

# Trends Shaping Education Spotlight 17

## A healthy mind in a healthy body

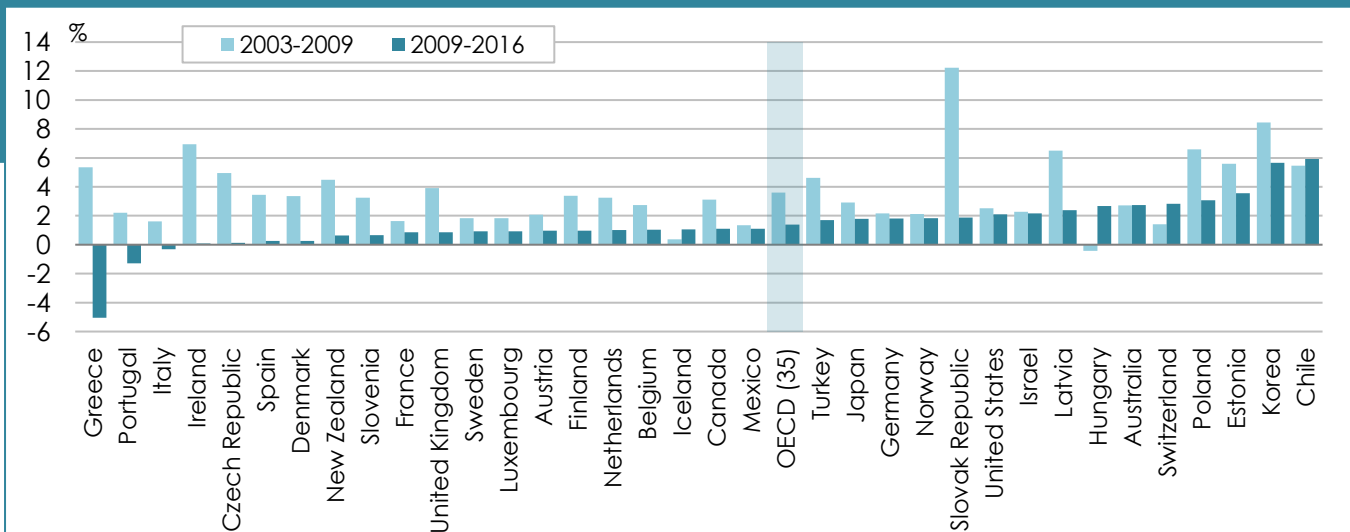
Good health is a benefit in many domains, such as work, studies or social relationships. Fostering a sound knowledge on healthy habits and the implications of risk-taking behaviours is a key to shaping societies with healthier lifestyles.

### Increasing health expenditure

Average health expenditure has grown over the past 15 years across OECD countries. From 2003-2009, annual health spending grew 3.6%. Since the financial crisis, it continued to grow on average in most countries. For instance, Chile, Hungary, Iceland, and Switzerland recorded higher average spending since 2009 in comparison to the period before. However, it decreased or remained very low for countries such as Greece, Ireland, Italy and Portugal.

Investing in living and working conditions that promote health could reduce health spending caused by unhealthy lifestyles. Education and health are linked together in several different ways.

Figure 1: Annual average growth rate in per capita health expenditure, real terms, 2003 to 2016



Note: This measures the final consumption (both private and public) of health goods and services. Norway: Mainland Norway GDP price index used as deflator. Chile: CPI used as deflator.

Source: OECD (2017), *Health at a Glance 2017: OECD Indicators*, [http://dx.doi.org/10.1787/health\\_glance-2017-en](http://dx.doi.org/10.1787/health_glance-2017-en).

