Health literacy: applying current concepts to improve health services and reduce health inequalities

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ABSTRACT

The concept of ‘health literacy’ refers to the personal and relational factors that affect a person’s ability to acquire, understand and use information about health and health services. For many years, efforts in the development of the concept of health literacy exceeded the development of measurement tools and interventions. Furthermore, the discourse about and development of health literacy in public health and in clinical settings were often substantially different. This paper provides an update about recently developed approaches to measurement that assess health literacy strengths and limitations of individuals and of groups across multiple aspects of health literacy. This advancement in measurement now allows diagnostic and problem-solving approaches to developing responses to identified strengths and limitations. In this paper, we consider how such an approach can be applied across the diverse range of settings in which health literacy has been applied. In particular, we consider some approaches to applying health literacy in the daily practice of health-service providers in many settings, and how new insights and tools – including approaches based on an understanding of diversity of health literacy needs in a target community – can contribute to improvements in practice. Finally, we present a model that attempts to integrate the concept of health literacy with concepts that are often considered to overlap with it. With careful consideration of the distinctions between prevailing concepts, health literacy can be used to complement many fields from individual patient care to community-level development, and from improving compliance to empowering individuals and communities.

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What is health literacy and why is it important?

Since its emergence in the 1970s,1 the concept of health literacy has become increasingly broad. It began as a notion that concentrated only on people’s ability to read and understand written information. The concept now includes numerous factors that affect a person’s ability to access, understand and use health information from many sources. Although health literacy is in many health policies around the world, it remains challenging to embed health literacy principles into routine practice. It is of paramount importance that we attend to this problem because people with low health literacy have lower rates of health service use and worse health outcomes than people with higher health literacy.2,3

In this paper, we take the view that health has biological, psychological and social determinants. Indeed, health literacy is increasingly recognised as not just an individual trait, but a characteristic related to families, communities and organisations providing health and social services. The paper examines potential approaches to health literacy measurement and intervention in healthcare and community settings. It considers a new approach based on understanding the varying health literacy strengths and limitations of individuals and communities. Assessment of these strengths and limitations can assist healthcare providers to better support patients and communities, particularly those who experience poor access and outcomes.

Health literacy: multiple components and multiple settings

Health literacy is a multidimensional concept and this has led to the emergence of several definitions. The World Health Organization defines health literacy as ‘the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health’ and states that ‘health literacy implies the achievement of a level of knowledge, personal skills and confidence to take action to improve personal and community health by changing personal lifestyles and living conditions’.4 The mention of ‘community health’ and ‘living conditions’ is in recognition of the fact that health literacy is not only important for personal health care but also for participation in community debates and planning about issues that affect health (referred to as critical health literacy).5

Health literacy assessment can be used to improve clinical service delivery, community participation in health, health service planning, public health education, and policy development.6 Six levels of health literacy assessment are presented in Table 1. These are grouped into health service settings, and community and population settings. Both settings provide opportunities for improving health equity and outcomes by responding appropriately to health literacy needs.

Health literacy affects health equity and outcomes through four main causal pathways (Fig. 1).5,7,8 Two of these pathways

<table>
<thead>
<tr>
<th>Table 1 – Purposes for health literacy measurement and analysis at different levels.</th>
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<tr>
<td>Levels at which health literacy can be measured</td>
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<tr>
<td>Health service settings</td>
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<tr>
<td>1. Individual patients</td>
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<td>2. Patient groups</td>
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<td>3. Individual health services</td>
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<td>Community and population settings</td>
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<td>4. Local areas (both health and community services/authorities)</td>
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<td>5. National surveys (to compare regions and groups)</td>
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<td>6. Countries (international comparisons)</td>
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are also likely to differ. Needs for each person. Appropriate responses to these needs seen in clinical practice, reveal different health literacy would score similarly. However, these profiles, commonly across nine scales) then these two hypothetical patients literacy profiles. If health literacy were represented as a single score (that is, the HLQ scored as an average score across nine scales) then these two hypothetical patients would score similarly. However, these profiles, commonly seen in clinical practice, reveal different health literacy needs for each person. Appropriate responses to these needs are also likely to differ.

