



BLINDLY OFF A CLIFF

Decoding the digitalisation of medicine and its impact on healthcare facilities

By Brian de Francesca, Chief Executive Officer at Ver2 Digital Medicine

Is it too bold, too brash, too arrogant to say that the majority of those in the healthcare industry are racing blindly down a dead-end alley – and that probably includes you and the organisation you work for? Or more precisely, you may be crawling out on a tree limb that will eventually break under the combined weight of you and your peers, sending everyone crashing down into a burning financial abyss? I am specifically referring to the type, size, and the number of healthcare facilities we are plopping down everywhere like Monopoly houses and hotels, and then attempting to staff them with enough warm bodies to run these money machines. Simply put, we are building too many hospitals, with too many beds that will not be needed in the near future.

Yes, that is a very aggressive and provocative opening – and it is also painfully accurate. We are collectively making several critical mistakes when it comes to facility planning: First, we are using antiquated demand analysis models that do not take into consideration increasing market competition in this region; second, we are ignoring the massive and rapid shift to more and more “day case surgeries,” that will not require hospital admission, added to the fact that we will soon sort out how to better manage chronic diseases, which will greatly reduce bed demand; and finally, no deep analysis has been done on the impact that digitalisation and connectivity will have on healthcare facilities and their staffing.

If you were asked what has had the greatest positive impact on improving the health and well-being of our species over the past 100-200 years, you may first answer with the name of some antibiotic, like

penicillin, or a surgical procedure, such as an appendectomy. You may think more deeply and consider the standardisation of medical education or improved diagnostic tools like the MRI. While each of these did contribute incrementally to the improvement of the practice of medicine, it was having access to potable drinking water and the creation of sewage disposal systems and networks implemented during the Victorian era that, in tandem, had the greatest sustained improvement on the health of the public. Improvements have been modest and incremental since then, more evolutionary than revolutionary. However, we are on the front edge of another period of revolution that may surpass anything from the past – the digitalisation of medicine.

David Taylor, Managing Director of global healthcare workforce solutions company, MEDACS Healthcare commented: “With a solid history of delivering traditional staffing solutions for nearly 30 years to clients across the globe, we know that digitalisation in the healthcare industry is going to have a significant direct impact on staffing and the entire staffing industry. The sooner we adapt our business models to fit with the objectives of the variety of healthcare facilities we serve in this new digital ecosystem, the sooner we will be able to support the changing staffing landscape; ultimately, resulting in supporting the delivery of better, and outstanding cost-effective care to patients.”

Digital Transition

My definition of “digitalisation and connectivity” includes much more than phone apps, which is the first assumption that often comes to mind when you think

“digital medicine.” Smartphone applications are one small piece of the broader and deeper digital landscape that is developing around us and within us. This digitally connected ecosystem includes ubiquitous, high-speed, low-cost tele-connectivity for education, collaboration, and myriad other applications, such as cloud-based storage, the cost of which is dropping as I type, access and sharing of information, synthetic intelligence (aka AI), and sensors of all types. Individually, these various technologies are important and valuable, however, these technologies will not be used in isolation, but combined to produce many exponential benefits.

The tremendous positive impact that digitalisation and connectivity will have, specifically on healthcare staffing and facilities, will surpass the improvements in the public’s health afforded by the connection of sewage systems and having continual access to clean water, creating a paradigm shift after which their integration into medical practice will seem just as obvious and common sense as hygienic standards have become since the Victorian era.

These technologies, when combined with standardised processes and workflows, will improve access, quality, and safety, while significantly lowering cost. These integrated advances will first be embraced in developing countries, that are not handicapped by antiquated legacy systems and the intricate web of self-serving self-interest groups and individuals who are suffocating innovation and positive change in the developed world. Once these first world healthcare systems finally burn down, their practitioners will finally embrace the much more efficient and effective models that we are implementing today in developing countries and will ►

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continue do to so over the coming decades. It's a bold statement, but history does tend to repeat itself; humans are not very good at learning from the mistakes of their predecessors. The developing countries will leapfrog the currently developed countries over the coming decades – specifically in the areas of human resource development and utilisation and the planning and deployment of healthcare facilities.

Half of a hospital's operating cost goes towards paying humans to work. There are tremendous supply-demand imbalances across healthcare systems, countries and the world. The healthcare workforce can be divided into two: Those workers who must be physically present to provide their work "value" and those who can provide their work value remotely (healthcare knowledge workers). I estimate that 25-50 per cent of the healthcare workforce may fit into the healthcare knowledge worker category – the daily increase in connectivity, will allow us to greatly improve the utilisation of, and access to, these healthcare knowledge workers.

Debate Around Diagnosis

The foundation of healthcare delivery is "the diagnosis." There are many people involved in diagnosing what is wrong with us – not only the doctor or nurse in front of us but a larger assortment of caregivers that includes pathologists, radiologists, laboratory specialists and many more specialists. Diagnosing an illness or injury consists of working through algorithms and looking for familiar (known) patterns. Running algorithms and pattern recognition are functions that are much better done by computers than humans. I am not saying that there will no longer be a warm-blooded empathetic human serving as your primary interface, just that the diagnostic tasks will be performed by computers – thus greatly reducing the required manpower, speeding up the process, improving the accuracy and lowering the cost. This is already starting – but we are just scratching the surface.

Billions of sensors in and on our bodies, and within our physical environment as well – will continually feed enormous amounts of data into cloud storage that will be curated, accessed and analysed by advanced thinking machines, which will have access to all of this monitored patient data, health records as well as all published research for us.

I realise that I make "going digital" sound like a panacea, and it could be – but, there are risks and problems to overcome with this transition to digital; and no, it is not the dehumanisation of healthcare, or replacing doctors with computers. Digitalisation and connectivity will improve access and make healthcare much more personal and humane than it is today. The problem is that most healthcare IT initiatives are miserable money wasting failures.

There was a survey conducted by McKinsey & Company several years ago of more than 2,200 hospital and health system executives – roughly 70 per cent of executives said their strategic initiatives failed. I believe the root cause of the majority of these failures, is the lack of standardisation in healthcare, process illiteracy and the wrong-headed belief that medicine is a dark art, only to be understood by mystics and wizards. Before we can properly "go digital" we must become process literate and embrace standardisation – all of that "lean sigma Kaizen event" stuff that gets a lot of talk, but not enough walk. Medicine is not a dark art; much of it can be standardised and industrialised, which would result in better patient care and experience. And upon this foundation, we can then overlay a powerful digital ecosystem.



Brian de Francesca will be discussing 'Digitisation of healthcare', as part of the Vision & Masterplan conference, on October 2, and 'The Internet of healthcare things', as part of the Equip conference on October 4, at Building Healthcare.