## Health and education

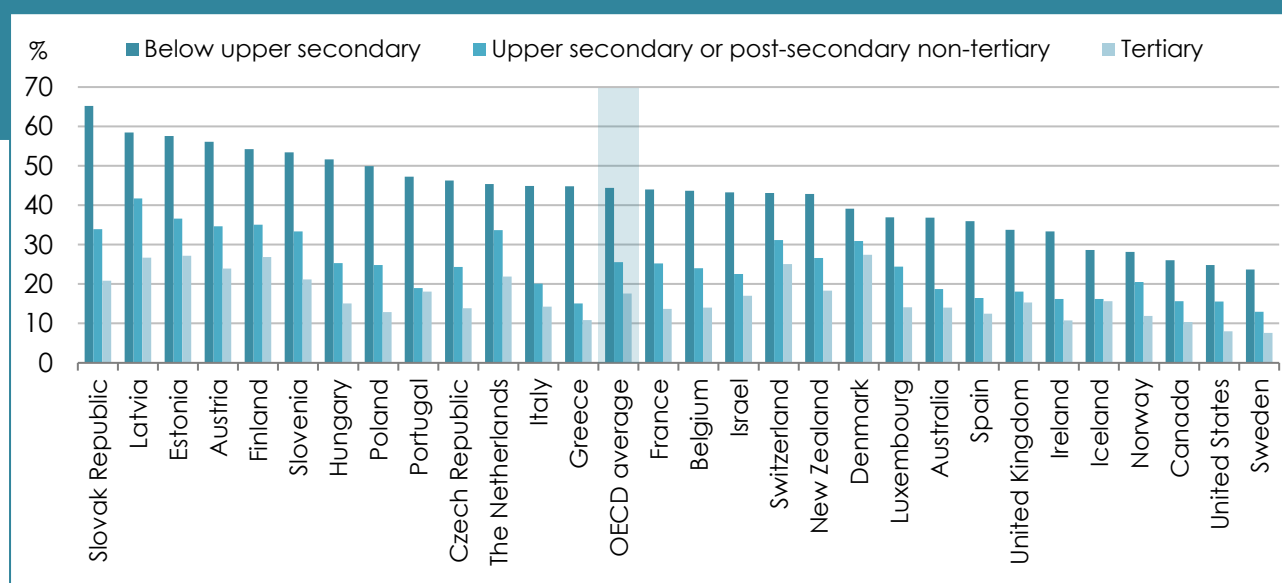
Poor health can negatively influence education outcomes. Those who experience poor health are less likely to attend school regularly and may be less able to achieve higher levels of education. This can extend into the workforce, in the sense that individuals with an activity limitation due to a health problem are more likely to have lower levels of education and earn comparatively less than those with higher education (OECD, 2016a).



Education can also protect health. More highly educated individuals are more likely to have better health later in life and better labour market prospects. Education can help reduce risk-taking behaviour by developing knowledge, capacity to process information, and social and emotional skills (Ashton, 2018; Moreira, 2018; Conti, Heckman and Urzua, 2010).

As shown in Figure 2, it is more common for adults with lower education levels to have activity limitations due to health problems. On average across OECD countries, 44% of those with an education attainment level below upper secondary education report some activity limitation, while this figure is reduced to 26% for individuals with upper secondary or post-secondary non-tertiary education, and 18% for those with tertiary education.

**Figure 2: Percentage of adults (25 years and over) with an activity limitation due to poor health, by education attainment level, 2014**



Note: Switzerland: Year of reference 2013.

Source: Table A8.2a in OECD (2016), *Education at a Glance 2016: OECD Indicators*, <https://doi.org/10.1787/eag-2016-en>.

## Health literacy as a protective factor

Today, the biggest threats to health in OECD countries are non-infectious diseases. Many risk factors for non-infectious diseases are related to lifestyle behaviours such as physical activity and nutrition, as well as environmental factors (e.g. increasing urbanisation reducing access to green space). Risky behaviours are in turn influenced by other elements, such as individual psycho-social factors, socio-economic status, gender and age (Ashton, 2018).