**Measurement of health literacy**

Measuring the many components of health literacy, as they exist in various settings and contexts, is an important step in addressing issues of health inequity. A weakness in the health literacy field is that the most commonly used tools mainly test reading, comprehension and numeracy skills, and some cognitive tasks, rather than the broad range of issues included in modern definitions of health literacy.\(^{1,3,9-14}\)

The development of new measurement tools, which identify specific health-literacy-related strengths and limitations in individuals and communities,\(^{15,16}\) opens the way for new and more comprehensive approaches to health literacy research and intervention development. The Health Literacy Questionnaire (HLQ)\(^{15}\) identifies nine separate health literacy scales that reflect an individual’s competencies and experiences when attempting to engage with health practitioners and services. Box 1 presents the nine scales with two patient vignettes (developed from HLQ scale scores and patient interviews) that show differing health literacy profiles. If health literacy were represented as a single score (that is, the HLQ scored as an average score across nine scales) then these two hypothetical patients would score similarly. However, these profiles, commonly seen in clinical practice, reveal different health literacy needs for each person. Appropriate responses to these needs are also likely to differ.

**Health literacy strategies in health service settings**

One of the assumptions underlying the measurement of health literacy is that different strategies of engagement, education and service delivery are appropriate for people with different health literacy needs. This is not to say that every patient of a health service must have their health literacy measured, but that health service personnel must to be aware of, and sensitive to, the range of health literacy needs that patients present with. In this section we propose three main strategies for health service settings:

a) At the organisational level: Complete an organisational review using the Health Literacy Universal Precautions Toolkit or similar resources as shown in Box 2.

b) At the healthcare personnel level: Ensure that all healthcare personnel have a sound understanding of common health literacy needs and appropriate strategies to deal with these needs as part of routine clinical practice.

c) At the patient level: Assess and discuss health literacy needs using the HLQ or similar tools for patients with complex needs, chronically poor outcomes and/or serious limitations to the way they access or use health services.

The universal precautions approach does not require practitioners to assess or even know the health literacy of individual patients. It does, however, require that practitioners understand health literacy and good practice related to it, and that they have a range of relevant skills.\(^{17-19}\)

The most well-known example of this approach is the Health Literacy Universal Precautions Toolkit developed for primary care practices by the Agency for Healthcare Research and Quality in the USA.\(^{20}\) Advocates of this approach refer to the need to ‘structure the delivery of care as if every patient may have limited health literacy’.\(^{21,22}\) The Toolkit contains resources to support practitioners and organisations to promote health literacy in their practices (see Box 2).

One of the difficulties with a universal precautions approach is that it is extensive and it is not possible for organisations to do everything all at once. In practice, the Universal Precautions Toolkit is most usefully applied after gaining an understanding of the types of health literacy needs that are prevalent among the organisation’s patients or target community. Collecting, analysing and discussing health literacy data from either a representative sample or a selected group of patients who have difficulties can help organisations focus their selection of strategies, and assist providers to better understand the range of health literacy issues that their patients and potential patients present with (see Box 3).

b) Strategies with healthcare personnel

While we argue that it is not necessary to assess the health literacy of every patient, it is important that all staff in healthcare organisations be alert and sensitive to a range of health literacy needs. This would include a) understanding how health literacy issues, other than simply a lack of information, affect how people act on their health; b) understanding common health literacy presentations and strategies to address these; and c) having skills in teach-back methods and other techniques to assess the accuracy.
Vignette 1. Doesn’t really understand what to do, but would trust the doctor

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<td>Low-moderate</td>
<td>Moderate -high</td>
<td>Moderate -high</td>
<td>Low-moderate</td>
<td>Low</td>
<td>Low-moderate</td>
<td>Very low</td>
<td>Low</td>
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Giovanni is a 73 year old Italian man whose wife died 3 years ago. He now lives alone. Giovanni has type 2 diabetes and arthritis, and was recently diagnosed with heart failure. Although he trusts everything the doctor tells him and tries to follow instructions (scale 1), he gets very confused about how to manage all his new heart failure medications, and his fluid restriction (scales 2 and 9). He never feels certain that he is actually doing the right thing. He doesn’t feel right about asking questions of the doctor (scale 6) because he was brought up to never question what a doctor says. He doesn’t really look for information elsewhere either (scale 8). His daughter helps when she can (scale 4), but she doesn’t always have the knowledge to explain things to him. The doctor referred him to a lifestyle education program at the community health center, but a lot of the information seemed very complicated, and because it doesn’t come from his doctor, Giovanni doesn’t try to take it all in.

