Use of emerging technologies in healthcare: A future vision for u-nursing

Michelle Honey, *School of Nursing, University of Auckland, New Zealand*
Karl Øyri, *Interventional Centre, Rikshospitalet University Hospital, Oslo, Norway*
Susan Newbold, *Vanderbilt University School of Nursing, Nashville TN, USA*
Amy Coenen, *University of Wisconsin-Milwaukee College of Nursing, Milwaukee, WI, USA*
Hyeoun-Ae Park, *College of Nursing, Seoul National University, Seoul, Korea*
Anneli Ensio, *Department of Health Policy and Management, University of Kuopio, Finland*
Elvio Jesus, *Nursing Research Group of Madeira, Portugal*

Background

- Authors - an international group of nurse informatics leaders at the International Medical Informatics Association – Nursing Informatics Working Group (IMIA-NIWG) Post Congress held in Korea 2006.
- Considered the potential trends in health informatics, with particular regard to technology and health care for the future (2020).
- Focus on how technology could be used to provide health care in tomorrow's world and the impact this might have for nursing.

Our assumptions for 2020

- Technology use will increase, be everywhere and part of everyday life – technology will be ubiquitous.
- This will impact significantly on nursing practice and we propose that ubiquitous nursing (u-nursing) will be the future trend.

U-Nursing

Definition

"Provision of nursing for anyone or any organization, anytime, anywhere, through any networks and any devices".

Trends

- International trends of the aging population and the increase in chronic diseases indicate that the consumers of the future are likely to be older and many may have chronic diseases.
- An additional focus will be on health promotion and maintenance to reduce the burden on the health services.

Nursing in 2020

- Patients are redefined as consumers
  - users and partners in health care.

- Nurse as info-mediator
  - facilitates the consumers' use of technology.

Scenario for healthcare in 2020

- A consumer with diabetes is discharged from the Clinical Care Facility after bypass surgery with personal sensors in a wristwatch to their ‘smart house’.

- The wristwatch monitors blood glucose, pH, ECG, BP, peripheral arterial oxygen saturation, carbon dioxide, electrolytes, and peripheral temperature.
- The radio frequency identification (RFID) medication cabinet monitors prescribed medication use and need for supplies.

Community based U-Health Centre

- Sensors in chest and leg dressings send messages to the nurse when it is time to change them.
- Sensor data is processed and any values outside the range are returned to consumer with correctional suggestions.
- Nurse can see data and is sent alerts.

Supported in their ‘smart house’

- Consumer’s daily exercise program and diet appears on screen.
- The consumer can log onto a chronic disease support / post operative education group.
- Consumer supported by a communication system (voice activated - video phone) between home and nurse at U-Health Center.

Issues

- Current nursing education will not adequately prepare the nurse we envisage for the future.
- Focus should be on consumers and not the technology.
- Consumers and health priorities should drive technology development.

Contact details

Michelle Honey
School of Nursing, University of Auckland
Private Bag 92019, Auckland 1010
New Zealand
Email: M.honey@auckland.ac.nz

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