to increased poverty and poor work, health, social and economic outcomes (118, 122).

2.3.7

2.3.7.8 Racism and other discriminatory practices

These frequently encountered barriers may be overt or hidden. Some groups may be specifically discriminated against based on ethnicity. Racism can be systemic and institutionalized, leading to unconscious biases and actual and perceived reduction of services to subgroups in communities (130, 131). Certain groups of people may not have access to health information because of their sociodemographic position and cultural background, or due to the ways public health services are provided.

2.3.7.9 Information and communication technologies

Many countries are increasingly implementing digital health solutions, including for access to health information, finding and making appointments for health services, and provision of telehealth and self-management support. People without adequate access to the internet or skills to use digital devices and services, and people with special accessibility needs due to disabilities or older age are increasingly disadvantaged (118).

2.3.7.10 Complexity and comorbidities

It is common for people to experience comorbidities — that is, to develop more than one NCD concurrently or have both communicable and noncommunicable diseases. Mental health problems frequently co-occur with physical diseases. Affected individuals, as well as their family members and carers, need to understand and act on a wide range of increasingly complex information. Furthermore, they need to engage with a wide range of services and practitioners, may need to take multiple medicines, and may need to engage in a range of complex self-care tasks. If such services and treatments are available and ccoordinated complex NCDs can be managed successfully; this is often not the situation, however, and self-management tasks for individuals and their families can be overwhelming (132, 133).

Settings for developing health literacy



Key message

Health literacy development requires a combination of bottom-up and top-down approaches in different settings to improve health and equity. Health literacy development can take place across four main levels:

- Public policy and society
- Organizations
- Community and interpersonal responses
- Individual

Developing health literacy mainly involves improving environments, communication, the health-determining capacities of individuals and communities, and the content and nature of health services and public health interventions (see Fig. 2.3). This requires substantial multisectoral policy activities (e.g. education, health systems, service delivery, regulation and restriction of unhealthy commodities, policy support for health-promoting behavioural choices) that recognize that different determinants influence health literacy in different settings. To make health-care systems easier to use (i.e. make them health literacy-responsive), it must also be recognized that changing health behaviour is primarily an interpersonal activity (i.e. health literacy is a social process). Similarly, for public policy to effectively improve health literacy at any level, there needs to be specific understanding of societal, organizational, interpersonal and individual settings.



A multisectoral approach is needed to shape health-promoting environments to facilitate health literacy development.

2.3.8.1 Public policy and societal approaches to health literacy

It is well recognized that the health sector cannot tackle NCDs alone (134). Building effective health literacy development activities that improve NCD prevention and control for populations involves ministries of health, education, trade, immigration, technology, environment, industry, agriculture, finance, sport, transport and others. Each of these plays a part in shaping health-promoting environments.

If these non-health sectors are not part of the solution to prevent and control NCDs, ministries of health will be limited in their ability to reduce the population's exposure to NCD risk factors and to increase access to effective prevention and treatment options. It is essential that Member States adopt a multisectoral approach to health and health literacy development.

Health officials and experts, especially those involved in health policy, planning and service delivery, can easily see the link between exposures to unhealthy commodities and environments and the development of NCDs, because they have the benefit of education and access to decades of scientific research. Among many communities where people may have had limited access to education and opportunities to learn about health, however, the connections between their everyday activities and symptoms of diseases that occur many years later may not be known or understood (see Fig. 2.2). The simple provision of health information to these communities has been shown to be ineffective in isolation but is useful within an integrated approach (62, 136). Equitable and contextual health literacy development among these communities requires a whole-of-society response. This response includes comprehensive public policies with well-structured capacity-building to address NCDs and their risk factors, promote health education, reduce barriers to health literacy development (see section 2.3.7), and manage health marketing campaigns that include varied activities to reflect how people learn and choose (see section 2.3.6).

For millions of people in LMICs and HICs, it is difficult or impossible to avoid exposure to NCD risk factors because of their living situations (e.g. unsafe or costly water and food, air pollution, chemical exposures, absence of safe places for physical activities and exercise), and economic and social pressures (e.g. food insecurity, unsafe housing, use of solid fuel for cooking, racism, dangerous occupational settings). Many people do not understand the concepts of risk factors and chronic diseases, and they have limited access to accurate information and advice that they trust. Consequently, chronic exposure to NCD risk factors continues to be part of the daily lives of many people, and the prevalence of NCDs continues to rise, particularly in LMICs (136, 137). These challenging circumstances increased during the COVID-19 pandemic. Prevention and control of NCDs can be affected by delayed diagnosis and treatment, disrupted health services, and increased behavioural risks (e.g. physical inactivity, unhealthy diet or increased use of alcohol during quarantine or lockdown) (14).

Improving environments is the most effective and efficient process to improving public health on a large scale, provided the changes are appropriate and meaningful to the target community. Policies of creating enabling environments to promote healthy lifestyles should be integrated into public health policy-making, especially in tackling NCDs. The

effectiveness of public health improvements through legislation and enhanced public utilities has been well proven through examples such provision of safe water, sanitation services and safe food, and legislation on banning tobacco advertising in the media, tobacco plain packaging, use of seat belts in motor vehicles, and blood alcohol levels while driving motor vehicles (138–140). Adding substantial taxes to alcohol, tobacco and sugary drinks and limiting their sales has been shown to reduce consumption (142, 144). Similar changes in environmental infrastructure and legislation are now being applied to food through taxing unhealthy products such as high-sugar content foods and outlawing ingredients such as trans fats (143, 144). Local by-laws exist in some countries to protect children from unhealthy foods, including restricting access to these products through exclusion zones around schools (145). The provision of universal health coverage is another proven public health policy initiative (146, 147).

In addition to these examples, there are a wide range of policy initiatives that Member States could potentially put in place to develop health literacy. These health literacy policies and strategies could seek to achieve:

- an educated population that is informed about healthy options and the effective use of health services;
- health systems responsive to the health needs of diverse communities;
- systematic minimization of the influence of commercial determinants of health;
- funding programmes that support measurable health literacy-related improvements that are monitored for achievement of intended outcomes;
- building partnerships with all relevant bodies including all levels of public and private sectors.



When people do not see immediate harm or benefit, it is difficult for them to engage in behaviour change. Changing laws and wide-scale environmental changes can lead to the healthy option being the easy (or only) option, leading to wide-scale health literacy and public health benefits.