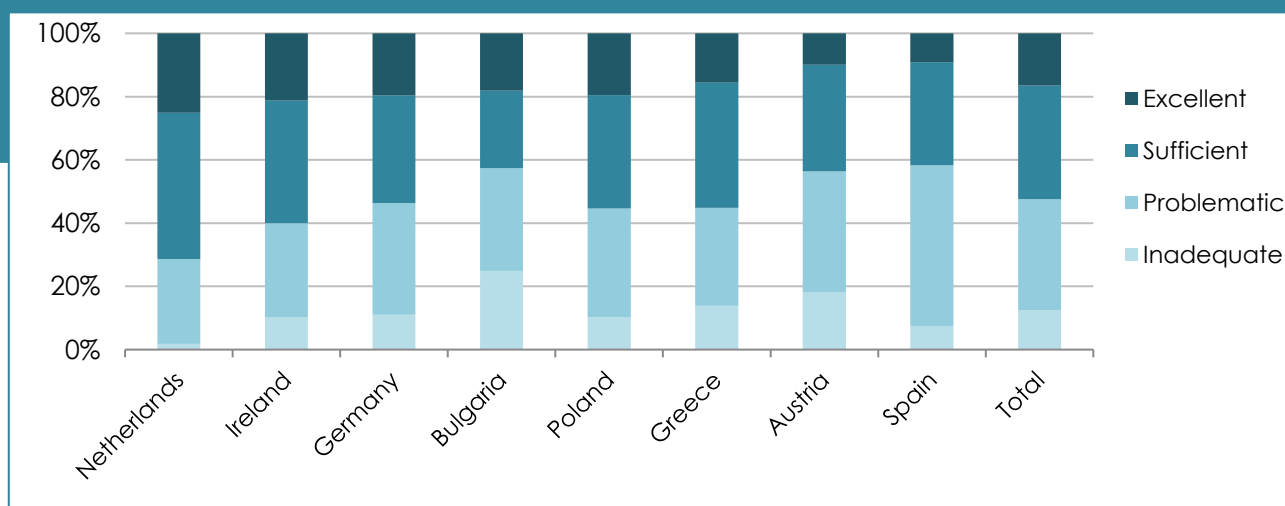
Ischaemic heart disease is the largest proportionate cause of death in OECD countries.

However, there are also factors that can protect against the development of non-infectious diseases, such as health literacy. Health literacy is made up of a combination of cognitive, social and critical analysis skills. It incorporates reading, listening, analysis and decision-making. An individual with a high level of health literacy would be able to (Nutbeam, 2000): 1) gather and understand health information; 2) apply such information to improve personal and community's health; and 3) critically assess health information and use it to inform her or his participation in society (e.g. voting preferences).

## Health literacy trends and outcomes

The European – Health Literacy Survey assessed health literacy in eight European countries. As seen in Figure 3, about 50% of respondents had inadequate or problematic health literacy, with highest average literacy in the Netherlands and the lowest in Spain. The survey also found that individuals with low health literacy tended to have lower income, rate their health as poor, are more likely to have a high body mass index, and are less likely to exercise regularly (HLS-EU Consortium, 2012).

Figure 3: Levels of general health literacy index in eight EU countries, 2011



Note: The assessment of general health literacy measures individuals' capacity to access, understand, appraise and apply health-related information across three different domains: Health care, disease prevention and health promotion.

Source: HLS-EU Consortium (2012), Comparative report on health literacy in eight EU member states, [https://cdn1.sph.harvard.edu/wp-content/uploads/sites/135/2015/09/neu\\_rev\\_hls-eu\\_report\\_2015\\_05\\_13\\_lit.pdf](https://cdn1.sph.harvard.edu/wp-content/uploads/sites/135/2015/09/neu_rev_hls-eu_report_2015_05_13_lit.pdf).

In the United States, males tend to have lower health literacy than females, and so do certain ethnic groups, migrants and refugees and those speaking languages other than English (Kutner et al., 2006).

Internationally, only about 20% of 15 year-old students on average across OECD countries report they could easily understand a newspaper report on a health issue, interpret the scientific information provided on the labelling of food items, or describe the role of antibiotics in the treatment of disease (OECD, 2016b).



