EDITORIAL

eHealth – Influencing Behaviour Change More, and More, … and More

Although difficult to achieve, efforts to influence our beliefs, attitudes, and behaviours have occurred forever, even instigating or influencing historical paradigm changes. Within healthcare, this now includes the application of information and communications technologies (ICT) to mediate modification of human behaviour through specific eHealth interventions. Behaviour plays an important role in people's health. Indeed, major public health issues such as smoking, poor diet, lack of exercise and sexual risk-taking can cause a large number of diseases and are known to be modifiable. Interventions such as the use of apps to change behaviour have enormous potential to alter current patterns of disease and, amongst other approaches, the scientific literature provides many contemporary examples of apps being used to influence behaviour.

However, there is more that influences our behaviour than the use of apps. We have become a society with seemingly unfettered and unbound access to 'information'. Regrettably, this also means access to mis-information (spread of unintentionally false or inaccurate information) and dis-information (spread of false information deliberately to deceive). Social media is now the primary medium by which many access 'information', and access through, and to the content of, social media is increasingly more affordable and simple to accomplish, certainly in the developed world. Social media can be broadly defined as websites and apps that enable users to create and share content and/or to participate in social networking – many hundreds (perhaps thousands) of social media outlets exist. Characteristics of social media that lend their utility to widespread behaviour change include their rate of growth, immensity, reach, speed, variety, and normalisation.

Of concern is that in the background our behaviour is being modulated through manipulation by insensitive algorithms (originally intended to help us) and by creation and distribution of disinformation, now often termed fake news. Rather than broaden our insight, they focus us in on 'more of the same' invoking the 'illusory truth effect'[1] and causing us to doubt the truth.[2] Worse still – distribution happens quickly (e.g., retweeting) and broadly (e.g., through huge social networks). A recent study of Twitter found that 'falsehood' diffused significantly farther, faster, deeper, and more broadly than the truth in all categories, with false news 70% more likely to be retweeted than the truth.[3]

Why is this a concern? Globally there has recently been increasing attention to the recurrence of some once eradicated or low-level occurrence diseases. Measles is currently perhaps the most highlighted example.[4] The reasons for these recurrences and outbreaks are complex and include conflict, security or a breakdown in services, but another known factor is the rise in the anti-vaccination movement.[5] These 'anti-vaxxers' exhibit and promote 'vaccine hesitancy'; a reluctance or refusal to be vaccinated or to have one's children vaccinated against contagious diseases despite the availability of effective and safe vaccines.[6] Social media provide a major means by which these groups communicate and, of more concern, insidiously distribute their disinformation.

A former anti-vaxxer provides an interesting description of the mindset and how and why it is maintained: "Anti-vaxxers have been around for a long time, but social media makes it easier to get into a loop. And once you're there, it's hard to see outside of it. Algorithms just show you more of what you're already looking for. If you start searching anti-vaccination stories, that's what starts popping up on your tagline. You start to think, "Oh, my God, there's all these people and there's so much of this going on." But if you have a chance to peel back from that, you see that it's actually a very small portion of the population who are really, really loud. The fear makes you angry and it makes you lash out. Once you get into that state, it's easy to stay there."[7]

This is a global issue with the World Health Organization identifying it as a top ten global health threat.[8] It is certainly a public health threat. But when we blithely speak about 'public health threats' we tend to distance the issue forgetting we are each a member of that public! It is we as individuals who are being threatened, not the ephemeral public …. 'we'. And 'we' includes the eHealth community.

The eHealth community is a body of professionals dedicated to - for the betterment of mankind - melding the use of ICT with health (i.e. eHealth as defined by the WHO[9]). The issue of vaccine hesitancy is well recognised, and attempts have been made through policy to mandate vaccination in some countries and locations, some successful, some not. But where is the eHealth community?

When faced with a dilemma where there may be harm to individual and population health caused by the use of ICTs should we not step up to the plate and acknowledge and illuminate the dilemma, and then work to better understand and ameliorate the negative effects? Surely this is our collective moral responsibility. Evidence-based literature on the topic of the impact of social media on health-related

behaviour is sparse. As JISfTeH editors, we invite your debate and research.

It with sadness that we report the death of Professor Louis Lareng, a leading figure in eHealth and the International Society of Telemedicine and eHealth.

Richard E Scott

Maurice Mars

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