

**ADDRESSING THE GAP AND
CONCLUSIONS , Strategies
& RECOMMENDATIONS SECTION**

ADDRESSING THE GAP: GETTING SUPPLY AND DEMAND TO MEET

1. How big is the gap between supply and demand?

At the current graduation rate in the health care education pipeline, by 2012 Oklahoma will likely have a shortage of over 3,000 registered nurses, 500 medical and lab technologists, 400 physical therapists, 300 surgical technicians, 150 occupational therapists, and 150 radiologic technologists. This equates to 11% of Oklahoma's registered nurse workforce in 2012, 13% of medical and lab technologists, 19% of physical therapists, 21% of surgical technicians, 14% of occupational therapists, and 14% of medical radiologic technicians.

By 2012, Oklahoma will experience a shortage of more than 11,000 health care personnel in the selected professions and occupations examined in this study. This is a conservative forecast of supply based upon findings in this limited study, which represents a limited number of survey respondents. Occupational growth rates were based on national standards from the U.S. Department of Labor, and a realistic number of new entrants into the workforce was obtained by utilizing 2004 graduation rates and assuming no change in health care education class size. Figures 9 through 18 present cumulative forecasts for select professions and occupations examined in the study. The data tables used in development of the figures can be found in Appendix 4.

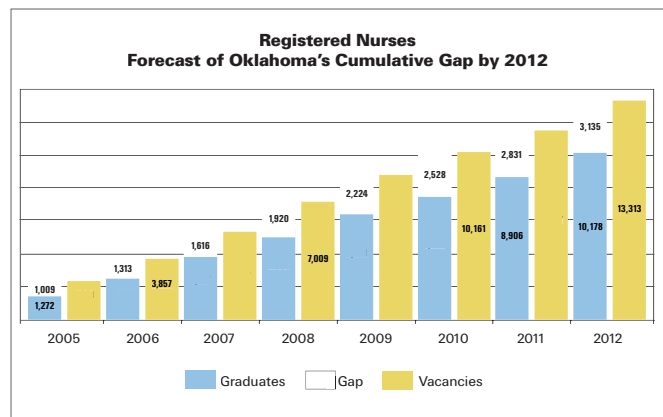


Figure 9 - Source: Oklahoma Department of Commerce

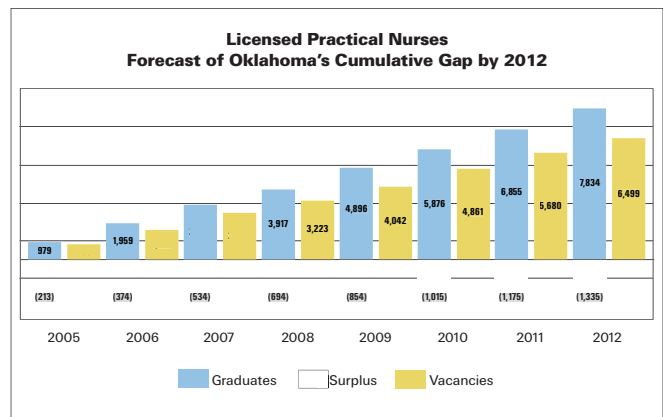


Figure 10 - Source: Oklahoma Department of Commerce

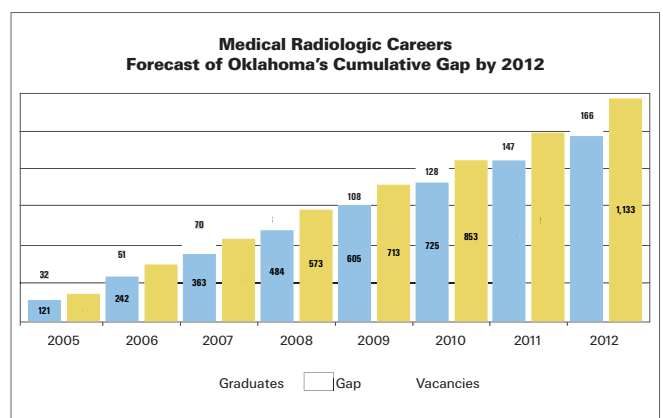


Figure 11 - Source: Oklahoma Department of Commerce

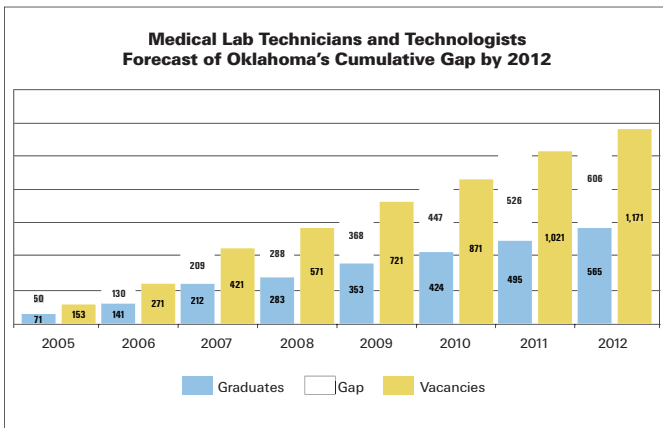


Figure 12 - Source: Oklahoma Department of Commerce

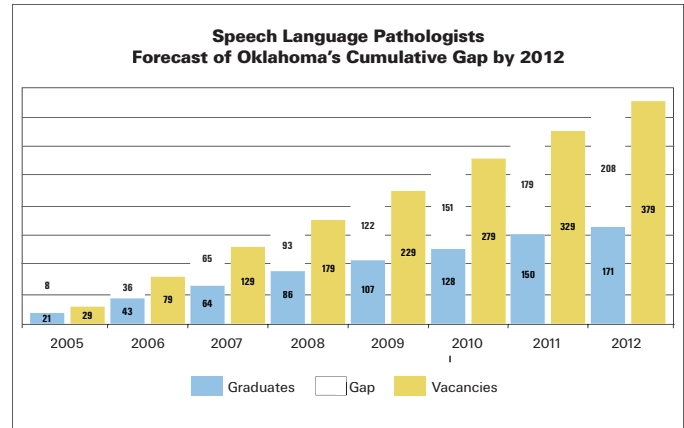


