NURSING PRACTICE AND ADVANCING HEALTHCARE TRANSFORMATION

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I am deeply honored to give the State of the Science Presentation on the Future of Practice for this anniversary conference. I have always been passionate about nursing practice and my clinical roles as a nurse. Since the 1970s there has been expanded growth in opportunities for nurses to advance professionally and remain clinically focused and for education and research to be more aligned and integrated with practice. These opportunities have included registered and advanced practice registered nurses, resulting in renewed recognition of the importance of the tripartite mission of academic nursing – education, research, and practice. (American Association of Colleges of Nursing & Manatt, 2016). My own lived experience as a professional registered nurse, clinical nurse specialist, nurse practitioner, educator, and clinical scholar has been extremely rewarding and has informed me in my current role as dean of a school of nursing that is part of an academic health center, with urban and rural campuses. As clearly demonstrated in the IOM report, The Future of Nursing: Leading Change Advancing Health, robust evidence links nursing practice to high quality care, patient safety, and patient outcomes and the nursing profession has the potential to “effect wide-reaching changes in the health care system.” (IOM, 2011, p. 2). The Future of Nursing report is one call to action and roadmap for nursing practice to advance healthcare transformation, in other words, to address problems and redesign care to improve outcomes, individual experience, and costs. While it is now more challenging to write this in anticipation of federal changes to what has been the course for health care transformation, nursing practice must remain essential to health and health care redesign in the U.S.

The Western Council on Higher Education for Nursing, which would become the Western Institute of Nursing, included service, later termed practice, along with research and education, as the organization’s areas of focus. Jo Eleanor Elliott, Director, WICHE Nursing Education Programs, referred to the “collaborative climate in the West” (p.29) among member schools of nursing and their clinical agencies, a climate that no doubt fostered the commitment to a tripartite mission when other regional organizations chose to focus on research. (Elliott, 1992).

Although unusual, it is appropriate that WIN, as a regional nursing society, focuses on all three missions of nursing. Strengthening all three recognizes their interdependence and enhances the profession’s potential impact on improving health and healthcare outcomes. A review of WIN historical documents shows that our leaders in WIN have believed that as well. Dr. Carol Lindeman was a passionate advocate for nursing research to focus on the “realities of nursing practice” and to be “a force for improving patient care.” (Elliott, 1992, p. 91)

Nurses remain the largest segment of the healthcare professional workforce, with registered and advanced practice nurses providing care across the continuum. The future of nursing practice must be considered within the context of continuing and potentially dramatic
changes in health and healthcare. Such changes include interprofessional and team-based care and recognition of consumers/patients’ expectations to move beyond patient-centered care and to engage as co-producers in redesigning healthcare in order to improve access, quality, outcomes, and value. Other considerations include work force supply and the ongoing need to address inequities, for example in shortage areas such as rural regions and inner cities and for vulnerable populations including behavioral and mental health. Nursing practice will need to embrace and respond to increasing personalized clinical decision making made possible through implementation science, precision medicine and the ability to better use clinical data to inform practice (Chambers, Feero, & Khoury, 2016). (Figure 1). For this paper, the term nursing practice encompasses registered nurse (RN) and advanced practice registered nurse (APRN) scopes, as well as dependent and independent practice.

Figure 1. Factors Driving Innovation and Change in Nursing Practice

The future of nursing practice will have many influences, including triple aim goals, dramatic changes in health and healthcare, interprofessional practice models, and growing expectations of consumers/patients as partners and co-producers of healthcare redesign. Science and clinical data, technology, and improvement science will drive nursing practice at every point of the health care continuum.

### Background

Florence Nightingale established education and evidence as essentials to nursing care and to redesigning hospitals and hospital care. Her privileged background and education afforded her knowledge and access that, combined with her assertiveness and perseverance, enabled her to take her clinical observations in the Crimea, describe them thoroughly and
through an original statistical data graphic display, and write prolifically to lead and effect change. She utilized keen clinical observation, documentation and analysis of evidence, public health principles, and emerging science behind hygiene in her 1858 book entitled *Notes on Matters Affecting the Health, Efficiency and Hospital Administration of the British Army.* (Nightingale, 1858). She actually created the Polar-Area Diagram to show how soldiers had died between July, 1854 and December, 1855. Her depiction clearly showed that the majority of deaths were from disease and infection and her work and advocacy ushered in a new era of health care. Her call to action for formal education for nurses and the use of evidence to support practice and health care change remain seminal and relevant.

