

2010-2018 MISSOURI

HISTORICALLY
HIGH
GROWTH
OCCUPATIONS
**HEALTHCARE
CLUSTER**



Department of Economic Development

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The Healthcare Staffing Shortage

Researchers at the Missouri Economic Research and Information Center (MERIC) conducted a historical analysis of the past 5 rounds of long-term occupational projections starting with the 2000-2010 projections and ending with the recently released 2008-2018 projections. Within the Healthcare Cluster, there were six occupations that were identified as having historically high numbers of occupations with growth openings. These occupations were Registered Nurses, Medical Assistants, Pharmacy Technicians, Licensed Practical and Licensed Vocational Nurses, Nursing Aides, Orderlies, and Attendants, and Dental Assistants.

Despite the current economic climate, the health care industry has experienced steady growth. These six occupations, especially Registered Nurses, consistently have high growth that outpaces the number of graduates and trainees entering the workforce. In 2008, Missouri had an average 7.8% vacancy rate for Registered Nurses and in some areas; the vacancy rate was higher than 11%.¹ Nationally, the number of Licensed Practical and Licensed Vocational Nurses employed by hospitals decreased by 153,000 since 1984, mainly due to hospitals shifting the roles of nursing support staff.²

This skills gap is expected to continue to intensify as more baby-boomers are aging and their need for health care grows. By 2025, the national nursing and healthcare support shortage is expected to grow between 260,000 to 1 million people.³ There are 320 medically underserved areas or populations throughout Missouri's counties currently, and that number can only be expected to grow until the healthcare industry, workforce and education policy makers take proactive measures to decrease the shortage of healthcare support occupations.⁴

Healthcare Skills Gap

Healthcare support occupations often have a large skills gap due to the nature of their work. These occupations typically have heightened work life stress and greater turnover rates in the workplace. Hospitals trying to deal with cost effectiveness are handing over more responsibilities to support staff than higher salaried doctors and physicians. Because of this, there are increased problems with nurse-to-patient ratios and overall patient care. More than 75% of nurses surveyed by the American Association of the Colleges of Nursing said that the healthcare support staffing shortage presents problems for their work life, the quality of patient care, and the amount of time they have to tend to their patients. Almost 93% of those surveyed stated that if the shortage continues into the future it would serve as a catalyst for them to leave the profession completely.⁵

Failure to retain nurses and healthcare support workers contributes to the skills gap in the industry. High turnover for healthcare support occupations is also costly to healthcare facilities. In 2008, Missouri spent over \$44,000,000 on temporary staff needed because of increased turnover rates. This staffing uses a considerable portion of hospital budgets.⁶ Also, the aging trend of healthcare support staff is rising and a large number is expected to retire in the coming years. In 2008, the average age of Registered Nurses was 47 and over 45% of all nurses were aged 50 or older.⁷

One of the other large contributing factors to the skills gap in the healthcare industry is the lack of trained faculty. Nursing programs typically lose money for many colleges, therefore their willingness to expand the programs is stifled and salaries are not raised for faculty. In a national survey, over three-quarters of nursing schools stated that they were unable to accept all qualified applicants into entry-level programs due to faculty shortages.⁸ Despite this, the Council of Physician and Nurse Supply called for an additional 30,000 nurses to graduate annually to keep pace with the national healthcare expansion.⁹ Without adequate faculty to train the up-and-coming healthcare support workers, the number of graduates will continue to be disproportionate to the needs of the healthcare industry.

Recommendations

Hospitals and the government can do more to alleviate the skills gap for healthcare support staff by increasing funding and opportunities for education and training. For the 2009 Fiscal Year, Congress appropriated \$530 million for funding health workforce programs throughout the nation, as well as an additional \$200 million granted through the American Recovery and Reinvestment Act of 2009. Medicare also contributes roughly \$150 million annually to support nursing education, but that is a small share compared to the \$12 billion annually they contribute to hospitals for specialized physicians education. To address the shortage of workers in rural and overpopulated areas, the Health Resources and Services Administration funds programs for primary care, general dentistry, and nursing to provide healthcare to the underserved regions of Missouri.¹⁰

