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Disruptive Technology, Leadership and the Future of Nursing

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Abstract. Nurses need to take a strategic leadership role in managing disruptive health technologies that can be adopted to improve health and care within the population. While innovative technology developments continue to advance quickly, systematic changes to the health and care systems are not always geared to take advantage of these advances at the same rate. This panel will look at how disruptive technology will impact nursing practice and strategic leadership factors that shape acceptance/resistance to new technologies.

Keywords. Disruptive technology, transformation, leadership, capacity building

1. Introduction

The panel will explore emerging health innovations from the Internet of Medical Things, artificial intelligence, robotics, nano technologies, pharmaco genomics, precision medicine and interoperable data and how these can fundamentally change the way we prevent, diagnose and treat disease.

As the largest healthcare profession, nursing has much to gain from technological advances in health care. While technology may not directly replace human interventions in operational healthcare, it will require nurses to be experienced in the latest technology and to be able to use it to supplement and enhance their skills. The question at the centre of the panel is how nursing can lead, test and use the developments in technology, where they are appropriate, and ensure they have the skills and support future practice.

2. Heading

Relative to other industries health has been slow to leverage the potential of technology advances and associated data developments. This is changing, with digital health becoming a rapidly evolving space which has seen growing acceptance and implementation of (industry developed) innovative solutions by clinicians, nurses, consumers, care-givers and the community at large.

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With the advent of the Internet of Medical Things (IoMT), we can now diagnose, monitor and treat patients outside the hospital setting. This technology connects nurses and doctors with patients in the community and often requires new care models which will only get more sophisticated over time. Increasing health data from 'joined up' system and devices has been the catalyst for developing sophisticated Machine learning and Artificial Intelligence models aims at promoting precision medicine and customised care for patients.

While developments in robotics and 3D printing can change the way care is delivered in the short-term, advances in nano-technology and the ability monitor and cure health condition in real-time will change health service delivery models in the future. As health technologies advance, the future of health care is shifting its focus from reactive treatment to being more proactive and person-centred, aimed at maintaining good health and preventive care.

Digital health technology needs to be flexible and requires input from end users to ensure the solution is 'fit for purpose'. The aim is to avoid new technology that is too complex/difficult to use and that is easy for the nursing profession to adopt and implement. Finally, digital solutions (and associated information assets) need to work together to provide a 'joined up' solution rather than the fragmented systems currently in operation.

3. Discussion

The panel welcomes delegates with a diverse interest in this key subject area and will ensure that all levels of knowledge will be accommodated during the discussion. The panel will provide perspectives informed by nursing informatics and digital health developments within their respective countries before engaging the audience in discussion on how nursing can harness the benefits of innovative digital developments. It is the intention that following the panel session an article will be published.

4. The Panel

Panel moderator: Professor Paula M Procter, Department of Nursing & Midwifery, Sheffield Hallam University, UK

Paula is an academic information futurist who has pioneered the use of nursing informatics. Her major contribution is in the identification of gaps and trends in health IT/eHealth and translating how technology can be used to address these gaps. She is internationally recognized as a leader in the application of technology and informatics techniques to support nursing contribution to patient care and outcomes.

Panellist 1 Professor James Boyd, School of Psychology and Public Health, College of Science, Health & Engineering, La Trobe University, Australia

Professor James Boyd has been appointed as inaugural Chair in Digital Health at La Trobe University. He has a strong research background and is an international expert in data linkage who will lead La Trobe's Digital Health strategy around course development and research. The digital health program at La Trobe University aims to address

limitations and inefficiencies in the healthcare system resulting from the lack of ‘joined-up’ information, evidence and knowledge.

Panellist 2 Kevin Y-L Yap, Department of Public Health, La Trobe University, Australia

Dr Yap is an inter-disciplinary cyber-pharmacist and a digital health academic/researcher at La Trobe University. His research interests span the whole digital healthcare innovation cycle through the development, utilization, application and evaluation of informatics, internet, digital and other health-related technologies in various healthcare settings to enhance medications management and the flow of drug-related information and knowledge to healthcare professionals and patients (e.g. databases, mHealth, virtual platforms, serious games, machine learning).

Panellist 3 Joanne Foster, Digital Educator, Queensland Health, Australia

Joanne has been working in the Nursing Informatics field for over 25 years with involvement at state, national and international levels having held Executive positions such as NIA Secretary, QLD State secretary, Vice Chair IMIA NI. Jo was an academic for 25 years and taught nursing informatics at undergraduate and post graduate levels and is currently working as a digital educator in health services implementing electronic health care records.

Panellist 4 Jenn Lee, Lecturer, La Trobe University, Australia

Jenn has a nursing background and is based within the School of Psychology and Public Health and has a particular interest and expertise in health information management. She has recently joined the academic staff from her role as Health Information Manager with Northern Sydney Local Health District.

Panellist 5 Anthony McGillion, Associate Professor, La Trobe University, Australia

Tony is Associate Professor in Clinical Nursing Practice in the Department of Nursing Midwifery. He has recently come into higher education from his role managing nursing workforce at the Department of Health and Human Service, Victoria. He brings a wealth of relevant transformation nursing knowledge to the panel.