



ORANGE COUNTY HEALTHCARE
INDUSTRY REPORT

Labor Market Research

Conducted for the Orange County Workforce Investment
Board and the Orange County Healthcare Collaborative

April 2006



GODBE RESEARCH
Gain Insight

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INTRODUCTION

Godbe Research is pleased to present the results of this labor market study conducted for the Orange County Workforce Investment Board. This particular report examines the current and future workforce needs of employers in the Healthcare Industry within Orange County.

This report is organized into the following sections:

- The *Executive Summary* includes a short description of the project methodology and the Conclusions and Recommendations for the Orange County Workforce Investment Board based on our research.
- The *Summary of Findings* section offers an industry analysis based on State and local research and a question-by-question analysis of the survey. The discussion is organized into the following sections:
 - *Healthcare Sector Profile and Outlook*
 - *Profile of Orange County Healthcare Employers*
 - *Occupational Profiles*
 - *Industry Trends*
 - *Demographics of Orange County*
 - *Education and Training Providers*
 - *Career Ladder Pathways*
- *Appendix A* includes a complete description of the methods and procedures used to conduct this research.
- *Appendix B* provides the survey questionnaire that was used in the study.

EXECUTIVE SUMMARY

Introduction

Godbe Research is pleased to present the results of this labor market study conducted for the Orange County Workforce Investment Board. This particular report examines the current and future workforce needs of employers in the Healthcare Industry within Orange County.

Project Methodology

There are two major components to this study:

- Secondary research – review of the current literature on the industry and research into the characteristics of the industry and the more prominent occupations.
- Primary research – interviews were completed with companies from the Orange County Healthcare Industry, with 10 or more employees, to determine workforce issues currently being faced by employers. Executive interviews with education and training providers, as well as ROP providers, were also conducted in order to identify current gaps in workforce demands, and to evaluate the capacity of education and training programs. Extensive internet research was also performed to ensure the most complete depiction of these programs.

A more complete description of the methodology used for this study can be found in Appendix A.

Conclusions and Recommendations

Based on the findings of the secondary and primary research, Godbe Research offers the following conclusions and recommendations to the Orange County Workforce Investment Board:

In Orange County from 2001 to 2005, average occupational wages found in healthcare practitioners and related technical occupations¹ increased by 35%, compared to a 16% average wage increase in the same time period for all occupations.

Industry-Wide Indicators of Workforce Shortages

Much has been written nationally and regionally about the *future* workforce shortages that the healthcare industry faces. The state of Orange County's healthcare workforce has already begun to show signs of strain. There are indications that workforce shortages are not only a problem for tomorrow. This is an issue that is already costing the industry and those that depend on it today. Some of the strongest industry-wide indicators of healthcare workforce shortages for the County include:

- **Wage Pressure Within Healthcare** – The change in average wages over time for an occupation or a group of occupations provides an indication of how the supply and demand for that occupational group is changing. If wages for a particular occupational group are increasing at a greater rate than the average wage increase for all occupations, this provides an indication that either demand for the occupational group is increasing, supply of that occupation group is decreasing, or that both may be occurring simultaneously. In Orange County, from 2001 to 2005, average occupational wages found in healthcare practitioners and related technical occupations¹ increased by 35 percent, compared to a 16 percent

¹ The average wage increase for healthcare occupations was based on SOC-CODE 29-0000, Healthcare Practitioners and Technical Occupations, which does not include all healthcare occupations but covers most of the occupations that were evaluated in this study. The data was taken from the California EDD LMID website: <http://www.labormarketinfo.edd.ca.gov/>

average wage increase in the same time period for all occupations. Given the general decline in profitability of healthcare firms over this period, combined with the survey finding that healthcare employers are facing difficulties recruiting applicants with reasonable salary requirements, the impact of wage increases becomes an even stronger indication that healthcare employers are already facing industry-wide gaps between the supply of their workforce and the current demand.

- **Increased Hiring of Temporary Workers to Meet the Region's Workforce Needs** – The results of the healthcare employer survey completed as part of this study indicate that, over the next 12 months, approximately two out of every three new recruits in the county's healthcare industry will be hired on a temporary rather than a permanent basis. While temporary workers only account for about nine percent of all employees in this industry, they account for well over 60 percent of the new jobs that will be generated in the industry over the next 12 months. As well as revealing the need for employers to have an immediate supply of labor to alleviate current human capital shortages, an increase in temporary employment for an occupational group can also provide an early indication of increased overall hiring activity for that group in the future. While the growing trend towards using temporary workers may provide a short-term solution to alleviating workforce shortages, use of this practice may, in the long-term, only serve to exacerbate some of the workforce challenges faced by the industry.

Future Challenges for Orange County's Healthcare Workforce

Maintaining Orange County's healthcare workforce will likely only become more challenging in the future. The findings from this research study identify multiple obstacles that should be considered when planning for the healthcare workforce in Orange County's future. Three of these challenges include:

- **The Demography of Orange County** – The age composition of Orange County creates a challenging environment for meeting the workforce needs of healthcare employers. The demographic reality for healthcare is that demand for healthcare services is largely driven by the older residents in the County, while the supply is largely met by younger and middle-aged residents of the County. Between 2005 and 2010, the proportion of Orange County's resident population aged 55 years and older is forecast to increase, thereby driving an increase in demand for healthcare services. On the other hand, the age group most tied to training for and/or entering the healthcare workforce, residents aged 20 to 34 years old, is forecast to decrease as a proportion of the total County population over the same period. The two opposing directions of the increasing demand for healthcare services and the falling potential supply of new and developing healthcare workers poses a considerable challenge for the industry.

Orange County Population Projections from ESRI² – From 2005 to 2010 the number of residents in Orange County that are 55 years or older will increase by approximately 88,000 from 588,000 to 676,000. Over the same time period, residents from 20 to 34 years old will only increase by approximately 27,000 from 636,000 to 663,000. The number of older residents in Orange County (55+) will increase by more than three times the amount of the younger residents (20 to 34) in the County.

² ESRI is an industry leader in GIS mapping software and the data that supports it. For information on their demographic projection methodology please visit the following URL <http://www.esri.com/library/whitepapers/pdfs/demographic-update-methodology.pdf>

Every year Orange County healthcare employers will demand approximately 200 more registered nurses than education and training providers within the County will be able to supply.

- **Orange County's Healthcare Segments** – Healthcare employers come in many different shapes and sizes. Not only do their specific services differ, but the general profile of the type of employer can also vary considerably. For this study, healthcare employers were delineated into four distinct segments: hospital and emergency care services (acute care); medical offices and clinics; long-term care providers; and outpatient care and medical labs. Well over half of all healthcare employees in the County can be found in either hospital and emergency care services or medical offices and clinics, yet the typical profiles of employers in these two segments often differ. Hospitals and emergency care providers are typically much larger employers than those in medical offices and clinics, often with at least 100 employees. They are also more likely to offer employee development programs such as career ladders, tuition assistance, and in-house classroom training that may be less readily available in smaller organizations, like those usually found in medical offices and clinics. Any shift in focus by Orange County healthcare employers towards a greater emphasis on the retention and development of current employees may present challenges ahead, as employment is expected to rise at a faster rate in the smaller medical office and clinics when compared to the hospital and emergency care provider segment (33% vs. 17% between 2005 and 2015).
- **Educational Capacity Constraints** – Registered nurses play a vital role in the healthcare industry for many reasons, but they are equally important from a workforce assessment perspective when considering the educational capacity constraints that exist in Orange County related to healthcare occupations. As the largest healthcare occupation in terms of current employment levels and forecast employment growth between 2005 and 2015, registered nurses serve as a bellwether for the human capital challenges which may be expected within the industry over the next few years. As such, this occupation can be used to quantify the gap between expected demand and the county's capacity to train and develop new registered nurses in the years ahead. Demand for new registered nurses, those that are not replacing current positions, is approximately 340 nurses a year combined with a further 310³ nurses needed to replace those nurses that have retired, moved out of the area, or have left healthcare to work in another field. These estimates indicate that 650 new nurses will be needed annually to satisfy the current demand for healthcare services. By comparison, estimates of the annual capacity to train and educate new registered nurses within the County fall short at between 375 and 450. Every year, therefore, it is estimated that Orange County healthcare employers will demand approximately 200 more registered nurses than education and training providers within the County will be able to supply.

Increasing the Quantity and Quality of Tomorrow's Healthcare Employees

Increasing the quantity and quality of Orange County's healthcare workforce will require resources, flexibility, collaboration, and an increased communication effort.

Expand Education and Training Capacity within the County

³ The estimate for replacing current registered nurses due to retirement, leaving the region, or finding employment outside the industry is derived by multiplying the 2005 estimate of registered nurses employed in the county by 2 percent, a conservative estimate for annual net retention of 98%.

Leaders, educators, and healthcare employers in Orange County should communicate the need for more resources to expand the current education and training capacity. The research from this and other similar studies describe the current and expected shortage of qualified individuals available to fill the region's healthcare positions, which is predicted to increase through 2015. The healthcare community should continue to communicate this shortage to decision makers at the county, state, and federal levels, by demonstrating the need for expanded educational capacity for healthcare programs.

Develop those Individuals with Non-Traditional Healthcare Experience⁴

Healthcare educators and employers should look to develop individuals with non-traditional healthcare experience, such as military corpsmen and individuals who received medical training and worked in the healthcare sector outside the United States. These individuals have a knowledge base that the industry should utilize, particularly when workforce shortages are prevalent. The time and resources needed to prepare these individuals should be less than required of those with no healthcare experience. However, alongside this practice, we would also recommend the development of a comprehensive assessment tool or exam to identify the education and training requirements of those individuals with non-traditional healthcare experience.

Increase Communication Efforts to Students through Marketing, ROP Medical Programs and High School Academies

Students and young people need to be made aware of the benefits of employment and the opportunities that exist in the healthcare community. This communication effort should be directed at all students in the county through general marketing techniques, although a more targeted discussion should also be developed with students through ROP medical programs and the expanded use of healthcare high school academies.