Today the majority of nurses in Missouri are trained in the academic setting rather than getting their primary healthcare education in a hospital-based setting. Over 89% of Registered Nurses in Missouri graduated with either an Associate or a Bachelor's Degree in 2009. One alternative for easing the shortage through other methods has been to offer training opportunities through alternative training. The state of Washington has instituted The Washington Health Care Worker Training Coalition that hopes to provide an additional 550 incumbent entry-level workers interested in the healthcare field a chance to advance into a healthcare support occupation. This would then create an additional 350 entry-level positions that would then have the chance to advance later in their career as well. Courses and training would be offered through workforce learning opportunities, online instruction, and recruiting more instructors to allow for applicants to move along the nursing pathway: Medical Assistant to Licensed Practical Nurses, before finally becoming certified as a Registered Nurse. This grant would allow for more low-wage workers with the interest in healthcare to advance their training and long-term career opportunities.¹¹

Other opportunities Washington provides for healthcare training is the State Need Grant which allows more low-wage workers to apply for part-time healthcare support training which would allow them to both advance their skills and keep their current jobs. Some opportunity grants also offer payment for up to 45 course credits for income eligible students studying in high-demand occupations, especially in healthcare.¹² Missouri can alleviate a number of the shortages by offering more opportunities for healthcare skills training to those workers who may have previously been interested in entering the field but could not afford the cost.

Training also needs to be updated to deal with newer, emerging technologies in the healthcare field. Electronic monitoring and recording is becoming the norm for healthcare facilities now to eliminate paper waste and increase hospital transparency. Using these new tools can also decrease turnaround time for patients and create a more seamless healthcare service industry. More remote distance learning can be completed for trainings in Missouri in areas that do not have full access to healthcare education facilities. Some training facilities are using newer computer simulation monitoring systems that track how clinicians are performing against the established best practices for their institutions.¹³ A more advanced and comprehensive early training system allows for less workplace stress for healthcare support occupations.

Most importantly, hospitals and healthcare facilities need to address the high turnover rates for healthcare support occupations that occur do to workplace stress caused by the nature of the industry and the staffing shortage the employees face. Registered Nurses are seeing their workloads increase exponentially due to the shortage and their cost-effectiveness. These nurses are attempting to care for more patients than is possible, thereby decreasing the patient care received and causing nursing burnout. By instead training Registered Nurses with more leadership skills, more workers could be hired as lower paid Licensed Practical and Vocational Nurses or Medical Assistants which could handle more of the case loads and alleviate the nurse to patient ratios and workplace stress. Evidence shows that Licensed Practical Nurses prefer working in hospital environments, but they are often forced to work elsewhere as hospitals have restructured from team-based model to a primary nursing care model.¹⁴

Historically High-Growth Healthcare Occupations

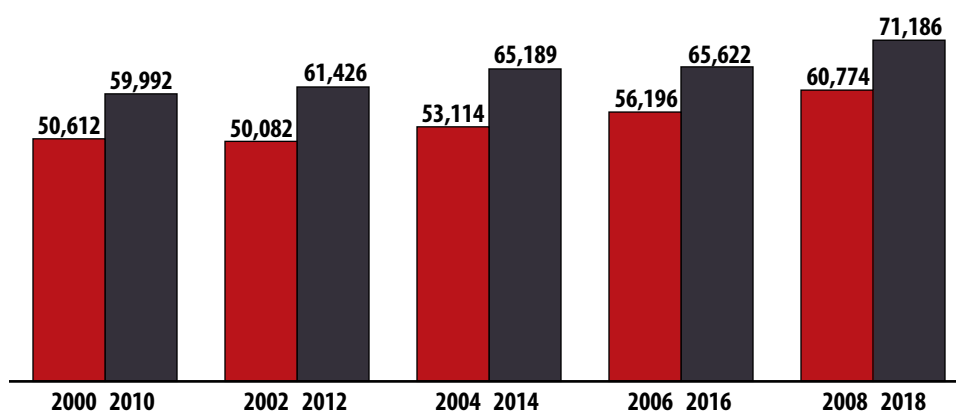
Each of the six occupations experiencing historical high-growth are outlined with more information about what to expect for future employment, with the most up-to-date projections for Missouri's outlook and the training and skills need for each occupation. These six occupations have the best potential for narrowing the workforce shortage in Missouri and increasing the quality of patient care as the healthcare industry continues to grow.

Registered Nurses

Registered Nurses have consistently been a growing occupation in all of the past five long-term projections that MERIC has completed since 2000. This occupation is defined as someone who assesses the health of patients, what help or assistance the patient will need, and maintains the medical records throughout their stay. They assist with the ill, convalescent, injured, or disabled patients, and can work within hospitals or smaller medical offices to assist patient case management. Registered Nurses are required to have licensing and registration, and educational requirements range from an Associate Degree to a Master's or Doctoral Degree.

