

Accelerated importance of eHealth literacy in the COVID-19 outbreak and beyond

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Gunhild Brørs^{1,2}, Cameron D Norman^{3,4} and Tone M Norekvål^{2,5,6}

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Introduction

During the past few months, we have entered a new era in healthcare delivery for patients with cardiovascular disease (CVD). As the coronavirus (COVID-19) pandemic requires quarantine and isolation, face-to-face visits in both primary and secondary care have been hugely reduced. In these few months, we have also learnt that CVD and CVD risk factors are common among hospitalised patients with COVID-19.¹ The rapid development of COVID-19 provokes a need quickly and creatively to re-think our modes of healthcare delivery and to move beyond traditional place-based models and embrace electronic health (eHealth) resources that connect care through the internet and related technologies.

In the current issue of the *European Journal of Cardiovascular Nursing*, Neubeck and co-authors² bring together the evidence for remote healthcare during a quarantine situation to support people living with CVD during COVID-19 isolation. Three overarching themes emerged from this rapid review: (a) preparing the workforce and ensuring reimbursement for remote healthcare; (b) supporting mental and physical health; and (c) supporting usual care. The findings are synthesised into the ‘Top 10 recommendations for remote delivery of healthcare to CVD patients’.² What should be further elaborated on, however, is the skills (literacy) needed to find and understand health information from eHealth resources and, importantly, how the information is critically appraised.

eHealth literacy

Several aspects are required to succeed in delivering eHealth to patients with CVD during COVID-19. First, the healthcare system needs available resources to provide

service and relevant information, and the providers must have the necessary skills to deliver the services and operate the technology safely and securely. Second, the patients need a digitally connected home.² However, the patients not only need to be able to use the digital technology, but also have the motivation and skills to seek, find, understand and critically appraise health information from eHealth resources and apply knowledge gained to address or solve a health problem³ – namely eHealth literacy. Within the eHealth Literacy Lily model, six different core literacies are organised into two central types: analytical (traditional literacy and numeracy, media literacy and information literacy) and context-specific (science literacy, computer literacy and health literacy). Combined, these six literacy types form the foundational skills required to optimise patients’ experiences with eHealth (Figure 1).

Analytical literacy skills are foundational skills that are required to participate in daily informational life. This is important during months with quarantine and isolation when patients need to be able to explore and assess support from usual care through the internet in order to have their needs met.³ For example, when patients need to order medication through online

¹Clinic of Cardiology, St Olavs University Hospital, Norway

²Department of Clinical Science, University of Bergen, Norway

³Cense Ltd., Toronto, Canada

⁴Dalla Lana School of Public Health, University of Toronto, Canada

⁵Department of Heart Disease, Haukeland University Hospital, Norway

⁶Faculty of Health and Social Sciences, Western Norway University of Applied Sciences, Norway

Corresponding author:

Tone M Norekvål, Department of Heart Disease, Haukeland University Hospital, Jonas Lies vei, Bergen 5020, Norway.
Email: tone.merete.norekval@helse-bergen.no