Strong and well-informed public policy is needed. To develop evidence-informed policy, policy-makers need highly contextualized and well-synthesized data from diverse communities. Analyses need to explore the potential for alternative policy options to be accepted, integrated and to achieve intended outcomes. These analyses need input from policy researchers, not just traditional academic researchers. Access to policy researchers is limited in many LMICs, and the research institutes' link with policy-making is also limited.



May Myat Cho, Technical Officer at Physical Activity Unit, Health Promotion Department, World Health Organization



Key message

A health literacy-responsive organization will support the community to have equitable and continued access to appropriate health information and services. A health literacy-responsive organization will be aware that community knowledge may change.

2.3.8.2 Organizational health literacy responsiveness

Organizational health literacy responsiveness is one of the most direct ways to improve health and equity outcomes for communities and individuals. Whole populations can be supported to get timely and appropriate information and optimal access to care through organizations and services that understand the health literacy strengths, needs and preferences of the communities they serve.

There are three main strategies for organizations to improve their health literacy responsiveness:

- For organizations: complete an organizational review to identify focus areas for quality improvement activities.
- For health-care personnel: develop and maintain training so that all
 health-care personnel have a sound understanding of common health
 literacy needs and appropriate strategies to deal with those needs as part
 of routine clinical practice.
- For individuals or groups: ensure clinical practice of assessing and discussing health literacy needs with people with complex needs, chronically poor outcomes or serious limitations to the way they access or use health services (22).

Many people are at risk of NCDs, but their own or their community's health knowledge may not enable them to access health services for disease prevention and management. Fig. 2.6 shows how problems of equity and access can be viewed from a health literacy perspective, see the Ophelia Manual (1). Depending on their health literacy and their personal and social resources, some people may enter a health service but leave at some stage when it is not responsive to their needs. It is often the case that fewer and fewer people get all their needs met as they attempt to progress through the health-care system from finding a service to receiving responsive care and support.

A health literacy-responsive system will optimize the community's access to continued and contextually relevant information and services. This means prevention is improved and optimized, so that people equitably access care at the right level of the system. For example, people who can obtain health-promoting or disease management support at primary or community settings are actually accessing services at primary or community settings, rather than seeking more costly and scarce acute services.

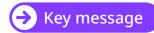


Knowledge changes all the time – many ideas, facts, beliefs and desirable behaviours may need to be revised and changed in later life, sometimes several times, as new evidence comes to hand. Responsive systems need to be put in place and carefully adapted to changing knowledge in their community contexts.

There is a need for continued and dynamic feedback loops between individuals/communities and systems/organizations. This is critical given the evolving determinants of NCDs – especially with the rapid information exchange now occurring through the internet (including misinformation) and pervasive commercial determinants of health.

Fig. 2.6. Health literacy responsiveness matrix

A person from the community	Problems perceived by health services	Problems perceived through a health literacy filter	Other filters	
is unaware of services or	Many people in communities do not access services	People need: • knowledge of services, including	Openness of services (e.g. cultural sensitivity, communication)	
approaches a service		entry steps confidence to approach services	Physical environment (e.g. location, transport, access to premises, parking)	
		• trust in services	Digital technology (e.g. phone or internet access, computer)	
		 knowledge about health-care entitlements 	Time (e.g. opening hours, scheduling, waiting times)	
is accepted into the service	Many dropouts or failures to attend Demographic or health status groups do not participate	People need to: understand health service processes	Prescriptive/pre-defined service types and times (e.g. rigid care protocols, scheduled group times, one-size-fits-all)	
		 negotiate with health providers 		
		have their needs understood	Personal difficulties with providers or other service staff (e.g. prejudice, embarrassment, past trauma)	
receives service	Many dropouts or failures to attend Demographic or health status groups do not participate	People need to: understand health services processes	Limited service variety and time options (e.g. timetables, set programs	
		 negotiate with health providers have their needs understood 	Performance indicators and funding models (e.g. target groups, program funding)	
participates in relevant programmes or service	Difficult to recruit people to programs or services e.g. prevention Drops outs and failure to attend	People need to: • be able to select what might be useful	Limited service variety and time options (e.g. timetables, set programmes)	
		 from a range of options feel more comfortable making decisions about health, rather than "just doing what the doctor says" 	Performance indicators and funding models (e.g. target groups, programme funding)	
		 address other concerns that are a higher priority before they can focus on their health 		
finds service responsive	Drop outs and failure to attend Care provided does not achieve desired health outcomes	People need to:	Resource constraints (e.g. financial	
		 engage with providers to explain needs, ask questions and negotiate 	staffing) Mainstream services that do not	
		 know what services can do and provide (and what they cannot do) 	cater to specific needs (e.g. disability, culture, religion)	
		 receive information in ways that suit different learning needs and styles 		
fully understands and engages with service.	People find it hard to establish rapport with services or fully participate in own care Disappointing experience (low user satisfaction) and outcomes	People need to:	Demographic of health providers (e.g. bicultural, bilingual)	
		 make sense of health information in the context of their daily life 	Follow-up (e.g. after care, discharge planning)	
		 be supported to put what they have learned about health into practice 		
		 know what to do and how and when to do it, i.e. practical information 		



Community and social networks are important settings for health literacy development. Using community co-design can support uptake and engagement of health policies and innovations.

2.3.8.3 Community and interpersonal health literacy

Effective communication that achieves knowledge development and subsequent behaviour change requires people not only to know what to do but also how to implement and sustain a behavioural change through a supportive environment that encourages healthy behaviour. Communication is especially important for people with health literacy challenges because they may rely on help from the people around them. Communicating with and having support from others for health care improves a person's health literacy (29, 30). In many communities, there are individuals who take on a formal or informal role of being the local authority for health. In most communities, health-related decisions are not made only by individuals; people are influenced by family members, peers and community leaders, and communal decisions are common, especially for infants and youth, people with some types of disability, elderly people and many other groups of people (see section 2.3.1).

To develop the health literacy of a community, people (especially local leaders, including formal and informal peer leaders) can be role models for potentially acceptable behavioural changes. In HICs, some programmes and interventions use a peer-support model (148). In some LMICs, peer-support programmes, such as village health volunteers or women's health networks, are widespread in every village (149, 150). In HICs and LMICs, it is critical to understand how discussions about health in communities influence how people find, interpret and apply health information.