Missouri has seen the actual employment of Registered Nurses grow by over 10,000 employees between 2000 and 2008. This is a 20.1% growth rate over an eight-year period, which is faster than the average estimated growth rate of 19.6% for the past five long-term projections.

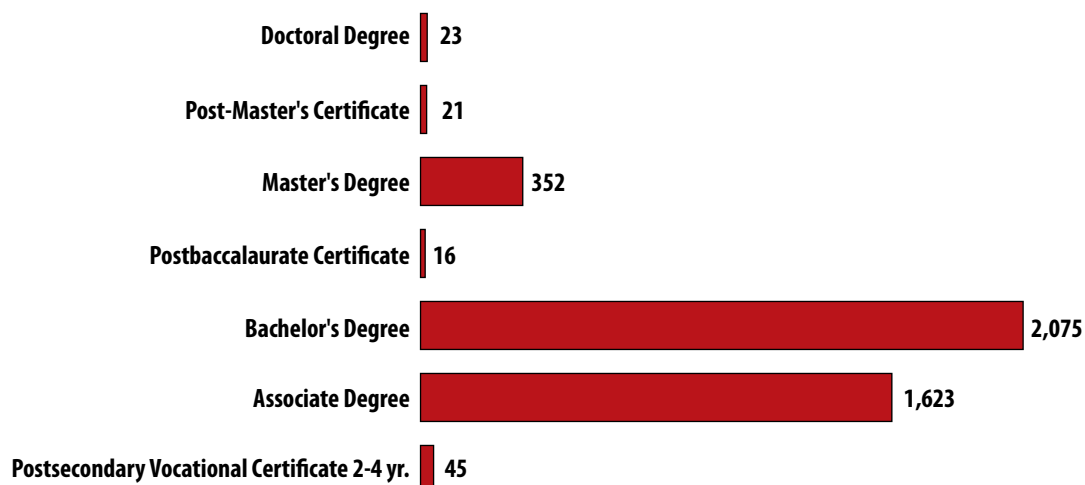
Missouri Employment Projections for Registered Nurses



National trends estimate that between 2008 and 2018 there will be continued growth in employment for Registered Nurses due to slight increases in hospitals, physician's offices, nursing care facilities, and outpatient centers across the United States. Registered Nurses will make up a larger portion of the industry employment due to their cost-effectiveness compared to the higher wages commanded by physicians and medical specialists. Missouri's long-term projections also predict a 17.1% growth in Registered Nurses employment, with over 21,000 anticipated openings throughout the state.

Across Missouri, there are 51 academic institutions that provide the training to become a Registered Nurse. These courses range from a Postsecondary Vocational Certificate to a Doctoral program. In 2009, there were 4,155 students graduating with degrees for Registered Nursing.

Degrees Conferred for Registered Nurses in 2009



Of the 4,155 graduates of Registered Nursing programs for Missouri in 2009, a large number were Registered Nurses obtaining new or advanced training. Because of the small number of new Registered Nurses gaining certification, the occupation is unlikely to fully meet the estimated 2,100 average total openings for Missouri

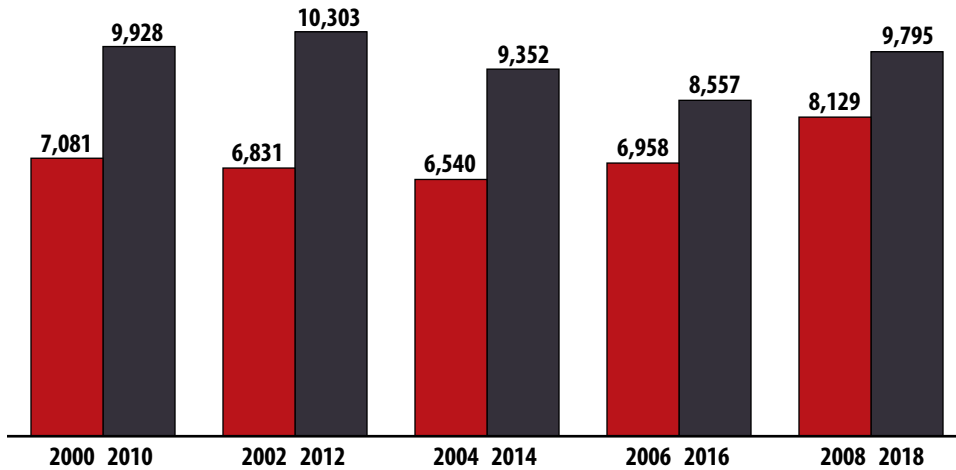
Institutions with Degree and Certification Programs for Registered Nurses