These trends matter. Low health literacy can reinforce existing inequalities between socio-economic groups (Moreira, 2018). Health literate individuals are less likely to engage in risky lifestyle behaviours (e.g. poor nutrition and limited physical activity). They have the skills and knowledge to understand how their lifestyle can help (or hinder) their health and to take care of their health conditions over time. People who are health literate are also better positioned to more accurately judge when they can manage a problem on their own and when they need to seek medical help (HLS-EU Consortium, 2012; Sorensen et al., 2015).

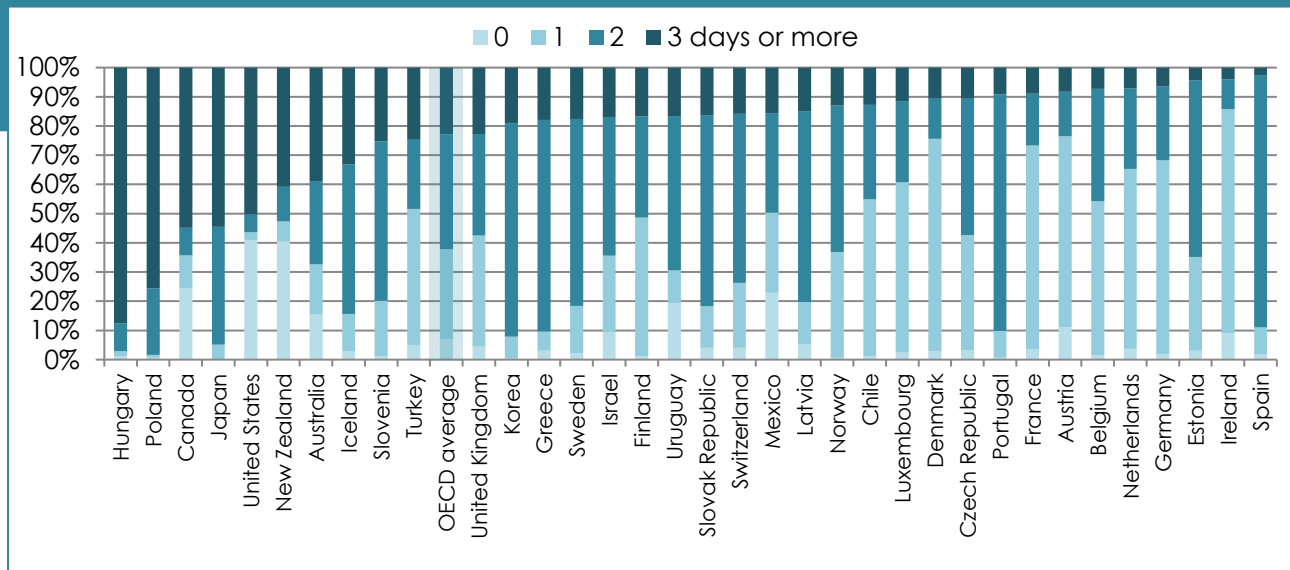
Certainly, increased levels of educational attainment and digitalisation enable individuals to overcome barriers they might face in finding, accessing and understanding information relevant to their health. Nevertheless, misuse, misunderstanding or the use of clearly wrong information (e.g. fake news or information based on commercial interest rather than scientific evidence) can negatively impact individual and collective health outcomes. An example of this is the rise of anti-vaccination movements, which have contributed to reductions in children vaccination rates (Moreira, 2018). In countries such as Canada, France and the United States, the proportion of children vaccinated against measles is now below the threshold required to establish 'herd immunity' to protect the community. And while the USA declared measles eradicated in its territory in 2000, recently there have been a resurgence of outbreaks after years of absence (OECD, 2018; 2016c).