More than 150 years later, her legacy endures. As recently as 2014, a physician, Victoria Sweet, published an Op-Ed piece in the New York Times, entitled *Far More Than a Lady With a Lamp.* In it, Dr. Sweet describes her uninformed initial assumptions about Florence that grew to informed admiration. Florence Nightingale is indeed the mother of modern nursing, and perhaps only now are we beginning to own the impact that our practice can have. That, is legacy leadership!

**The Context of Health and Healthcare**

U.S. healthcare has consistently been shown to be more costly when compared to other high-income countries, with poorer indicators of societal health, including shorter life expectancy and higher prevalence of chronic conditions. (Squires & Anderson, 2015). The U.S. stands out with greater spending on medical technology and higher health care prices, and less spending on social services that address social determinants of health. Passage of the Patient Protection and Affordable Care Act of 2010 (ACA) resulted in 20 million people gaining health insurance coverage, helped to slow the growth in health care costs, renewed focus on quality with reductions in hospital acquired infections and 30-day readmissions, introduced new value-based payment models, and emphasized innovation in population health and community-based and primary care. (Ezekial, 2016; Orzag, 2016). While this milestone legislation will likely be dismantled some of its undeniable major shifts launched transformative change in U.S. healthcare. One example is the embracing of quality improvement efforts that have taken hold and are leading to changes. (Bohmer, 2016). Organizations that are most successful in transforming are those that engage in continuous small-scale change efforts with engaged, diverse teams. Nursing has embraced improvement science and nurses are often involved in quality improvement, as team members and team leaders. (Needleman & Hassmiller, 2009).

Health futurist, author, and medical economist Dr. Jeffrey Bauer spoke at both the fall 2016 American Academy of Nursing (AAN) and American Association of Colleges of Nursing (AACN) meetings. At the AACN meeting, Dr. Bauer spoke on “Forecasting the Futures of Health Care Delivery: A New Era for Academic Nursing.” In his talk, Dr. Bauer stated that health care will change more in the current decade, with few years’ remaining, than it did in the past 50 years. (Bauer, 2016, AACN). His forecast for health care included that as percent of GDP, health care is not likely to grow, meaning that we will need to live within the current funding and find ways to eliminate waste in order to gain savings that can be reinvested. He also forecasted that health care organizations that thrive will do so by “fixing the way care is delivered.” (Bauer, 2016, AACN). Health care is changing, focusing away from acute care to chronic condition management, experiencing transformed financial models, work flow processes, and sites of care through information and
communications technologies, and new relationships are underway between providers and patient populations due to funding changes and the anticipated end of growth in health care spending. Achieving cost effectiveness will require individualizing care to match disease characteristics (precision health care) and epigenetics with patient-centered interprofessional care teams. New models of care are emphasizing teamwork, care continuity and coordination, and prevention, offering significant opportunities for nurses to lead and contribute.

**Health Care Transformation and Nursing Practice**

Major areas of focus for health care transformation include quality improvement, health care redesign, innovation, and achievement of the Triple Aim – improving the individual patient care experience, including quality and satisfaction, achieving better health of populations, and lowering the per capita costs of health care for populations. (Berwick et al., 2008). A fourth aim, care of the provider, was recommended in 2014 to address support for health care professionals, leading to the term Quadruple Aim. (Bodenheimer & Sinsky, 2014). The ACA and the IOM Future of Nursing report emphasize the importance of team-based and primary care, care coordination, chronic illness management, innovation, use of technology, and reducing the need for expensive acute care. In addition, precision medicine/healthcare can be expected to drive interventions going forward. All are calls to action and have implications for nursing practice.