Formalize Collaboration between Employers and Education and Training Providers

A more comprehensive discussion needs to occur between healthcare employers and educators to overcome the workforce challenges faced by the industry. This collaboration between healthcare employers and educators could tackle issues such as:

- How to effectively implement career ladder curricula so that individuals who are currently working in the healthcare field can get the education they need to move to the next rung up the career ladder, particularly for occupations outside of nursing.
- How to develop and implement an assessment tool or exam that would identify the education and training that would be required for individuals with healthcare experience who lack the appropriate certificate or degree.
- Strategies to effectively communicate to current and future healthcare students where workforce needs are greatest in the industry and the educational programs that are in the greatest demand with employers.

⁴ This recommendation was originally developed with the San Diego Workforce Partnership, SourcePoint, Godbe Research, and the San Diego Healthcare Advisory Committee.

Retain and Develop Today's Healthcare Employees

Increasing the available supply of new healthcare workers should be a central part of Orange County's healthcare workforce strategies. However, just as important is **retaining** and **improving the productivity** of the current workforce. Some of the strategies that are recommended for improving retention and the productivity of the current healthcare workforce include:

Employee Development Alternative I: Career ladder programs have already demonstrated some success, particularly among larger healthcare employers who have used the nursing ladders to increase the wages and productivity of those individuals who have progressed along a given ladder. The implementation of career ladder programs among the healthcare community is more often found among larger employers and is often tied to nursing occupations. The Orange County Workforce Investment Board should coordinate among educators and small- and medium-sized healthcare employers to implement career ladder programs in fields such as radiology and administration. These career ladder programs would allow working healthcare professionals to continue working while gathering the education and training they need to progress in their occupational field.

Employee Development Alternative II: Lifelong learning accounts provide a flexible alternative to employers who are unable to just increase funding for internal staff training and development programs. These individual accounts finance the education and training that current and future employees need for career development in the healthcare industry. Similar to private and public retirement accounts, individuals, employers and public sources contribute to these accounts which provide individuals with the ability to develop new skills and progress through current or alternative career ladders within the healthcare field. A demonstration project using lifelong learning accounts has recently been implemented for healthcare employees in San Francisco, California.

Increasing Career Development Programs in Medical Offices and Clinics

Results of the survey showed that healthcare employers are generally committed to at least one or two employee development programs. However, employers from the medical offices and clinics segment, which has the largest expected proportion of employment growth by 2015, are the least likely to offer many of the important employee development practices, such as tuition assistance and career ladder programs. Given the growth expected in the medical offices and clinics segment, it should become a priority to develop and expand employee development programs for this segment. The ultimate goal should focus on increasing the retention and productivity of today's medical offices and clinics employees.

Potential Occupational Shortages

There is no single equation that can determine the probability that an occupation will be undersupplied in the future. However, a comprehensive evaluation of both the quantitative and qualitative indicators of supply and demand for each of the occupations in question, combined with a thorough evaluation of the industry as a whole, allow at least an estimate of those occupations that potentially are most likely to be undersupplied in the future.

RED	Occupations that provide the STRONGEST indication that they will be undersupplied in the future
YELLOW	Occupations that provide SOME indication that they will be undersupplied in the future
GREEN	Occupations that provide LITTLE TO NO indication that they will be undersupplied in the future

- **RED OCCUPATIONS**
- Registered Nurses
- Respiratory Therapists

- **RED / YELLOW OCCUPATIONS**
- Cardiovascular Technologists and Technicians
- Home Health Aides
- Licensed Practical and Licensed Vocational Nurses
- Medical and Clinical Laboratory Technicians
- Medical Assistants

- **YELLOW OCCUPATIONS**
- Medical Records and Health Information Technicians
- Occupational Therapists
- Pharmacy Technicians
- Physical Therapists
- Radiologic Technologists and Technicians
- Surgical Technologists

HEALTHCARE SECTOR PROFILE AND OUTLOOK

The healthcare industry in Orange County includes those agencies providing services such as diagnosis, preventive care, surgery, observation, prescription and administration of medicine, vaccination, and attendance at childbirth. Healthcare and hospital services are delivered by specialist providers such as doctors, nurses, midwives, physician's assistants, home health aides, and vaccination technicians. Healthcare is one of the world's largest and fastest growing industries and professions.

The industry definition used in this study is based on the North American Industry Classification System's (NAICS) definition of several industries. The NAICS system is what has been used since 1997 by the U.S. Government to group businesses and calculate economic activity among industries in the U.S. economy. NAICS is an economic classification system based on a single economic concept. Economic units that use like processes to produce goods or services are grouped together.

For this study, the healthcare industry includes all of the sub-sectors in the healthcare sector under, NAICS code 62 (see Table 2), with the exception of those related to social assistance (those beginning with code 624). It is important to note that the employment forecasts in the occupational profiles illustrate only jobs within those healthcare sub-sectors selected for this study. Some information will not be presented for Psychiatric and Substance Abuse Hospitals (6222) and Offices of Dentists (6212) as data on these businesses in Orange County was not available. The employment forecast results do not illustrate all jobs within a specific occupation across all industries.

Table 1 Sub-Sectors in the Orange County Healthcare Industry

Sub-Sector	NAICS Code
Offices of Physicians (except Mental Health Specialists)	621111
Offices of Physicians, Mental Health Specialists	621112
Offices of Dentists	621210
Offices of Chiropractors	621310
Offices of Optometrists	621320
Offices of Mental Health Practitioners (except Physicians)	621330
Audiologists	621340
Offices of Podiatrists	621391
Offices of All Other Miscellaneous Health Practitioners	621399
Family Planning Centers	621410
Outpatient Mental Health and Substance Abuse Centers	621420
HMO Medical Centers	621491
Kidney Dialysis Centers	621492
Freestanding Ambulatory Surgical and Emergency Centers	621493
All Other Outpatient Care Centers	621498
Medical Laboratories	621511
Diagnostic Imaging Centers	621512
Home Health Care Services	621610
Ambulance Services	621910
Blood and Organ Banks	621991

Sub-Sector	NAICS Code
All Other Miscellaneous Ambulatory Health Care Services	621999
General Medical and Surgical Hospitals	622110
Psychiatric and Substance Abuse Hospitals	622210
Specialty (except Psychiatric and Substance Abuse) Hospitals	622310
Nursing Care Facilities	623110
Residential Mental Retardation Facilities	623210
Residential Mental Health and Substance Abuse Facilities	623220
Continuing Care Retirement Communities	623311
Homes for the Elderly	623312
Other Residential Care Facilities	623990

Source :North American Industry Classification System, 2002

These 30 sub-sectors can be grouped into four broad segments (see Table 2):

Hospital and Emergency Care Services - Full service hospitals and ambulance services.

Medical Offices and Clinics – Offices and clinics for general and specialized medical treatment.

Outpatient Care and Medical Laboratories - Family planning centers, HMO medical centers, and other outpatient centers. Laboratories and other medical analysis centers.

Long Term Care - Facilities or services where patients receive care while residing at home or an off-site facility.

Table 2 Healthcare Sector Segments

Group Name	Sub-Sector	NAICS Code
Hospital/Emergency Care Services	Freestanding Ambulatory Surgical and Emergency Centers	621493
	Ambulance Services	621910
	Blood and Organ Banks	621991
	All Other Miscellaneous Ambulatory Health Care Services	621999
	General Medical and Surgical Hospitals	622110
	Psychiatric and Substance Abuse Hospitals	622210
	Specialty (except Psychiatric and Substance Abuse) Hospitals	622310
Outpatient Services and Medical Laboratories	Family Planning Centers	621410
	Outpatient Mental Health and Substance Abuse Centers	621420
	HMO Medical Centers	621491
	Kidney Dialysis Centers	621492
	All Other Outpatient Care Centers	621498
	Medical Laboratories	621511
	Diagnostic Imaging Centers	621512

Table 2 (Cont.)

Group Name	Sub-Sector	NAICS Code
Medical Offices	Offices of Physicians (except Mental Health Specialists)	621111
	Offices of Physicians, Mental Health Specialists	621112
	Offices of Dentists	621210
	Offices of Chiropractors	621310
	Offices of Optometrists	621320
	Offices of Mental Health Practitioners (except Physicians)	621330
	Audiologists	621340
	Offices of Podiatrists	621391
	Offices of All Other Miscellaneous Health Practitioners	621399
Long Term Care	Home Health Care Services	621610
	Nursing Care Facilities	623110
	Residential Mental Retardation Facilities	623210
	Residential Mental Health and Substance Abuse Facilities	623220
	Continuing Care Retirement Communities	623311
	Homes for the Elderly	623312
	Other Residential Care Facilities	623990

Source: North American Industry Classification System, 2002.

According to Economy.com, healthcare sector employment in Orange County is expected to grow by 25 percent between 2005 and 2015 (see Table 5). The greatest employment gains are expected among other ambulatory care facilities, and outpatient care centers, with community care facilities for the elderly, specialty hospitals and offices of physicians all ranking third in growth over the next ten years.⁵

⁵ Economy.com forecast data is available at the 4-digit NAICS code level. 6222 psychiatric and substance abuse hospitals encompasses 622210 psychiatric and substance abuse hospitals; 6214 outpatient care centers refers to 621410 family planning centers, 621420 outpatient mental health and substance abuse centers, 621491 HMO medical centers, 621492 kidney dialysis centers, 621493 freestanding ambulatory surgical and emergency centers, and 621498 all other outpatient care centers; 6231 nursing care facilities refers to 623110 nursing care facilities.

PROFILE OF ORANGE COUNTY HEALTHCARE EMPLOYERS

In 2005 total employment in Orange County for the healthcare cluster was 104,183. Of these employees seventy-three percent (75,894) were full time employees, eighteen percent (19,057) were part-time employees, and the remaining nine percent were temporary or seasonal employees (Table 3).

