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## Brief Report

### Nursing Science: The Prevailing Paradigms throughout the Centuries

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#### Introduction

Nursing as a profession is relatively young. Although women have been caring for ill family members, and even as wet nurses for pay for centuries, the recognition of nursing as a profession truly began to take shape in the 19<sup>th</sup> century. In the early 19<sup>th</sup> century, in Europe and North America, nurses worked primarily from the home, and nursing was not considered a reputable position for the respected, wealthy, and educated woman. Wars in both countries spurred changes in the delivery of nursing care from the home to the hospital, and more intensive training for nurses became necessary as physicians began to treat patients based on medical models rather than spiritual models [1]. Nurses were first brought to the hospital in order to maintain cleanliness, but just as war brought a change in the need for improved hospital care, nursing as a profession began to grow out of the need for reliable care of the more complex patient. Nurses began training in values such as punctuality, sobriety and medical knowledge, and with increased social etiquette and wages, nursing became more accepted as a reputable profession [1]. “Entering a new world means learning a unique language, incorporating new rules, and using new experiences to learn how to interact effectively within that world” [2]. As the nursing profession began to grow and change, new ideas about how to provide nursing care emerged. Additionally, the values defining characteristics of the nursing profession also began to shift. Nursing in the 21<sup>st</sup> century looks quite different from its humble beginnings in the 19<sup>th</sup> century. Furthermore, changes in American society’s values and expectations appear to be moving to shape yet another change in the delivery of nursing care, as well as the definition of the profession. These changes in nursing science, both historically and futuristically speaking, can be described philosophically as paradigm shifts. This paper aims to explore the philosophical terms “paradigm” and “paradigm shift” as they relate to the nursing profession, discuss nursing paradigm shifts that have occurred from the time before Florence Nightingale to

the present, and touch on recent trends in healthcare which point to an impending shift in the current nursing paradigm.

#### Paradigm and Paradigm Shift from a Nursing Perspective

According to the American Heritage Dictionary, the word “Paradigm” has been present in the English language since the 1400’s, and is commonly used presently in science to describe a theoretical framework [3]. Thomas Kuhn, author of *The Structure of Scientific Revolutions*, offers several working definitions of the concept of paradigm and paradigm shift. Kuhn is recognized as the man who changed the way in which we view “Mankind’s most organized attempt to understand the world” [4]. Naughton [4] describes the idea of a paradigm, according to Kuhn, as what is known and accepted in the scientific community. Kuhn offers that the definition of paradigm remains the same, but the concept takes on different meaning dependent on the context:

“On one hand, it stands for the entire constellation of beliefs, values, techniques and so on shared by a community. On the other, it denotes one sort of element in that constellation, the concrete puzzle-solutions which, employed as models or examples, can replace explicit rules as a basis for the solution of the remaining puzzles of normal science”. Kuhn describes three contexts in which the term paradigm is appropriate: the rising of a scientific community through paradigm, the paradigm as the language of a scientific community, and the paradigm as the building blocks that lead to new knowledge and understanding [5]. In the first use, Kuhn describes a paradigm as truths adopted by a group of scientists which had not be previously been defined, and which laid the ground work for deeper understanding through considerable refinement by experts [5]. Florence Nightingale, a 19<sup>th</sup> century nurse known as the Mother of Modern Nursing, found support of her notion that proper cleanliness and nutrition were paramount in

healing through early documentation of reduced wound healing time and death of her patients. She began a nursing school, the first in England which was based upon her scientific findings and a year later, a medical school for the Army was also opened to educate future doctors and based on her research findings. Nursing, as practiced today, is a community of people of science who came together due to an acceptance of ideas that had not been used previously and ideas that would be expanded, omitted and changed throughout time.

In the second use of the concept of a paradigm, Kuhn described the paradigm in terms of the scientific community. A disciplinary matrix has three parts, one, shared truths which allow for a language to be used in a scientific community and understood by all who are part of that community; two, shared beliefs and values of that community, and three, truths as a basis for new knowledge [5]. In nursing, truths are studied which allow professional practice using a common language, belief and value system. All nurses are taught medical terms in order to communicate effectively with other healthcare professionals. Nurses espouse the belief that patients must be treated in a holistic manner in order to achieve wellness, and all nurses are taught to provide care with compassion.

