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## **Professional Nurse Apprenticeship – A Collaborative Workforce Solution for Nursing**

### **Nursing shortage and retention**

The Bureau of Labor Statistics projects a nation-wide increase of 15% (438,100) in employment for registered nurses (RN) by 2026. The 2018 National Health Care Retention and RN Staffing Report published by NSI Nursing Solutions, Inc. indicates a current U.S. RN vacancy rate of 8.2%; while this is an average 25.3% of over 3,000 hospitals surveyed report vacancy rates above 10%; an increase in RN turnover rates in U.S. hospitals of 16.8% in 2017 is reported. Nationally 19.4% of new RNs leave their first jobs in nursing within one year of employment. Expectation and necessity for novice nurses to successfully navigate the complexity of today's health care arena right out of school significantly contributes to retention rates. The report indicates average cost of turnover for one bedside RN at \$49,500; RN turnover cost for the average U.S. hospital is projected at \$4.4 to \$7.7 million dollars. Just a one percent change in turnover rates is projected to save an estimated \$337,500. The Missouri Hospital Association (MHA) – 2018 Workforce Report shows a current vacancy rate of 13.3% (4,985) for registered nurse positions in Missouri. Job turnover rate for RNs in those facilities is reported at 16%. Missouri hospitals face growing challenges to find qualified applicants to fill nursing positions. Aging of the Missouri RN workforce heavily weighs in on this equation. The Missouri State Board of Nursing RN Age Range Report (2018) indicates that 44% of all RNs licensed in Missouri are over the age of 50; of those 23% are older than 60 years. Not only will this intensify RN vacancies in coming years, the impact on expertise and leadership is concerning. Willett (2017) projects that in England aging out of the nurse workforce will pose a growing management gap. In his view, unless something is done quickly knowledge and experience to keep pace with growing demands of health care will soon be lacking. The need for deliberate action is undeniable.

Southwest Missouri is especially impacted by nursing shortages; market analyses show close to 500 annual openings for registered nurses in the Ozark Region alone. While the nursing shortage is on the forefront of workforce development, measures to support expansion of nursing schools are only one step in addressing shortages. Transformation of the educational model in nursing is necessary to recruit, retain and optimally prepare students and graduates for gratifying careers in nursing while providing quality care to patients. Innovation in clinical education is a must. A modern professional nurse apprenticeship model may be well positioned to help address these issues, provide access to real-time clinical education, ease transition to professional practice, and improve nurse retention rates. Robust clinical education in facilities where students work and earn wages while in school and continue their employment once they complete their nursing program offers a viable transformational model for change. Nurse apprenticeships, if utilized strategically, promise a win-win situation for Missouri patients, health care employers, students and nursing schools.

### **National skills crisis and student loan debt**

In 2018 the President's Council for the American Worker (Title 3) called for national strategies to ensure that the American people have "access to affordable, relevant and innovative education and job training that will equip them to compete and win in the global economy". Statistics clearly indicate a

national skill crisis. Documentation indicates that in this country there are currently 6.7 million unfilled jobs. The reality that our system has and continues to prepare workers for an economy that no longer exists is terrifying. The need for development of a more robust workforce is very real. Mims (2018) reiterates the dilemma of the huge student loan debt of our generation. Americans currently owe \$1.4 trillion in student loan debt. It is difficult to grasp that a nation that so highly invests in education lacks enough skilled workers to meet demands. One in four Americans has a low-wage job while there are hundreds of thousands of open positions. Employers simply cannot find people that have the skills to fill those positions. Exponential widening of this skills gap is expected. Nursing is in no way immune to this trend. The current health care climate demands that new graduates enter the workplace fully prepared to perform at the level of experienced, much more seasoned peers. While necessity to transform clinical learning in our nursing schools is broadly discussed and essentiality of clinical reasoning skills is undeniable to patient safety and quality of care, growing student practice constraints often impact how much students can engage in high acuity patient care situations. Growing shortages of qualified faculty and experienced preceptors adds to this preparatory mismatch.