Table 3 Orange County Healthcare Employment

Total Employed in the County (2005)	Full-Time Employees	Part-Time Employees	Temporary Employees
104,183 ⁶	75,894	19,057	9,232
	73%	18%	9%

Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics Survey, and Godbe Research, 2005.

Based on employers growth expectations, permanent full-time and part-time employees will increase by two percent (2,063) over the next 12 months with an expected growth in temporary or seasonal employees of sixty-eight percent (6,302) when calculated considering all 150 firms including one-firm that is planning to hire 700 temporary employees over the next 12 months, or thirty-eight percent (3,548) when calculated using the expected growth of the other 149 organizations interviewed. Expected retention of permanent employees is eighty-four percent (79,474).

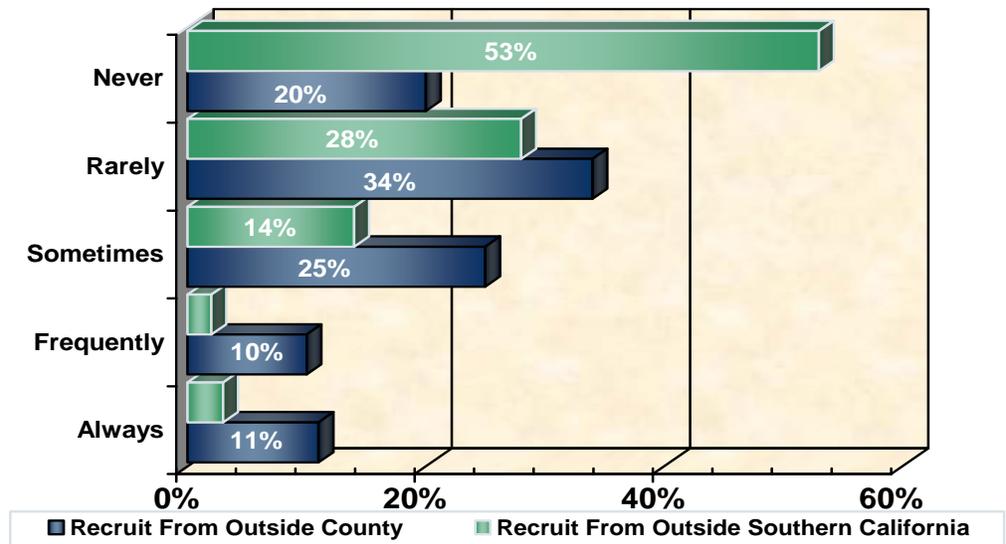
Table 4 Orange County Healthcare Expected Growth and Retention

Expected Growth in Permanent Employment Over 12 Months	Expected Growth in Temporary Employment Over 12 Months ⁷	Expected Permanent Employee Retention Over 12 Months
2,063	6,302 / 3,548	79,474
2%	68% / 38%	84%

⁶ Data does not include Psychiatric and Substance Abuse Hospitals.

⁷ Data presented overall and minus one firm with an expected one year growth of 100%.

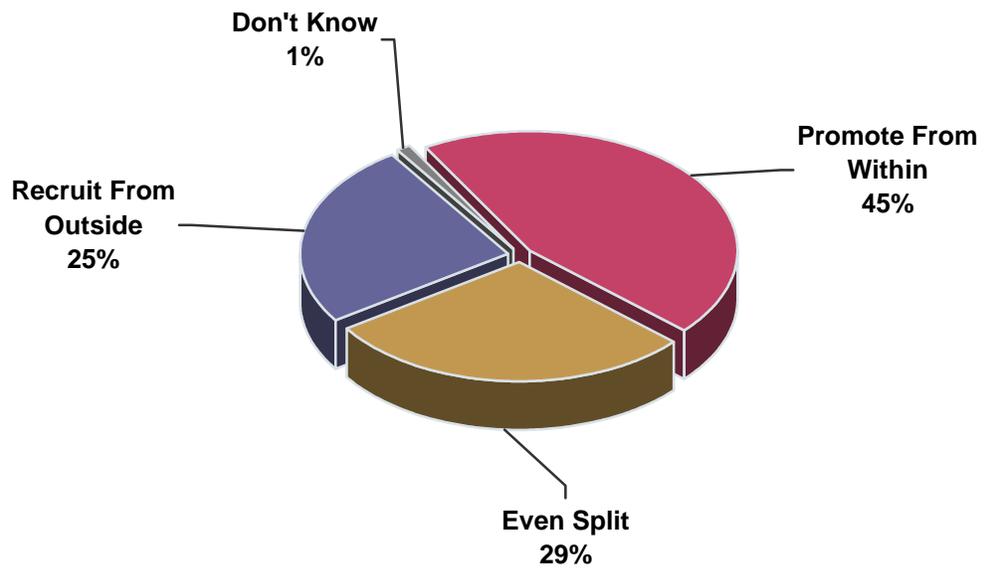
Figure 1 Recruiting Practices



When asked how often employers recruited individuals from outside of Orange County fifty-four percent of employers never or rarely recruit from outside of the county. Twenty-five percent of employers sometimes recruit from outside of Orange County.

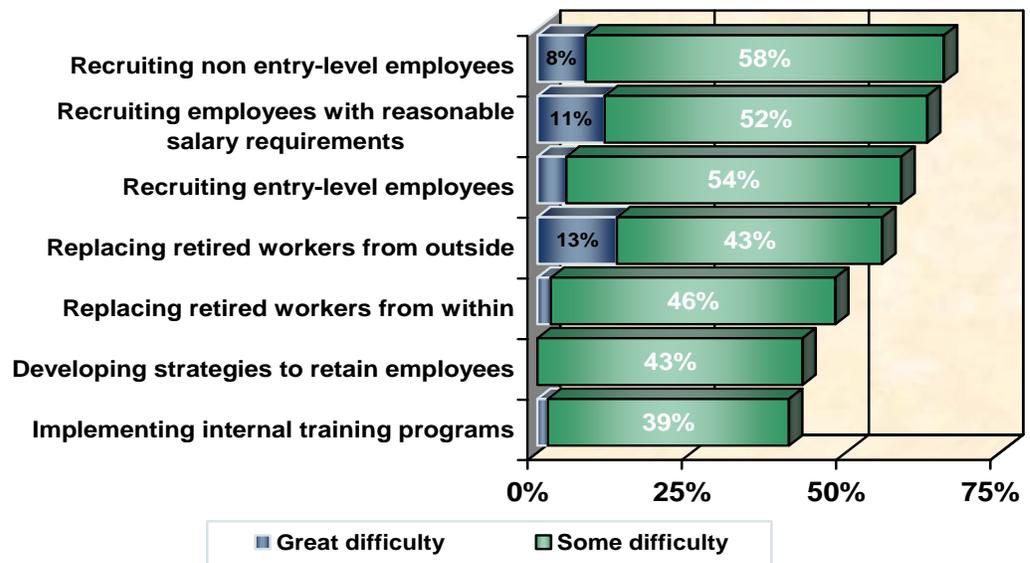
When asked how often they recruited from outside of Southern California eighty-one percent of employers never or rarely recruited outside of Southern California. Fourteen percent of employers did state that they sometimes recruit from outside of Southern California.

Figure 2 Promotion Policies



Generally, healthcare employers in Orange County were somewhat more likely to promote from within (45%) than to recruit from outside the firm (25%) for non entry-level employees. A closer evaluation of the different segments reveals that Hospitals & Emergency Care Services, as well as Long-term care employers are more likely to promote from within. Outpatient Care and Medical Labs are slightly more likely to promote from within as to recruit from outside. Medical Offices & Clinics are equally likely to recruit from outside the company as they are to promote from within.

Figure 3 Employer Workforce Challenges



Many organizations reported either great or some difficulty recruiting employees. Of those employers that considered the following workforce challenges, Fifty-eight percent reported some difficulty recruiting non entry-level employees, while fifty-four percent of employers reported difficulty recruiting entry-level employees. Fifty-two percent of employers reported difficulty recruiting employees with reasonable salary requirements. Many employers also reported difficulties implementing training programs and developing strategies to retain current employees (Figure 3).

Employers reported the greatest difficulty finding Registered Nurses, and Licensed Practical and Licensed Vocational Nurses. Cardiovascular Technicians were reported as the next occupation experiencing great difficulty filling positions. Seventy percent of employers also reported some difficulty finding Cardiovascular Technicians. Over forty percent of employers also reported difficulty finding qualified registered Nurses, Radiologic Technicians, and Medical Assistants (Figure 4).

Employee development practices by segment can be seen in Figure 5. Eighty-one percent of employers reported providing formal on-the-job training to their employees, while ninety-one percent of employers reported providing informal on-the-job training to their employees.

