

Background

Some remarkable changes in the nursing workforce have occurred over the past few decades. The number of registered nurses (RN) in the workforce has grown by more than 50 percent since 2001, with more than 3.1 million RNs working across the United States in 2015 (Buerhaus, Skinner, Auerbach, & Staiger, 2017a). More RNs are baccalaureate prepared, surpassing the number of associate-degree prepared RNs in 2011 (Boivin, 2017), and the number of RNs receiving graduate degrees has almost doubled (Buehaus et al., 2017a).

Despite many positive developments within the nursing workforce, many researchers warn of challenges which could lead to a nursing shortage, and potentially to a reduction in access to care. Buerhaus, Skinner, Auerbach, and Staiger (2017b) argue the aging population, predicted physician shortages, aging and retirement of RNs, and uncertainty of health care reform pose serious challenges to the nursing workforce by increasing demand for RNs, while threatening the current supply. They argue the aging of the population and the shortage of physicians increases the demand for RNs to provide an ever-increasing level of care, while the aging of the nursing workforce and expected retirements threaten the current supply of qualified RNs.

Others argue the primary challenge for the future of nursing lies within the system of nursing education (American Association of Colleges of Nursing, 2005; Nardi & Gyurko, 2013), namely the shortage of nursing faculty and insufficient clinical sites (MacIntyre, Murray, Teel, & Karshmer, 2009). According to the American Association of Colleges of Nursing [AACN] (2005; 2017) faculty shortages at nursing schools limit student capacity. In 2016, nursing schools across the country turned away about 64,000 qualified applicants due to insufficient faculty, clinical sites and clinical preceptors, and budget constraints (AACN, 2017). Similar results were found in Oregon. A 2010 study from the Oregon Center for Nursing found almost 2,500 qualified applicants were denied admission to nursing programs across the state that year.

The latest AACN survey on nursing faculty vacancies found 56 percent of nursing schools across the nation had vacant full-time faculty positions, 16 percent had no vacancies but needed additional faculty, while only 28 percent of schools reported no full-time faculty vacancies and did not need additional faculty (AACN, 2018). Stated differently, only 28 percent of responding nursing schools indicated that they were adequately staffed. Additionally, on average, each nursing school had two faculty vacancies with an overall vacancy rate of 7.9 percent (AACN, 2018). The shortage of nurses at the master's or doctoral level qualified to teach in graduate and baccalaureate nursing programs is due, in part, to non-competitive salaries, high workloads, and retirements that outpace schools' abilities to replace faculty (AACN, 2017, 2018; MacIntyre, et al., 2009; Nardi & Gyurko, 2013). Studies examining nurse faculty turnover show nursing faculty leave their positions because of non-competitive compensation, high workload and lack of collegiality within the nursing school (OCN, 2015, 2017). Nursing programs are having difficulty recruiting and retaining enough qualified faculty to meet current demand, and this severely limits a program's ability to expand to meet projected demand (MacIntyre, et al., 2009).

While clinical instruction is a critical component of nursing education, the availability of clinical sites for nursing students is inadequate and limits programs' abilities to meet current and future demand for new RNs. For instance, in many areas, clinical instruction sites are being fully utilized, and feel they do not have the resources to accept more students. This limits nearby programs from expanding and may impact their ability to educate enough nursing students as programs must limit enrollment to not overwhelm clinical sites (Curl, Chrisholm, McGee, & Das, 2016; MacIntyre, et al. 2009; Sedgwick & Harris, 2012). This also impacts the scope of the nursing education because educational opportunities in clinical specialties such as obstetrics, pediatrics, and mental health, can be very limited (Curl, et al., 2016). Faculty shortages affect the capacity for clinical instruction, as additional faculty to teach clinical courses are scarce and the workload for existing faculty increases with the added responsibility of clinical instruction (Sedgwick & Harris, 2012).

While the literature regarding faculty shortages and limited availability of clinical sites focus on national and international trends, the question remains whether Oregon is facing many of these issues. Data from OCN and the Oregon State Board of Nursing (OSBN) suggest that Oregon is facing a faculty shortage, which affects the capacity at Oregon's nursing programs. According to a recent study by OCN (2017), of the approximately 720 nurse faculty positions across the state, 472 of these positions were vacated at some point during the three-year study period. This equates to a 21 percent annual turnover rate. Additionally, data from OSBN's annual nursing program survey showed the number of seats in nursing schools have declined in recent years. According to these data, there were 1,735 available seats in Oregon's nursing programs in school year 2011-12. By the 2016-17 school year, the number of available seats declined by more than six percent to 1,624 available seats (OSBN, 2018). These data, along with nursing programs across the state expressing the same concerns indicate that there is a shortage of nursing faculty in Oregon and the problem is getting worse (OCN, 2017).