### **General information about apprenticeships**

The concept of apprenticeship as a way to facilitate experiential learning is certainly not a new concept in workforce development. Apprenticeships have been utilized for hundreds of years in many countries to pair master craftsmen with workers that are young to a particular trade or field of study to create robust learning environments (Carlson, 2017). Carlson (2017) denotes the “popular imagination in this country” that apprenticeships solely represent manual labor and trade professions, are tied to marginal income potential and do not yield the university experience that many students and their parents are seeking. Weber (2014) implies that employers may be reluctant to engage in apprenticeships due to perceived ties to labor unions that are seen to want to organize workers and manage the apprenticeships. Weber empathizes that development of independent apprenticeships can be accomplished. Field (2015) reiterates the often negative connotation of apprenticeships in the U. S. Apprenticeships are historically seen as a lesser alternative to college education and as a way for less prepared students to find their way into the workforce. Nothing could be further from reality! Carlson (2017) describes apprenticeships as augmentation to a college education, rather than an alternative. The author reiterates that “random college direction” has caused many Americans to be debt-laden without much hope for well-paying, fulfilling careers. A look at Europe reveals that there 70% of apprenticeships start at age 15. Granted that is a very young age to get into nursing education, but the jest is that awareness about healthcare and recruitment into the nursing profession should start well before high school. In Switzerland, a hotspot for apprenticeships, 97% of students graduate from high school while training for a job and/or are working toward a college education. Swiss statistics are staggering; 50% of Swiss companies have apprenticeships and what is even more amazing is that 50% of Swiss business leaders were once apprentices in their field (Carlson, 2017).

### **Federal grant dollars for apprenticeships**

In 2018 the U.S. Department of Labor (Department) made available \$150 million in H-1B funds to help develop and expand apprenticeship programs on a national level. The Department reports that since 2017 U.S. employers have hired more than 460,000 apprentices. Registration of apprenticeships by employers with the Department is required to gain eligibility for wage reimbursement dollars. Requirements to become eligible for this funding are outlined on the Department’s website at

<https://www.dol.gov/featured/apprenticeship/grants>. Employers and apprentices can be eligible to access funding to support Registered Apprenticeships. Many of Missouri's Local Workforce Development Boards are supporting apprenticeships through programs that also offset the cost of training of eligible apprentices. Employers may contact [apprenticeship@ded.mo.gov](mailto:apprenticeship@ded.mo.gov) to connect to resources to develop and support apprenticeships.

### **Building a talent pipeline**

Mims (2018) advocates that community colleges are a formidable source for great talent. The author embraces the fact that major technology giants, such as Amazon, Google and IBM are forming highly effective partnership with two-year schools to build "talent pipelines". Such partnerships are utilized to prepare workers for very specialized work in jobs that provide unique opportunities for candidates that otherwise may have never connected to these employers. As students earn degrees their new employers work closely with their schools to provide this specialized training, often pay them full-time wages while they learn and help them to become fully socialized to their professional role and place of employment. Mims (2018) reiterates that all of this has already taken place by the time the apprentice graduates. It is difficult to find a good reason why this could not work for nursing! Retention of students in nursing school is a growing issue that directly impacts the nursing workforce. More and more students are challenged by economic needs that often necessitate them to work long hours after school at jobs that often do not correlate with their career goals, but are necessary to keep food on the table. Employment outside of school clearly impacts study time and preparation for theory and clinical education, makes students tired before they ever get to school or clinical, and impacts attendance. The ratio of nursing students that drop out of school in order to maintain their employment is high. While the concept of "earn while you learn" may have a negative connotation to some and is often associated with preparation for jobs other than nursing, this may just be what would keep many nursing students in school.

### **Traditional clinical educations, new graduate preparation in nursing and transition to nursing practice**

Caputi (2019) references nursing literature that clearly points to a significant decrease in new registered nurse (RN) graduate readiness to meet today's challenges. A study by Del Bueno (2005) is referenced that showed that at that time an estimated 35% of new graduate nurses were deemed adequately prepared to apply entry-level critical thinking. Kavanagh and Szweda (2017) revisited this study and found that in 2017 this number had significantly dropped to 23%. In 2012 Muntean quoted studies that showed that an estimated 65% of adverse events may have been prevented with more sophisticated clinical decision making at the bedside. Should it be surprising that retention rates suffer as many new nurses become too scared and stressed to stay in their nursing jobs? Our rapidly changing economy demands more, patients in our hospitals and long-term care facilities deserve more and our students and graduates need more to become successful and to stay in nursing! Transformation of the clinical model to nurse apprenticeships may just be the necessary link to fill this gap. Smith (2011) reported the need for transformative learning strategies to enhance patient safety in England as early as 2011. Realization that literacy and mathematical skills are not universally high and may pose barriers to patient safety is reflected. The apprenticeship model was then utilized to build and enhance a culture of safety and trust that enabled students to learn more effectively. Point to care feedback from experienced nurses working with the nurse apprentices, dedicated training days as well as regular evaluation and reflection was used to assess progress and to remediate. Real-time realization of how

every action impacts patient care and safety is a mainstay of the apprenticeship in nursing. A learning environment that is challenging as well as supportive is recommended.