Avila University	Missouri State University
Boonslick Technical Education Center	Moberly Area Community College
Cape Girardeau Career & Technology Center	National American University
Cass Career Center	Nichols Career Center
Central Methodist University	North Central Missouri College
Chamberlain College of Nursing	Ozark Technical Community College
Clinton Technical School	Park University
Columbia College	Penn Valley Community College
Concorde Career College	Pike Lincoln Technical Center
Cox College	Rolla Technical Center
Crowder College	Saint Louis University
Culver-Stockton College	Saint Luke's College
East Central College	Sanford-Brown College
Barnes-Jewish College	South Central Career Center
Graceland University	Southeast Missouri State University
Grantham University	St. Charles Community College
Hannibal Career & Technical Center	St. Louis Community College
Hannibal-Lagrange College	State Fair Community College
ITT Technical Institute	Three Rivers Community College
Jefferson College	University of Central Missouri
Lincoln University	University of Mary
Lutheran School of Nursing	University of Missouri
Metropolitan Community College	University of Phoenix
Mid-America Nazarene University	Webster University
Mineral Area College	Wentworth Military Academy & Junior College
Missouri Southern State University	

Medical Assistants

Medical Assistants have also consistently been a growing occupation in all of the past five long-term projections that MERIC has completed since 2000. This occupation is defined as someone who performs the administrative and some clerical duties for physicians. Medical Assistants may be in charge of maintaining patient records, scheduling appointments, coordinating billing and coding for insurance, as well as preparing patients for exams, taking vital signs, and administering medications under the direction of the physician. Medical Assistants are required to have licensing and registration, and educational requirements range from On-the-Job Training to an Associate Degree.

Missouri Employment Projections for Medical Assistants



Missouri has seen the actual employment of Medical Assistants grow by over 1,000 employees between 2000 and 2008. This is a 14.8% growth rate over an eight-year period, which is much slower than the average estimated growth rate of 35.5% for the past five long-term projections.

National trends estimate that between 2008 and 2018 there will be continued growth in employment for Medical Assistants due to slight increases in physician's offices, but larger growth in hospitals and surgical centers across the United States. Medical Assistants will make up a larger portion of the industry employment due to hospitals maintaining lower costs. Missouri's long-term projections also predict a 20.5% growth in Medical Assistants employment, with over 2,500 anticipated openings throughout the state.

Degrees Conferred for Medical Assistants in 2009



In 2009, there were 49 academic institutions that provide the training to become a Medical Assistant in Missouri. Those training to become a Medical Assistant could choose between a Postsecondary Vocational Certificate obtained in one year or gain more advanced training in a two year setting. In 2009, there were 2,172 students graduating with degrees as a Medical Assistants.

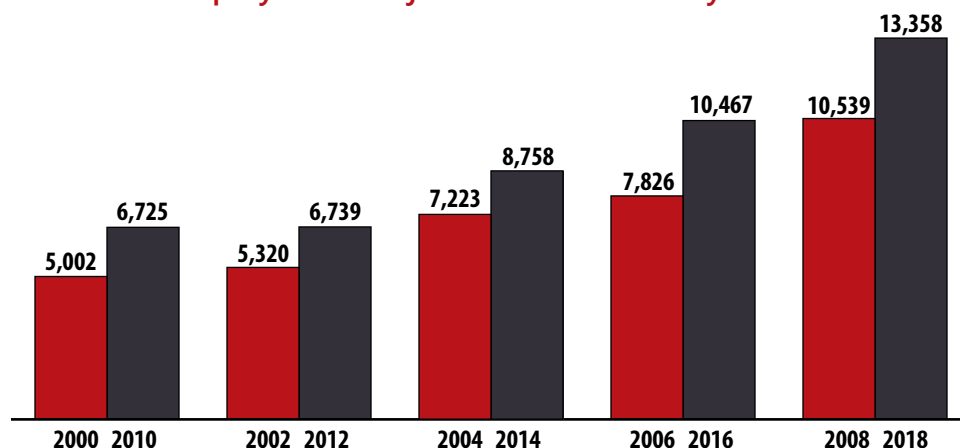
Institutions with Degree and Certification Programs for Medical Assistants