Health literacy development has much to offer Member States and health authorities when investigating the need for and developing or implementing NCD prevention and control initiatives that leave no one behind. A community that is informed and consulted may not only accept new laws or policies but may even demand these laws and policies to help establish an enabling environment for healthy choices, thereby helping the introduction and implementation processes. The use of community co-design to generate the policy and implementation plans may increase the readiness of communities to engage and support uptake of health innovation (151–153). Co-design principles, as outlined in *Volume 4. Case studies from WHO National Health Literacy Demonstration Projects* and the Ophelia Manual (1) support continuous community development, education and dialogue. Care needs to be taken to ensure there is appropriate recognition and balance between evidence-based public good and economic imperatives in communities.



Key message

Understanding the health literacy of individuals within communities helps identify the gaps in the quality, accessibility and reach of NCD information and services so that health literacy responses can be tailored to meet their needs.

2.3.8.4 Health literacy at the individual level

Gaining an understanding of the health literacy strengths, needs and preferences of individuals provides insight into whether individuals can access, understand, appraise, remember or use health information or engage with health services. Health literacy information also provides insights into why NCD services and interventions may not be effective for all members of a community or population, and whether individuals from minority or underserved groups access or engage in health care and services.

There are many dimensions of individual health literacy skills and abilities. The WHO *Health literacy toolkit for low- and middle-income countries (27)* identifies the following 15 areas (in no particular order), which are also common to HICs:

- **Literacy** the ability to perform basic reading tasks.
- **Interaction** the ability to communicate about health matters.
- **Comprehension** the ability to derive meaning from sources of information.
- **Numeracy** the ability to perform basic numerical tasks and arithmetic operations.
- **Information seeking** the ability to find health-related information to manage one's health.
- **Application/function** the ability to use, process or act on health-related information, and apply new information to changing circumstances.
- **Decision-making/critical thinking** the ability to make sound, health-related decisions and informed choices.
- **Evaluation** the ability to filter, interpret and evaluate information.
- **Responsibility** the ability to take responsibility for one's health and health care decision-making.
- **Confidence** the level of confidence to take action to improve personal and community health.
- **Navigation** the ability to navigate in society and in health systems to manage one's health needs.
- **Social support for health** the social resource one has to assist health decision-making and health management.
- **Rights and access** the level of access one has to health information and services.
- **Trust** the level of trust one has in the health system, health information and health-care providers.
- **Motivation** the level of motivation to take action to improve personal and community health.

2.3.8

To understand the health literacy of individuals, health literacy tests and surveys can be applied to people attending health services and people in the community. Surveys that capture data on the multi-dimensional aspects of health literacy can reveal both strengths and limitations of individuals and communities. The results can assist health authorities, planners, programme managers and others to understand which groups and individuals have strengths (and thus can be local good examples to learn from) and which are, or are at risk of, missing out on NCD prevention and management services. Such information, combined with the community co-design approach discussed in section 2.3.8.3, can assist Member States to develop targeted actions, evaluate the impact of such actions, and identify and share good practices (see *Volume 3. Recommended actions*).

Apart from undertaking health literacy surveys, a mixed-methods approach to measuring health literacy is often needed. This is because beliefs (and misconceptions) about health, and what is important health information to know and understand, vary from one community to another. Consequently, a multidimensional health literacy tool that can be orally administered and combined with qualitative information, such as interviews or community meetings to supplement and enhance the quantitative data is recommended to provide a full picture of the health literacy profiles of the community (27).

When informed by local, national, and international health literacy information, governments can engage appropriate sectors and health and community services to build on identified community strengths to improve community needs. This development of health literacy can increase the quality, accessibility and reach of NCD information and services. Communities with strengthened health literacy understand their right to health and, as a result, are more likely to actively seek to engage with governments, appropriate sectors, and health and community services to further improve the quality, accessibility and reach of information and services for NCDs.

- Osborne RH, Elmer S, Hawkins M, Cheng CC. The Ophelia Manual. The Optimising Health Literacy and Access (Ophelia) process to plan and implement National Health Literacy Demonstration Projects. Melbourne (Vic): Swinburne University of Technology Centre for Global Health and Equity; 2022 (http://www.healthliteracydevelopment.com, accessed 10 September 2022).
- 2. Global health estimates: life expectancy and leading causes of death and disability. Geneva: World Health Organization; 2020 (https://www.who.int/data/gho/data/themes/mortality-and-global-health-estimates, accessed 3 June 2021).
- WHO global report on trends in prevalence of tobacco use 2000–2025, third edition. Geneva: World Health Organization; 2019 (https://apps.who.int/iris/handle/10665/272694, accessed 3 February 2021).
- Global status report on alcohol and health 2018. Geneva: World Health Organization;
 2018 (https://apps.who.int/iris/handle/10665/274603/, accessed 3 September 2020).
- 5. Guthold R, Stevens GA, Riley LM, Bull FC. Worldwide trends in insufficient physical activity from 2001 to 2016: a pooled analysis of 358 population-based surveys with 1.9 million participants. Lancet Glob Health. 2018;6(10):e1077–86. doi: 10.1016/S2214-109X(18)30357-7.
- 6. Suicide: key facts. Geneva: World Health Organization; 2021 (https://www.who.int/news-room/fact-sheets/detail/suicide, accessed 18 June 2021).
- 7. 9 out of 10 people worldwide breathe polluted air, but more countries are taking action. Geneva: World Health Organization; 2018 (https://www.who.int/news/item/02-05-2018-9-out-of-10-people-worldwide-breathe-polluted-air-but-more-countries-are-taking-action, accessed 7 December 2020).
- 8. Sustainable Development Goals (SDGs): Goal 3. Target 3.4. Geneva: World Health Organization; 2016 (https://apps.who.int/iris/handle/10665/208282, accessed 12 September 2020).
- 9. The Sustainable Development Goals report 2020. New York: United Nations; 2020 (https://unstats.un.org/sdgs/report/2020, accessed 2 October 2020).
- 10. World health statistics 2021: monitoring health for the SDGs, Sustainable Development Goals. Geneva: World Health Organization; 2021 (https://apps.who.int/iris/handle/10665/342703, accessed 2 October 2021).
- 11. GBD 2019 Universal Health Coverage Collaborators. Measuring universal health coverage based on an index of effective coverage of health services in 204 countries and territories, 1990–2019: a systematic analysis for the Global Burden of Disease Study 2019. Lancet. 2020;396(10258):1250–84. doi: 10.1016/S0140-6736(20)30750-9.
- 12. Primary health care on the road to universal health coverage: 2019 monitoring report. Geneva: World Health Organization; 2019 (https://apps.who.int/iris/handle/10665/328913, accessed 3 September 2020).
- 13. The impact of the COVID-19 pandemic on noncommunicable disease resources and services: results of a rapid assessment. Geneva: World Health Organization; 2020 (https://apps.who.int/iris/handle/10665/334136, accessed 3 June 2021).