Figure 4 Top Occupations – Difficulty of Finding Qualified Applicants

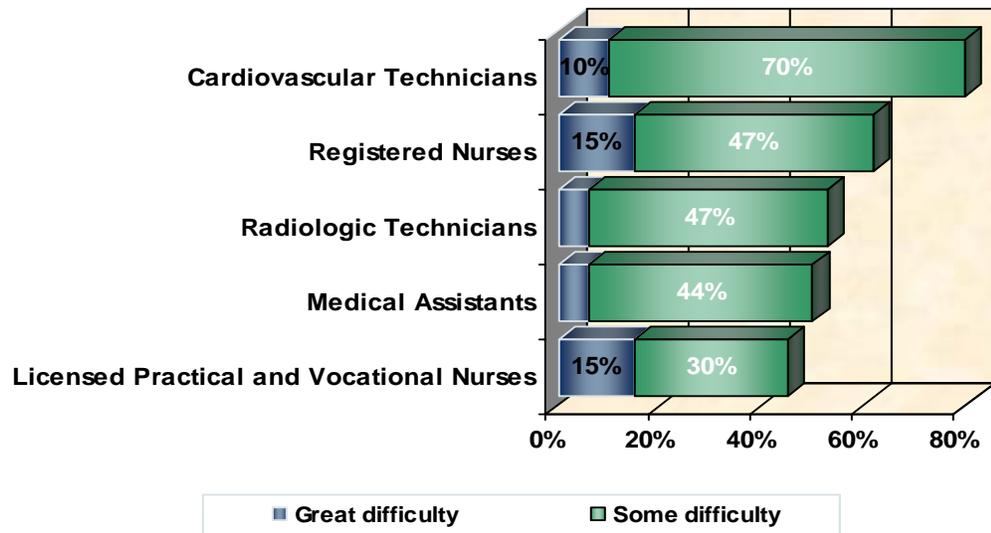


Figure 5 Primary Employee Development Practices Utilized Across Sectors

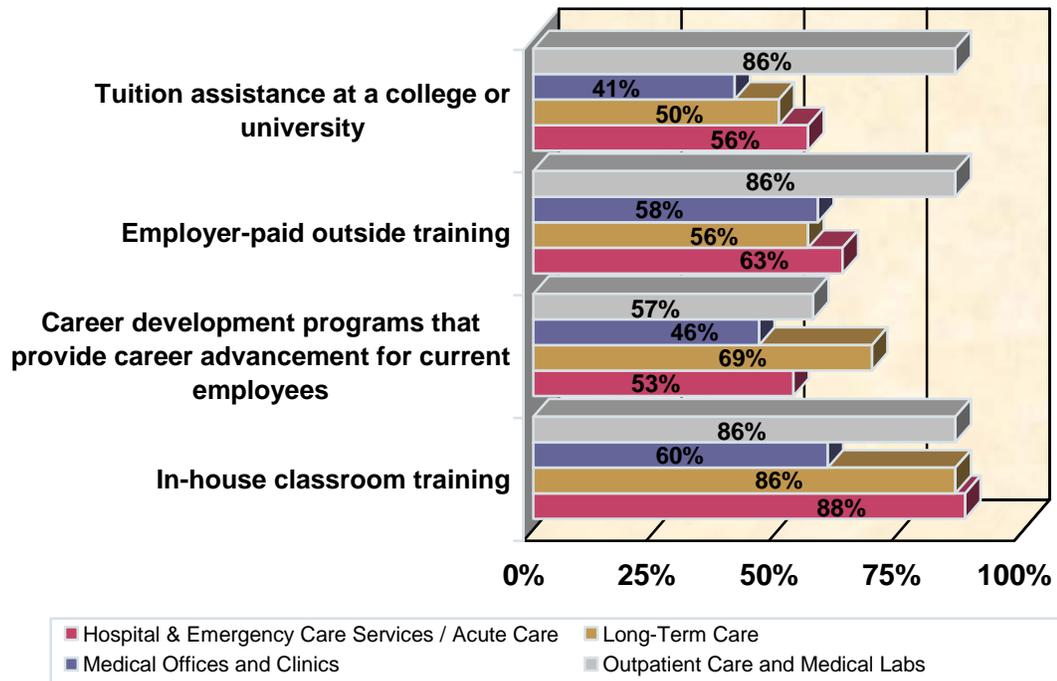


Figure 6 Top 5 Occupations – Net Job Growth (2005 to 2015)

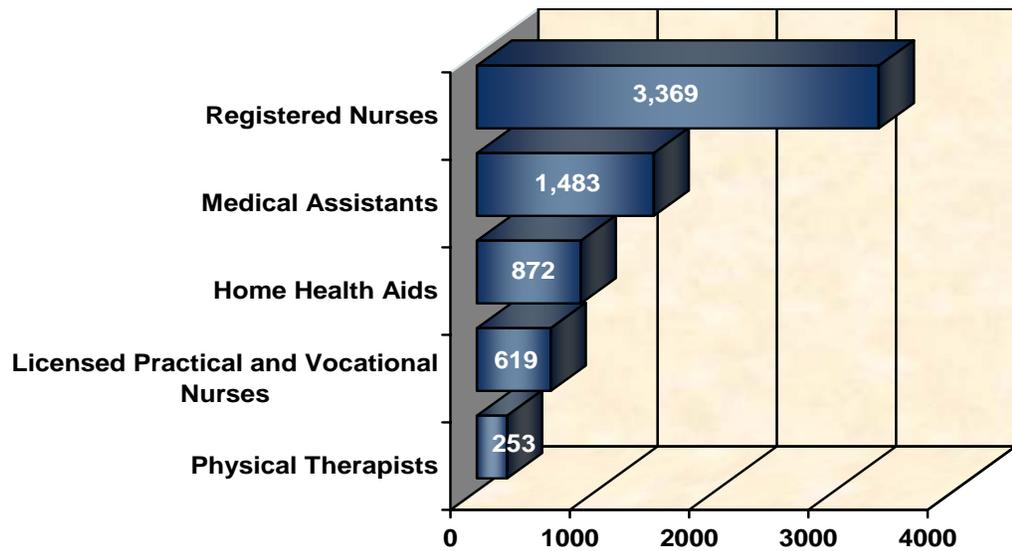
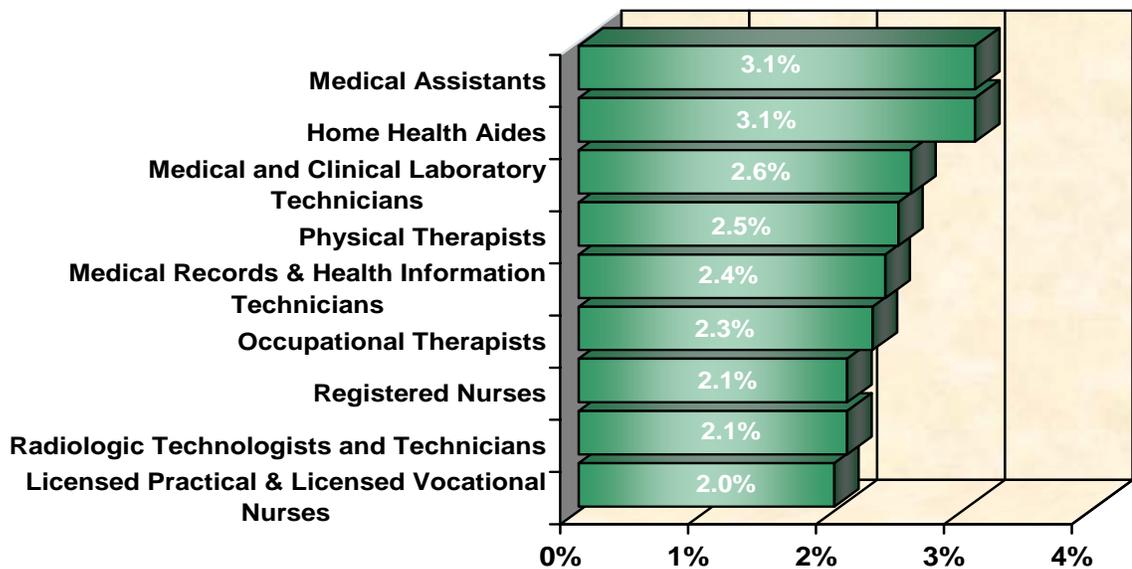


Figure 7 Top Occupations – Annual Job Growth as a Percentage



Whether looking at net job growth over the next ten years (Figure 6), or annual job growth yearly (Figure 7) Medical Assistants, Physical Therapists, and Home Health Aides are in the top five fastest growing occupations.

Most Important Job Skills

The skills listed by employers as being the most important for the thirteen occupations in the survey were:

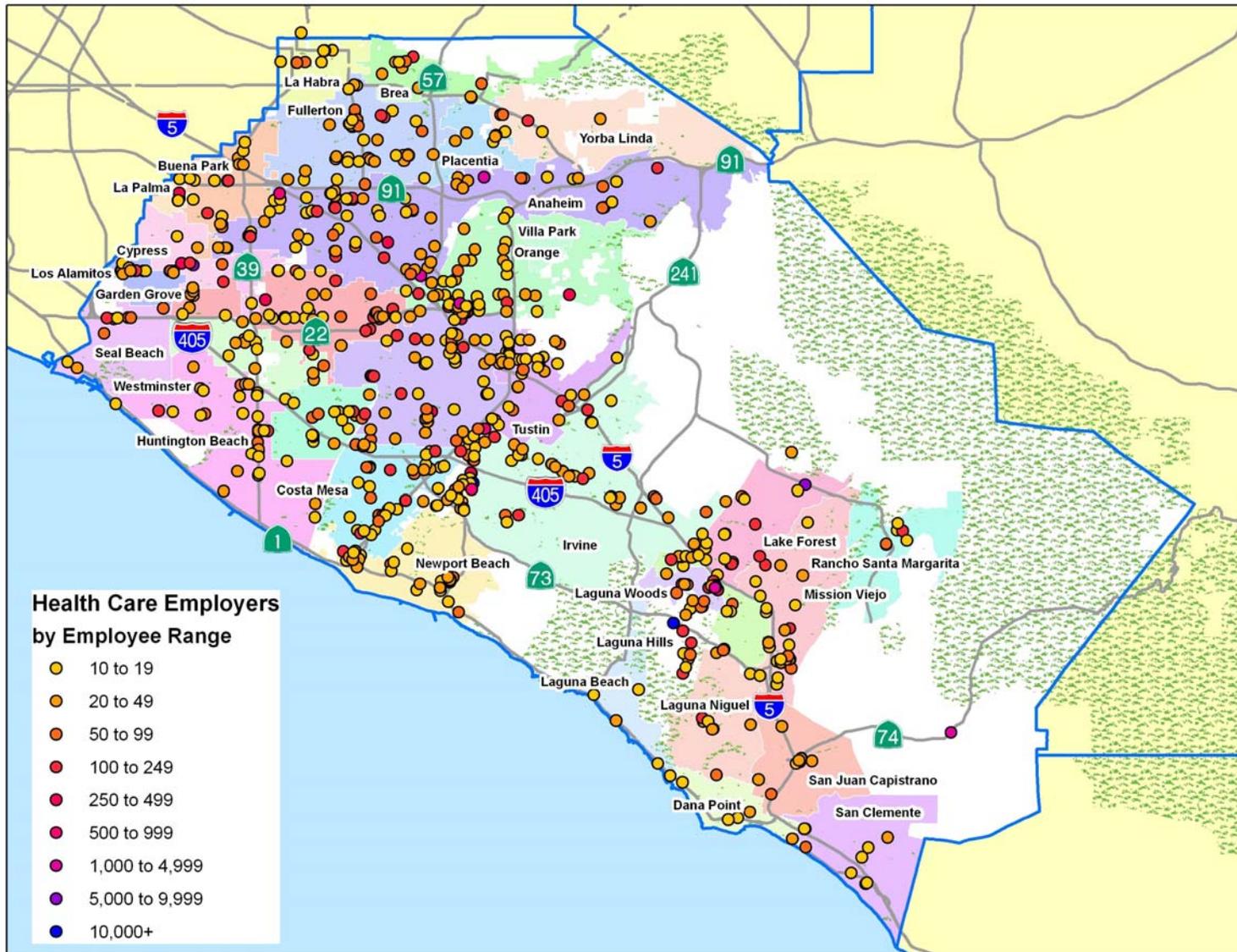
- Technical competence specific to the position (listed first for all occupations with the exception of Home Health Aides)
- Interpersonal communication skills (listed first for Home Health Aides)
- Ability to work independently