In the third context of a paradigm, Kuhn offers a paradigm as the impetus for change. Inferences about phenomena based on what is known and the experience gained lead science to set off in new directions when the known takes on new form [5]. This use of the word paradigm, is best used in the example of allowing family to witness resuscitation efforts in a patient who has little possibility of regaining quality functioning. While it can never know when a person is being called to end his or her time on Earth, nurses use the information gathered to make inferences about the probability of recovery when critical illness is present. Recognizing the subtle changes that occur in resuscitation efforts that should lead the nurse to pursue a Do Not Resuscitate (DNR) order from the family only comes with time spent and experience gained.

Paradigm shift, conversely, is identified by Kuhn as revolutions or breakthroughs in science that lead to significant changes in the status quo [4]. Kuhn describes paradigms as normal science, and when continued problems arise that cannot be solved by the knowledge contained within the normal science, or the normal science cannot explain the new phenomena that cannot be denied, new research and new paradigms arise. “The proliferation of competing articulations, the willingness to try anything, the expression of explicit discontent, the recourse to philosophy and debate over fundamentals, all these are symptoms of a transition from normal to extraordinary research” [6]. In nursing science, the existence of paradigm shifts is seen throughout the centuries:

- The emergence of nursing science as a profession
- The training of the nursing professional in the 19<sup>th</sup> century

- The shift to a focus on developing the nursing professional’s language and education to match physicians, as well as develop a distinct nursing language in the 20<sup>th</sup> century
- The paradigm shifts in the profession in the 21<sup>st</sup> century which is leading away from the acute care and tertiary preventative model to community and primary prevention model as the building blocks that lead to new knowledge and understanding.

## Nursing Paradigm Shifts from 1800 to Present

The nursing profession has grown to be recognized as the most trusted and ethical profession in America [7]. “The ultimate goal of nursing is an evidence-based practice that promotes quality, cost-effective outcomes for patients, families, healthcare providers, and the health care system” [2]. These statements represent a significant shift in the world of nursing science both for the practitioner and for those the profession seeks to serve. Nurses as professionals have risen through the last three centuries from a job considered only appropriate for uneducated laborers to respected practitioners, scholars and leaders in the healthcare industry. Nursing as a science also has evolved through the centuries and emerging research appears to be preparing the science and profession for significant practice changes.

### 19<sup>th</sup> Century Nursing

Early 19<sup>th</sup> century nursing was disorganized. Home and hospital care were largely seen through the veil of metaphysics. Illness came from an imbalance in sin and virtue, and health was ultimately a gift from God or emerged out of well delivered punishment of sins [1]. According to Sir Henry Wentworth Acland, Professor of Medicine at Oxford, was quoted as saying, in 1840 as an entering medical student with regard to health and illness, as saying “He knew of disease only that it was from God; that it was a remedy applied to the body to cure the disorders of a sinning soul; a mark of chastisement; an act of love from the hand of a wise Father” [1]. The traditionalist view of nursing services in early 19<sup>th</sup> century England was that of an uneducated servant. Nurses in the early 1800’s were considered callous, dirty and immoral. This view continued until the second half of the 19<sup>th</sup> century. As medicine underwent the paradigm shift away from social service to medical care, nursing as a profession began to see radical changes as well. As the doctors were conceiving disease in a different way, nurses were being called to oversee important aspects of patient care in the hospital settings. This change required a change in the way nurses received training both in education and etiquette. Florence Nightingale is known for establishing training schools for nurses which provided education based on the premise that nursing should focus on hospital sanitation, patient education, and effective patient care; while nurses should be disciplined in the art and science of using observation skills and applications of

experience [8]. The nursing profession in North America saw a similar transition in the way the nurses received training and were received by the public they served. Hospitals in America were considered unclean and nursing was a lower-class profession. The Civil war was the impetus for change as hospitals were needed to care for injured and ill soldiers, and therefore, more complex nursing care was needed as well [9].