Hungerford et al. (2019) explored practice experience hours for nursing students and their relevance to consistent achievement of learning objectives and program outcomes. It is no surprise that quantity of clock hours spent in clinical settings is much less important than quality of learning that occurs at the bedside in actual patient care settings and situations. Authors resolute that major inconsistencies in opportunities for clinical learning make clinical experiences delivered in the traditional student-faculty model even less reliable than once estimated. Evidence that would justify regulatory agencies to set certain numbers of clinical hours and to prescribe what clinical education must look like beyond the expectation to consistently meet essential learning outcomes is simply lacking. Hungerford et al. (2019) reiterate staggering financial impact for students traveling far away from their homes to participate in clinical experiences that often do not yield anticipated opportunities and outcomes.

### **Transformation of the clinical learning model**

Modern approaches to clinical learning must provide students with experiences that teach and refine their clinical reasoning, emerge them into expert-led best practice experiences with actual patients, allow them extended time to work side-by-side with seasoned clinical experts and engage them in activities that deliberately safeguard and enhance patient safety and satisfaction. Mayer & Start (2018) discuss the need for expansion of clinical placements for students. Authors recap importance of clinical projects and practicum experiences for pre-licensure as well as graduate level students. Essentiality for schools to work with clinical partners to evaluate level of preparedness achieved by students and graduates and to find ways to accommodate needed clinical education is stressed. Communication of specific learning objectives for each student/group through clinical rotation information sheets that are completed by faculty and posted for staff to utilize is recommended. The need for staff development on how to precept and work with student nurses is clear. Appropriate training for nurses and students, placing students in one-on-one care situations with nurses, using off shifts and weekends to expand placements has shown to bring about powerful clinical learning and keep highly experienced clinical experts at the bedside. Utilization of clinical sites as a nurse teaching grounds on a 24/7 basis promises ground breaking transformation in nursing education.

### **Graduate readiness to navigate Next Generation NCLEX®**

Caputi (2019) expects that the Next Generation NCLEX® (NGN) licensure exams will focus on testing clinical judgement rather than content in a way that is quite different from what has been known. Caputi suggests that questions will be designed to create clinical scenarios that closely mimic acute care situations, provide higher fidelity, feel very real and require analysis and application of clinical reasoning as seen in actual patient care. Creation of clinical learning for students that is robust and provides sufficient clinical exposure is more essential than ever! The need for real-time clinical education is reiterated. Caputi (2019) challenges that teaching the five steps of the nursing process or similar clinical judgement models may not be enough. Repetitive teaching of “thinking skills” is described as an essential part of theory and clinical learning experiences. Necessity of a multi-layered approach to learn clinical judgement that takes the student from general to specific, teaches discernment of relevant information as well as focuses on early recognition of change and ability to rescue is clear. The author projects that students that are challenged to work through predetermined thinking competencies at each level and in all settings of their nursing education will become “self-

regulated thinkers". Caputi (2019) reiterates the reality that traditional ways to educate students will no longer work.

### **Nurse apprenticeships and the continued need for modified nurse residency programs**

Goode et al. (2018) recommend that all new nurses should complete a nurse residency program as part of their employment; the call for action per mandate or incentives at federal and state levels is extended. Writers identify delegation, prioritization, management of care delivery, collaboration with other disciplines, and conflict resolution as some of major areas to address. This call for action is based on preparation of new graduates, their ability to function as experienced nurses right out of the gate of nursing school and retention issues that continue to magnify nursing shortages. The writers state that residency programs should be nationally accredited in order to provide the level of preparation necessary to sufficiently address the complexity of the current acute care environment. Increase in patient acuity, shorter lengths of stay, significant documentation requirements, the need to coordinate care with other disciplines compounded by use of highly technical equipment in delivery of care are major culprits to warrant this additional training. Writers compare preparation to provide nursing care with the medical model through which physicians become licensed after their post-graduate residency and have access to funded Graduate Medical Education (GME). Writers recommend focused nurse residency models that concentrate on one area of clinical specialization and provide a highly structured transition to practice with the aim to improve quality and safety, increase job satisfaction, reduce stress, decrease turnover and lead to improved patient outcomes. Quality residency programs are to be built on formal training for preceptors, skill development and practice support for new nurses for at least 6 to 9 months and creation of a positive learning environment through active collaboration with other disciplines. Sounds much like the making of effective nurse apprenticeships that would provide skills and bedside experiences, address skills competency and socialization to professional nursing, and enhance ability to clinically reason much earlier in the educational conduit. Much like successful nurse residency programs, a robust apprenticeship model incorporates gap analyses to identify performance issues and requires built-in, real-time remediation and validation of competencies at the point of care. With that said, early models of nurse apprenticeships clearly depict benefits of modified nurse residency programs to support new nurses as they grow to become clinical experts. While the nurse apprenticeship is utilized to provide clinical training and experience, eases transition to professional nursing practice and fills open nursing positions, a modified nurse residency continues to support nurses in their journey to become clinical experts, culminates leadership in nursing, and provides an ideal training ground for preceptors and clinical tutors.

