# Digitization of Health will benefit the Nursing Profession

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## Editorial

After having worked in the healthcare sector for nearly 45 years, I can honestly say that the best time for nurses is now. Finally, digitization of health is happening and delivering many of the promised benefits. Digital initiatives in health have the potential to affect every aspect of care delivery, delivering significant results in assisting patients to make smarter choices, improving the utilization of time and resources, assisting in the coordination of services across the care continuum, enhancing real-time communication, supporting continuous patient monitoring, expanding access to evidence-based resources, and increasing the time available for patient interaction at the point of care. Early indications also point to the potential to improve safety in some areas of care delivery such as medication and documentation errors, if nurses are equipped with smart phones, tablets and mobile devices that have remote access to electronic patient records.

Digitizing health is not without challenge. Unlike other industries, the customer (patient) journey in health is continuing, rather than a discrete purchase or experience and can also literally result in life or death. Another issue facing health is the changing expectations of patients, with people wanting immediate access to clinicians and results and is also reasonably intolerant of traditional processes and paper work. The growing number of people living with co-morbidities, non-communicable diseases and complex care pathways means that providing a person-centered approach that is both tailored to the patient and clinician needs is difficult. Finally, the focus on value based care delivery within an environment experiencing nursing workforce shortage, generational shift and limited administrative support and resources requires major transformational change.

To ensure the nursing profession receives the maximum potential of these technologies, nurses need to be digitally proficient, data enabled and innovation aware.

Recent changes in healthcare delivery has recognised that health professionals are knowledge workers dealing with increasing volumes of information and the constant introduction of technology into the health service arena has challenged not only what we learn but how we learn. Nurses have developed competencies in wider knowledge areas and have far greater involvement in care delivery documentation than previous decades and are today expected to operate a wide range of technology related to their role. In addition to care processes, most lifelong learning and career development activities are offered *via* an e-learning platform, requiring nurses to demonstrate digital competence. Certainly, digital competence is now considered a key competence in virtually all industries, however I would argue that digital proficiency is now required amongst nurses, as they need to be able to use this skill as opposed to knowing a skill.

Digital proficiency, according to Lepofsky [1], comprises two vectors skill level and comfort level with technology. A further challenge in creating a digitally proficient nursing workforce is that we currently have a mixture of digital immigrants and digital natives. Digital immigrants were born before the advent of digital technology (before 1980s) and therefore were not exposed to it at an early age, whereas digital natives were born after the 1980s and grew up using technology from childhood [2]. Learning approaches are different for digital immigrants, who need to be reminded that they cannot break the systems and that nurses need to be at the table when decisions are being made about digital options. Digital natives need to understand that health is not entirely digitized and that paper and faxes are still in use. It will be interesting to look forward a decade or two, when all employees will be digital natives.

Becoming digitally proficient also solidifies the value that technology brings to healthcare. Nurses need to appreciate that digital formats make it easier to process, transmit, store and display data. Unfortunately, digitization is often mistaken for automation; it is not just about improving what is already being offered but creating and delivering new value to the recipients of care. Replacing a clipboard or notepad with a tablet is not digitization, however extending that tablet to connect to the internet of things, so that it monitors and records data directly into an electronic

medical record is digitization. This assists nurses to work better and faster, focusing attention on patients instead of administrative tasks avoiding paperwork and systems data entry. The technology often facilitates continuous monitoring, which can alert nurses to a problem sooner, which results in better outcomes for the patient and the nurse. It is vital, however, that nurses are given time to learn how they can benefit from a different approach doing things differently rather than deploying the technologies and expecting staff to learn as they perform the activities.

Nurses also need to data enabled, or in other words, appreciate the criticality of data quality, and how important data standards are in all phases of data collection. Collecting dirty or incomplete data is a complete waste of time and often results in more time being devoted to cleaning the data, rather than quality data producing reliable results. There are multiple touch points and sources of data in healthcare and nurses need to see the inherent value of data and how relying on data is much more precise than relying on anecdotal reasoning. Data gathered from traditional sources can now be combined with data from new sources (structured and unstructured data) to help manage complex care projects. Data, once analysed, can reveal so much, particularly aggregated data, which provides us with more information about population health, can enhance preventive care, can improve clinical decision making, and can result in collaborative reporting.

Nurses need to be exposed to a variety of data tools that allows them to concentrate on specific cohorts of care recipients. A particular group of people benefitting from this approach are those frequently readmitted to acute care facilities knowing certain attributes about these people can lead nurses to intervene early, thereby negating the need for hospital readmission. Not only does this benefit the recipient of care, but also benefits the healthcare organization in reducing costs and bed demand. As Deming indicated [3], you cannot manage what you cannot measure success needs to be defined and tracked before you can claim success or improvement.

Lastly, it is imperative that health creates an innovation culture or environment, and this is achieved by automating business processes, enhancing collaboration and decision making, and having real-time insights. There needs to be more responsiveness to change in the healthcare sector, consumer demands and new approaches to care. Whilst innovation previously meant a new idea, device or method, it has broadened to currently encompass the deployment of better solutions that meet new requirements, implicit needs or existing market requests. Innovation can be categorized as non-disruptive (evolutionary, incremental, linear) or disruptive (radical, revolutionary, transformational) in relation to its impact on stakeholders [4]. The current difficulties facing healthcare and the wave of impending technologies generally lead us to perceive innovation as being disruptive and it is hoped that this disruption will improve preventative and personalized care. There is generally no lack of ideas and insights from staff on how to improve activities and make care delivery safer, but few healthcare organizations manage to successfully support and sustain those ideas. This is disappointing, given that inefficiencies in healthcare tend to result in revenue loss and mortality.

Innovation aware nurses can identify patient data important to their nursing practice and can tap into that data to improve processes. If we can foster innovation amongst the nursing profession, organizations can constantly develop new services and new capabilities. Nurses often lack confidence in their ability to innovate, yet nurses are in a perfect position to understand the blockages and inefficiencies in care delivery. Management need to support nurses who propose new ways of achieving success and link them with technologists to develop smart phone applications, medical devices and other digital initiatives that will not only benefit the care recipient, but also the nursing workforce and the healthcare organization.

It must be remembered that technology can never substitute the emotional intelligence of humans. It should also be acknowledged that digitization is non-linear, with most healthcare organizations advancing several projects simultaneously. It is anticipated that digital disruption will be good for health, however living in the disruption can be challenging. Nurses must not lose sight of their important contribution in this area and must ensure that they contribute to decisions about digitization at the local, state, national and international level.

## References

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