- 14. Responding to non-communicable diseases during and beyond the COVID-19 pandemic. Geneva: World Health Organization; 2020 (https://apps.who.int/iris/handle/10665/334143, accessed 12 December 2020).
- 15. Managing the COVID-19 infodemic: promoting healthy behaviours and mitigating the harm from misinformation and disinformation: joint statement by WHO, UN, UNICEF, UNDP, UNESCO, UNAIDS, ITU, UN Global Pulse, and IFRC. Geneva: World Health Organization; 2020 (https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation, accessed 2 October 2020).
- 16. Swire-Thompson B, Lazer D. Public health and online misinformation: challenges and recommendations. Annu Rev Public Health. 2020;41(1):433–51. doi: 10.1146/annurev-publhealth-040119-094127.
- 17. Kickbusch I. Health literacy: an essential skill for the twenty-first century. Health Educ. 2008;108(2):101–4. doi: 10.1108/09654280810855559.
- 18. Drapkina O, da Graça Freitas M, Mikkelsen B, Breda J, Salakhov E, et al. The WHO European Action Network on Health Literacy for Prevention and Control of Noncommunicable Diseases. Pub Health Panorama. 2019;5(2–3):197–200 (https://www.ecoi.net/en/file/local/2016957/php-5-2-3-123329-eng-rus.pdf, accessed 26 September 2021).
- 19. Noncommunicable diseases: key facts. Geneva: World Health Organization; 2021 (https://www.who.int/news-room/fact-sheets/detail/noncommunicable-diseases, accessed 3 May 2021).
- 20. Berkman ND, Davis TC, McCormack L. Health literacy: what is it? J Health Commun. 2010;15(Suppl. 2):9–19. doi: 10.1080/10810730.2010.499985.
- 21. Nutbeam D. The evolving concept of health literacy. Soc Sci Med. 2008;67(12):2072–8. doi: 10.1016/j.socscimed.2008.09.050.
- 22. Batterham RW, Hawkins M, Collins PA, Buchbinder R, Osborne RH. Health literacy: applying current concepts to improve health services and reduce health inequalities. Public Health. 2016;132:3–12. doi: 10.1016/j.puhe.2016.01.001.
- 23. Levin-Zamir D, Leung AYM, Dobson S, Rowlands G. Health literacy in selected populations: individuals, families, and communities from the international and cultural perspective. Inf Serv Use. 2017;37:131–51. doi: 10.3233/ISU-170834.
- 24. Senteio CR. Investigating the enduring impact of a community-based health education program to promote African American elders' use of technology designed to support chronic disease self-management. Geriatrics. 2018;3(4):70. doi: 10.3390/geriatrics3040070.
- 25. De Wit L, Fenenga C, Giammarchi C, di Furia L, Hutter I, de Winter A et al. Community-based initiatives improving critical health literacy: a systematic review and metasynthesis of qualitative evidence. BMC Public Health. 2017;18(1):40. doi: 10.1186/s12889-017-4570-7.
- 26. Lu CH, Tang ST, Lei YX, Zhang MQ, Lin WQ, Ding SH et al. Community-based interventions in hypertensive patients: a comparison of three health education strategies. BMC Public Health. 2015;15(1):33. doi: 10.1186/s12889-015-1401-6.
- Health literacy toolkit for low- and middle-income countries: a series of information sheets to empower communities and strengthen health systems. New Delhi: WHO Regional Office for South-East Asia; 2015 (https://apps.who.int/iris/handle/10665/205244, accessed 11 November 2020).
- 28. Kara MA. Applicability of the principle of respect for autonomy: the perspective of Turkey. J Med Ethics. 2007;33(11):627–30. doi: 10.1136/jme.2006.017400.
- 29. Samerski S. Health literacy as a social practice: social and empirical dimensions of knowledge on health and healthcare. Soc Sci Med. 2019;226:1–8. doi: 10.1016/j. socscimed.2019.02.024.

- 30. Edwards M, Wood F, Davies M, Edwards A. "Distributed health literacy": longitudinal qualitative analysis of the roles of health literacy mediators and social networks of people living with a long-term health condition. Health Expectations. 2015;18(5):1180–93. doi: 10.1111/hex.12093.
- 31. Papen U. Literacy, learning and health: a social practices view of health literacy. Lit Numeracy Stud. 2009;16(2)17(1). doi: 10.5130/lns.v0i0.1275.
- 32. Health literacy: taking action to improve safety and quality. Sydney: Australian Commission on Safety and Quality in Health Care; 2014 (https://www.safetyandquality.gov.au/publications-and-resources/resource-library/health-literacy-taking-action-improve-safety-and-quality, accessed 3 September 2020).
- 33. Preventing noncommunicable diseases (NCDs) by reducing environmental risk factors. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/handle/10665/258796, accessed 16 September 2020).
- 34. Triandis HC. Cross-cultural psychology. Asian J Soc Psychol. 1999;2(1):127–43. doi: 10.1111/1467-839X.00029.
- 35. Hofstede G. The 6-D model of national culture. Geert Hofstede (https://geerthofstede.com/culture-geert-hofstede-gert-jan-hofstede/6d-model-of-national-culture/, accessed 3 October 2020).
- 36. Umberson D, Crosnoe R, Reczek C. Social relationships and health behavior across life course. Annu Rev Sociol. 2010;36:139–57. Doi: 10.1146/annurev-soc-070308-120011.
- 37. Umberson D, Montez JK. Social relationships and health: a flashpoint for health policy. J Health Soc Behav. 2010;51(Suppl.):S54–66. doi: 10.1177/0022146510383501.
- 38. Smith KP, Christakis NA. Social networks and health. Annu Rev Sociol. 2008;34(1):405–29. doi: 10.1146/annurev.soc.34.040507.134601.
- 39. Coleman-Brueckheimer K, Spitzer J, Koffman J. Involvement of Rabbinic and communal authorities in decision-making by haredi Jews in the UK with breast cancer: an interpretative phenomenological analysis. Soc Sci Med. 2009;68(2):323–33. doi: 10.1016/j.socscimed.2008.10.003.
- Susilo AP, Marjadi B, Dalen J, Scherpbier A. Patients' decision-making in the informed consent process in a hierarchical and communal culture. TAPS. 2019;4(3):57-66. doi:10.29060/TAPS.2019-4-3/OA2085.
- 41. Gorodnichenko Y, Roland G. Understanding the individualism-collectivism cleavage and its effects: lessons from cultural psychology. In: Aoki M, Kuran T, Roland G, editors. Institutions and comparative economic development. London: Palgrave Macmillan UK; 2012:213–36.
- 42. Hofstede G, Bond MH. Hofstede's culture dimensions: an independent validation using Rokeach's value survey. J Cross Cult Psychol. 1984;15(4):417–33. doi: 10.1177/0022002184015004003.
- 43. Triandis HC. Individualism-collectivism and personality. J Pers. 2001;69(6):907–24. doi: 10.1111/1467-6494.696169.
- 44. Country comparison. Helsinki: Hofstede Insights (https://www.hofstede-insights.com/country-comparison/australia,germany,the-netherlands,the-uk/, accessed 3 June 2020).
- 45. Matsumoto D, Kudoh T, Takeuchi S. Changing patterns of individualism and collectivism in the United States and Japan. Cult Psychol. 1996;2(1):77–107. doi: 10.1177/1354067X9621005.
- 46. Green EGT, Deschamps J-C, Páez D. Variation of individualism and collectivism within and between 20 countries: a typological analysis. J Cross Cult Psychol. 2005;36(3):321–39. doi: 10.1177%2F0022022104273654.
- 47. Ten years in public health, 2007–2017: report by Dr Margaret Chan, Director-General, World Health Organization. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/handle/10665/255355, accessed 28 September 2020).

