What does 2018 have in store for health care technology?

In the first half of 2017 alone, an estimated $3.5 billion was invested in health care technology. While it’s difficult to estimate the trajectory of this huge and rapidly growing market, it’s safe to say the health industry is being transformed by emergent health care technologies.

Interestingly, the pace and scope of change we’re seeing isn't attributable to any single technology. Rather, it's being fueled by diverse and complementary technological advancements. Here’s a quick primer on some big changes we’re likely to see in 2018.

Technology will be more responsive to people

A healthy lifestyle is not a ‘one size fits all’ experience. In 2018, health technology will offer a high level of customization to users. Software and systems will also be designed to adapt to the way people think.

Artificial Intelligence

Artificial intelligence (AI) absolutely needs a mention as a catalyst for change in 2018. You only need to turn on the news to learn about how machine learning and adaptive algorithms are impacting on society. Health care is at the cutting edge of this and in 2018 we’re likely to benefit from new AI-augmented approaches to adapting technology to human health challenges.

Augmedix is a potent example. A Google-funded initiative, Augmedix integrates Google Glass and AI to provide a platform for scribing and analysis of patient data. The obvious benefit is reduced treatment costs. However, the longer term pay off is that clinicians will have access to comprehensive real-time diagnostic information.

In 2018, AI will be a major contributor to streamlining the health care process, increasing the speed with which providers can move from diagnosis to successful treatment.

Gamification

Health technology will continue to get better at working with, rather than against, how people like to think. Software will incorporate novel 'gamification' elements, which leverage the psychological motivations of users to create a compelling experience.

In 2017, healthy lifestyle apps emerged which fostered behavior change through tapping into the drive to gain (or in some cases avoid losing) money. However, a new wave of apps are adopting a more design-oriented approach. These focus on graphic elements and competition scenarios which encourage a more subtle attitude shift. Research suggests that this is potent in generating enduring lifestyle change.

Health Heroes is an example of a recent product which taps into motivational impulses. This app presents data captured on food intake and nutrition in a way which fosters competitiveness and which gives the user a unique way of visualizing their nutritional health improvements over time.

Capturing and presenting meaningful data is one thing. Presenting it in a powerful and compelling way is another. Psychologically savvy apps developed to appeal to how people think will continue to hit the market in 2018 and will enhance how we approach health metrics.

Our brains will be more involved in achieving health outcomes

We're just now seeing the tremendous potential of neurotechnology in health care. New tools are being developed which can read and manipulate brainwaves in order to control bodily functions.

Fitness and weight loss

The vast range of wearable technology products on the market today attests to the fact that there's strong demand for devices which provide detailed health metrics, particularly in relation to fitness and weight loss. Neurotechnology opens up the possibility for a new wave of wearable devices which provide granular data on the brain's involvement in fitness.

Take the Neurovalens Modius, which looks set to hit the mainstream wearables market some time in 2018. This device stimulates the vestibular nerve, fooling the body into thinking it is active even when it isn't. The nerve impulse prompts the metabolism to increase while also suppressing the appetite.

In 2018, new wearable devices will allow people to "tweak" brain function to meet their fitness goals.

Stroke rehabilitation

We will also see emerging therapeutic applications for neurotechnology. One area with significant potential is treatment for stroke sufferers. In the United States and Western Europe alone, US $100 billion is spent each year on treatment for people who have suffered a stroke. It affects over 15 million people per year and is a worsening condition in modern society with a 180% increase observed each year.

One crucial way to help stroke victims recover is to rapidly mobilize paralyzed limbs. This encourages the brain to reestablish a neuron pathway to motor control. Through neurotechnology (ref 10) a device can send the stroke sufferer's brain signals to an exoskeleton which in turn moves the paralyzed limb. Instead of passively retraining the brain through repeated motion from an external source, the brain becomes an active participant in the healing process. This increases the patient's prospects for recovery.

In 2018, neurotechnology will emerge as a game changer for treating stroke and other debilitating brain injuries.

Health technology will broaden its focus to happiness and well-being

There's growing awareness that attitudes and emotions influence our physical health. In 2018, we'll see new technologies aimed at moving beyond metrics, focusing instead on tools which help people visualize and change the more subjective aspects of their well-being.

Counseling for mental health

Treatment for mental health conditions such as depression and anxiety is problematic for many people. Society stigmatizes mental illness and this generates a reluctance to seek treatment. Compounding this, treatment is time consuming and expensive, typically requiring extensive face-to-face consultation.

Betterhelp and Talkspace are two companies that have seized the challenge of finding ways to provide affordable, discreet and accessible counseling services. They're achieving this by developing platforms which take advantage of a comprehensive range of communications technologies.

In 2018 accessibility to mental health services will be enhanced through coordinated platforms for mental health care. These will integrate instant chat, email, video and telephone into one blended service.

Mindfulness

Mindfulness refers to a mental state achieved by focusing one's awareness on the present moment. Health care providers use mindfulness techniques to treat people suffering from anxiety, depression and stress. New technologies are emerging to support this process.

SlowMo, an app developed by Evolyst, is a good example. SlowMo gives users tools to help visualize their thoughts and ways of thinking. This in turn encourages the user to generate more constructive habits of thought.

In 2018 more health technology developers will pursue a similar path. New tools designed to promote self-awareness and a deeper sense of happiness will enter the market.

The outlook for 2018

So what can we say with confidence? 2018 will be a surprising year for innovation in health technology. New approaches for incorporating AI and psychologically savvy design into technology will bring software that is more adaptive and responsive to the way humans think.

Neurotechnology will afford people unprecedented levels of control over brain activity and new wearable tools will emerge for tweaking the brain to achieve fitness and weight loss goals.

We're also likely to benefit from innovative new products which address the more subjective and emotional aspects of health and physical well-being.

It'll be fascinating to observe how technology is improving our health this time next year!

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