Figure 15 - Source: Oklahoma Department of Commerce

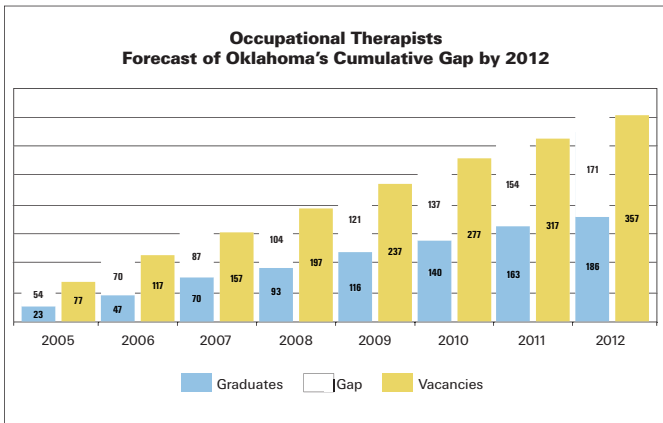


Figure 13 - Source: Oklahoma Department of Commerce

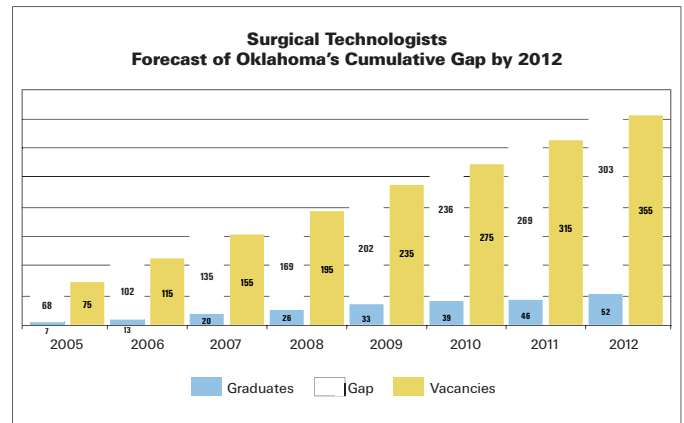


Figure 16 - Source: Oklahoma Department of Commerce

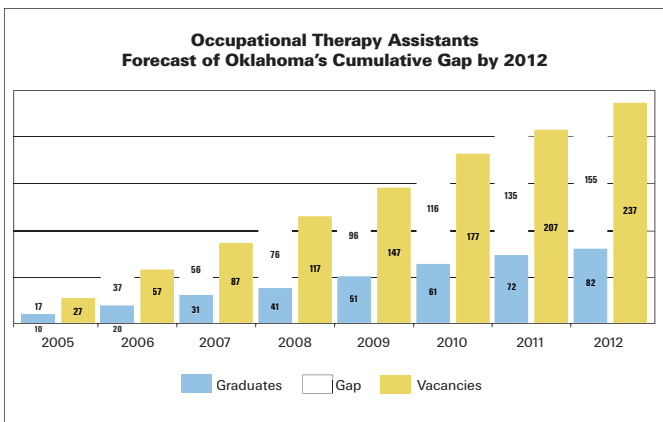


Figure 14 - Source: Oklahoma Department of Commerce

ADDRESSING THE GAP: GETTING SUPPLY AND DEMAND TO MEET

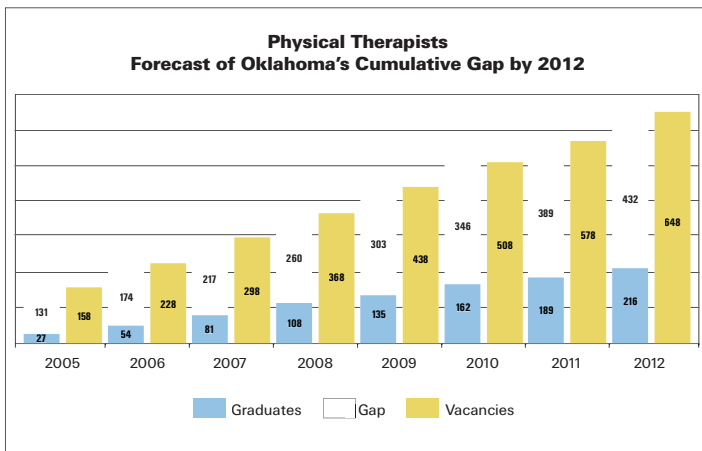


Figure 17 - Source: Oklahoma Department of Commerce

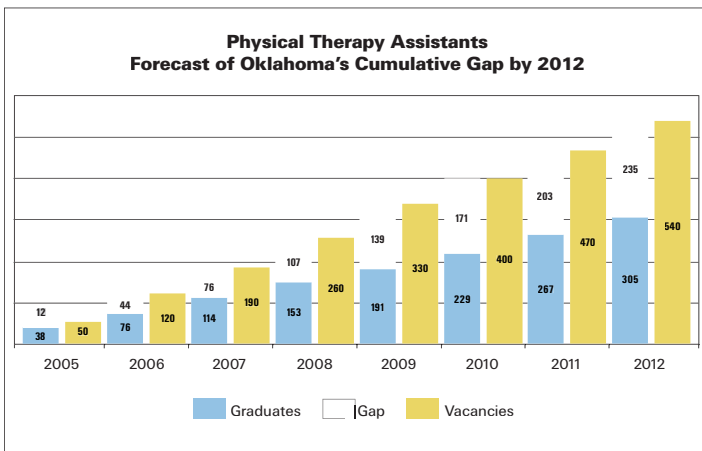


Figure 18 - Source: Oklahoma Department of Commerce

Survey data obtained concerning the supply for certified nurse aides, certified medical aides, and home health aides was insufficient and did not allow for projections to be developed. However, the data available did suggest that the primary issues relating to these occupations stem not from a lack of supply, but from high occupational turnover within the industry.