Most Deficient Job Skills

The skills listed by employers as being the most important for the thirteen occupations in the survey were:

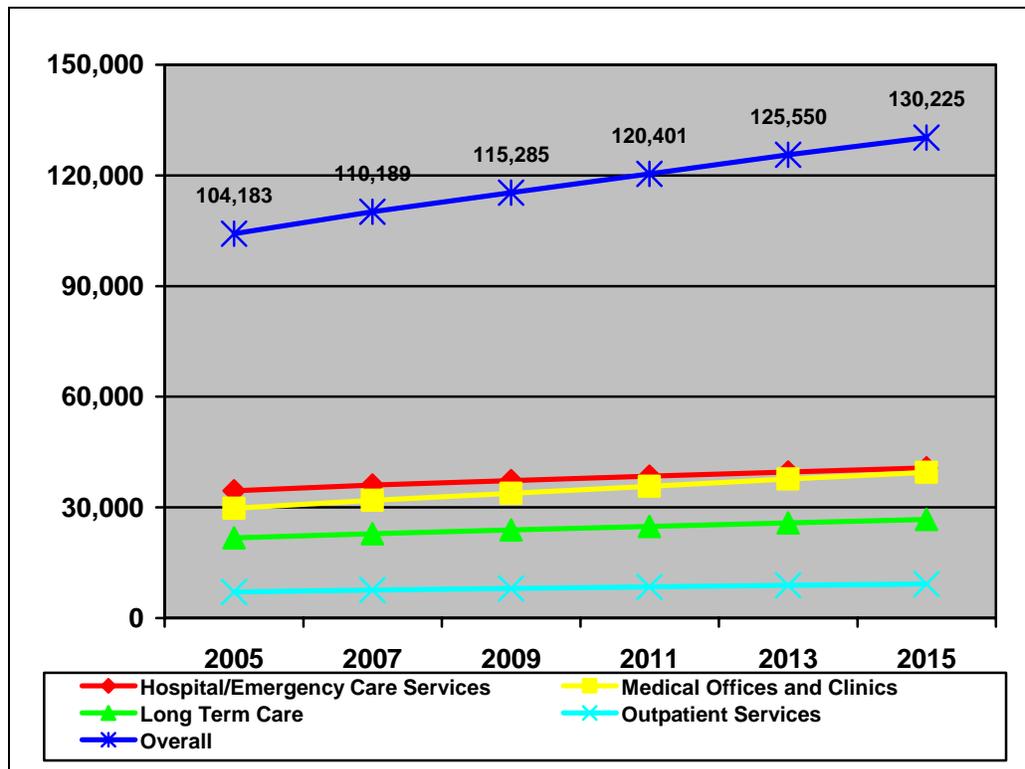
- Interpersonal communication skills
- Creative problem solving skills
- Written communication skills
- Technical competence specific to the position

Figure 8 Location of Healthcare Employers



Note: Employers with less than 10 employees are not included in this map

Figure 9 Employment Projections



Employment Projections

Employment projections for the healthcare industry show an overall average growth rate of twenty-five percent over the next ten years. Growth in Outpatient Services and Medical Offices and Clinics are expected to be the greatest at thirty-one percent. Employment in Long-term Care is expected to grow by twenty-three percent while Acute Care - Hospital/Emergency Care Services is expected to grow the least, at eighteen percent over the next ten years. However, within each of these segments there are industries growing far above the average. A good example of this is 6219 – Other Ambulatory Health Care Services, which is expected to grow at a rate of forty-five percent in a segment of the industry only expected to grow at a rate of eighteen percent. Conversely, 6231 – Nursing Care Facilities are projected to grow at a rate of eight percent in a segment of the industry projected to grow at a rate of twenty-three percent (see Table 5).

Table 5 Projected Healthcare Sector Employment in Orange County, 2005-2015

NAICS Code	Sub-Sector	2005 Estimated Average Employment	2015 Projected Average Employment	% Change 2005-15
6211	Offices of Physicians	22,877	30,491	33%
6212	Offices of Dentists	11,078	14,080	27%
6213	Offices of Other Health Practitioners	6,909	9,004	30%
6214	Outpatient Care Centers	2,319	3,143	36%
6215	Medical and Diagnostic Laboratories	4,751	6,112	29%
6216	Home Healthcare Services	4,387	5,654	29%
6219	Other Ambulatory Healthcare Services	1,611	2,344	45%
6221	General Medical and Surgical Hospitals	32,808	38,226	17%
6223	Specialty Hospitals (except Psychiatric and Substance Abuse)	81	108	33%
6231	Nursing Care Facilities	7,736	8,379	8%
6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	2,882	3,758	30%
6233	Community Care Facilities for the Elderly	5,706	7,608	33%
6239	Other Residential Care Facilities	1,037	1,317	27%
Healthcare Sector Total		104,183	130,225	25%

Source: California Employment Development Department, and Godbe Research 2005.

OCCUPATIONAL PROFILES

Cardiovascular Technologists and Technicians

Occupation Description

Cardiovascular technologists and technicians conduct tests on pulmonary or cardiovascular systems of patients for diagnostic purposes. They may conduct or assist in electrocardiograms, cardiac catheterizations, pulmonary-functions, lung capacity, and similar tests. Within the Orange County healthcare sector, employment as a cardiovascular technologist and technician is contained in the hospital and emergency care services/ acute care segment.

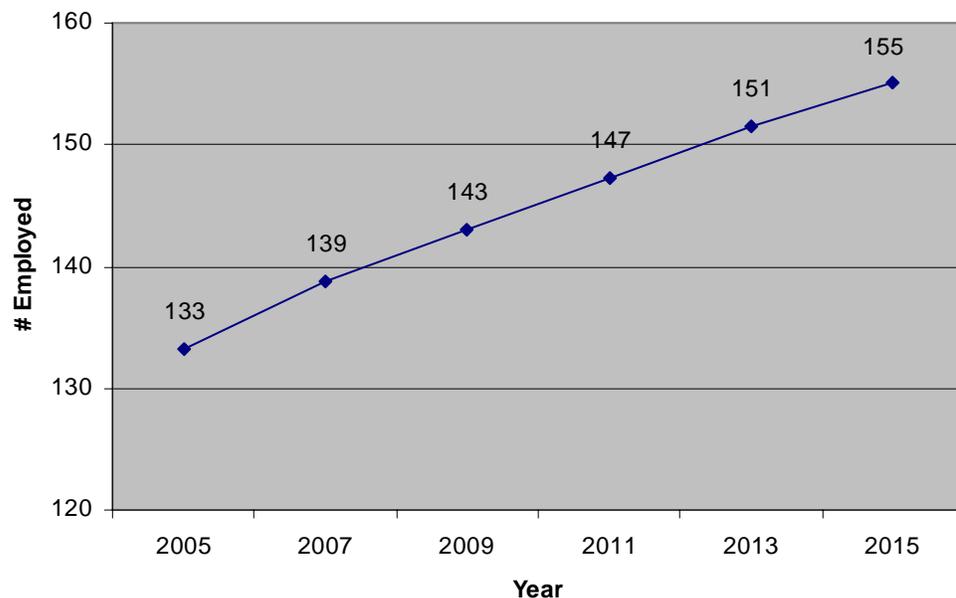
Secondary Titles

Secondary titles include cardiology technician, cardiac technician, EKG/ECG technician (electrocardiogram technician), registered cardiac sonographer, cardiovascular radiologic technologist, computed tomography technologist, cardiac catheterization laboratory technologist, and cardiovascular invasive specialist.

Employment Level and Projected Growth⁸

In 2005, there were 133 cardiovascular technologists and technicians in the healthcare sector in Orange County. One hundred and fifty-five (155) cardiovascular technologists and technicians are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 1.7 percent (see Figure 10).