- 48. Sell TK, Hosangadi D, Trotochaud M. Misinformation and the US Ebola communication crisis: analyzing the veracity and content of social media messages related to a fear-inducing infectious disease outbreak. BMC Public Health. 2020;20(1):550–10. doi: 10.1186/s12889-020-08697-3.
- 49. Chew C, Eysenbach G. Pandemics in the age of Twitter: content analysis of Tweets during the 2009 H1N1 outbreak. PLoS One. 2010;5(11):e14118. doi: 10.1371/journal. pone.0014118.
- 50. Oliver TR. The politics of public health policy. Annu Rev Public Health. 2006;27(1):195–233. doi: 10.1146/annurev.publhealth.25.101802.123126.
- 51. O'Malley P, Rainford J, Thompson A. Transparency during public health emergencies: from rhetoric to reality. Bull World Health Org. 2009;87(8):614–8. doi: 10.2471%2FBLT.08.056689.
- 52. Aaby A, Beauchamp A, O'Hara J, Maindal HT. Large diversity in Danish health literacy profiles: perspectives for care of long-term illness and multimorbidity. Eur J Public Health. 2019;30(1):75–80. doi: 10.1093/eurpub/ckz134.
- 53. Laing R, Thompson SC, Elmer S, Rasiah RL. Fostering health literacy responsiveness in a remote primary health care setting: a pilot study. Int J Environ Res Public Health. 2020;17(8):2730. doi: 10.3390%2Fijerph17082730.
- 54. The Ottawa Charter for Health Promotion. Geneva: World Health Organization; 1986 (https://www.who.int/teams/health-promotion/enhanced-wellbeing/first-global-conference, accessed 2 November 2020).
- 55. Tackling NCDs: "best buys" and other recommended interventions for the prevention and control of noncommunicable diseases. Geneva: World Health Organization; 2017 (https://apps.who.int/iris/handle/10665/259232, accessed 2 October 2020).
- 56. Nielsen-Bohlman L, Panzer AM, Kindig DA. Health literacy: a prescription to end confusion. Washington (DC): National Academies Press; 2004.
- 57. Swierad EM, Vartanian LR, King M. The influence of ethnic and mainstream cultures on African Americans' health behaviors: a qualitative study. Behav Sci. 2017;7(3):49. doi: 10.3390/bs7030049.
- 58. Marmot M, Bell R. Social determinants and non-communicable diseases: time for integrated action. BMJ. 2019;364:l251. doi: 10.1136/bmj.l251.
- 59. Noncommunicable diseases and air pollution. Copenhagen: WHO Regional Office for Europe; 2019 (https://www.euro.who.int/_data/assets/pdf_file/0005/397787/Air-Pollution-and-NCDs.pdf, accessed 9 September 2020).
- 60. Nicolson D, Knapp P, Raynor DK, Spoor P. Written information about individual medicines for consumers. Cochrane Database Syst Rev. 2009(2):CD002104. doi: 10.1002/14651858.CD002104.pub3.
- 61. Health literacy fact sheet 4: writing health information for consumers. Sydney: Australian Commission on Safety and Quality in Health Care; 2017 (https://www.safetyandquality.gov.au/sites/default/files/migrated/Health-Literacy-Fact-Sheet-4-Writing-health-information-for-consumers.pdf, accessed 2 October 2020).
- 62. Kelly MP, Barker M. Why is changing health-related behaviour so difficult? Public Health. 2016;136:109–116. doi: 10.1016/j.puhe.2016.03.030.
- 63. Jepson RG, Harris FM, Platt S, Tannahill C. The effectiveness of interventions to change six health behaviours: a review of reviews. BMC Public Health. 2010;10(1):538. doi: 10.1186/1471-2458-10-538.
- 64. Social determinants of health: report by the Director-General. Geneva: World Health Organization; 2021 (https://apps.who.int/gb/ebwha/pdf_files/EB148/B148_24-en.pdf, accessed 6 January 2021).
- 65. Social determinants of health: draft resolution proposed by Argentina, Brazil, Canada, Ecuador, Israel, Japan, Mexico, Peru, Switzerland, Thailand, United States of America and the Member States of the European Union. Geneva: World Health Organization; 2021 (https://apps.who.int/gb/ebwha/pdf_files/EB148/B148_CONF2-en.pdf, accessed 20 January 2021).