Research has indicated that children of health literate parents are more likely to receive vaccinations, compared with children of less health literate parents (Castro-Sanchez et al., 2016; Johri et al., 2015). However, recent studies indicate that health literacy may also be associated with a higher likelihood of vaccination refusal. This association is hypothesised to be the result of individuals weighing the costs of the possible side-effects from the vaccine—rare or mild (IOM, 2012)—with the perceived benefit of protection (Veldwijk et al., 2015). This could be seen as a rational behaviour at the level of the individual but can lead to a serious problem from the perspective of public health. Further research is necessary to understand the relationship between health literacy and vaccine refusal, as well as its most effective policy responses (i.e. mandatory vaccination vs. raising awareness about implications for public health).

## Schools as health literate organisations

Education settings are an ideal environment to develop health literacy from a young age. School efforts have largely focussed on changing specific behaviours, such as physical activity or tobacco consumption. Physical education classes, for example, are frequent across OECD countries: 60% of 15-year-olds attends such lessons 2 or 3 days a week on average (Figure 5).

Figure 4: Number of days students attended physical education classes per week, 2015



Source: OECD (2017), *PISA 2015 Results (Volume III): Students' Well-Being*, <http://dx.doi.org/10.1787/9789264273856-en>.

### Health across the school curriculum

While these kind of efforts are important, they appear to have resulted in minimal long-term changes in healthy behaviour (Dobbins et al., 2013; Thomas, McLellan and Perera, 2013). Hence, more recently, educators have begun to focus on embedding health literacy across subjects (OECD, 2017b). For instance, in biology, students learn about the effects of consuming high proportions of specific foods (Bruselius-Jensen, Bonde and Christensen, 2017). Health literacy can also be incorporated as part of citizen education to help them understand the societal factors that influence their own health and that of other groups in society, and accordingly become informed and empowered to take social action to improve their health and the health of others (Bruselius-Jensen et al., 2017).

Embedding health education across the curricula brings long-term health literacy gains.

Traditionally, health promotion at school has consisted in the transmission of factual health information considered necessary for children to protect their health over the life course. However, children are exposed to health-related information through different and even contradictory sources, including their family and school, as well as multiple forms of advertising, peers and the Internet. This information overload can result in observable gaps, inconsistencies and simplifications in children's understanding of information (Fairbrother, Curtis, Goyder, 2016).

## Placing students at the centre of their learning

Students need opportunities to engage in critical reflection about the information they receive. This includes the ability to assess the validity and reliability of information in general – for which digital skills are increasingly important. Developing health literacy thus also empowers students to take action for their own health.

In this sense, learning experiences that build on students' existing knowledge and engage them in interactive activities based on their own experiences can help students better understand conflicting pieces of information. This approach can also increase their sense of self-efficacy about their own health (Wallerstein and Bernstein, 1988). This can increase their interest in further learning (Brown, Teufel, Birch, 2007).

## Improving teacher preparation

Teachers play a key role in determining the way school experience shapes students' levels of health literacy. Across OECD countries, the degree to which teachers are prepared to teach health education in the classroom is varied (Shepherd et al., 2016). Overall, teachers (including health education specialists) have low levels of confidence in their ability to teach health literacy (Hutchins, Melancon, & Nunning, 2012).

This is further complicated by lack of clarity around what health literacy is, and what the teaching role is in this area. For instance, health literacy is sometimes confused with inclusive education practices for ensuring that teachers cater to all students, including those with developmental or other learning disabilities (Shepherd et al., 2016). It can also focus on health and safety regulations, thus orienting it to the needs of a specific group rather than on building overall literacy for all students.

Strengthening teachers' capacity to teach health literacy relates, first, to their pedagogical knowledge. A sound pedagogical understanding provides teachers with more and better tools to make sure students' learning is deep, i.e. students make sense of what they are doing by seeing the purpose of it. Second, while tacit knowledge is important, interventions addressing health issues need to be grounded in robust research findings. Teacher professional development should be based on empirical evidence, so that teachers do not rely exclusively on anecdotal evidence from their colleagues (Whitley, Smith and Vaillancourt, 2013). Third, teachers need to learn beyond health content to unpack and understand the socio-environmental factors determining students' views on health, which

### Stephanie Alexander Kitchen Garden (Australia)

An initiative to improve nutrition, access to healthy food and in some cases, cultural connectedness, is the Stephanie Alexander Kitchen Garden programme. The initiative has been trialled in urban and remote schools, and it involves building gardens at participating schools, and students and teachers working with a garden and cooking expert.