Figure 10 Cardiovascular Technologists and Technicians - Employment Forecast

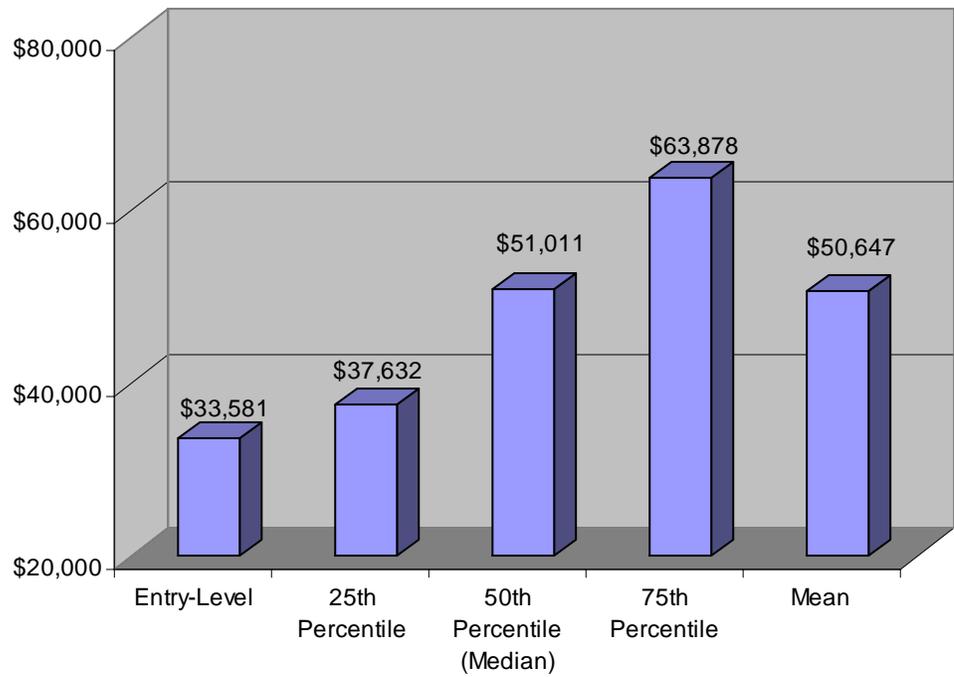


⁸ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for cardiovascular technologists and technicians in Orange County was \$51,011 while the mean, or average, wage was lower at \$50,647. The entry-level wage was \$33,581 (see Figure 11).

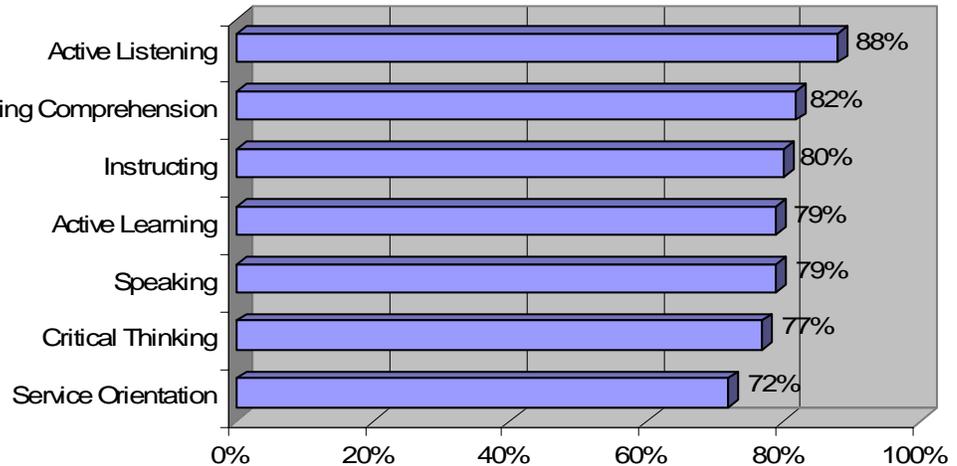
Figure 11 Cardiovascular Technologists and Technicians - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for cardiovascular technologists and technicians (see Figure 12).

Figure 12 Cardiovascular Technologists and Technicians - Skill Importance⁹



Source: O*Net Online Occupational Information Network, 2006.

For cardiovascular technologists and technicians, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

Instructing – Teaching others how to do something.

Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.

Speaking – Talking to others to convey information effectively.

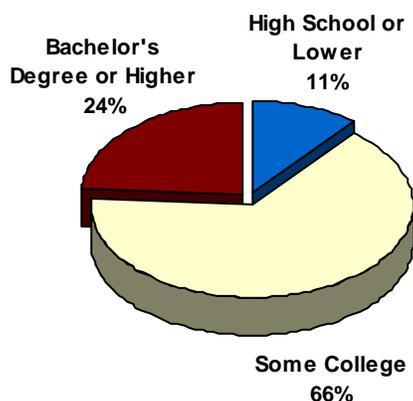
⁹ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

Cardiovascular technologists, vascular technologists, and cardiac sonographers normally complete a two-year junior or community college program. Graduates from programs accredited by the Joint Review Committee on Education in Cardiovascular Technology are eligible to obtain professional certification in cardiac catheterization, echocardiography, vascular ultrasound, and cardiographic techniques from Cardiovascular Credentialing International. Cardiac sonographers and vascular technologists may also obtain certification from the American Registry of Diagnostic Medical Sonographers. Certification is not required to find employment, but is preferred for some positions.

Although a few cardiovascular technologists, vascular technologists, and cardiac sonographers are currently trained on the job, most receive training in two-year to four-year programs.

Figure 13 Cardiovascular Technologists and Technicians - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following Orange County education providers offer cardiovascular technologist/technician programs:

- Orange Coast College (Costa Mesa) – Cardiovascular Technology;
- Pacific College (Costa Mesa) – Cardiovascular Technician program.

Recruitment Strategies

Jobs as cardiovascular technologists and technicians may be found by applying to doctors' offices, government personnel offices, college placement centers, and private employment agencies. There is information about job openings in newspaper classified advertisements and Internet job listings.

Home Health Aides

Occupation Description

Home health aides provide routine personal healthcare, such as bathing, dressing, or grooming, to elderly, convalescent, or disabled people in the homes of patients or in residential care facilities. Within the Orange County healthcare sector, at least 95 percent of employment as a home health aide is in the long-term care segment.

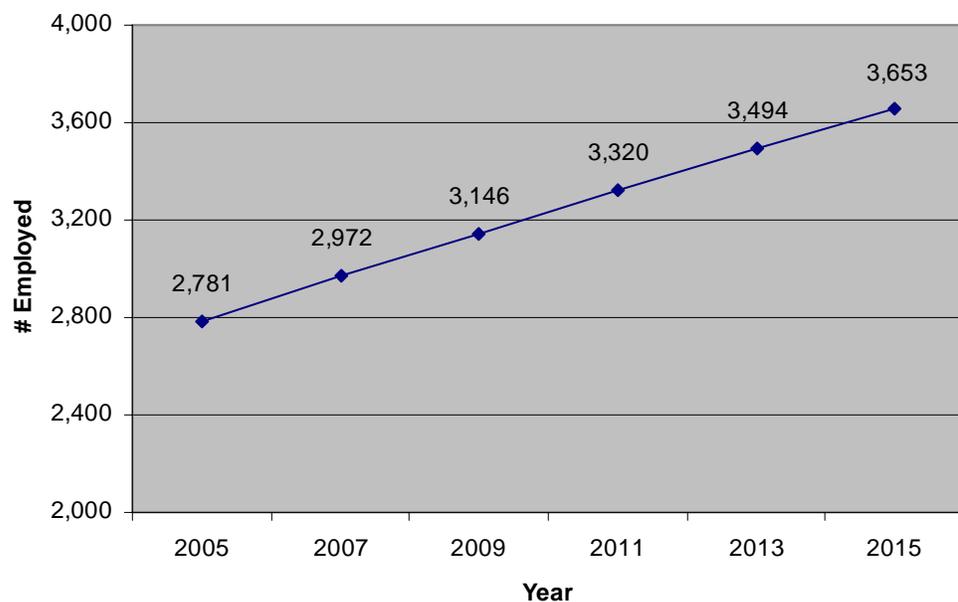
Secondary Titles

Secondary titles include residential counselor, certified nursing assistant, home health provider, habilitation training specialist, caregiver, direct support person, personal care attendant, and residential assistant.

Employment Level and Projected Growth¹⁰

In 2005, there were 2,781 home health aides in the healthcare sector in Orange County. Three thousand, six hundred and fifty-three (3,653) home health aides are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 3.1 percent (see Figure 14).

Figure 14 Home Health Aides - Employment Forecast

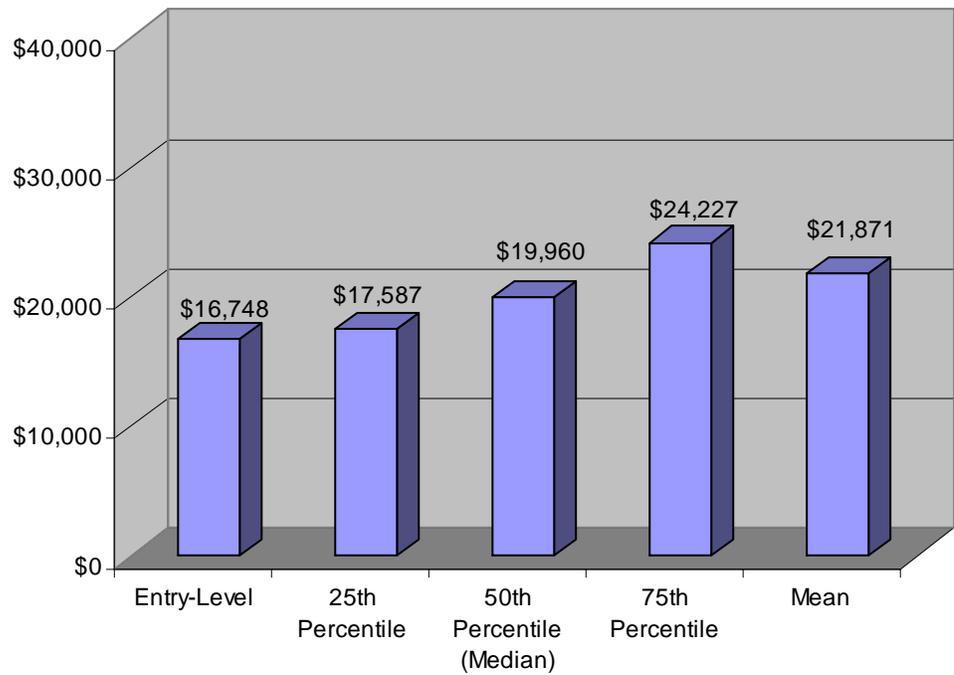


¹⁰ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for home health aides in Orange County was \$19,960 while the mean, or average, wage was higher at \$21,871. The entry-level wage was \$16,748 (see Figure 15).