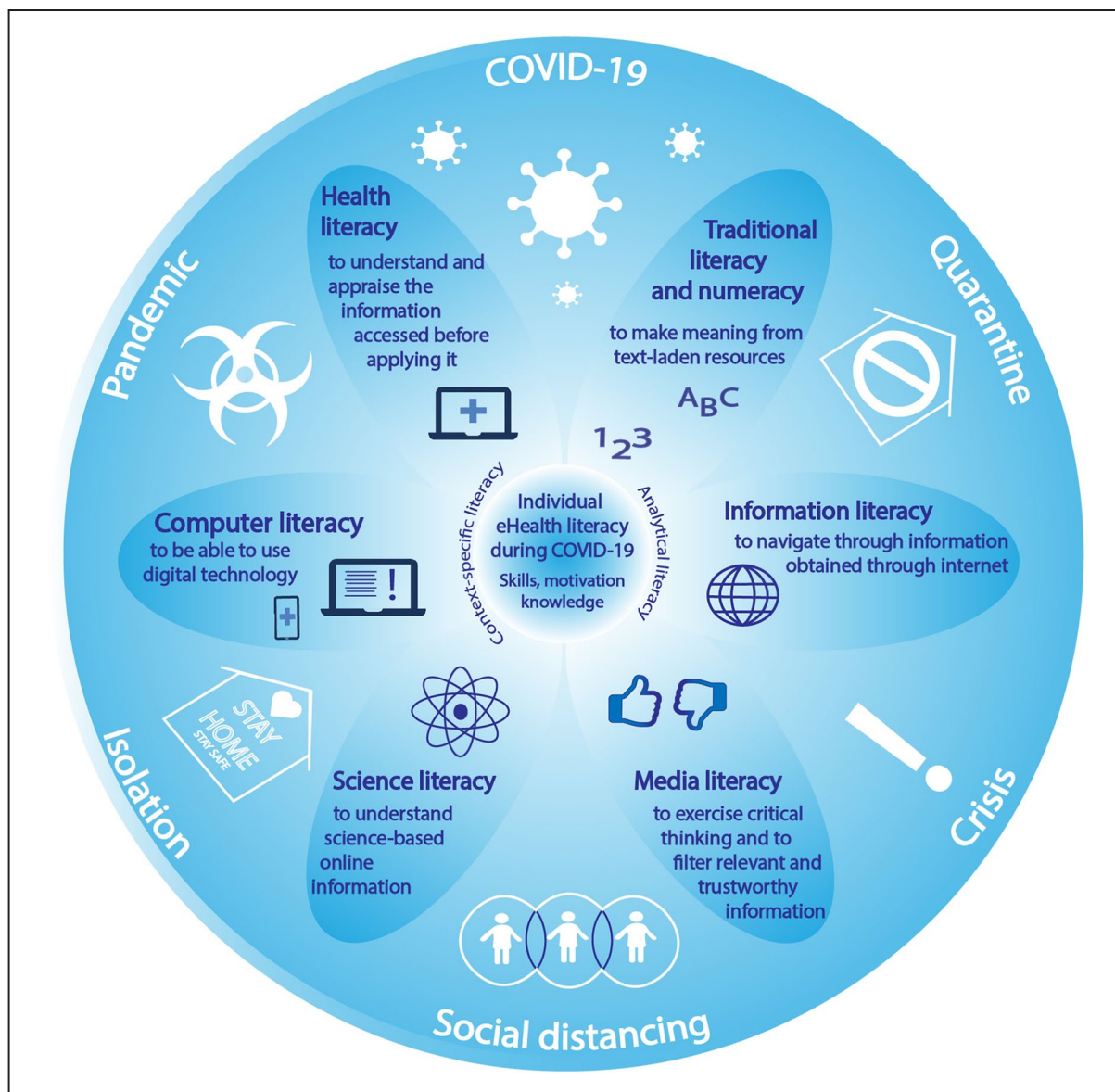


Figure 1. eHealth Literacy Lily model in a coronavirus (COVID-19) context. Adapted from Norman and Skinner.³

pharmacies or food and other supplies from the online supermarket. Context-specific literacy skills are centred on specific issues, problem types and context. The current crisis with COVID-19 presents great challenges for many people, facing quarantine and isolation. Not only has the crisis resulted in social and physical distancing from care providers, healthcare services are now provided in a different context using technology.³ Consequently, this may be challenging for those with lack of exposure to computers, unfamiliarity with science terms and difficulty following self-care directions. As a process-oriented skill, eHealth literacy evolves over time as new technologies are introduced and the personal, social and environmental contexts change, just as we have seen with the COVID-19 pandemic. This means that eHealth literacy is influenced by patients' health issues,

educational background, health status at the time of the eHealth encounter, motivation for seeking the information and the technologies used (Figure 1).³

Barriers to eHealth literacy

As we have learnt that CVD patients are at high risk of COVID-19, it is paramount that we attend to eHealth literacy in patient-centred education as it supports patients to self-manage their own health. Patients with limited health literacy skills need support to understand and appraise information in order to make a decision relevant to improving their health. In time with quarantine and isolation, healthcare providers need to set this on their daily agenda as we know that every second person in Europe reports to have limited health literacy.⁴

During the COVID-19 outbreak and beyond we are entering a paradigm shift shaping where and how health-care delivery takes place. It is therefore highly important to identify bottlenecks due to patients' eHealth literacy. eHealth resources provide little value if the patients lack the *computer literacy* skills to effectively engage them with different tools and technologies needed to access care. Barriers associated with lower eHealth usage in cardiology include older age, low health literacy and low socioeconomic status.⁵ We have also learned that older patients have a higher risk of mortality from COVID-19. The increasing reliance on eHealth information due to the COVID-19 pandemic may pose a risk to exclude those who are most vulnerable.