(J Giovanni is likely to score poorly on a health literacy screening test due to his poor reading and writing (scale 9) but this is partly compensated by his good relationship with his doctor. Health literacy interventions could focus on strengthening his social support further (scale 4) and building trust in the advice of social care services (scales 6) and provision of information endorsed by his doctor.)

Vignette 2. Reasonable capacity and confidence, but only moderate engagement and support

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<td>Extremely low</td>
<td>Low</td>
<td>High</td>
<td>Very low</td>
<td>Low</td>
<td>Low</td>
<td>Moderate</td>
<td>Moderate</td>
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Jean is a 73 year old woman with osteoarthritis and type 1 diabetes who is receiving some cleaning services from the council. She has been with the same doctor for ten years and trusts his advice. Recently, however, her doctor has partially retired and now she often needs to see doctors in the practice that she doesn’t really know. Sometimes she thinks they are telling her different things. She isn’t always honest with the doctors as she knows she isn’t doing all the things that they recommend. Recently one of the doctors really told her off and now she feels scared about going unless she can see her old doctor (scale 1). She has a reasonable amount of knowledge of medical terms and can read and understand information that she receives (scale 9)—it’s just that most information that she receives is not as practical as she is looking for (scale 2). Her main concern is how her osteoarthritis impacts her mobility. She knows that if she lost some weight, it would help but she has never been able to achieve that despite trying many diets that she has come across. She doesn’t like talking to people about her problems because she feels they are tired of hearing about them and often judge her because she is overweight (scale 4).

(Jean is likely to score very well on most health literacy screening tools because her reading and writing abilities are good. Her difficulties lie in other areas. Support for her could include building on her interesting in health (scale 3) and her ability to work with information and finding her way around the system (scales 2, 7, 8), setting up consistency of messages across her practitioners (scale 1) and building her support networks (scale 4).)

and practicality of a patient’s understanding, as well as problem solving skills for when patients have difficulty understanding. The limited research about doctors’ and medical students’ knowledge and use of health literacy, and related strategies, indicates that most lack confidence in their ability to communicate effectively with people with low health literacy, and have difficulty finding suitable educational resources, but that this can be improved with training and practice. There are numerous resources and training opportunities to assist staff in healthcare organisations to develop these understandings and skills (see Box 2). One particularly useful
Box 2

Resources for health literacy.

<table>
<thead>
<tr>
<th>Tools for small and large health services</th>
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<tbody>
<tr>
<td>• Universal precautions toolkit[^25] — nchealthliteracy.org/toolkit/</td>
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<tr>
<td>• Ophelia (OPtimising Health Literacy and Access) process, including health literacy needs assessment and intervention development — <a href="http://www.ophelia.net.au">www.ophelia.net.au</a></td>
</tr>
<tr>
<td>• Building health literate organizations: A guide book for achieving organizational change[^19] (includes excellent case-studies and teach-back resources) — unitypoint.org/health-literacy-guidebook.aspx</td>
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<tr>
<td>• ‘Always use teach-back’ training toolkit — teachbacktraining.org/</td>
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<th>Tools for medium to large health services</th>
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<table>
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<tr>
<th>Multidimensional health literacy measurement tools</th>
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<tr>
<td>• Health Literacy Questionnaire (HLQ) and Information and Support for Health Actions Questionnaire (ISHA-Q) <a href="http://www.ophelia.net.au">www.ophelia.net.au</a></td>
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</table>

approach is for staff to reflect on data about the health literacy strengths and limitations of users and potential users of the services in their organisation or region. This can be particularly powerful when patients are involved in the process of reflecting on the data and identifying strategies to respond to people with different health literacy needs.