- 66. Promoting health in the SDGs: report on the 9th Global Conference for Health Promotion, Shanghai, China, 21–24 November 2016. Geneva: World Health Organization; 2017 (WHO/NMH/PND/17.5; https://apps.who.int/iris/handle/10665/259183, accessed 20 January 2021).
- 67. WHO Independent High-level Commission on Noncommunicable Diseases: final report it's time to walk the talk. Geneva: World Health Organization; 2019 (https://apps.who.int/iris/handle/10665/330023, accessed 11 November 2020).
- 68. Roundtable on Health Literacy, Board on Population Health and Public Health Practice, Institute of Medicine. Health literacy: improving health, health systems, and health policy around the world: workshop summary. Washington (DC): National Academies Press; 2013.
- 69. Trezona A, Rowlands G, Nutbeam D. Progress in implementing national policies and strategies for health literacy: what have we learned so far? Int J Environ Res Public Health. 2018;15(7):1554. doi: 10.3390/ijerph15071554.
- 70. Melwani S. The use of an online community of practice to engage global experts in health literacy and non-communicable diseases [thesis]. Burwood: Deakin University, School of Health and Social Development; 2018.
- 71. A Norwegian strategy to increase health literacy in the population: English summary. Oslo: Ministry of Health and Care Services; 2019 (https://oepgk.at/wp-content/uploads/2019/06/norwegen_nationale_stragie_summery_englisch.pdf, accessed 6 January 2021).
- 72. The mandate for health literacy. Geneva: World Health Organization; 2016 (health-literacy, accessed 29 September 2020).
- 73. WHO Regional Office for Europe. Interview with the Minister of Health of the Russian Federation Veronika Skvortsova on the introduction, measurement and improvement of health literacy in the Russian Federation. Public Health Panorama. 2019;5(2–3):158–9 (https://apps.who.int/iris/handle/10665/327034).
- 74. Popkin BM, Adair LS, Ng SW. Global nutrition transition and the pandemic of obesity in developing countries. Nutr Rev. 2012;70(1):3–21. doi: 10.1111/j.1753-4887.2011.00456.x.
- 75. Bosu WK. An overview of the nutrition transition in West Africa: implications for non-communicable diseases. Proc Nutr Soc. 2015;74(4):466–77. doi: 10.1017/S0029665114001669.
- 76. Baker P, Friel S. Processed foods and the nutrition transition: evidence from Asia. Obes Rev. 2014;15(7):564–77. doi: 10.1111/obr.12174.
- 77. Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Geneva: World Health Organization; 2010 (https://apps.who.int/iris/handle/10665/44489, accessed 6 January 2021).
- 78. Rimal RN, Real K. How behaviors are influenced by perceived norms: a test of the theory of normative social behavior. Communicat Res. 2005;32(3):389–414. doi: 10.1177/0093650205275385.
- 79. Cialdini RB, Reno RR, Kallgren CA. A focus theory of normative conduct: recycling the concept of norms to reduce littering in public places. J Pers Soc Psychol. 1990;58(6): 1015–26. doi: 10.1037/0022-3514.58.6.1015.
- 80. Edberg M, Krieger L. Recontextualizing the social norms construct as applied to health promotion. SSM Popul Health. 2020;10:100560. doi: 10.1016%2Fj.ssmph.2020.100560.
- 81. Safe and healthy food in traditional food markets in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2021 (https://apps.who.int/iris/handle/10665/340954, accessed 3 April 2021).
- 82. Easton S, Morton K, Tappy Z, Francis D, Dennison L. Young people's experiences of viewing the Fitspiration social media trend: qualitative study. J Med Internet Res. 2018;20:e219. doi: 10.2196/jmir.9156.

- 83. Holland G, Tiggemann M. "Strong beats skinny every time": disordered eating and compulsive exercise in women who post fitspiration on Instagram. Int J Eat Disord. 2017;50(1):76–9. doi: 10.1002/eat.22559.
- 84. Boepple L, Thompson JK. A content analysis of healthy living blogs: evidence of content thematically consistent with dysfunctional eating attitudes and behaviors. Int J Eat Disord. 2014;47(4):362–7. doi: 10.1002/eat.22244.
- 85. Global education monitoring report, 2020: inclusion and education all means all. Paris: United Nations Educational, Scientific and Cultural Organization; 2020 (https://en.unesco.org/gem-report/report/2020/inclusion, accessed 20 October 2020).
- 86. McDermott RJ, Vamos SD. What's in a name? Re-branding and re-framing school health education to school boards and legislators as education for health literacy: a commentary. J Sch Health. 2021;91(8):595–8. doi: 10.1111/josh.13049.
- 87. Health promoting schools. Geneva: World Health Organization (https://www.who.int/health-topics/health-promoting-schools#tab=tab_1, accessed 12 October 2020).
- 88. Nash R, Elmer S, Thomas K, Osborne R, MacIntyre K, Shelley B et al. HealthLit4Kids study protocol: crossing boundaries for positive health literacy outcomes. BMC Public Health. 2018;18(1):690. doi: 10.1186/s12889-018-5558-7.
- 89. Making every school a health-promoting school: global standards and indicators. Geneva: World Health Organization; 2021 (https://apps.who.int/iris/handle/10665/341907, accessed 12 October 2020).
- 90. Making every school a health-promoting school: implementation guidance. Geneva: World Health Organization; 2021 (http://apps.who.int/iris/handle/10665/341908, accessed 12 October 2020).
- 91. Making every school a health-promoting school: country case studies. Geneva: World Health Organization; 2021 (https://apps.who.int/iris/handle/10665/341909, accessed 12 October 2020).
- 92. Evaluating implementation of the WHO set of recommendations on the marketing of foods and non-alcoholic beverages to children: progress, challenges and guidance for next steps in the WHO European Region. Copenhagen: WHO Regional Office for Europe; 2018 (https://apps.who.int/iris/handle/10665/345153, accessed 3 September 2020).
- 93. Kickbusch I, Allen L, Franz C. The commercial determinants of health. Lancet Glob Health. 2016;4(12):e895–6. doi: 10.1016/S2214-109X(16)30217-0.
- 94. McKee M, Stuckler D. Revisiting the corporate and commercial determinants of health. Am J Public Health. 2018;108(9):1167–70. doi: 10.2105/AJPH.2018.304510.
- 95. Olson MH. An introduction to theories of learning, ninth edition. New York: Psychology Press; 2016.
- 96. Terry WS. Learning and memory: basic principles, processes, and procedures, fifth edition. New York: Routledge; 2017.
- 97. Baker AC. Bridging differences and learning through conversation [dissertation]. Cleveland (OH): Case Western Reserve University; 1995 (https://www.proquest.com/openview/2c5d541ee726635fe8b3797ea08285a0/1?pq-origsite=gscholar&cbl=18750&diss=y, accessed 6 June 2020).
- 98. Baker AC, Jensen PJ, Kolb DA. Conversation as experiential learning. Management Learning. 2005;36(4):411–27. doi: 10.1177%2F1350507605058130.
- 99. Feagin SL. Paintings and their places. Australas J Philos. 1995;73(2):260–8. doi: 10.1080/00048409512346591.
- 100. Nussbaum M. "Finely aware and richly responsible": moral attention and the moral task of literature. J Philos. 1985;82(10):516–29. doi: 10.2307/2026358.
- 101. Bender JW. Art as a source of knowledge: linking analytic aesthetics and epistemology. In: Bender JW, Blocker GH, editors. Contemporary philosophy of art: readings in analytic aesthetics. Englewood Cliffs (NJ): Prentice Hall; 1993:593–607.