Multiple states of the thirteen represented by WIN are sources of exemplary contributions to RN and APRN nursing practice and health care advances. What became the nurse practitioner (NP) role was initiated in Colorado, led by the nurse-physician team of Loretta Ford and pediatrician Henry Silver. (Keeling, 2015). Ford and Silver sought to develop an expanded nursing role to meet the primary health care needs of children and families in rural areas. Anticipated primary care needs was a context for the Future of Nursing report, which emphasized scope of practice (IOM, 2011) and the need for all health care professionals to be able to practice to the full extent of their education, training, and competencies. A particular focus in the report was on advanced practice nursing, especially primary care NPs. At the time of the report, 15 states and the District of Columbia, had independent practice for NPs (IOM, 2011, p. 99). Ten of those states were in the Western US and included Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, New Mexico, Oregon, Washington, and Wyoming. Since that time and through efforts resulting from the Future of Nursing Campaign for Action, Nevada now has independent practice authority and legislative efforts in 2017 are expected to reduce other barriers in Arizona, Hawaii, Nevada, and Utah (Future of Nursing Campaign for Action, 2016). The Western states clearly led the way for advanced practice nurses.

Practice models utilizing community-based registered nurse practice have also emerged from the Western US. Maternal-child health exemplars include the Nurse-Family Partnership model, developed by an interprofessional team at the University of Colorado (Olds, 2006) and the Nursing Child Assessment Satellite Training (NCAST) assessment and intervention programs, now the Parent-Child Interaction Program, developed by Dr. Kathryn Barnard at the University of Washington School of Nursing Family-Child Department. (Kelly & Barnard, 2000). These ground-breaking evidence-based programs have been utilized together to improve the outcomes of mothers and infants (Kitzman et al., 1997). Both models incorporated home visits by nurses to conduct assessments and intervene to prevent poor outcomes.
Western states were also pioneers in gerontology with two of the first five competitive John A. Hartford Foundation Centers of Geriatric Nursing Excellence at the University of California, San Francisco and Oregon Health & Science University Schools of Nursing in 2000. Arizona State University and the University of Utah also became Centers in 2007, establishing four of the nine centers in the Western US. These centers have supported various programming to create more nurse faculty and students with gerontological clinical competence in order to improve the quality of nursing care to older adults. (Harden & Watman, 2015).

The future outlook of nursing practice holds great potential for expanding the contributions of RNs and APRNs, improving care and outcomes, and holding down costs, provided that nurses are able and willing to lead wherever they are, contribute, innovate and change, and to demonstrate value in a rapidly transforming health care industry. Interprofessional, team-based care is expected to become the norm. Getting to and being present at the tables where decisions are made regarding new practice models is vital for nurses to be able to engage and lead in redesigning health care. In 2009 the Robert Wood Johnson Foundation sponsored a Gallup survey, entitled “Nursing Leadership from Bedside to Boardroom: Opinion Leaders’ Perceptions.” (RWJF, 2010). Over 1500 opinion leaders were surveyed. Similar to other Gallup polls documenting nurses as ethical and honest, the 2009 survey found that opinion leaders viewed nurses as one of the most trusted sources for health information. Despite responding that nurses should have influence on health policy and planning however, the opinion leaders reported nurses as being less influential on health care reform, compared to insurance and pharmaceutical leaders and physicians, among others. To be credible partners and leaders, nurses must be able to substantively contribute to innovative idea generation, design of potential new care practices and models, outcome measurement, and dissemination of results, thus demonstrating value.

Registered and advanced practice nurses, along with other professions, must also be able to practice at the top of their licenses in order to maximally contribute and optimize care. Russell-Babin and Wurmser (2016) define top-of-license practice as “matching the right provider with the right skill set to provide the right level of care at the right time and place, [not] substituting less expensive healthcare providers for the primary purpose of saving money.” (pg. 25-26). Aligning appropriate level of care with health risk requires managing distinct patient populations, such as low-risk, rising-risk, and high-risk patients. (The Advisory Board Company, 2015). Maintaining the health of low-risk individuals and preventing deterioration of rising-risk patients by managing conditions well would take care of up to 95% of patients. Breaking through barriers to top-of-license practice may require national, state, and organizational level changes. Interprofessional, team-based practice is expected to improve care as it expands. Nurses must be prepared for and effective in care team leader and team member roles. Patients and families, community health workers, and others are also increasingly health care team members and should be engaged in co-producing new models of care. (Batalden et al., 2015). Patient engagement, with patients more actively involved in their own health and care and health promoting behaviors, is a strategy to improve health outcomes, improve care, and lower costs. (Health Policy Brief: Patient Engagement, 2013).