Allied College	Moberly Area Community College
Bolivar Technical College	National American University
Brown Mackie College	Nevada Regional Technical Center
Bryan College	New Horizons Computer Learning Center
Columbia Area Career Center	New Madrid County Area Technical School
Concorde Career College	North Central Missouri College
Daruby School	Northwest Missouri State University
East Central College	Perryville Area Career Center
Eldon Career Center	Pinnacle Career Institute
Everest College	Rolla Technical Institute
Franklin Technology Center	Saline County Career Center
Grantham University	Sanford-Brown College
Hannibal Career & Technical Center	Southeast Missouri State University
Heritage College	St. Charles Community College
Hickey College	St. Louis College of Health Careers
High Tech Institute	St. Louis Community College
International Institute of Metro St. Louis	St. Louis Public Schools-Adult Technical Education
Jefferson College	State Fair Community College
Kirksville Area Technical Center	Stoddard County Career Learning Center
Lex La Ray Technical Center	Techskills
Macon Area Vocational Technical School	Texas County Technical Institute
Metro Business College	Three Rivers Community College
Metropolitan Community College	Unitec Career Center
Midwest Institute for Medical Assistants	Vatterott College
Missouri College	

Pharmacy Technicians

Pharmacy Technicians have been a growing occupation in four of the past five long-term projections that MERIC has completed since 2000. This occupation is responsible for preparing the medications per the pharmacists' instructions, as well as measuring, counting, labeling, and recording the medications for patients. Pharmacy Technicians are required to have licensing and registration, and educational requirements range from On-the-Job Training to an Associate Degree.

Missouri Employment Projections for Pharmacy Technicians



instructions, as well as measuring, counting, labeling, and recording the medications for patients. Pharmacy Technicians are required to have licensing and registration, and educational requirements range from On-the-Job Training to an Associate Degree.

Missouri has seen the actual employment of Pharmacy Technicians grow by over 5,500 employees between 2000 and 2008. This is a 110.7% growth rate over an eight-year period, which is exceedingly faster than the average estimated growth rate of 28.57% for the past five long-term projections.

National trends estimate that between 2008 and 2018 there will be substantial growth to the demand for pharmacy technicians. Pharmacy Technicians are increasingly taking on more of the routine tasks within the pharmacy usually handled only by the pharmacist. Large increases in employment are expected in grocery stores and other general merchandise stores as more are adding pharmacies. Pharmacy Technicians are also projected to grow in electronic shopping and mail-order businesses as more people are able to purchase their prescriptions through the internet. Missouri's long-term projections also predict a 26.8% growth in Pharmacy Technicians employment, with over 5,000 anticipated openings throughout the state.

Degrees Conferred for Pharmacy Technicians in 2009



Across Missouri, there are 23 academic institutions that provide the training to become a Pharmacy Technician. These courses range from a Postsecondary Vocational Certificate to an Associate Degree. In 2009, only 221 Pharmacy Technicians graduated in Missouri, this is far under the estimated annual openings for Pharmacy Technicians which was 548 total openings.

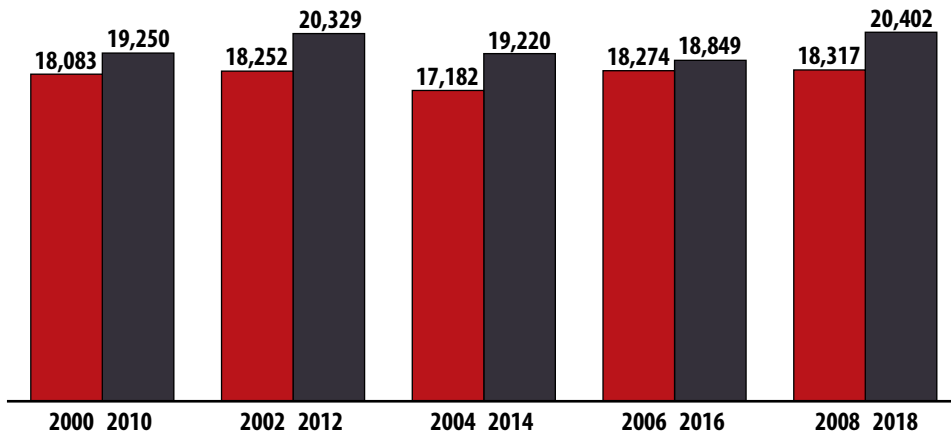
Institutions with Degree and Certification Programs for Pharmacy Technicians