While there is ample evidence of a nursing faculty shortage in Oregon, there is also recent evidence suggesting this shortage is affecting the ability of Oregon's nursing programs to meet the state's current need for RNs. The most current available data shows Oregon's nursing programs graduated 1,570 students with either an associate degree in nursing (ADN) or a bachelor's degree in nursing (BSN) in 2017 (OSBN, 2018). However, occupational employment projections by the state's employment department indicate this may be insufficient to meet current demands. These latest projections show that between 2017 and 2027, Oregon will need an additional 26,600 RNs over a 10-year period to fill new jobs due to growth within the industry and to replace current RNs who leave their positions (Oregon Employment Department [OED], 2018). The bottom line is the state needs 2,664 new nurses each year to fill vacancies and newly created nursing positions. This indicates that Oregon's nursing programs are not producing enough nursing school graduates each year to meet the state's current and projected need. Thus, employers across Oregon must rely on nurses trained in other states.

Given the nursing faculty shortages and the lack of adequate clinical sites, how can schools of nursing increase capacity? Indeed, many researchers outline the resources needed by colleges and universities to increase capacity to educate more nursing students, and include additional nurse faculty, clinical instructors, and clinical sites (AACN, 2005; Bvumbwe, 2016; Dahlke, O'Connor, Hannesson, & Cheetham, 2016; Maryland Higher Education Commission [MHEC], 2006; Nardi & Gyurko, 2013; Richardson, Goldsamt, Simmons, Gilmartin, & Jefferies 2014). MHEC (2006) reported the state's nursing schools deans and directors identified the addition of nurse clinical faculty and clinical sites as the most difficult obstacles to overcome when trying to expand nursing programs. They also reported obtaining additional nurse faculty and additional classroom/laboratory space were significant impediments. While the need for nurse faculty is widely documented, most research points to inadequate clinical instruction sites and

instructors as having the greatest impact on a school's ability to expand their programs (Dahlke, et al., 2016; DeLunas & Rooda, 2009).

Various models are currently used for clinical instruction in nursing schools, including the **clinical faculty model**, the **nursing preceptorship model**, and the **clinical simulation model**. Most schools use a combination of these models and rarely rely solely on one method, depending on local needs (Dahlke, et al. 2016). The clinical faculty model entails the use of college or university faculty to lead the student's clinical instruction experience at approved clinical sites with little support by staff at the clinical site (Sedgwick & Harris, 2012). In contrast, the nursing preceptorship model heavily relies on staff from the clinical site to provide clinical instruction. In this model, qualified staff nurses serve as preceptors and provide clinical instruction directly to a single nursing student or to a small number of the students, with college or university faculty serving as coordinators or in other support functions (Sedgwick & Harris, 2012). The third model, clinical simulation, heavily relies on technology, such as high-fidelity patient simulators, to provide clinical experience (Richardson, et al., 2014).

Each model has benefits and disadvantages when examining their possible role in expanding nursing program capacity. The clinical simulation model seems to have the largest potential to increase nursing school capacity by using existing faculty more effectively. The New York University College of Nursing found close to a 50 percent increase in faculty capacity following the implementation of clinical simulation model (Richardson, et al., 2014). However, Richardson et al. (2014) reported a few drawbacks. First, clinical simulation cannot totally replace on-site clinical instruction, as New York University only replaced about half of their on-site clinical instruction hours for simulation. As such, this mixed model required the school to maintain their associations with clinical sites, and required the program to administer two clinical instruction models. They also point out that schools wishing to implement a high-fidelity simulation laboratory must invest significant financial resources and faculty time (Richardson, et al., 2014).

The nursing preceptorship model also has the potential for increasing capacity as clinical instruction would not require the time and effort of college faculty. Instead, nursing staff at clinical sites directly provide clinical instruction. This allows nursing programs to focus the use of faculty to classroom instruction and coordination/support efforts at the clinical site (Sedgwick & Harris, 2012). The adoption of this type of model allows schools to increase student capacity with very little investment in additional faculty (Nardi & Gyurko, 2013). This approach can also narrow the gap between theory and practice as currently practicing nurses share their experience with students in the actual clinical setting, thereby increasing the use of evidence-based practice (Bvumbwe, 2016; Sedgwick & Harris, 2012). Critics argue that inadequately prepared preceptors and clinical faculty, and inconsistencies between classroom-based lessons and preceptor's instruction can limit the viability of this form of clinical instruction (Sedgwick & Harris, 2012). Hewitt and Lewallen (2010) suggest these deficiencies can be overcome by in-depth orientation and preparation specifically aimed to clinical preceptors.