The majority of RNs historically have worked in hospitals, acute care focused. Renewed emphasis on primary care and care continuity is offering new opportunities for contribution
and value. Registered Nurse roles are being reimagined in primary care, bringing professional nursing knowledge and skills, care coordination and management, and standard care practices together to establish interprofessional teams and meet acute, chronic, and preventive care needs. (Bodenheimer & Bauer, 2016; Bodenheimer, Bauer, Syer & Olayiwola, 2015). Registered Nurses have knowledge, competencies, and skills that are of value in achieving care continuity for patient populations. For example, nurses have knowledge of health promotion, acute and chronic conditions, assessment of health risk, use of screening tools, and social determinants of health in assessing risk. Health care systems are moving from a focus on bridging care transitions to the notion of never discharging a patient (The Advisory Board, 2016) within a system network. Keeping patients in network through continuous, seamless care could offer significant opportunities for nursing practice to align level of care with level of patient risk. For example, nurses could provide care for a patient population in inpatient and outpatient/community settings, rather than being exclusively based in one site of care.

Advanced practice nurses bring primary and specialty care knowledge and skills to population based care in inpatient and outpatient/community settings. Studies on patient outcomes with nurse practitioner and physician providers have shown comparable outcomes. One randomized clinical trial (Mundinger et al., 2000) showed no significant differences in patient health status when NPs and physicians had comparable authority, responsibilities, productivity and administrative requirements. A recent systematic review on 69 studies from 1990-2008 (including 20 RCTs) on care provided by advanced practice nurses indicated that NPs and CNMs practicing in collaboration with physicians achieved patient outcomes similar to or better than physician only care. The analysis also showed that acute care CNSs can reduce hospital length of stay and cost of care. (Newhouse et al., 2011). Depending upon scope of practice regulations, APRNs can practice independently, in collaboration with physicians, or in collaboration with other health professionals, in a variety of clinical settings. Rural, inner city, and other underserved areas often depend heavily upon APRNs. Expected increased demand for APRNs in primary care and behavioral health across the lifespan, chronic illness management, and care continuity needs will drive practice. In addition, DNP-prepared APRNs bring knowledge and expertise of improvement science to practice environments and lead continuous improvement of care.

Self-care and supporting self-care have been part of nursing practice theory for at least two decades. (Orem, 1995) (Denyes, 2001). Educating individuals, patients, families, and communities about health and illness, managing chronic conditions, and self-care has also long been part of nursing practice. More recently the importance of health literacy (U.S. DHHS, Office of Disease Prevention & Health Promotion, 2017), talking with patients (Kaplan, 2016), and patient engagement (Health Policy Brief, 2013) have been re-emphasized in support of helping individuals make earlier and better decisions regarding their health and health care. RNs and APRNs have essential roles in helping individuals and families understand health information and services to enhance their care choices and decision-making abilities. Such engagement and shared decision-making have been shown to lead to better outcomes and less expensive care. (Health Policy Brief, 2013; James, 2013).

Technology is a major context and driver of change for health and healthcare and has major potential opportunities and implications for nursing practice. If you go to a public website, like verywell.com (Rucker, 2016), you can get a basic overview of how health technology
is addressing or has the potential to address health and healthcare issues. Health care professionals, including nurses, often think of technology as supporting the professional’s role, such as through telehealth, however self care monitoring, replacing office visits and in some cases, hospital-based procedures, are helping to drive a larger movement of patient independence. Health monitoring through mobile and smart devices can track vital signs as well as chronic conditions. Wireless, wearable medical devices can track and monitor, communicate physiologic metrics, support caregivers and family members, and establish connections among a care network. Electronic health records started 30 years ago and are only now beginning to mature so that systems are improving patient safety and satisfaction. While many challenges remain in optimizing EHRs, from how hospitals and healthcare networks are organized, to negative attitudes, and lack of standard practices (Rucker, 2016), the expectation is that accessing and sharing patient data across health systems in real time will become the norm. This expected interoperability will facilitate continuous care that nursing practice and team-based care models should incorporate and lead in developing.