### **Makings of the professional nurse apprenticeship**

A deliberate model to learn how to critically think at a much deeper level coupled with consistency of real-time clinical learning where students earn wages while deeply emerged in today's complex patient care environment promises win-win outcomes. Students learn from nurse experts and become fully socialized to the role of the nurse, acclimate to quality clinical decision making through direct patient contact, assume direct responsibility for their actions early on and leave nursing school much better prepared to meet the challenges of their "new" nursing positions that by that time really are not so new anymore. While graduate readiness to sit for the NCLEX® licensure exam is important, apprenticeships promise to attract new talent to nursing, help new nurses to be better prepared to

provide optimal care to their patients, improve nurse retention rates and significantly strengthen the nursing workforce.

Professional nurse apprenticeships require completion of a college degree, engage students to work in nursing while they learn, and prepare learners at a much higher level to navigate their chosen profession. While apprenticeships initially may require higher investments from the business sector, employers who have engaged in apprentice training models enjoy a steady stream of well-prepared workers, are able to reduce recruitment and orientation costs and report vastly higher retention rates among apprentices (Field, 2015). Field (2015) goes on to brand apprenticeships as the “the other college without the debt” and purposes apprenticeships as highly viable options for non-traditional students and more mature workers that are ready to engage in new careers. Growing evidence of graduates that are much better prepared to meet the challenges of contemporary employment makes the apprenticeships a model of study that cannot be ignored.

Necessity to design innovative clinical learning models for nursing students that intentionally and consistently support contextualization of the nursing culture is clear. The Institute of Medicine report (IOM, 2010) as well as nursing theorist Dr. Benner and her colleagues extended a compelling call for transformation in nursing education in 2010. In 2011 Seifert clearly recognized the need for transformational clinical learning in response to “ubiquitous technology, shortened lengths of stay for patients, and growing lists of mandatory skills sets”. Bingham (2014) describes how a school in New Plymouth, New Zealand answered Benner’s call. While modern nurse apprenticeships are deeply grounded in clinical practice, they are significantly different from older models of clinical learning. The “modern apprenticeship” developed at Western Institute of Technology offers a three-year full time plan of study which culminates in a baccalaureate degree in nursing, places students in clinical very early in their program and deliberately prepares graduates for employment in a variety of settings. Recognition that theory based teaching does not yield the education necessary to successfully navigate the waters of modern health care is clear. Strong partnerships between health care providers and academia is instrumental to make this work. The curriculum is based on the work of Benner and colleagues (2010) and guides the learner through three distinct apprenticeships, phases of learning. As identified by Benner (2010) nursing education begins as students engage in cognitive learning to acquire and learn to use knowledge. The second apprenticeship is skills based and begins to tightly connect theory to clinical practice. Apprenticeship three relates to salience, the importance of being a nurse, ties ethical and professional principles together and culminates in standards, behaviors and professional responsibilities of the registered nurse. Bingham (2014) reiterates that a variety of teaching methods are utilized to help students develop and utilize skills of noticing, interpreting, responding and reflecting like a nurse. Real-life clinical learning, management of unexpected patient situations with little or no prompting from clinical tutors and responsibility for actions taken are pillars of the “modern apprenticeship”. While faculty works directly with students in clinical in year one, experienced nurses in partnering facilities work with nurse apprentices in years two and three. By the end of their program nurse apprentices work 32-hour weeks as part of their care teams in clinical. Apprentice logs and weekly faculty-led tutorials provide full reflection on clinical actions, allow apprentices to share their experiences with their peers and provide a supportive avenue for remediation. Accountability for actions is at the forefront of real-time clinical learning. Transformative educational preparation and effective transitional orientation processes help learners form their professional identity, embrace their social role and responsibility and accept moral agency and advocacy of their positions. Bingham (2014)

reports outcome data for this “modern apprenticeship” utilized in an active, blended learning environment to educate nurses in New Zealand. In 2013 a mixed-method questionnaire was utilized to attain feedback from 48 nurse apprentices; 92% of responders rated their educational experiences as positive. Responses, such as “best way to apply theory to practice”, “learn to notice the little things” and “increased my confidence” reiterate a highly positive, effective way to clinically educate.

