



Short communication

Digital health literacy in a person-centric world

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ABSTRACT

The digital age is beginning to impact the healthcare system. Smartphones and other devices based on cellular technology have made access to information ubiquitous among consumers throughout the world. There has been a shift from devices that collect data to systems for those medical conditions, such as atrial fibrillation. This changes the focus from health literacy to digital health literacy and the information-communication between the healthcare professional and the individual. Moving from health literacy to digital health literacy, therefore also means shifting from patients to persons and from managing health to empowering people to live a healthier life. Digital solutions will uncover an even greater tool, the engaged patient.

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The global adoption of smart phones has been transformative in a number of industries, such as banking and financial services, and it is only a matter of time before there is a significant impact on the delivery of healthcare services by healthcare organizations and the achievement of health by individuals [1,2]. With the advent of 5G the functionality of consumer devices such as Smart Watches and other wearables will rival traditional healthcare services, at significantly different price points. For these amazing technology breakthroughs to become reality, however, there must be a shift from an emphasis on health literacy to digital health literacy. It is now possible to detect atrial fibrillation on the Apple Watch, AliveCor and Withings systems that are marketed directly to consumers [3,4]. How the information is presented to the consumer in a way that will cause them to act and to the healthcare provider in a manner they can trust is an example of functional and critical health literacy [5]. It does not take much imagination to see that newer technologies such as artificial intelligence and machine learning, natural language processing, virtual reality, augmented reality and blockchain will continue to disrupt and transform the delivery of healthcare. These technologies equally have an opportunity to transform how people live their lives, by providing them will knowledge, options and strategies in a manner best suited to their personality and preferences.

Clearly defining what is meant by digital health literacy is a critical step. A critical factor is appreciating the importance of the user experience and buy in. The promise of “digital” goes beyond the vitally important issues of data collection, storage, accessibility, scalability and privacy. Essentially, digital is a way of thinking designed to create an excellent user experience. It's about how we embrace information to

become an agile connected enterprise. Digital transformation catalyzes and spurs new ways of thinking takes by taking useful info and leveraging real time information into reliable and accurate decision making. The primary goals are to have connected health ecosystems that are useful, meaningful and important to the person integrated seamlessly in one's life and creating an ecosystem that can leverage the technology while supporting the individual's distinctive needs.

All too often, however, we focus on the technology rather than something more disruptive and transformative by accommodating a person-centric goal of improved health and life. We repeatedly observe the words “person,” “individual,” “consumer” and “patient” appearing in rapid-fire succession, as if they were all one in the same. These are very different, especially in relation to their own agency in health behaviors. People change; patients don't. People can do whatever is meaningful or important enough for them to change; patients are necessarily passive, subservient, wounded and vulnerable. Digital literacy can help shift the focus from passivity to autonomy essentially from patient back to person. The reality is that it still needs to result in positive health behavior. Moreover, an engagement strategy is not a one size fits all solution dictated neither by populations, sex, race, ethnicity, size, or shape. Solutions are based on a specific person at a specific time.

The mystery of how to best engage the person lies at the core of this discussion. The paradigm shift – a change of mindset from an almost exclusive focus on sickness/services/delivery approach to a person-centric approach is profound. Digital health literacy is a key and critical component in this debate on terms of 24/7 access, availability, customization and seamlessness.

If we simply remain on the level of the patients, we can expect little more than passivity and subservience. That is not the prescription we seek or need to embrace for behavior and lifestyle change. Persons, not passive patients, are free to self-determine their health future and

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journey to improved health and well-being. The flip side of that freedom is, of course, personal responsibility and we need to help support active and continuing participation. “Person-centricity” represents the complexity of how individuals make health and healthcare decisions and more within the broader context of their lives, and accurately addresses the needs and aspirations of people throughout their health journey. This is not simply a shift in semantics but an entirely new paradigm that frees the individual from assuming the patient role and dramatically changes the way individuals view themselves and how they interact with the healthcare system. Responsibility can drive and sustain change. Persons, not patients, are responsible, so we need to shift our focus from changing the patient to supporting the person. Each person is different, so different ways to help nudge and engage and support them need to be deployed.

True engagement and behavior responsibility require continuously available, real-time, personalized and targeted nudging that is distinctive and meaningful to that person. It needs to help engage, support and/or direct that person down the right path to promoting and sustaining healthy behavior. Again, whatever we do must be meaningful to the person. We can catalyze change and enhance empowerment by making being and getting healthy less daunting and painful and by putting the whole person in the game with personalized and effective support tools. That also needs to be adjusted as people shift from health to sickness and sickness back to health.

Adopting a person-centric approach accommodates the shift from passive patients to active persons in an ongoing, continuous, dynamic process in which all constructs and actions revolve around each of us [6]. It profoundly transforms how all our decisions are made and who has the authority and ability to make them in a way that is consistent with our values, priorities, preferences, beliefs, and aspirations in the context of our broader life experiences.

While most discussions of health literacy focus on the person, we must be careful to not fall into the trap that literacy is only about the person! It's about clinical caregivers as well. The episodic and transactional nature of the current healthcare system makes it challenging to truly challenging to truly bring individuals into the conversation. With an increasing number of people living with chronic conditions requiring a high level of involvement in self-care activities, there is an increasing need to improve communication between healthcare professionals and their customers, sometimes known as patients.

The first step is to unpack medical decision making that is done in the healthcare setting from ongoing self-care decision making around prevention, condition management, behaviors and lifestyle choices. The health and healthcare professional are bringing their experience and training to the conversation, while the individual is bringing the context of their lives and the things that really matter. Neither side of the dyad can make a good, well informed decision on their own, but together, they can form a true partnership in the decision-making process. Language that is too technical unfamiliar, not easily understood or confusing exacerbates the literacy problem.

Change requires the skill to know or how to find out what to change and what options exist. Changes from one bad option to another bad option are not the recipe we seek. Understanding strengths and weaknesses of options and the ability to blend subjective and objective probabilities into making better choices is the key. As already noted, the passive patient is neither attuned nor expected to make lifestyle changes. Change becomes meaningful only when integrated into one's life and lifestyle as a valued personal choice. Persons make and inculcate choices and changes consistent with what is perceived to be of value, important, or meaningful to them and when they know what they need to do to accomplish the goal or task at hand. We need to create

strategies that give people information, support, direction, guidance and encouragement to change the way they respond, adopt, and embrace changes in their lives that will make a healthy difference. And for clinicians, it mandates a greater sensitivity to addressing the uncertainty of those whom they serve.

Engagement must be able to accommodate each person anywhere they are in their life journey to become technology and data-driven, strategic and given the recognition that small changes incrementally can make huge differences. Discovering an appropriate personalized antidote to our lack of momentum and confusion is critical. Facile solutions reduced to a button push, magic wand waving, or some other ethereal remedy are neither available nor sufficient for changing complex behaviors. Shaping change warrants a multi-disciplined perspective that can aggregate evolving knowledge in a way that can be flexibly applied toward this array of objectives.

Moreover, our focus must shift toward helping people live better lives rather than on illness and disease which are part of our lives. Next generation engagement must unpack the baggage of the patient and its association with pathophysiology and disease and move back to the person as the default. The changes required to improve health and affect costs associated with lifestyle-generated disease need to happen on a personal level. Engagement across multiple sectors/silos of health care delivery research & policy must move beyond the passive and subservient wounded, vulnerable, sick, powerless, patient to a person who engages when something is important or meaningful to him/her.

Declaration of Competing Interest

The authors report no relationships that could be construed as a conflict of interest.

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