Students are involved in all stages and aspects of building the garden, planting and nurturing plants. In the cooking component, students are taught about kitchen and food safety, as well as learning how to make specific dishes using produce from the garden.

An evaluation of the programme shows it significantly improves students' kitchen lifestyle behaviours and food choice, while no significant difference has been found in gardening lifestyle behaviours or eating habits (Yeatman et al., 2013).

#### More information:

[www.kitchengardenfoundation.org.au/](http://www.kitchengardenfoundation.org.au/)

range from media coverage to overall social discourses on health and health care, including the views of teachers themselves (Velardo and Drummond, 2015).

Teacher development and curricular interventions can simultaneously address these issues, as research has shown that teachers' own health literacy and confidence in teaching health literacy can improve as they are implementing health education curricula (Bruselius-Jensen et al., 2017). Increasing the confidence and self-efficacy of teachers to teach health literacy, and developing their own health literacy is important if this topic is to become legitimised as a valuable educational content area, rather than solely a public health intervention.



### Developing a supportive school climate

School policy and leadership have an influence on most school-based activities, including health literacy. A positive school climate could incorporate supports (resources or time for example) to build networks for teachers to work together to embed health literacy across the curriculum (Didier et al., 2016). School policies and leadership that support health literacy can also help to legitimise its educational value as a content area, which can improve uptake among teachers. It can also foster a school culture that views health literacy and healthy lifestyle behaviours as important for staff and students alike (Kutcher et al., 2017; Kutcher, Bagnell and Wei, 2015; Kutcher et al., 2013).

The health literacy of students and educators is not mutually exclusive. Thus, it would be beneficial if the school climate enabled educators' personal health literacy to improve as well as that of their students. This might include supporting educators to engage in professional development, consulting with other educators and health professionals, and collaborating with education and health governance bodies to support health information dissemination and uptake.

### Building health literacy beyond school

Efforts to improve health literacy need not be isolated to schools or education-specific environments. Community-based initiatives can take advantage of community networks to harness social capital. This is particularly helpful among groups with known low levels of health literacy, for instance refugee and migrant populations. For these groups, efforts to improve health literacy can be effective when implemented in a safe group setting in which participants have shared life experiences (Black, 2012).

An impetus for improving health literacy is often an increased prevalence of chronic health conditions. Living with chronic conditions usually requires self-management skills. For instance, asthma sufferers need to understand when and how to take their medication, what environmental factors might trigger an asthma attack (e.g. dust, housing conditions, playing sports), as well as how and when to seek medical help. In this way, self-management can help to prevent serious, potentially fatal outcomes (Gibson et al., 2002).

Raising awareness and health knowledge among the wider community can also help to minimise negative outcomes from chronic or acute conditions. For instance, adverse consequences from poor treatment adherence can be averted by building the health knowledge of parents and caregivers. Similarly, improving educators' knowledge ensures children with severe allergies or chronic conditions can participate fully in school.

#### **Rheumatic Fever Prevention Programme (New Zealand)**

The Ministry of Health in New Zealand developed health literacy materials and delivered training to community-members, health professionals, and school nurses to teach them how to educate parents and caregivers on when to seek diagnosis and treatment for their child's sore throat. The initiative also focussed on delivering education about how to take antibiotics when a strep throat infection has been diagnosed as well as the importance of finishing a complete course of treatment to ensure that the risk of developing rheumatic fever is reduced. Information about how to make the home warmer and drier was also provided, and when necessary families were referred to the Healthy Housing government-funded program to have insulation installed in their home (Housing New Zealand, 2007).