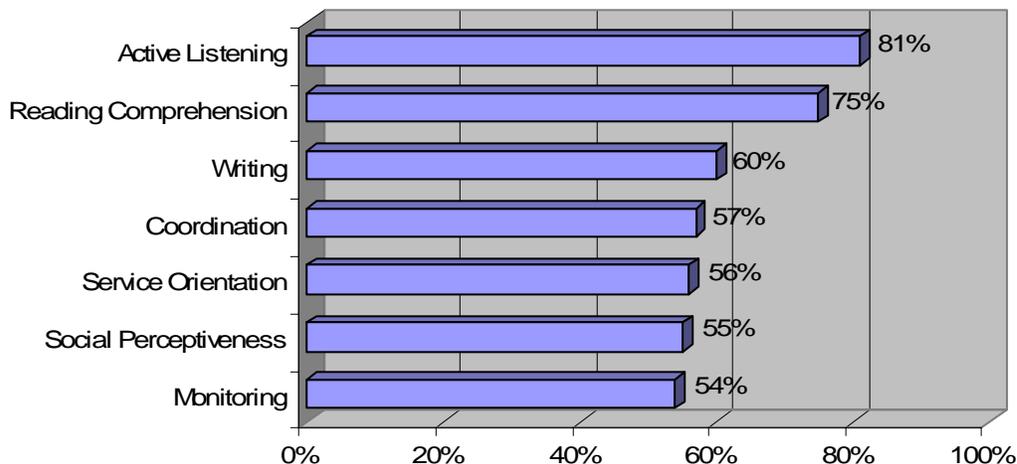
Figure 15 Home Health Aides - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for home health aides (see Figure 16).

Figure 16 Home Health Aides - Skill Importance¹¹



Source: O*Net Online Occupational Information Network, 2006.

For home health aides, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

Writing – Communicating effectively in writing as appropriate for the needs of the audience.

Coordination – Adjusting actions in relation to others' actions.

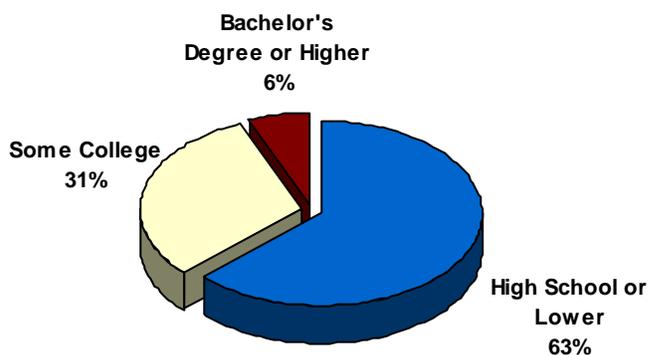
Service Orientation – Actively looking for ways to help people.

¹¹ A rating of zero indicates the skill is "not important," while a rating of 100 indicates the skill is "extremely important."

Education and Sector Requirements

In many cases, neither a high school diploma nor previous work experience is necessary for a job as a nursing, psychiatric, or home health aide. The federal government has guidelines for home health aides whose employers receive reimbursement from Medicare. Federal law requires home health aides to pass a competency test covering 12 areas: communication skills; documentation of patient status and care provided; reading and recording vital signs; basic infection control procedures; basic body functions; maintenance of a healthy environment; emergency procedures; physical, emotional, and developmental characteristics of patients; personal hygiene and grooming; safe transfer techniques; normal range of motion and positioning; and basic nutrition.

Figure 17 Home Health Aides - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following Orange County education providers offer home health aide programs:

- Capistrano-Laguna ROP;
- Central County ROP;
- North Orange County ROP;
- Pacific College (Costa Mesa) – Nursing Assistant/ Home Health Aide program.

Recruitment Strategies

Job seekers should apply at visiting nurses associations in their area or private agencies or organizations that hire home health aides. Newspaper ads and online job listings are also a good place to look.

Positions that Move into this Occupation

File clerks, dietary aides, and central supply techs can advance into positions as home health aides.

Positions that Build upon this Occupation

Home health aides can advance into positions as pharmacy aides, physical therapy assistants, histologic technicians, receptionists, LVNs, surgical techs, respiratory therapy technicians, medical coder trainees, occupational therapy assistants, and laboratory assistants.

Licensed Practical and Licensed Vocational Nurses

Occupation Description

Licensed practical nurses (LPNs) and licensed vocational nurses (LVNs) care for ill, injured, convalescent, or disabled people in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. They may work under the supervision of a registered nurse. Within the Orange County healthcare sector, employment as a licensed practical and licensed vocational nurse is contained in the long-term care, hospital and emergency care services/ acute care, medical offices and clinics, and outpatient care and medical laboratories segments.

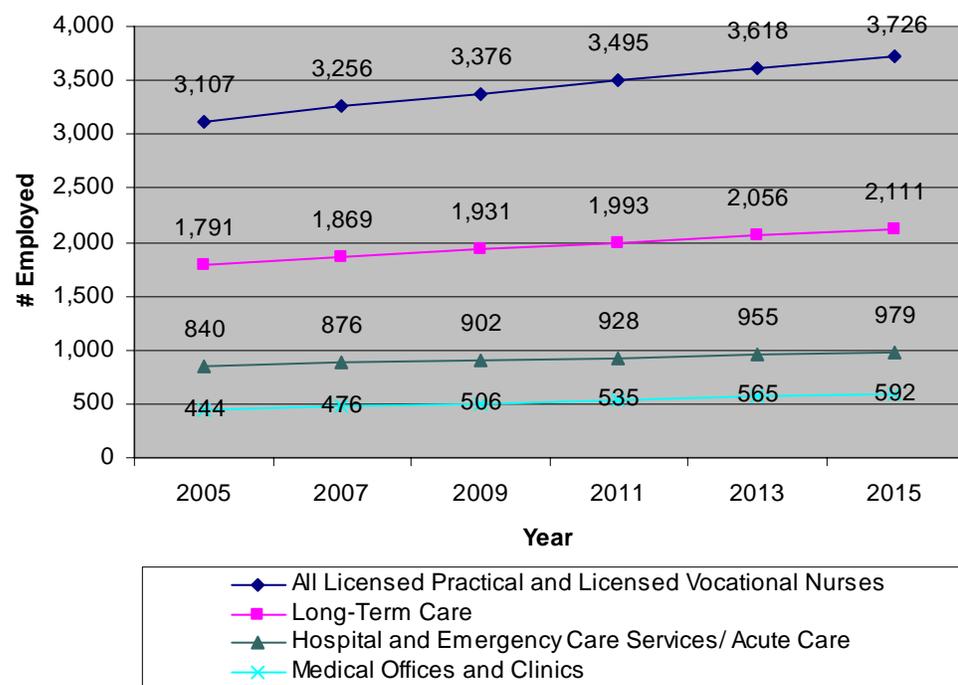
Secondary Titles

Secondary titles include charge nurse, clinic nurse, and office nurse.

Employment Level and Projected Growth¹²

In 2005, there were 3,107 licensed practical and licensed vocational nurses in the healthcare sector in Orange County. Three thousand seven hundred and twenty-six (3,726) licensed practical and licensed vocational nurses are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of two percent (see Figure 18).

Figure 18 Licensed Practical and Licensed Vocational Nurses - Employment Forecast¹³



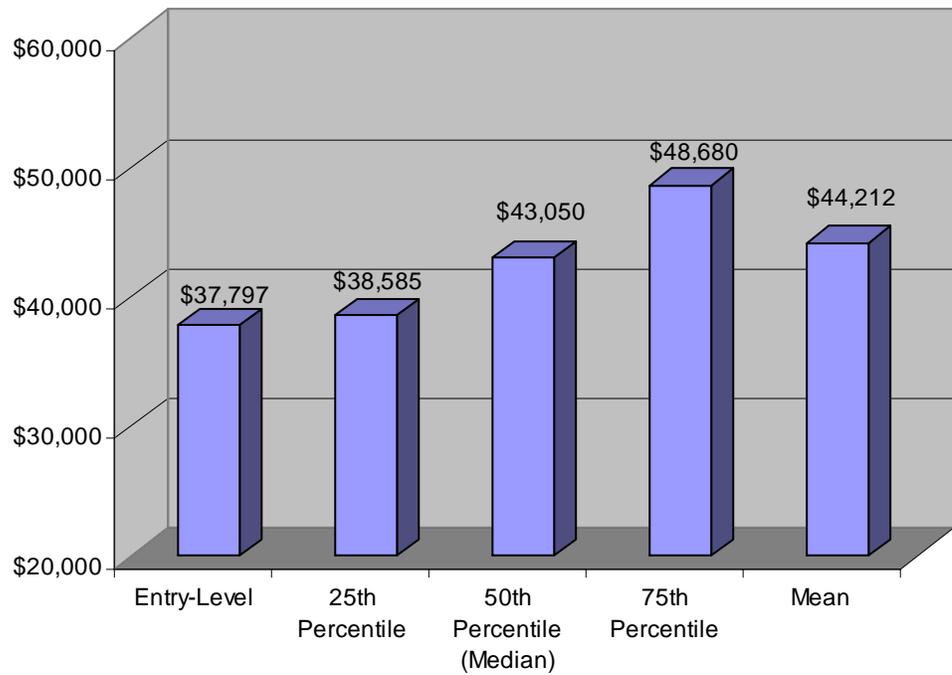
¹² Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

¹³ Segments with less than five percent of total employment are not shown.

