



Health and the City



323. Chris McCahan

How to Make a Sustainable Healthcare Business in a Low-Income Setting

326. Daniela Pedrini

The Future of Healthcare Architecture and the Battle Against COVID-19 and Climate Change

332. Seet Cher Lui Stephanie et al.

Clinic Without Walls (CoW): Care Anytime, Anywhere

336. Nimish Bitoria et al.

Urban Environment and Wellbeing in the Contemporary City

352. Simona Agger Ganassi

City - Health - Healthcare: An Integrated Relationship to Undertake the Challenge of Change

361. Ana Rita Londral et al.

CardioFollow.AI - A Digital Follow-up Service Expanded Beyond the Hospital Walls



The Benefits of Connected Care and Better Utilisation of Patient Data in Healthcare

◆ Author: Xavier Battle | Vice President Marketing and Sales | Siemens Healthineers Digital Health

Connecting care teams and patients can drive patient engagement and help improve treatment processes that can facilitate cooperative care. HealthManagement.org spoke to Xavier Battle, the head of Marketing and Sales for the Digital Health Business Line for Siemens Healthineers, about the importance and benefits of connected care, the use and application of real-time data, Artificial Intelligence and wearable technology, combatting the challenge of chronic disease and improving the utilisation of telemedicine.

The future of healthcare will focus more on connected health and delivering care beyond the hospital walls. Do you think this is an achievable goal? What tools do you think are critical to making this happen?

I think it is a necessity and the current events related to the COVID-19 pandemic demonstrate how needed it is. Once this crisis is behind us, or more likely, when we have gotten used to living with this increased and constant risk, the ability to engage with patients remotely will remain. It is a matter of convenience and efficiency. The tools are, to some extent, there already: very vibrant innovations in personal and mobile devices, a steady trend towards connectedness and miniaturisation, and of course, increasing awareness and familiarity of the public. What is critical to making it happen is our attitude and openness to store, manage, share and exchange data within a growing network of healthcare providers in which patients become active participants.

Do you think improving patient access to their healthcare data is important?

Of course, it is important. First, it would allow physicians to access all the available data, including the patient history, instead of only the data that is available in their IT environment. This is especially important when people move or change providers during their care. Evidently, when patients engage more directly in their care, having access to the data opens the door to much greater communication between physician and patient, leading to a better understanding of the situation and subsequent decisions. Additionally, patients could more easily get second opinions and weigh into the treatment options offered to them. I would, however, like to point out that the close and trusting relationship between a patient and its care team is likely to remain the biggest driver of patient satisfaction – data access will solidify this trust.

What role do you think wearable technology and real-time data can play in improved decision-making and connecting care teams and patients?

It will play an increasingly important role. I observe that wearable technology and real-time data are established, nearly ubiquitous and de facto standard in the 'wellbeing' side of healthcare. Everyone can now know their heart rate, biometrics, track them over time and can even get recommendations on how to improve them. The same happens in some chronic conditions (e.g. cardiac arrhythmias when implanted defibrillators monitor the patient's condition and report to their physicians). I expect this trend to continue. As patients become actors in their care, they will need tools to record and analyse their data, connect to their physicians and receive personalised and continuous care. More than devices that provide direct care, personal devices will be essential vectors of rich and interactive communication between patients and physicians.

What role do you think connected care can play in combatting the continuous increase in the prevalence of chronic disease?

From a practical standpoint, chronic diseases pose the challenge of trying to live a nearly normal life despite a health condition that requires continuous attention. This would be, of course, incompatible with repeated stays in the hospital and too lengthy periods away from the active life. Following the tremendous treatment progresses, many people with transplanted kidneys, insulin pumps or pacemakers live a (nearly) normal life. The way to monitor and care for such conditions is also progressing to allow patients to stay out of the hospital for most of their routine care, be it for checkups or minor health conditions. Connected care is also a formidable way to level socioeconomic disparities in the access to care and allow patients in need to benefit from the best care, nearly independent of their location or access points. Last but not least, connected care, in the way it engages patients directly,



on a daily basis, can help improve their compliance with their care plan (e.g. medication) which ultimately will improve the overall outcomes.

The COVID-19 pandemic highlighted the benefits of telemedicine. Which tools do you think are essential to improve its efficiency and effectiveness?

As I pointed earlier, the tools and fundamental technologies are, to some extent, already there. Nearly everyone carries a powerful sensor and/or connection hub in the form of our familiar mobile phones. Wireless communication is ubiquitous, and bandwidth progresses rapidly to support full-duplex HD communication in most places. The obstacles to the wide adoption of telemedicine are more legal and regulatory than technological. In many countries, regulations will need to be adjusted to account for what technology can enable, be it for remote operations such as remote scanning or remote surgery or for much higher levels of data exchanges and sharing across jurisdictions or borders.

Do you think Artificial Intelligence is underutilised in healthcare?

I don't know if it is underutilised. It is for sure holding great promises in the goal of assisting physicians in dealing with exponentially growing amounts of data and complexity. Yet, the adoption of these novel methods is driven by the same criteria held for the adoption of any technology in medicine: it needs to improve patient outcomes, reduce costs, and overall provide better care and/or a better workflow. As such, I believe AI will be first adopted when assisting physicians with highly repetitive and routine workflows for which these methods are proving their strength. Then and beyond these necessary proof points for AI lies a more ambitious goal for our industry. When combining, in a so-called digital twin of the patient, the access to the longitudinal personal patient data (from historical records to current tests) with the ever-increasing computing abilities, we can foresee the ability to not only diagnose but also prognose the course of the disease, factoring in, for example, preexisting conditions and treatment options.

In your opinion, why has digitalisation of healthcare been so slow compared to other industries?

At least in the last 18 months, healthcare has demonstrated that it can be fast in adopting digital technologies to enable better and faster care. No one would have imagined entire hospital departments functioning largely remotely for such a long period. You are, however, right that compared to other industries, healthcare has been relatively slow to adopt digital technologies. This may be due to the combination of several factors. First, process complexity driven by the inherent complexity of medicine and the complexity of the associated economics (payers, guidelines, reimbursement policies...). Second, the inability to stop and "start new" with often a large and complex legacy to accommodate. Third, the heterogeneous IT environment where homegrown legacy solutions coexist with a whole array of products from multiple vendors and the corresponding lack of standardisation and interfaces.

Healthcare generates a massive amount of data. What challenges do you see in terms of managing and analysing this data, and what clinical decision support tools can improve data utilisation?

It is true that in an aggregate view, the healthcare industry produces very large quantities of data, yet I do not believe it is correct to look at it "all at once". Data are created by a multitude of equipment and devices. Data are held by healthcare providers for which they have access for the purpose of patient care. Subsequent access to the data must be given by the individual patients themselves and can be revoked at will. Even the notion of anonymisation is complex, and its definition varies. It is, in practice, not easy to access large quantities of data to conduct the sort of analysis that could support the development of novel methods. I believe that the industry as a whole (patients, payers, providers and Med Tech) and the regulators need to come together to define a mechanism for data exchange that would, of course, protect the patients but also enable access to large quantities of population longitudinal data – the precondition to developing methods that will enable true precision medicine. ■