## 20<sup>th</sup> Century Nursing

Nursing science saw great strides toward what is known as the nursing profession today in the 20<sup>th</sup> century. One paradigm shift which paved the way for these changes was the way in which nurses received formal training. In 1900, schools of nursing began to be overseen by hospital systems rather than nurses which offered greater resources for innovation and advancement [10]. Wars continued to be a catalyst for change in the nursing profession throughout the 20<sup>th</sup> century. The number of women who entered the nursing profession grew exponentially in both Europe and America as a wave of patriotism and “calling to care for our soldiers” brought many to nursing [10]. This surge in popularity caused governments to provide more funding for medical advancements, and as the technological age advanced medical innovations, nursing schools began to transition away from hospital-based training to formal university institutions with Masters and Doctorate degrees in nursing being offered beginning in the mid-20<sup>th</sup> century [10]. These advanced nursing degrees allowed for another change within nursing science as nurses began to “specialize in distinct areas and moved away from the traditional view of physician’s assistant to performing many duties themselves including performing procedures and prescribing medicines” [10]. Additionally, the feminist movement provided a gateway for nursing science to move away from a servant role in the healthcare team to a partnering or leadership role.

## 21<sup>st</sup> Century Nursing

In the 21<sup>st</sup> century, the nursing profession is preparing for the next paradigm shift. Currently, nurses are trusted healthcare partners and are seen in the community and in the acute care setting as leaders. Research in the nursing field has focused in this century on providing safe and effective patient care, integration of advancing medical technologies with compassionate care, and leaning on the experts in the field to provide future nurses with proper training [11]. Nursing in the 21<sup>st</sup> century is also seeing changes in the workforce. In the past centuries, nursing was primarily a profession dominated by women, but men are now choosing the nursing profession according to an article by the Robert Wood Johnson Foundation [12].

“The demographics of nursing are beginning to change. In 1980, there were 45,060 male nurses, according to the IOM report; by 2004, that number jumped to 168,181. Today, men comprise just over 7 percent of all RNs, and that number is projected to

grow; more than 11 percent of students in nursing baccalaureate programs in the 2010-2011 school year were men, reports the American Association of Colleges of Nursing (section 2)”.

As more men enter this traditionally female profession, the status quo in the profession will most certainly be challenged. “Men provide unique perspectives and skills that are important to the profession and society at large, according to the IOM report, called *The Future of Nursing: Leading Health, Advancing Change*” [12].

## The Future of Healthcare: An Impending Nursing Paradigm Shift

Nursing as a science and profession could be preparing for its next paradigm shift. Since the early 1900’s nursing research and practice has been focused on tertiary care and prevention, mainly in the acute care setting. According to Sandy, et al. [13], the roots of the primary care dilemma can be traced back a century and a half to the explosion of knowledge of physiology-the scientific understanding of body functions-which in turn led to the “biomedical model” of disease: the paradigm that explains disease as physical-chemical alterations in the body. This new scientific paradigm facilitated the development of specialization in medicine. The biomedical model naturally led to conceptualizing “disease” as equivalent to “organ system dysfunction,” a view that largely excludes the social and behavioral considerations that are now part of our contemporary understanding of disease.

As the healthcare industry refocuses on primary and secondary prevention strategies which will cut healthcare costs and improve the lives of patients, significant research and changes in historical practices are emerging. In an article in the *Online Journal of Issues in Nursing*, nursing research has led to evidence-based nursing practices which highlight safe and effective patient care. Quality improvement discussions have developed from these results and a shift toward a refocus on prevention of chronic illness rather than the treatment of chronic illness is laying a pathway for new research and evidence-based practices for the future nursing practitioners [14].

## Conclusion

The nursing profession is on the verge of a paradigm shift. The practice of nursing which has been practiced primarily in acute care settings and focused on tertiary care since the early 1900’s is now beginning to consider the benefits of primary care and community-based practices. Additionally, the nursing workforce is seeing a change as more males are joining the profession and influencing research and practice in unique ways. The addition of the Doctor of Nursing Practice degree in the 21<sup>st</sup> century is following the current paradigm of diversity of the specialties available for study in the profession which began in the 20<sup>th</sup> century. Also, as more

nursing schools continue to open to meet the growing demand for professionally trained nursing professionals, fewer hospitals are available to train nurses, and Universities continue to take over with more resources available for advanced training. The nursing profession has thus far enjoyed great benefit from the paradigm shifts from the 19<sup>th</sup> century to today, as identified by Kuhn as, revolutions or breakthroughs in science that lead to significant changes in the status quo. With these changes, evidence-based research project opportunities will arise for nursing and nursing education alike to study the needs of nursing education to include more primary prevention strategies. This includes changes to curriculum to include entry level nursing careers outside of the acute care setting. Practicing nurses will find opportunities to further investigate the benefits of preventative care measures to reduce health care risk.

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