Furthermore, the quality of the information provided through eHealth is crucial. Unfortunately, there is unlimited complex, contradictory and misinformation in the social media according to COVID-19.⁶ The large amount of complex eHealth information requires media literacy. Media literacy is the skill to exercise critical thinking and to filter relevant and trustworthy information.³ We have seen that social media can provoke negative emotions or provide incorrect or incomplete information, and patients with limited media literacy may be at risk of developing anxiety. However, the mental health consequences of the COVID-19 outbreak and the use of social media are not yet known. In this matter, the eHealth literacy deficit is clearly a challenge for public health, particularly in times of a crisis. To have the necessary skills to use different resources on the internet (e.g. Google, online newspapers, social media feeds) in order to find information on COVID-19 and CVD by developing appropriate search strategies and filter results to extract relevant knowledge, patients need information literacy skills.³

In addition, patients with low scientific literacy; for example, those who do not have the educational experience of exposure to scientific thought and understanding science-based online health information,³ may not grasp the reasons behind the recommendations and can be vulnerable in situations with crises. In particular when new information has constantly emerged during COVID-19, this may have been extremely demanding. It is thereby important that the public health community help the social and traditional media to understand better the science-based information provided to the general public.⁶

Consequences for the acute and chronic CVD care setting

During the early phase of COVID-19 many patients delayed seeking help for symptoms of a cardiac event due to social distancing and concerns of contracting COVID-19 in the hospital.¹ This may be related to limited health literacy skills in which patients do not have the skills to place health information into the

appropriate context. However, this underlines the fact that it is not only to make sure patients are informed that matters, it is also important to ensure patients are informed to act appropriately.⁶ For example, the information obtained through the internet is still text dominant. Traditional literacy, such as basic reading skills, is essential in order to make meaning from text-laden resources.³ Importantly, technology alone is not likely to be a success. An effective path to mitigating inadequate traditional literacy can be using sound, graphic, visual images and video communications.

Due to the potential adverse effects on mental and physical wellbeing during a crisis such as COVID-19, patients with CVD should have access to eHealth resources to get healthcare support.² When COVID-19 emerged rapidly, the cardiac rehabilitation centres were closed. Neubeck et al.² recommend transitioning existing cardiac rehabilitation programmes to eHealth resources to maintain follow-up care after an acute cardiac event. Previous systematic reviews evaluating alternative eHealth cardiac rehabilitation have reported positive effect on cardiovascular risk factors, adherence to treatment and quality of life.^{7,8} Now more than ever, this evidence is pivotal. However, a limited number of eHealth interventions for cardiac rehabilitation have assessed eHealth literacy, although some previous eHealth studies have assessed self-efficacy, which is an indicator of eHealth literacy.⁷ Until now, there has been limited evidence on patient-reported outcome measures that are appropriate for assessing eHealth literacy. A systematic review has reported that the eHealth literacy scale (eHEALS) based on the eHealth literacy Lily model⁹ was the only measure to assess eHealth literacy in more than one study.¹⁰ Studies suggest that patients in acute cardiac care settings experience their eHealth literacy differently to patients with chronic diseases.¹⁰ This points to the fact that eHealth literacy is a process-oriented skill that evolves over time as new technologies are introduced and the personal, social and environmental contexts change.^{3,10} Nevertheless, as it is proposed that behaviour change occurs when patients are well informed, highly motivated and have the skills necessary to perform self-management behaviour, eHealth literacy is of great importance when implementing eHealth cardiac rehabilitation.

The way forward

Until effective approaches other than social distancing are available to prevent patients from contracting COVID-19, healthcare services must utilise innovative eHealth technology to deliver healthcare and support. The rapid shifts in the information landscape created by social media, skills such as the ability to use intermediaries (e.g. healthcare professionals) to filter relevant and trustworthy information are essential.¹¹ By navigation through health information

obtained through the internet without support, patients may get lost in the amount of information and thereby obtain wrong or irrelevant information. Therefore, in line with the suggestions of Neubeck et al.,² referring and guiding patients to an appropriate and user-friendly website may be necessary.

Paying attention to patients' eHealth literacy is key to improving health outcomes and lessening the impact of COVID-19 at both an individual and societal level. Healthcare professionals have to find ways to support patients who do not have advanced eHealth literacy skills to self-manage their own mental and physical health during COVID-19. By this, we can increase the possibilities to succeed. eHealth literacy is a necessity in all modern technological societies. Healthcare professionals, and nurses in particular, can play a key role. COVID-19 has provided a major step-change in utilising eHealth. What could be a better opportunity to put eHealth literacy at the top of our priority list and at the forefront of discussions on healthcare?

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