- 102. Fancourt D, Finn S. What is the evidence on the role of the arts in improving health and well-being? A scoping review. Copenhagen: WHO Regional Office for Europe; 2019 (https://apps.who.int/iris/handle/10665/329834/, accessed 3 April 2021).
- 103. Snyman M. Using the printed medium to disseminate information about psychiatric disorders. African J Psychiatry. 2004;7(4). doi: 10.4314/ajpsy.v7i4.30174.
- 104. Paul CL, Redman S, Sanson-Fisher RW. A cost-effective approach to the development of printed materials: a randomized controlled trial of three strategies. Health Educ Res. 2004;19(6):698–706. doi: 10.1093/her/cyg090.
- 105. Ginat DT, Christoforidis G. A printed information leaflet about MRI and radiologists improves neuroradiology patient health literacy. Neuroradiol J. 2018;31(6):609–13. doi: 10.1177/1971400918788361.
- 106. Wakefield MA, Loken B, Hornik RC. Use of mass media campaigns to change health behaviour. Lancet. 2010;376(9748):1261–71. doi: 10.1016/S0140-6736(10)60809-4.
- 107. Saraf R, Balamurugan J. The role of mass media in health care development: a review article. J Adv Res Journalism Mass Commun. 2018;5(1–2):39–43. doi: 10.24321/2395.3810.201807.
- 108. Wisniewski H, Liu G, Henson P, Vaidyam A, Hajratalli NK, Onnela JP et al. Understanding the quality, effectiveness and attributes of top-rated smartphone health apps. Evid Based Ment Health. 2019;22(1):4–9. doi: 10.1136/ebmental-2018-300069.
- 109. Marshall JM, Dunstan DA, Bartik W. Clinical or gimmickal: the use and effectiveness of mobile mental health apps for treating anxiety and depression. Aust N Z J Psychiatry. 2020;54(1):20–8. doi: 10.1177/0004867419876700.
- 110. Moorhead SA, Hazlett DE, Harrison L, Carroll JK, Irwin A, Hoving C. A new dimension of health care: systematic review of the uses, benefits, and limitations of social media for health communication. J Med Internet Res. 2013;15(4):e85. doi: 10.2196/jmir.1933.
- 111. Korda H, Itani Z. Harnessing social media for health promotion and behavior change. Health Promot Pract. 2013;14(1):15–23. doi: 10.1177/1524839911405850.
- 112. Suarez-Lledo V, Alvarez-Galvez J. Prevalence of health misinformation on social media: systematic review. J Med Internet Res. 2021;23(1):e17187. doi: 10.2196/17187.
- 113. Perry HB, Zulliger R, Rogers MM. Community health workers in low-, middle-, and high-income countries: an overview of their history, recent evolution, and current effectiveness. Annu Rev Public Health. 2014;35(1):399–421. doi: 10.1146/annurev-publhealth-032013-182354.
- 114. Oliver SJ. The role of traditional medicine practice in primary health care within Aboriginal Australia: a review of the literature. J Ethnobiol Ethnomed. 2013;9:46. doi: 10.1186/1746-4269-9-46.
- 115. Yeboah T. Improving the provision of traditional health knowledge for rural communities in Ghana. Health Libr Rev. 2000;17(4):203–8. doi: 10.1046/j.1365-2532.2000.00297.x.
- 116. Zuvekas A, Nolan L, Tumaylle C, Griffin L. Impact of community health workers on access, use of services, and patient knowledge and behavior. J Ambul Care Manage. 1999;22(4):33–44. doi: 10.1097/00004479-199910000-00007.
- 117. Javanparast S, Windle A, Freeman T, Baum F. Community health worker programs to improve healthcare access and equity: are they only relevant to low- and middle-income countries? Int J Health Policy Manag. 2018;7(10):943–54. doi: 10.15171/ijhpm.2018.53.
- 118. Jacobs B, Ir P, Bigdeli M, Annear PL, Van Damme W. Addressing access barriers to health services: an analytical framework for selecting appropriate interventions in low-income Asian countries. Health Policy Plan. 2012;27(4):288–300. doi: 10.1093/heapol/czr038.
- 119. Houghton N, Bascolo E, Del Riego A. Monitoring access barriers to health services in the Americas: a mapping of household surveys. Rev Panam Salud Publica. 2020;44:e96. doi: 10.26633/RPSP.2020.96.