Allied College	Ozark Technical Community College
Brown Mackie College	Rolla Technical Center
Columbia Area Career Center	Saline County Career Center
Crowder College	Sanford-Brown College
Everest College	Sikeston Career & Technical Center
Franklin Technology Center	Southeast Missouri State University
Kirksville Area Technical Center	St. Charles Community College
Macon Area Vocational Technical School	St. Louis College of Health Careers
Metropolitan Community College	State Fair Community College
Midwest Institute for Medical Assistants	University of Central Missouri
National American University	Vatterott College
North Central Missouri College	

Licensed Practical and Licensed Vocational Nurses

Licensed Practical and Licensed Vocational Nurses has been a growing occupation in three of the past five long-term projections that MERIC has completed since 2000. This occupation is defined as someone who assists with the ill, convalescent, injured, or disabled patients, usually under the supervision of a registered nurse, and can work within hospitals or smaller medical offices to assist patient case management. Licensed Practical and Licensed Vocational Nurses are required to have licensing and registration, and educational requirements within Missouri usually require a postsecondary vocational certificate.

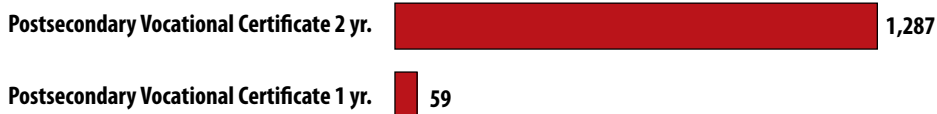
Missouri Employment Projections for Licensed Practical & Vocational Nurses



Missouri has seen the actual employment of Licensed Practical and Licensed Vocational Nurses grow by over 200 employees between 2000 and 2008. This is a 1.29% growth rate over an eight-year period, which is slower than the average estimated growth rate of 8.84% for the past five long-term projections.

National trends estimate that between 2008 and 2018 there will be slight decreases for the occupation in hospitals and physicians' offices due to the increased demand for Registered Nurses and Nursing Aides to complete the tasks usually performed by Licensed Practical and Licensed Vocational Nurses. Missouri's long-term projections also predict an 11.38% growth in Licensed Practical and Licensed Vocational Nurses employment, with over 7,800 anticipated openings throughout the state.

Degrees Conferred for Licensed Practical & Vocational Nurses in 2009



In 2009, there were 44 academic institutions that provide the training to become a Licensed Practical and Licensed Vocational Nurses in Missouri. Those training to become a Licensed Practical and Licensed Vocational Nurse could choose between a one-year or two-year Postsecondary Vocational Certificate. In 2009, there were 1,346 students graduating with degrees as Licensed Practical and Licensed Vocational Nurses.

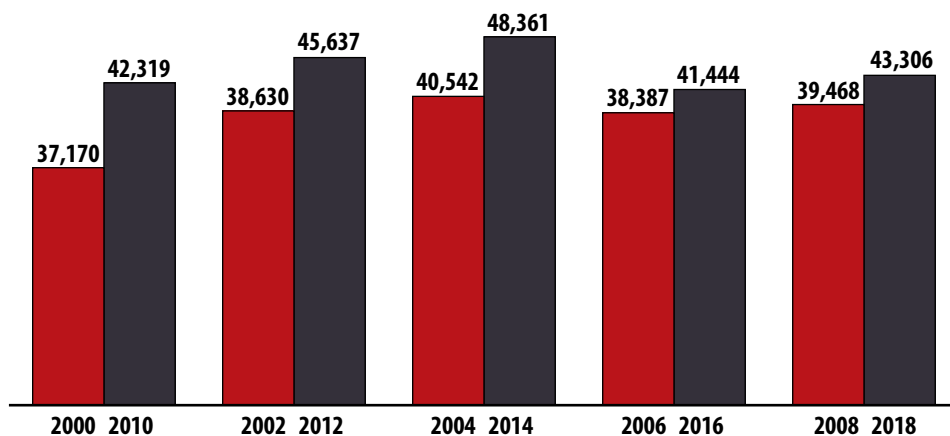
Institutions with Degree and Certification Programs for Licensed Practical & Licensed Vocational Nurses

