

Technological innovations for client care in the 21st century: are nurses prepared for this challenge?

Editorial

In the present century, there are innumerable advances in newer technology being developed in the health sector for improving patients care services in both the acute and primary health care settings. Health care providers and particularly nurses worldwide continue to question if these technologies are really cost effective, patient friendly, or even easily available and accessible in all areas of health care delivery system. It should never be under looked that innovations are outcomes of creativity of the human mind and therefore, may have some deficiencies. This article provides some insights on how technology has so far advanced in health care but also, describes how it is affecting or will affect the nursing care provided to our population in the 21st century. The article by Huston C¹ in the ANA periodicals OJIN on “The impact of emerging Technology on Nursing Care: Wrap Speed Ahead described seven emerging technologies that are changing or will soon change nursing practice. The article highlights genetics and genomics; less invasive and more accurate tools for diagnostics and treatment; 3D printing, Robotics; Biometrics, Electronic Health Records; and Computerized Physician/Provider Order; Entry (CPOE) and Clinical Decision Support. It is fascinating, as to how the author is insightful on the benefits and challenges of using these emerging technologies in nursing practice. However, in this editorial article, we would like to add more stimulating insights to the reader son a few technological advancements as well as some unforeseen future challenges.

At the foremost, it is well known that genetics and genomics is an emerging field in the nursing profession in many parts of the world today. People suffer from different genetic disorders in different parts of the world and nurses continue to be faced with challenges related to providing quality care for these patients. Similarly, health care organizations work tirelessly to improve customer satisfaction as a priority and a quality assurance measure. Therefore, there is an urgent need to have efficient and adequate testing materials to diagnose genetic disorders. High technological equipment to diagnose genetic disorders is still lacking in many developing countries due to various constraints in resources. These jeopardize the care needs for such individuals and in the end contribute to the high morbidity rates. A question in mind for the 21st century nurse intending to provide care for patients with genetic disorder is; Do all health care institutions – primary and secondary in which we practice in have laboratories with equipment’s to test for genetic disorders? If so, are these cost effective for both the institution and the clients? Are there adequate specialists, infrastructure and other resources to provide care to these patients? Are there specialized training opportunities available for nurses to enable them handle clients with various genetic disorders in all nursing care settings? Are genetic disorders incorporated in the nursing curriculum at both basic and advanced levels? Although, it is ideal to have specialized nurses trained in genetics, we contend that the existing health care provision especially in developing world a lot still is desirable. Therefore, governments need to look at their individual health care systems with the resources available and be able to address issues of innovations with a health care focus.

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Erna Judith Roach,¹ Godfrey Katende²¹Assistant Professor, Sultan Qaboos University, Oman²Assistant Professor, Sultan Qaboos University, Oman

Correspondence: Erna Judith Roach, Assistant Dean for postgraduate Studies & Research & Assistant Professor, Sultan Qaboos University, Sultanate of Oman, Oman,
Email erna@sqqu.edu.om

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Robotics in health care is another innovation that is gaining predominance with a lot of enthusiasm. Medical robots are being developed for surgical precision, robotic assistance for a better life, and disinfectant robots in health care, companion robots, Pharma robotics, and exoskeletons to enable paralyzed people to walk.² Additionally, robotic nurses are also being developed to provide nursing care; whereas, these advances are commendable and exciting, they have their strengths and drawbacks. It is anticipated that robots could work better than humans, replace client care given by nurses in health care settings, and dispense medications more accurately and so on.² If these anticipations work well, it would be worth the investment. But still, we need to look into various other dimensions of nursing care, for example- Do we have a curriculum in nursing on robotic care? Can robots replace human touch? How many robots will be required on a unit to provide care? What type of care would the robots provide? What happens if the robot malfunctions in between the caring situation? If an emergency situation arises during the caring process, will the robot be able to identify it and handle the situation appropriately? How will health care organizations be able to measure and address customer satisfaction and accountability in providing care? How about issues related to patient safety (e.g. asepsis, injury) with robotic care? From the economic viewpoint, is procuring robots more cost effective than salaries of nurses? These insightful questions need to be answered before health care organizations could embrace robotic care. Otherwise, if this is the solution to nurse shortage, it needs a lot to be done to yield better health outcomes.

Simulation and Patient care is another trending “hot topic” in most of the nursing education institutions in the world. It is commonly used as a teaching, learning strategy in nursing, to teach principles and skills in nursing care. It enables nursing students to refine their skills and develop competencies before caring for patients in the actual “real” clinical setting. With advances in healthcare for safe delivery of care and coupled with a growing literate patient population, simulation use has increasingly been used to deliver nursing education. This has put pressure on institutions involved in training nurses by securing high-tech simulation equipment. It does not go without saying that simulation as a means of skill transfer to nursing students still faces various criticisms even among nurse educators.

Conclusion

Technological innovations in providing health care to advance care, needs critical appraisal in the 21st century. Nurses still believe that machines cannot replace the humans for various reasons. It would be ideal to have nursing professionals debate, to identify areas of critical need for innovations. Involving nurses in the discussion is imperative for better health care outcomes.

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Conflict of interest

The authors declare there is no conflict of interest.

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