2. Postsecondary educational pipeline

When asked to identify leading issues in Oklahoma's health care workforce development, industry representatives consistently returned to an inadequate education pipeline. Interviews with industry, CareerTech and OSRHE education systems representatives identified the following as primary reasons for this inadequacy:

- Lack of faculty needed to train additional qualified applicants.
- Low salaries of health care educators relative to those of health care industry professionals were cited as the number one reason for faculty shortages.
- Lack of adequate clinical space for students, essential for training and credentialing of new health care workers.
- Limited ability to make rapid adjustments to high cost educational programs, such as health care, when industry conditions necessitate extensive program changes.



a. CareerTechnology programs

CareerTech programs provide many students access to advanced technical and academic courses that might otherwise be unavailable. They also offer adult students with opportunities for continuing education, customized industry training, and occupational based learning. These programs assist students who are learning new skills, refreshing prior education, or transitioning into new careers. CareerTech programs also play an important role in Oklahoma’s health care workforce supply pipeline through partnerships with Oklahoma’s higher education system. Students entering many of CareerTech’s health care education programs are able to concurrently enroll or transfer credits into similar programs at partnered colleges or universities in order to obtain the credentials necessary to work in specific nursing or allied health careers.

CareerTech’s typical health career education program allows a student to complete in one year. More than 67 percent of CareerTech’s practical nursing programs have transitioned to the student-centered model and some technology centers are moving other health related programs



to a similar model. By 2008, the Oklahoma Department of Career and Technology Education will require an end-of-instruction test for foundation courses in a career pathway and an end-of-instruction or state/national certification of all students who complete their respective career pathways. This will be done to meet the goal of having career and technology education students leave high school with an industry certification and college hours completed toward a degree. The requirements will be phased in as business and industry approve the assessments to be used to demonstrate competency for career preparation.

| Program | 2004 |
|------------------------------|--------------|
| Health Science Technology | 11 |
| | 1,001 |
| | 1,053 |
| Magnetic Resonance Imaging | 2 |
| i | 91 |
| Nursing Assisting | 290 |
| | 13 |
| Physical Therapist Assistant | 12 |
| i | 48 |
| Respiratory Care | 43 |
| | 136 |
| Total | 2,700 |

Table 16 - Source: Oklahoma Department of Career and Technology Education

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b. Higher education degree programs

Nearly all Oklahoma higher education institutions offer health care programs, ranging from college-level certificates to doctorate degrees. These programs are accredited through the profession’s state and/or national standards and achieve high pass rates on required licensure and/or national board examinations. As represented by nursing in Figure 19, there are many more qualified applicants to health care programs than the current system in Oklahoma can accommodate or admit. To meet the current demand for degreed health care professionals, Oklahoma’s higher education pipeline must expand.

Although 86% of health care graduates from Oklahoma’s higher education system remain in the state, there is a small, but relevant level of supply outflow. Most health care professions programs are rigorous and must adhere to accreditation standards and curriculum that require low student to faculty ratios to ensure satisfactory learning and clinical competency. Courses and learning processes in most health care professions programs are regimented and sequential. Consequently, when qualified students do not continue in a program or “drop out” due to academic deficiencies or for personal reasons, a “hole” results that cannot be filled until the next class is admitted to the program.