The clinical faculty model, especially considering ongoing, well-documented faculty shortages, is the least amenable model for increasing nursing program capacity, as any increase in capacity requires the addition of clinical instructors within the nursing program (AACN, 2005). While it is used in many nursing programs because of the ability for the school to control instruction method and content, it is very difficult to increase student capacity because of the necessity to hire additional instructors, and the likely need to secure additional clinical sites and/or clinical slots (AACN, 2005; Dahlke, et al., 2016; Sedgwick & Harris, 2012). Moreover, many states mandate specific student-to-faculty ratios that limit how many nursing students can be accepted into nursing school and requiring additional

faculty before the program can grow.

In Oregon, many nursing programs currently use the clinical faculty model along with clinical simulation (OCN, 2015; OSBN, 2018). Currently, Oregon regulations limit the number of students per clinical instructor to 8:1 (Oregon Administrative Rule (OAR) §851.21.0045), which limits growth. By adopting a clinical instruction model that utilize faculty more effectively, schools may also realize a decline in nurse faculty turnover. Any increase in effectiveness should also reduce a faculty member's workload, which has been reported as a major factor in their decision to leave their faculty position (OCN, 2015, 2017).

Examination of the literature related to recruiting, hiring, and retaining nurse faculty clearly shows that faculty shortages are widespread, both nationally and in Oregon. These challenges may hamper the state's ability to produce well-educated nurses in local communities, especially in rural communities where a limited pool of qualified, potential nurse educators and few clinical placements exist. Instead of being able to "grow your own," rural communities are being forced to rely on nurses educated in the metropolitan areas of Oregon or from other states.

It is apparent this is not a new problem, as it has been discussed in the literature for decades (AACN, 2017), and that it will be difficult, and potentially expensive, to solve (AACN, 2005). However, one thing is clear, the faculty shortage will become worse if nothing is done, and this will exacerbate future nursing shortages. The recommendations listed below were compiled from several sources (AACN, 2005; MHEC, 2006; MacIntyre et al., 2009), and can serve as a guide to what measures can be taken to alleviate this ongoing problem and assist colleges and universities with expanding capacity in their nursing programs given current resources.

Recommendations

1. Expand faculty capacity in non-traditional ways with existing resources.

Traditionally, nursing programs have objected to the use of non-nursing faculty, faculty with non-nursing degrees, and sharing resources and course content with other disciplines. By utilizing relevant resources from other disciplines, colleges may be able to minimize the impact of faculty shortages and enhance the learning experience. Strategies could include:

- Develop joint academic activities with other disciplines, both within and across colleges and universities to capitalize on existing resources.
- Accept course work from other disciplines, when appropriate, that meet nursing program requirements.
- Use non-nurse faculty to teach select nursing program courses.
- Use qualified non-nurse faculty to hold administrative positions with the nursing program.

2. Utilize retired faculty.

Reexamine the college or university's retirement policies and procedures to allow experienced faculty to continue teaching. Strategies could include:

- Examine a college/university's retirement policy and eliminate any unnecessary restrictions for faculty to continue teaching, particularly mandatory retirement ages.
- Design new retirement planning to support the inclusion of retired faculty.
- Realign current faculty workloads to accommodate part-time retired faculty.

3. Examine current processes and procedures for providing clinical education.

Clinical instruction is an expensive, but necessary, component of the nursing education. However, as currently taught, clinical instruction is provided for small groups of students with extensive oversight by nursing faculty. Additionally, given the wide variety of clinical settings where nurses work, faculty must have expertise in the specialty area in which they teach. Programs with few students may need multiple nurse clinical instructors to adequately cover all areas of instructions. Strategies could include:

- Increase formal partnerships between schools of nursing and clinical facilities, and identify specific processes that would benefit both parties.
- Appoint qualified staff from clinical facilities as clinical instructors.
- Include appropriate staff from clinical facilities on school of nursing committees to gain additional perspectives on the education process.
- Explore and incorporate clinical education strategies from other healthcare disciplines that increase the capacity of faculty.
- Utilize technology and simulation laboratories to fullest extent allowed.

4. Expand professional development for faculty members.

The higher education environment is changing in dramatic ways, and faculty may require assistance in navigating the constant current of change. Strong professional development program can support faculty in enhancing their teaching skills, and ultimately their overall job satisfaction. Strategies may include:

- Conduct formal orientation for all full-time, part-time, and adjunct faculty on their roles and responsibilities within the nursing program.
- Identify minimum professional development activities that should be required of all faculty, and offer additional guidance and development as required.
- Critically evaluate faculty roles and expectations and determine which roles can be eliminated or modified, and how to best utilize current faculty.
- Cultivate an academic environment that offers guidance and support for all faculty.
- Encourage faculty to complete graduate or post-graduate certificate programs in education, especially faculty not academically prepared in nursing education.
- Incorporate nursing education content in all graduate nursing programs to increase student awareness of this as a potentially attractive career option.

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