**More information:** <https://www.health.govt.nz/>

### **Adult learning: Children as health promoters**

Health needs change over the life course and so do health literacy needs, not only due to changes in health from ageing but also because the health system itself is continuously evolving. Thus, a large and growing group of those in need of health literacy development are adults, and particularly, older adults (Connolly & Crosby, 2014).

Children-mediated initiatives improve children's as well as parental and community's health literacy.

A way to building health-related knowledge and awareness among parents, the extended family and the wider community is to involve children as the messengers of health information.

Child-mediated initiatives often involve teaching children specific health information and developing their understanding of when to seek help/ask an adult to seek help in specific situations (Noble, Hedmann, & Williams, 2015).

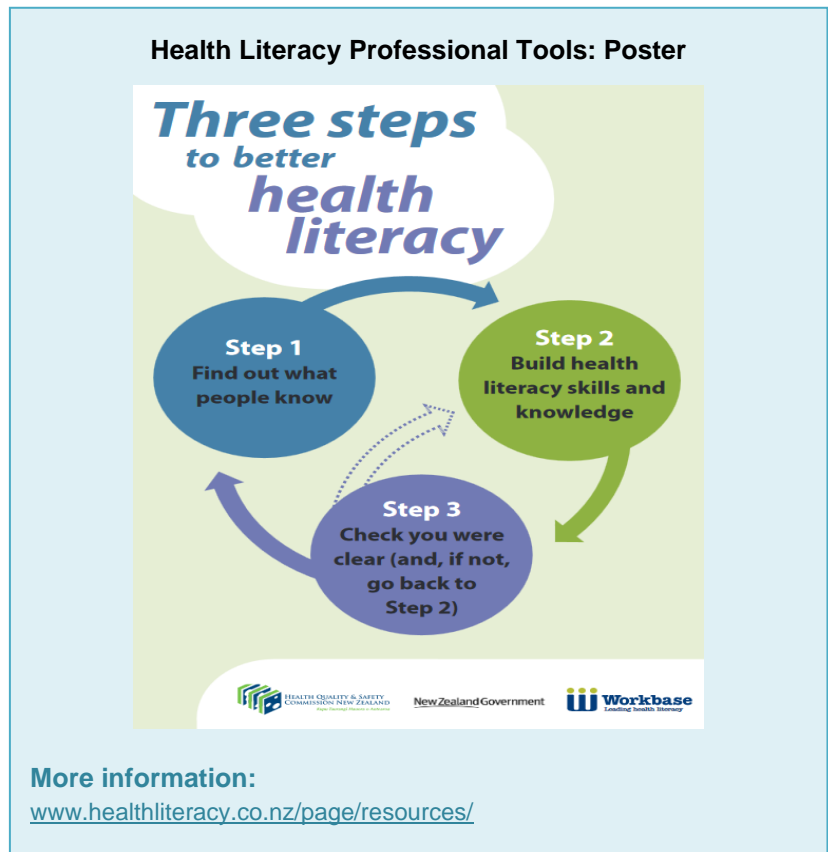
These kinds of programmes have been used in a variety of contexts in urban and rural areas in many countries. Across these diverse contexts, trials have found that children's health knowledge has increased, and the health knowledge of the family and, in some cases the wider community has also increased. The role of educators in these efforts is critical. Not only are they usually the source of health information, but they also increase the legitimacy of the message being delivered by the child, as the family and community is aware that the child has received this message from an educator (Onyango-Ouma et al., 2005).



## Delivering and receiving health messages

Developing health literacy includes the effective communication of health messages, and investments have been made across OECD countries in communication materials. Many countries use media campaigns, brochures and posters to disseminate and educate people on health. However, evidence on their impact is mixed (Moreira, 2018). Proven communication principles include (Pontius, 2014):

- Prioritise important information
- Use clear, concise language
- Ensure information is easy to read
- Use a friendly and encouraging tone
- Deliver one message at a time
- Include visuals that clarify message and motivate the reader
- Target specific populations



Today, however, much more health-related information exist and is available as a result of digitalisation and generalised Internet connectivity. The number of Internet users using the Internet for seeking health information has almost or more than doubled since 2008 in many OECD countries, and this has happened across all age groups between 16 to 74 years old (OECD, 2019).