Precision medicine or individualized health care for human disease has grown out of the Human Genome Project and increased understanding of the science of genomics and other biologic “-omic” fields (proteomics, metabolomics, etc). Progress in scientific advancements led to the 2015 launch of the US Precision Medicine Initiative (PMI), a project intended to pull together genomic, biological, behavioral, environmental, and other data on individuals to identify determinants of health and disease that could support clinical and individual decision making. (Chambers, Feero, & Khoury, 2016). Synergy among implementation science and clinical data, precision medicine, and “the learning health care system” (Chambers et al., p.1942) holds potential for greatly improving health, health care, and health systems. Pharmacogenomics is one example with direct implications for nursing practice (Cheek, Bashore, & Bazeau, 2015). Advanced nursing practice has significant contributions to make to precision medicine in risk assessment, treatments, drug safety and self-management, for example. One challenge is to achieve knowledge of genetic and genomic competencies for all generations of providers to ensure sufficient knowledge to apply clinically meaningful findings from genomic science to individual patients. (Williams et al., 2016).

It is very challenging to consider the future of nursing and nursing practice, especially with so many unfolding variables in health and health care. All of this impacts our work force planning as well. How many RNs and APRNs will be needed? What other nursing roles might be effective? Will team-based care reduce or increase the need for nurses? Will the health care industry expand in terms of numbers in the workforce as it becomes more community based and what impact will self-care technologies have that might limit work force numbers? Will an expected severe workforce shortage materialize (Grant, 2017) and will the Western states have the largest shortage ratio? (Juraschek, Zhang, Ranganathan, & Lin, 2012).

**New Era for Academic Nursing**

The AACN-Manatt report, Advancing Healthcare Transformation: A New Era for Academic Nursing, offers an excellent analysis and recommendations for enhanced partnership between academic nursing and health care. (AACN, 2016). The report presents a renewed vision for academic nursing with nursing as a full partner in healthcare delivery, as well as education and research. Traditionally, school-of-nursing faculty and students
have been guests in health care settings. Nurse faculty practice plans, despite success on various scales, have been limited by the separation of nursing practice and education. In addition, the lack of integration of practice and education has resulted in missed opportunities for collaboration across missions, disparate goals, and diminished use of expertise with schools producing a work force that practice expresses concerns about in terms of preparation. This long-standing separation has had many consequences for both sides. Aligning and integrating schools of nursing and departments of clinical nursing hold great potential for harnessing and utilizing expertise, advancing practice, education, and research to improve health care delivery and outcomes.

**Charge for the Future**

Despite uncertainties due to changes in the federal government, health care transformation and achieving the triple/quadruple aim is likely to continue to drive opportunities for registered and advanced practice nurse contributions and expectations for impact across the care continuum. The IOM Future of Nursing report is replete with documented evidence on the impact of nursing practice. Nurse practice leaders and education leaders must commit to full collaboration for future practice. Nurses must see, seek and seize opportunities to lead in addressing known gaps, high costs, and relatively poor health outcomes in what has been an acute-care focused system, harnessing science, clinical data, technology, and consumers in designing and evaluating innovative and effective models of care. Nurses must achieve recognition as effective team leaders for team-based care and improvement science and nursing knowledge, skills, and competencies should be expected to contribute to new models of care. Getting to decision-making tables will continue to require assertiveness. Once there, demonstrated contributions and effectiveness must be the tactics to achieving full partnership.

Nursing practice, substantiated by science and clinical evidence, needs to be integrated tightly with schools of nursing, and top-of-license care must be the norm for all health care professionals. Eliminating local organization practice restrictions will require nurses to be well informed of their statutory practice scope. Nurse faculty practice should be a standard for the future, for RN and APRN faculty educating future clinicians. This will necessitate changes in academe and practice so that the education mission is fully supported, the gap between nursing education and practice is finally closed, and clinical and faculty roles are sustainable. Only then will nursing practice be able to fully realize and demonstrate impact on health and health care.

It is a time for leadership and bold action with a focus on results. Nursing needs to gain full recognition as essential to achieving health care optimization and the improved health of society. WIN as an organization can engage its members to set priorities, collaborate across practice, education, and research networks, and demonstrate collective impact, setting an example for the nation, again.

**References**


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