The ability to respond to patients with varying health literacy needs requires health personnel to have a repertoire of strategies and skills. Experienced healthcare practitioners often develop strategies to enhance their effectiveness, even with people with very poor health literacy. Capturing and sharing the best of this expertise, and incorporating it into normal practice,[^27] makes health literacy an integral part of excellent clinical practice, not an add-on. This is the basis for the Ophelia process (OPtimising HHealth Literacy and Access),[^27,28] which utilises the local wisdom of health workers and builds a community of practice that identifies and shares best practice so as to make it routine clinical practice (see link to resources in Box 2).

c) Patient-level strategies

Contrary to the Universal Precautions approach, some authors have suggested that health literacy screening tools be used within routine clinical practice.[^17,19,29–32] However, the proposed tools fail to capture many aspects of health literacy and were validated on the basis of their ability to predict scores on older health literacy tools, which are now questionable gold standards.[^33]

The main danger of health literacy screening for individual patients is that of false negatives. Patients may pass the screening questions and so the assumption is that they do not have health literacy needs when, in fact, they may have substantial needs. Jean in patient vignette 2 in Box 1 is an example of this. Health literacy screening is not a way to discover all the people who have health literacy needs.

A further limitation of screening is the potential for stigmatisation. People who have low levels of health literacy may have feelings of shame and may, as a result, disengage from health services that are not responsive to their specific needs.[^34,35]

Rather than advocate application of specific health literacy screening tools, we would encourage practitioners to develop the habit of applying teach-back methods. This ensures that practitioners are constantly doing in-context checking of the limitations of patients’ abilities to understand and apply health information in a non-blaming way (see Box 4).

There are situations, however, when measuring the health literacy of individual patients is indicated. This would include patients who have been chronically difficult to engage in the care of their own health; those who have low engagement with health services; or patients for whom adherence to medical advice is a critical life-and-death issue. In such cases, the most useful tool is one that identifies particular health literacy strengths and limitations, and assists healthcare personnel to have discussions with patients about what is most helpful to them, rather than a tool that gives a single health literacy score.

Health literacy and access to health services: we need to consider those who don’t make it to the clinic door

One of the problems with many approaches to health literacy interventions in healthcare settings is that they focus only on those patients who are already accessing health services. However, the overall effectiveness of a health service organisation is largely dependent on whether or not the people who need it most actually access the service. Low health literacy — as represented by such issues as low educational attainment and low socio-economic position — is a major barrier to access for many people.[^2,36,37] While this is important in developed countries, it is crucial in countries undergoing economic transition and that are seeking to set up systems for universal access to health care.[^38]

Fig. 2 presents ways in which health literacy limitations can be barriers to different stages of accessing and engaging with health services. Often, the people most at risk are those who drop out in the earlier stages (that is, the upper levels of Fig. 2 of simply approaching, being accepted into and receiving services). It is for this reason that awareness of health literacy is essential for first-contact staff and in-context checking of health literacy should be incorporated into intake and assessment procedures.
Health literacy strategies in community and population settings

Many people live in situations where health-related decisions are not made just by individuals but are strongly influenced by family members, peers or community leaders. Communal decision-making processes are common in much of Asia and Africa, and are apparent in immigrant and refugee groups. This suggests that the sharing of information and experiences among mothers increased the likelihood that they would immunise their children. The importance of distributed health literacy is likely to vary from culture to culture depending on the extent to which it really is the village that raises the child.

Development of health literacy interventions in community settings requires an understanding of the ways in which discussions that occur within families, among friends and peers, and within other social networks influence how people think about and act in relation to their health. In high-income countries, some programs and interventions use a peer-support model.55 In some low- and middle-
Box 4
Developing a habit of ‘teach-back’.