Applied Technology Services	Mineral Area College
Bolivar Technical College	Moberly Area Community College
Booneslick Technical Education Center	Nevada Regional Technical Center
Cape Girardeau Career & Technology Center	Nichols Career Center
Carthage Technical Center	North Central Missouri College
Cass Career Center	North County Technical Special School District
Columbia Area Career Center	Northland Career Center
Concorde Career College	Ozark Technical Community College
D/R Intravenous Therapy Consulting, Inc.	Pemiscot County Career & Technology Center
East Central College	Pike Lincoln Technical Center
Eldon Career Center	Poplar Bluff Technical Career Center
Four Rivers Career Center	Rolla Technical Center
Franklin Technology Center	Saline County Career Center
Gibson Technical Center	Sanford-Brown College
Hannibal Career & Technical Center	Sikeston Career & Technical Center
Hillyard Technical Center	South Central Career Center
Jefferson College	St. Louis College of Health Careers
Kennett Career & Technology Center	St. Louis Public Schools-Adult Technical Education
Kirkville Area Technical Center	State Fair Community College
Lebanon Technology & Career Center	Texas County Technical Institute
Lex La Ray Technical Center	Warrensburg Area Career Center
Metropolitan Community College	Waynesville Career Center

Nursing Aides, Orderlies, and Attendants

Nursing Aides, Orderlies, and Attendants has experienced regular growth and has appeared as a high growth occupation in three of the past five long-term projections that MERIC has completed since 2000. Nursing Aides, Orderlies, and Attendants are responsible for providing basic patient care under the supervision of nursing staff. Their duties may consist of feeding, clothing, bathing and moving patients in the health care facilities, and clean the patient rooms once they have been discharged. This occupation typically required On-the-Job Training or a Postsecondary Vocational Certification.

Missouri Employment Projections for Nursing Aids, Orderlies & Attendants



Missouri has seen the actual employment of Nursing Aides, Orderlies, and Attendants grow by just under 2,300 employees between 2000 and 2008. This is a 6.2% growth rate over an eight-year period, which is slower than the average estimated growth rate of 13.8% for the past five long-term projections.

National trends estimate that between 2008 and 2018 there will be continued growth in employment for Nursing Aides, Orderlies, and Attendants due to slight increases in hospitals, physician's offices, nursing care facilities, and outpatient centers across the United States. Nursing Aides, Orderlies, and Attendants will make up a larger portion of the industry employment due their increasingly performing many of the duties normally attended to by Licensed Practical and Licensed Vocational Nurses. Missouri's long-term projections also predict a 9.7% growth in Nursing Aides, Orderlies, and Attendants employment, with slightly fewer than 7,800 anticipated openings throughout the state.

Across Missouri, there are 51 academic institutions that provide the training to become Nursing Aides, Orderlies, and Attendants. Graduates for these institutions would receive a one-year Postsecondary Vocational Certification. In 2009, only 41 Nursing Aides, Orderlies, and Attendants graduated in Missouri, this is far under the estimated annual openings for Nursing Aides, Orderlies, and Attendants which was 777 total openings.

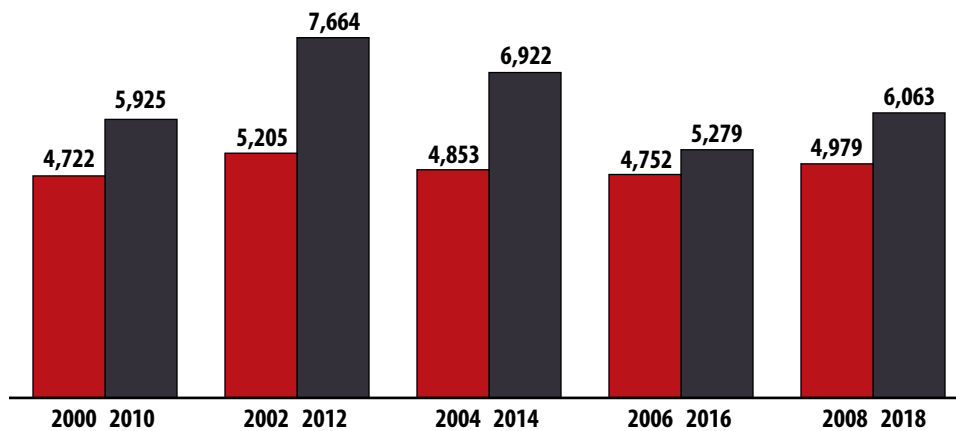
Institutions with Degree and Certification Programs for Nursing Aides, Orderlies, & Attendants