Dean (2018) describes nursing education offered in form of a nurse apprenticeship at Anglia Ruskin University in England. In this model nurse apprentices work three days each week in their jobs while completing an 18-month course of study. Nurse apprentices engaged in this educational model are required to attain a 2-year foundational degree that is required to effectively transition to the University and provides academic eligibility to complete their degree in nursing. The writer indicates that while this apprenticeship program moves very fast, comprehensively ties theory and clinical together and demands high levels of motivation and commitment, drop-out rates are very low. While the article indicates that this model is primarily used to offer “bands” of articulation to workers already employed in health care, this university continues to work with local employers to develop innovative work-based approaches to foster the nursing workforce. Just last September a full 42-month nursing apprenticeship program was started; the option for students with foundational degrees to complete the apprenticeship in 20 months is offered. Early retention rates for these options are high as well. Necessity for employers to work closely with academia to select and pair nurse apprentices with their mentors, determine optimal care placements for them and to work collaboratively to see them through their educational journey is clearly demonstrated.

### **How to make the professional nurse apprenticeship work**

The Journal of Perioperative Practice (Anonymous Author, 2012) describes facets of a contemporary apprenticeship and brings out essentials to make this new innovative model work. Prerequisite skills and knowledge should be set to ensure patient safety, clinical experiences should span over at least two years, and clinical placements should be consistent, yet robust to ensure stability and continuity of patient care. Strong focus on staff development and career progression is essential. Creation of “nursing bands” which begin with a platform of basic training as a health care assistant and then move forward onto actual nurse education is discussed. Essentiality of deliberate alignment of formal education and mentorship with hands-on on the job learning is reiterated throughout the literature. Bradley-Adams (2011) yet again emphasizes necessity for “placement providers” to closely work with nursing schools to determine optimal placements for nurse apprentices. Hiring for apprentice placements should directly hinge to permanent positions in nursing upon completion of the nursing degree. Expert clinical training paired with the opportunity to earn wages in nursing while learning the profession serves as a major incentive to attract the best and brightest with equal rights for economically challenged as well as affluent students! The current clinical model undeniably puts great strain on nurse workload, does not support clinical operations in facilities as well as it could and certainly does not help with the shortage of clinical faculty and preceptors. Impact of well-designed nurse apprenticeships on clinical learning, nurse workloads and clinical site operation could be astonishing. This new approach to clinical learning promises better continuity of care, reduction of temp staffing costs, cohesive nurse and apprentice work teams, extra hands on deck to enhance patient care and satisfaction and unprecedented impact on new nurse retention rates.

### **Essentials of the professional nurse apprenticeship:**

- Early engagement of students in middle and high school to raise awareness and to grow interest in nursing/health care field.
- “Nursing bands” which provide a platform for basic training as health care assistants and culminate in degrees in professional nursing.
- Robust partnership of health care employers with academia – collaboration, trust, agreement and open communication.
- Registration of professional nurse apprenticeships with the U.S. Department of Labor – exploration/utilization of financial incentives to support apprenticeships.
- Curriculum focused on contextualization of theory and clinical learning.
- Prerequisite course work, skills and proficiencies for each level of the apprenticeships – utilized to determine student eligibility to work as an apprentice nurse.
- Selection of nurse apprentices by health care employers in concert with academia.
- Hiring of nurse apprentices at competitive wages with intent for full employment after graduation.
- Spanning of nurse apprenticeships over at least two years to meet the clinical component of the degree in nursing.
- Apprentice nurse work hours counted as college credit for clinical.
- Clear delineation of faculty and staff responsibilities in oversight of apprentice nurses.
- Focused training for expert nurses to build strong care teams with apprentice nurses.
- Apprentice nurses work at the level of objectives, skills and competencies already covered in school.
- Clear communication of specific learning objectives for each nurse apprentice/level of apprenticeship -- clinical rotation information sheets completed by faculty and posted for staff to utilize.
- Apprentice placements that are constant and robust to ensure stability and continuity of patient care.
- Incorporation of clinical projects and practicum experiences.
- Gap analyses to identify performance issues, built-in, real-time remediation and validation of competencies at the point of care.
- Clearly defined evaluation processes for effectiveness/outcomes of the apprenticeship.
- Modified nurse residency programs to support nurses in their journey to become clinical experts, culminate leadership in nursing, and provide training grounds for preceptors and clinical tutors.

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