Medutech blog - March 2021

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Many readers will have heard of the Consumer Electronics Show, a techie's paradise held in Las Vegas each year. I imagine most, like me, will have longed to land a coveted ticket to the event but are resigned to pressing their nose to the virtual glass of the sweet shop by watching news features and reading reports of the amazing new toys announced each year. The 2020 CES was, as you might expect, a rather different affair. The event went fully virtual- many CEOs delivered their presentations and fireside chats from surprisingly modest home offices, interviewed by presenters in socially distanced studios.

The main theme of the event, as the main theme of our lives for the last year, was the coronavirus pandemic. Presentations oscillated between reviewing the technology industry's response to COVID, and looking to build on the opportunities that emerged from a world suddenly thrust into the virtual space. The acceleration towards clinical trust and acceptance of digital health was celebrated as a silver lining. In the USA this acceleration was facilitated by a large injection of funding and legislative changes by the federal government- Medicare video consultations were reimbursed to providers at the same rate as a face-to-face appointment and previous limitations on clinical consultations across state lines were suspended. Concern was expressed that once these temporary measures drop away payments will not sustain digital health solutions, despite a large proportion of patients supporting a long-term continuation. Two opposing quotes that have stuck with me are "the fires have been lit" with healthcare thought leaders, but also "the seams have been exposed" as demand for DH solutions skyrocketed, laying bare weaknesses in design and scalability.

There was talk of a merging of healthcare with lifestyle needs as consumers sought to prevent and detect COVID-19. Companies such as Kinsa used AI with their smart home thermometer to develop a pandemic early warning system that was able to predict an outbreak three weeks before cases piled up in hospitals. The thermometer's app also guides individuals on when to seek help. In the future this same technology could be used annually for seasonal influenza.

Similar types of remote patient monitoring (RPM) have also seen a huge boost in investment as patients seek ways to safely avoid or leave crowded hospitals using sensor-based 24/7 home care pathways. Home Based Healthcare is the term now used to cover the patient convenience of telehealth and RPM that also feeds well into the US drive for value-based payment models over fee-for-service, with the caveat that appropriate tariffs can be agreed upon. Companies are being held to the expectation that they can produce evidence that their technology really does improve health, echoing our blog discussion last month about shifting from doing what is possible to doing what is right.

Home-based testing kits were used as part of an early COVID-19 study to empower elderly Medicare users using simple remote patient monitoring. A box was issued to participants containing a thermometer, Tamiflu, a home COVID test and a prompt as to when to seek telehealth care. The appetite was enormous- 200 000 people aged over 65 years signed up for the study in the first two weeks. Dear readers, please note that the end results of this study, amongst others, indicates that Tamiflu is ineffective against COVID-19. Monoclonal antibodies on the other hand, have been shown to be effective if administered early in the disease course. A program by UnitedHealth Group recruited well adults to use a symptom tracker app that prompted COVID testing when indicated and, if positive, organized the administration of monoclonal antibodies delivered in the participant's home environment.

Facilitated self-service in healthcare is an emerging trend- we use ATMs at our banks and self-checkout at the supermarket, so why not check our own blood pressure and even perform our own ultrasound scans using health stations located in shopping centres or community halls? Many of us already gather our own Person Generated Healthcare Data using smartphones and fitness trackers and this data can be used as an early warning not just for COVID, but allowing earlier detection and treatment for many other diseases. The hope is for a shift away from the detection and treatment of end-stage disease, which is unsustainable within the current US healthcare system, and towards prevention and early interception. We may have lost count of the number of times we have heard that before, but we gotta keep trying!

Personalisation of care was another enduring theme with strands such as gamification, self-reporting, and listening to the patient-as-consumer's wants and needs. An ecosystem to support health, wellness and disease prevention can be as simple as using a texting-based service with a coach for chronic disease management, through the evolution of Weight Watchers to "WW: a technology company with human-centric overlay" to my personal CES 2020 digital health favourite, the Philips Sonicare 9900, an AI-embedded electric toothbrush.

Two major challenges were discussed- the first of which is the need for a seamless digital transition from these new home-based digital healthcare services to hospital. The temptation to layer technology onto existing hospital systems is strong, but can result in a fragmented and ungainly system that is already rife with structural prejudice and racism. A greater openness to investment and diversification in digital health needs to involve a redesign and optimization that flows for patients. But again, we've heard all this before!

The second major challenge discussed is that of democratizing digital health and wellness. Apple watches are not accessible to under-served populations, but Android-based smartphones are. Broadband service for telehealth consultations is still limited, as is technology that makes digital health accessible for the elderly, who may be the most frequent and the most vulnerable users of healthcare services. Industry is also still reticent to follow the prompting of the US government in opening up interoperability.

Lessons learned, new problems, old problems, shiny new products and some of the same tired stories of hope. Healthcare and society is forever changed, but the DH industry is looking to the silver linings and to the future. Until next month, good readers, adieu!