Applied Technology Services	Metropolitan Community College
Arcadia Valley Career Technology Center	Mineral Area College
Bolivar Technical College	Missouri Association of Nursing Home Administrators
Cape Girardeau Career & Technology Center	Moberly Area Community College
Carrollton Area Career Center	Moberly Area Technical Center
Carthage Technical Center	North Central Area Vocational Technical School
Cass Career Center	Northland Career Center
Center for Health Careers	Northwest Technical School
Columbia Area Career Center	Ozark Mountain Technical Center
Crowder College	Ozark Technical Community College
Dallas County Career Center	Penn Valley Community College
Daruby School	Perryville Area Career Center
David H. Hart Career Center	Pike Lincoln Technical Center
East Central College	Rolla Technical Center
Excelsior Springs Area Career Center	Saline County Career Center
Franklin Technology Center	Sikeston Career & Technical Center
Grand River Technical Center	South Central Career Center
Hannibal Career & Technical Center	St. Louis College of Health Careers
Herndon Career Center	St. Louis Community College
Hillyard Technical Center	St. Louis Public Schools-Adult Technical Education
Jefferson College	State Fair Community College
Kirksville Area Technical Center	Unitec Career Center
Lake Career & Technical Center	University of Central Missouri
Lebanon Technology & Career Center	Warrensburg Area Career Center
Lex La Ray Technical Center	Waynesville Career Center
Macon Area Vocational Technical School	

Dental Assistants

Dental Assistants have witnessed growth within the occupation in three of the past five long-term projections that MERIC has completed since 2000. This occupation is defined as someone who assists the dentist with setting up the patient and equipment needed, as well as maintaining the patient records. Normally, Dental Assistants are involved with preliminary teeth-cleaning and x-rays of patients for oral exams. Dental Assistants are required to have licensing and registration, and educational requirements range from a Postsecondary Vocational Certificate to an Associate Degree.

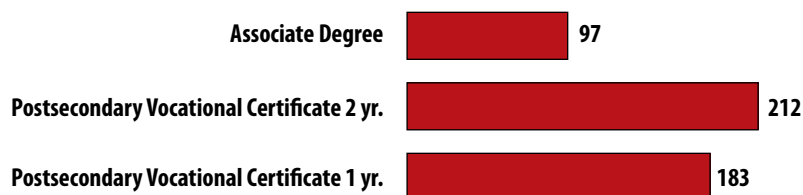
Missouri Employment Projections for Dental Assistants



Missouri has seen the actual employment of Dental Assistants grow by over 250 employees between 2000 and 2008. This is a 5.4% growth rate over an eight-year period, which is much slower than the average estimated growth rate of 29.6% for the past five long-term projections.

National trends estimate that between 2008 and 2018 there will be continued growth in employment for Dental Assistants due to slight increases in dental offices. This is mainly due to dentists continuing to delegate more patient care to their dental assistants. Missouri's long-term projections also predict a 20.5% growth in Dental Assistants employment, with over 2,000 anticipated openings throughout the state.

Degrees Conferred for Dental Assistants in 2009



Across Missouri in 2009, there were 18 academic institutions that provide the training to become a Dental Assistant. These courses range from a Postsecondary Vocational Certificate to an Associate Degree. In 2009, there were 492 students graduating with degrees for Dental Assistants.

Institutions with Degree and Certification Programs for Dental Assistants

Advanced Dental Careers	Metropolitan Community College
Allied College	Midwest Institute for Medical Assistants
Cape Girardeau Career & Technology Center	Missouri College
Central Missouri Dental Assisting	Nichols Career Center
Cherry Hill Dental Program of Dental Assisting	Ozark Technical Community College
Concorde Career College	Saline County Career Center
Everest College	Sanford-Brown College
High Tech Institute	St. Louis Community College
Laurel Institute for Dental Assistants	Vatterott College

Conclusion

Missouri has seen consistent growth in support occupations for the healthcare industry, but there is still a shortage of workers that leads to higher work life stress and less consistent patient care. By providing more training options and attending to the needs of current staff, the healthcare workforce has the opportunity to nurture and develop new talent that can keep pace with current needs.

Other states across the nation, like Washington, have taken more advanced steps to alleviate their healthcare shortage with proactive measures by recruiting current entry-level workers with the possibility of advancement into higher-wage healthcare occupations. Other simpler steps such as hiring more nursing faculty at educational and training programs can increase the number of applicants accepted to programs, and thereby increase the graduation rates for new workforce participants.

As the population continues to retire and age, healthcare will become an even more vital industry with sustained growth. To ensure superior patient care and growth in the future, the shortage of workers in the healthcare industry has to be dealt with now so the problem does not become compounded with other growing pains the workforce may experience.

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