- 120. Shariati M, Babazadeh R, Mousavi SA, Najmabadi KM. Iranian adolescent girls' barriers in accessing sexual and reproductive health information and services: a qualitative study. J Fam Plann Reprod Health Care. 2014;40(4):270–5. doi: 10.1136/jfprhc-2013-100856.
- 121. Langlois E, Haines A, Tomson G, Ghaffar A. Refugees: towards better access to health-care services. Lancet. 2016;387(10016):319–21. doi: 10.1016/S0140-6736(16)00101-X.
- 122. Huot S, Ho H, Ko A, Lam S, Tactay P, MacLachlan J et al. Identifying barriers to healthcare delivery and access in the Circumpolar North: important insights for health professionals. Int J Circumpolar Health. 2019;78(1):1571385. doi: 10.1080/22423982.2019.1571385.
- 123. Willis K, Elmer S. Society, culture and health: an introduction to sociology for nurses. Melbourne: Oxford University Press; 2007.
- 124. Migration and health: enhancing intercultural competence and diversity sensitivity. Copenhagen: WHO Regional Office for Europe; 2020 (https://apps.who.int/iris/handle/10665/332186, accessed 3 April 2021).
- 125. Kupers TA. Toxic masculinity as a barrier to mental health treatment in prison. J Clin Psychol. 2005;61(6):713–24. doi: 10.1002/jclp.20105.
- 126. Gough B, Novikova I. Mental health, men and culture: how do sociocultural constructions of masculinities relate to men's mental health help-seeking behaviour in the WHO European Region? Copenhagen: WHO Regional Office for Europe; 2020 (https://apps.who.int/iris/handle/10665/332974, accessed 3 April 2021).
- 127. Brotman S, Ferrer I, Sussman T, Ryan B, Richard B. Access and equity in the design and delivery of health and social care to LGBTQ older adults: a Canadian perspective. In: Orel NA, Fruhauf CA, editors. The lives of LGBT older adults: understanding challenges and resilience. Washington (DC): American Psychological Association; 2015:111–40. doi: 10.1037/14436-006.
- 128. Gender and health. Geneva: World Health Organization; 2021 (https://www.who.int/health-topics/gender#tab=tab_1, accessed 24 March 2021).
- 129. Houts PS, Doak CC, Doak LG, Loscalzo MJ. The role of pictures in improving health communication: a review of research on attention, comprehension, recall, and adherence. Patient Educ Couns. 2006;61(2):173–90. doi: 10.1016/j.pec.2005.05.004.
- 130. Bastos JL, Harnois CE, Paradies YC. Health care barriers, racism, and intersectionality in Australia. Soc Sci Med. 2018;199:209–18. doi: 10.1016/j.socscimed.2017.05.010.
- 131. Rivenbark JG, Ichou M. Discrimination in healthcare as a barrier to care: experiences of socially disadvantaged populations in France from a nationally representative survey. BMC Public Health. 2020;20(1):31. doi: 10.1186/s12889-019-8124-z.
- 132. Junaid Nazar CM, Kindratt TB, Ahmad SMA, Ahtizaz Ahmad SM, Ahmed M, Anderson J. Barriers to the successful practice of chronic kidney diseases at the primary health care level: a systematic review. J Renal Inj Prev. 2014;3(3):61–7. doi: 10.12861/jrip.2014.20.
- 133. Lo C, Teede H, Fulcher G, Gallagher M, Kerr PG, Ranasinha S et al. Gaps and barriers in health-care provision for co-morbid diabetes and chronic kidney disease: a cross-sectional study. BMC Nephrol. 2017;18(1):80. doi: 10.1186/s12882-017-0493-x.
- 134. Graham WJ, Kuruvilla S, Hinton R, Veitch E, Simpson PJ. Multisectoral collaboration for health and sustainable development. BMJ. 2018;363:k4868. doi: 10.1136/bmj.k4868.
- 135. Behaviour change strategies and health: the role of health systems. Copenhagen: WHO Regional Office for Europe; 2008 (https://www.euro.who.int/data/assets/pdffile/0003/70185/RC58_edoc10.pdf, accessed 2 October 2020).
- 136. Global status report on noncommunicable diseases 2014. Geneva: World Health Organization; 2014 (https://apps.who.int/iris/handle/10665/148114, accessed 10 September 2020).
- 137. Checkley W, Ghannem H, Irazola V, Kimaiyo S, Levitt NS, Miranda JJ et al. Management of NCD in low- and middle- income countries. Glob Heart. 2014;9(4):431–43. doi: 10.1016/j.gheart.2014.11.003.

- 138. Zambon F, Fedeli U, Visentin C, Marchesin M, Avossa F, Brocco S et al. Evidence-based policy on road safety: the effect of the demerit points system on seat belt use and health outcomes. J Epidemiol Commun Health. 2007;61(10):877–81. doi: 10.1136/jech.2006.057729.
- 139. Blecher E. The impact of tobacco advertising bans on consumption in developing countries. J Health Econ. 2008;27(4):930–42. doi: 10.1016/j.jhealeco.2008.02.010.
- 140. Levallois P, Villanueva CM. Drinking water quality and human health: an editorial. Int J Environ Res Public Health. 2019;16(4):631. doi: 10.3390/ijerph16040631.
- 141. Chaloupka FJ, Powell LM, Warner KE. The use of excise taxes to reduce tobacco, alcohol, and sugary beverage consumption. Annu Rev Public Health. 2019;40:187–201. doi: 10.1146/annurev-publhealth-040218-043816.
- 142. Summan A, Stacey N, Birckmayer J, Blecher E, Chaloupka FJ, Laxminarayan R. The potential global gains in health and revenue from increased taxation of tobacco, alcohol and sugar-sweetened beverages: a modelling analysis. BMJ Global Health. 2020;5(3):e002143. doi: 10.1136/bmjgh-2019-002143.
- 143. Wright A, Smith KE, Hellowell M. Policy lessons from health taxes: a systematic review of empirical studies. BMC Public Health. 2017;17(1):583. doi: 10.1186/s12889-017-4497-z
- 144. Mytton OT, Clarke D, Rayner M. Taxing unhealthy food and drinks to improve health. BMJ. 2012;344(2):e2931. doi: 10.1136/bmj.e2931.
- 145. Leonard PSJ. Do school junk food bans improve student health? Evidence from Canada. Can Public Policy. 2017;43(2):105–19. doi: 10.3138/cpp.2016-090.
- 146. Lessons from 11 country case studies: a global synthesis report for the Global Conference on Universal Health Coverage for inclusive and sustainable growth. Washington (DC): World Bank; 2013 (https://openknowledge.worldbank.org/handle/10986/17003, accessed 2 October 2020).
- 147. Arguing for universal health coverage. Geneva: World Health Organization; 2013 (https://apps.who.int/iris/handle/10665/204355, accessed 2 October 2020).
- 148. Harris J, Springett J, Croot L, Booth A, Campbell F, Thompson J et al. Can community-based peer support promote health literacy and reduce inequalities? A realist review. Public Health Res. 2015;3(3):1–192. doi: 10.3310/phr03030.
- 149. The world health report 2006: working together for health. Geneva: World Health Organization; 2006 (https://apps.who.int/iris/handle/10665/43432, accessed 3 December 2020).
- 150. Thailand's 1 million village health volunteers "unsung heroes" are helping guard communities nationwide from COVID-19. Geneva: World Health Organization; 2020 (https://www.who.int/thailand/news/feature-stories/detail/thailands-1-million-village-health-volunteers-unsung-heroes-are-helping-guard-communities-nationwide-from-covid-19, accessed 3 December 2020).
- 151. Batterham RW, Buchbinder R, Beauchamp A, Dobson S, Elsworth GR, Osborne RH. The OPtimising HEalth LIterAcy (Ophelia) process: study protocol for using health literacy profiling and community engagement to create and implement health reform. BMC Public Health. 2014;14(1):694. doi: 10.1186/1471-2458-14-694.
- 152. Kim S, Lee J. Citizen participation and public trust in local government: the Republic of Korea case. OECD J Budg. 2018;18(2):73–92. doi: 10.1787/budget-18-5j8fz1kqp8d8.
- 153. Lam B, Zamenopoulos T, Kelemen M, Hoo Na J. Unearth hidden assets through community co-design and co-production. Design J. 2017;20(Suppl. 1):S3601–10. doi: 10.1080/14606925.2017.1352863.

Health literacy development for the prevention and control of noncommunicable diseases









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