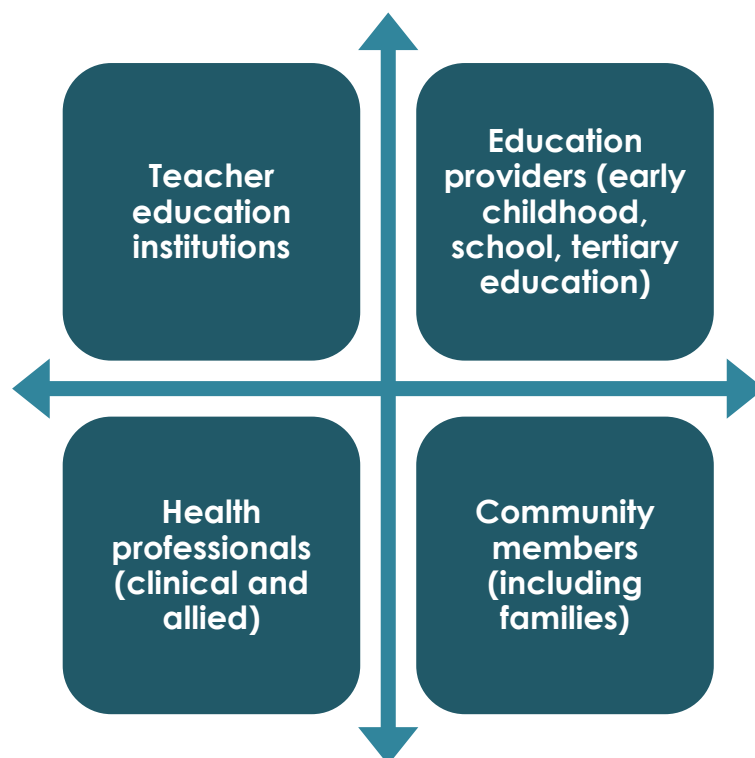
Internet users seeking health information online in the European Union grew from 27 to 51% on average between 2008 and 2017.

People look up information on how to improve their health generally, specific diseases and injuries, and medical treatments and procedures. However, they mostly do so through general search engines first, and specialised websites, blogs and forums other than official health organisation portals (European Commission, 2014).

From the side of health institutions and public administration, expanding citizens' access to patient portals that guarantee easy-to-understand reliable information requires designing user-friendly and easy-to-find digital interventions, through search engines (and increasingly health-related apps). In the future, digital skills will play a growing role in ensuring people's empowerment with regard to their own and their communities' health (Moreira, 2018).

## Towards the future

As the quantity of health information proliferates, children, adolescents and adults need to have the knowledge and skills to ensure they can live healthily. Developing health literacy can improve health outcomes as well as improve educational outcomes and enhance social capital. Education has a significant role in supporting the development of health literacy; however, health literacy needs to evolve and change over the life course. Educators should thus not be the sole promoters of health literacy development. Collective efforts to improve health literacy should include:



### Future thinking questions:

1. To what extent are teacher education institutions equipped with sufficient staff, resources and evidence to prepare pre-service teachers to support the development of health literacy among their future students?
2. Physical activity in schools has been traditionally concentrated in physical education classes, of about 1-4 hours a week. Observing trends in technology use, gamification and augmented reality, can you imagine schools including physical exercise in students' homework via smartphone apps and games (like *Pokémon Go*)?
3. Our world is ageing and becoming more populated. How does this affect the need for physical and health education for adults? Where should this take place and how? Can you imagine a compulsory form of it developing in your country?

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**See** OECD (2019), [Trends shaping education 2019](#), OECD Publishing

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