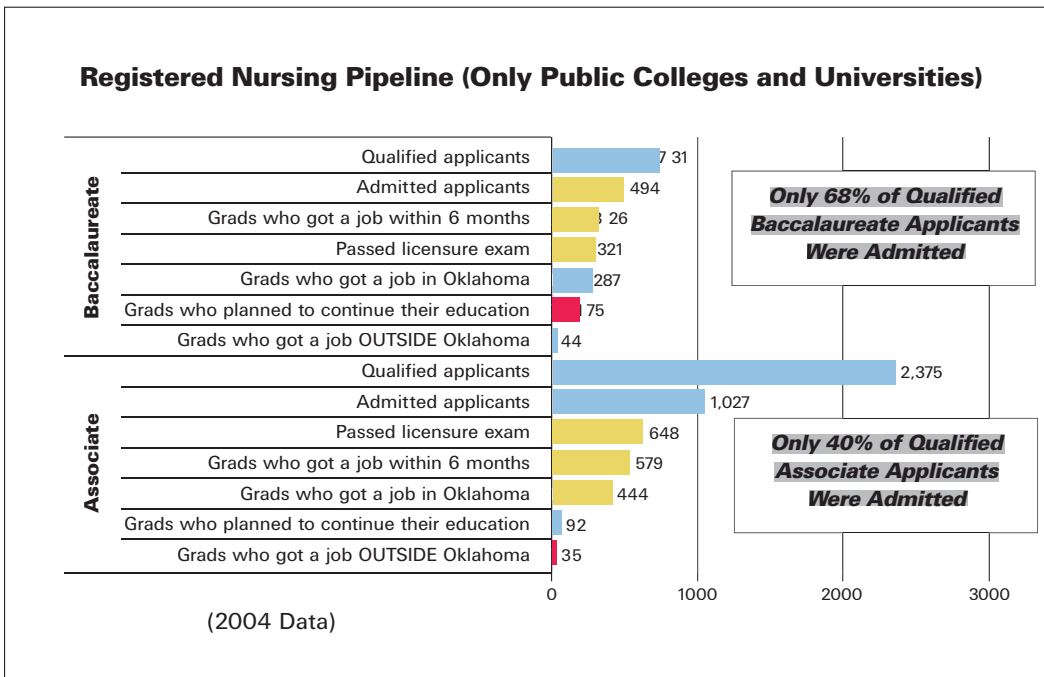


Figure 19 - Source: Oklahoma State Regents for Higher Education



This attrition in programs, combined with graduates that find employment outside of the state, further reduces the available supply in Oklahoma's health care workforce.

Data from the study also suggests that Oklahoma higher education institutions are not producing sufficient numbers of physical therapists and occupational therapists to meet the needs of the industry. Survey results obtained for this report indicated that vacancy rates for physical therapists and occupational therapists were 18% and 22% respectively.



c. How technology can help

Oklahoma's education institutions leverage technology to provide online, distance, interactive, and self-paced educational delivery systems. For example:

- Students may access video clips, exams, written assignments, and reading assignments online, allowing complete flexibility for times and dates of class.
- Satellite classrooms using two-way video conferencing allow a single professor to provide distance education to multiple sites which may make it easier when courses must meet minimum enrollment requirements.
- Accredited online learning opportunities enable the health care workforce to meet mandatory continuing education requirements at their convenience and also facilitate tracking and reporting for program administrators.

Use of distance education technology like those mentioned above may be used to link already existing health care educational programs throughout the state, which may overcome class size limitations that prevent Oklahoma from providing a sufficient number of graduates to meet the needs of the health care industry. However, some accreditation standards, such as maximum student to teacher ratios and specific clinical requirements, place indirect limitations on how use of this kind of technology can alleviate health care workforce shortages.

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d. Continuing education and new technology

The mandatory continuing education requirements that exist for most of Oklahoma’s licensed health care workforce are typically defined by state or by national credentialing standards. When new technology becomes available and has a relevant impact on a given segment of the health care workforce, general training is provided at the broader educational level. Specific application of a new technologic device is most often made available by the new technology vendors.

3. Workforce recruitment and retention

There is a wide range of estimates for the ratio of employee recruitment cost to employee retention cost; however it is clear that it is more cost effective and productive for an organization to retain existing employees versus recruit new employees. In order to realize retention cost savings by maintaining and growing a strong and steady workforce, the health care industry must to address a variety of work place issues.

a. Extending careers of the health care workforce

The average age of Oklahoma’s health care workforce is increasing as the swell of the Baby Boomer generation moves closer to retirement. This trend will continue to significantly impact the ability of the health care workforce to keep pace with the physical demands of their jobs, particularly with regard to nursing. According to the Oklahoma Board of Nursing, more than 68% of Oklahoma’s RNs were age 40 or older in 2004, with more than one third over the age of 50. Nationally, RNs on average are retiring from bedside work between the ages of 53 and 56.³¹ Recognizing that the average age of students entering Oklahoma’s nursing programs is between 27 and 32 years old, it is projected that Oklahoma will lose a combined 20 to 25 years of productivity in the nursing workforce alone. Consequently, unless Oklahoma actively recruits a sufficient number of high school students into health care careers such as nursing, and successfully increases the average retirement age of nurses already in the profession, the long-term effects of workforce shortages will remain a serious challenge to the health care industry.

| Nurses who Live and Work in Oklahoma 2004 | | | |
|---|--------|-------------------|-------------|
| | Number | % Male / % Female | % Aged 50 + |
| Registered Nurses | 24,189 | 8% / 92% | 36% |
| Licensed Practical Nurses | 12,136 | 6% / 94% | 33% |

Table 17 – Sources: Oklahoma Board of Nursing; FY 2004 Annual Report