Developing a habit of applying ‘teach-back’ is a good alternative to screening for health literacy; it can provide healthcare providers with directly relevant, cumulative and up-to-date information about a person’s health literacy and build a more sophisticated understanding of the health literacy needs of patients. However, not everyone’s experiences with applying teach-back have lived up to this potential. Sometimes, when it is used in an overly simplistic way that judges the patient rather than the way the message has been delivered, it just confirms the prior opinion that certain patient don’t have the capacity to understand. For teach-back to be effective, health care personnel need the ability to not only identify that a patient has a problem but to know strategies to overcome those problems. The key issue is what you do when they don’t understand. Some key principles of applying teach-back are:

- Select the most important information that the patient needs to be aware of immediately and don’t try and cover everything.
- Ask open ended questions to get the patient to explain what they understand, rather than asking yes or no questions about whether or not they understood.
- Ensure that the patient understands that they are not being tested, but rather you are checking the information you provided because you are concerned that you wish to meet their needs.
- Ask the patient to explain things in an action-oriented way; ‘Tell me exactly what you need to do to take the medicine at home’ is better than ‘can you please explain to me what I have just taught you using your own words’.
- Do repeated small checks throughout the appointment rather than waiting till the end. This helps identify issues and informs you promptly about your educational approach as well as avoiding memory overload for the patient.
- Where possible provide written instructions that reflect the patient’s own words. Over time the practice will develop handouts that reflect patients’ own language.
- Build teach-back skills in the whole team, it is just as important for reception staff to check that patients understand information about their appointments, referrals, collection of results etc. as it is for the doctors and nurses to check the information they provide.
- Take time as a team to discuss what has been learned from implementing teach-back and what it means for your organisational communication approaches.

Further resources for teach-back training are available at ‘Always Use Teach Back!’ teachbacktraining.org/

income countries, peer-support programs, such as village health volunteers or women’s health networks, are widespread in every village. In both of these types of settings, it is critical to understand how discussions about health in communities influence how people find, interpret and apply health information. In conjunction with the Thai Ministry for Public Health and Thai researchers, we developed a tool for this purpose: the Information and Support for Health Actions Questionnaire (ISHAQ).9

Toward an inclusive model of health literacy

Over the past few decades, health literacy work has occurred in diverse settings: from settings where people are overwhelmed by an abundance of choice of health information, health services, and treatments, to settings where people have limited education and few healthcare options. The scope of health literacy assessment varies from individual care planning in clinical settings to making international comparisons. Research about health literacy also depends on issues such as ideology and culture. Much of the literature focuses on health literacy as a means to promote adherence to medical advice. There is, however, a large body of literature about health literacy as a means of patient empowerment and a facilitator of choice. A further complexity is the indistinct boundaries between health literacy and a wide range of associated concepts such as health equity, self-management, patient empowerment, and patient activation.

Fig. 3 maps some of these concepts onto a broad model of health literacy that ranges from individual to community and population foci on the one hand (Y axis), and from a focus on compliance to a focus on empowerment on the other (X axis).

Conclusion

Needs-based health literacy assessment can identify and help healthcare providers develop strategies that build the capacities of individuals and communities to make decisions that promote health. This is not solely a concern and responsibility for front-line health practitioners. It must be a concern and responsibility at all levels of health systems.

Practitioners, health service managers, policy makers, academics and consumer groups need to understand and measure health literacy so as to comprehend the ways in which health literacy strengths and limitations can and do vary within the groups of people for whom they are responsible. While it is not necessary to measure the health literacy of all patients, a tool that captures the many aspects
The lower end of the vertical axis represents health literacy as a characteristic of an individual. The extent to which health literacy becomes distributed across a social network increases as you move up this axis. The left of the horizontal axis considers health literacy from the perspective of adherence to medical advice, moving across the axis to the right where it becomes related to freedom of choice and participation in decision making. Concepts related to health literacy are placed according to the relative emphasis on these two axes. The concept of self-management covers a broad area near the centre because it is subject to nearly as much ideological variation as health literacy.

Fig. 3 – An integrative framework for health literacy.
of health literacy will lead to a better understanding of the needs of individuals or at-risk populations, and can identify particular areas of focus for care-planning, problem-solving, training or intervention development. Improving clinical, community and population health responses to low health literacy has enormous potential to increase access to health care, improve health outcomes and advance health equity.

Author statements

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Ethical approval

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Competing interest

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Author contributions

Richard Osborne and Roy Batterham conceived the paper, and with Rachelle Buchbinder, developed the first draft. Melanie Hawkins and Alf Collins then contributed to extensive revisions. All authors approved the final revision of the manuscript.

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