Wages

In 2005, the median annual wage for licensed practical and licensed vocational nurses in Orange County was \$43,050 while the mean, or average, wage was higher at \$44,212. The entry-level wage was \$37,797 (see Figure 19).

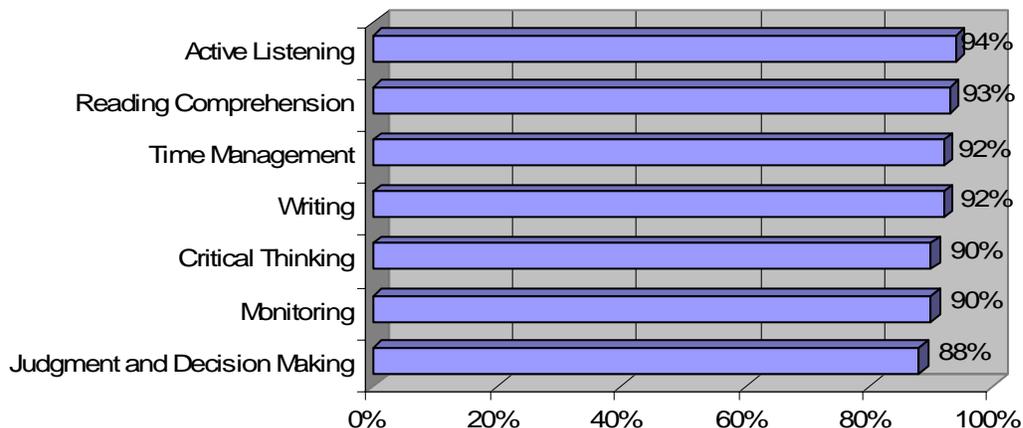
Figure 19 Licensed Practical and Licensed Vocational Nurses - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for licensed practical and licensed vocational nurses (see Figure 20).

Figure 20 Licensed Practical and Licensed Vocational Nurses - Skill Importance¹⁴



Source: O*Net Online Occupational Information Network, 2006.

For licensed practical and licensed vocational nurses, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.

Time Management – Managing one's own time and the time of others.

Writing – Communicating effectively in writing as appropriate for the needs of the audience.

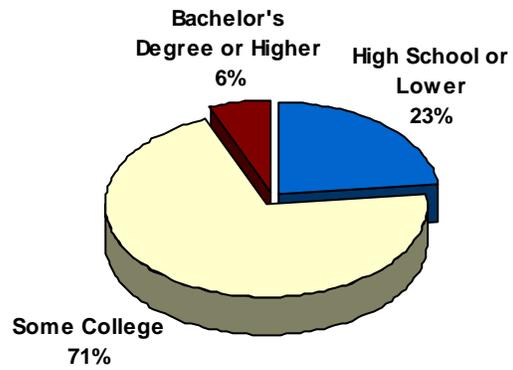
Critical Thinking – Using logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

¹⁴ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

California requires LPNs and LVNs to pass a licensing examination after completing a state-approved practical nursing program

Figure 21 Licensed Practical and Licensed Vocational Nurses - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following Orange County institutions offer education and training programs for licensed practical and licensed vocational nurses:

- American Career College (Anaheim);
- Bryman College (Anaheim) – Vocational Nursing program;
- Career Networks Institute (Costa Mesa) – Vocational Nursing program;
- Central County ROP;
- Concorde Career Institute (Garden Grove) – Vocational Nursing program;
- North Orange County ROP – Vocational Nursing classes;
- Pacific College (Costa Mesa) – Licensed Vocational Nursing program;
- Saddleback College;
- Stanbridge College (Irvine) – Vocational Nursing program.

Recruitment Strategies

Individuals looking for jobs as LVNs and LPNs should apply to employers or register with the California Employment Development Department Job Service or private employment agencies. Jobs may also be found through nursing associations. County, city, and federal civil service agencies provide announcements of job openings. Many nursing jobs are advertised in newspapers, Internet job listing websites, and professional journals. Medical recruitment agencies and personal referrals can also bring applicants and employers together.

Positions that Move into this Occupation

Surgical technologists, certified nurse assistants, medical assistants, unit assistants, home health aides, respiratory therapy assistants, and physical therapy aides can advance into positions as licensed practical and licensed vocational nurses.

Positions that Build upon this Occupation

Licensed practical and licensed vocational nurses can advance into positions as registered nurses.

Medical Assistants

Occupation Description

Medical assistants perform administrative and certain clinical duties under the direction of a physician. Administrative duties may include scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties may include taking and recording vital signs and medical histories, preparing patients for examination, drawing blood, and administering medications as directed by a physician. Within the Orange County healthcare sector, employment as a medical assistant is contained in the medical offices and clinics, hospital and emergency care services/ acute care, and outpatient care and medical laboratories segments.

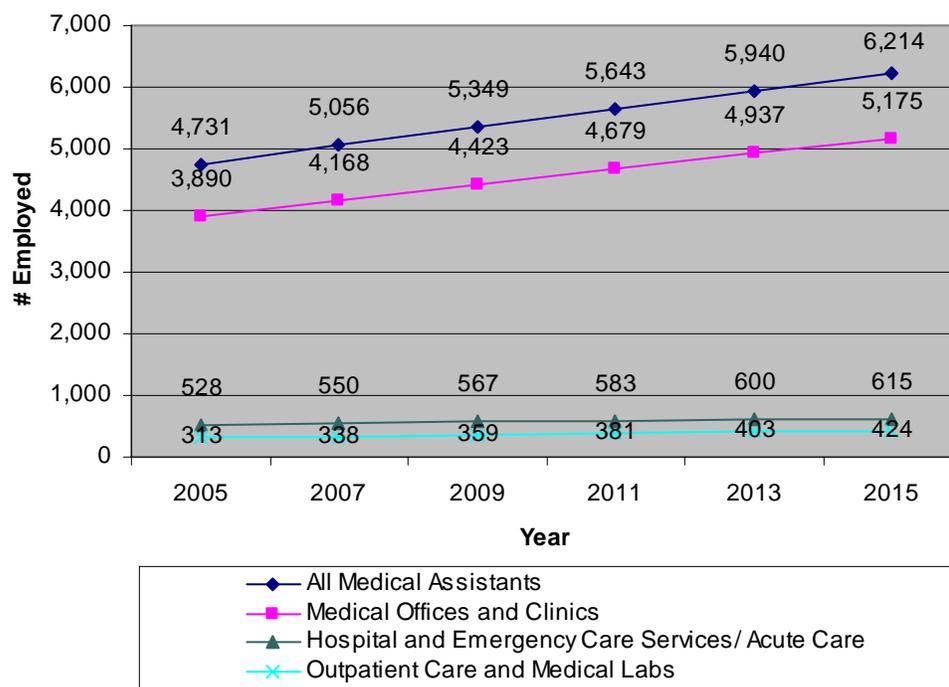
Secondary Titles

Secondary titles include certified medical assistant, certified ophthalmic technician, chiropractor assistant, clinical assistant, medical office assistant, ophthalmic assistant, optometric assistant, and registered medical assistant.

Employment Level and Projected Growth¹⁵

In 2005, there were 4,731 medical assistants in the healthcare sector in Orange County. Six thousand, two hundred and fourteen (6,214) medical assistants are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 3.1 percent (see Figure 22).

Figure 22 Medical Assistants - Employment Forecast

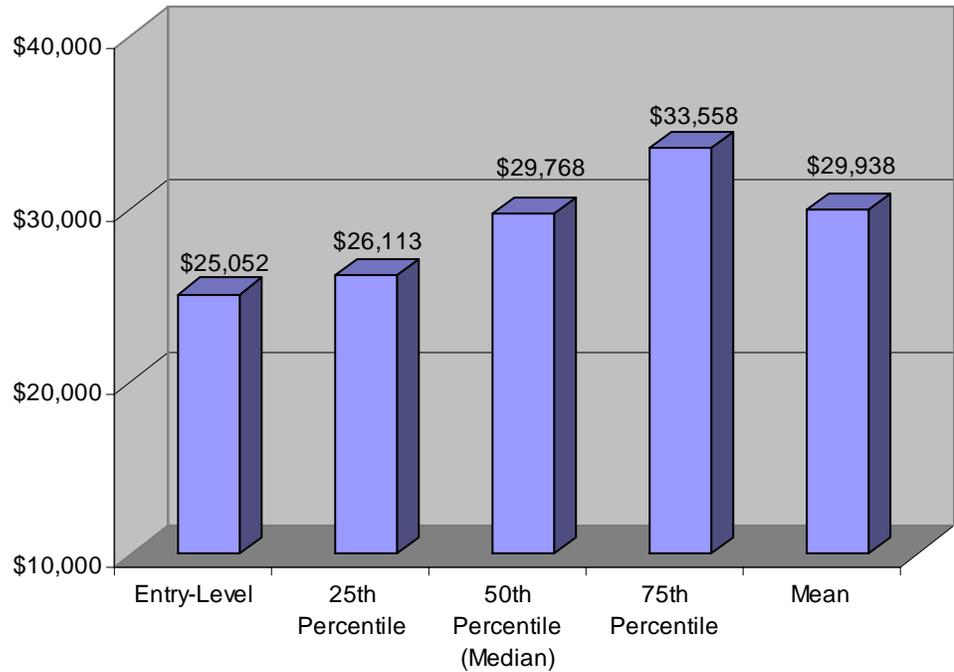


¹⁵ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for medical assistants in Orange County was \$29,768 while the mean, or average, wage was higher at \$29,938. The entry-level wage was \$25,052 (see Figure 23).

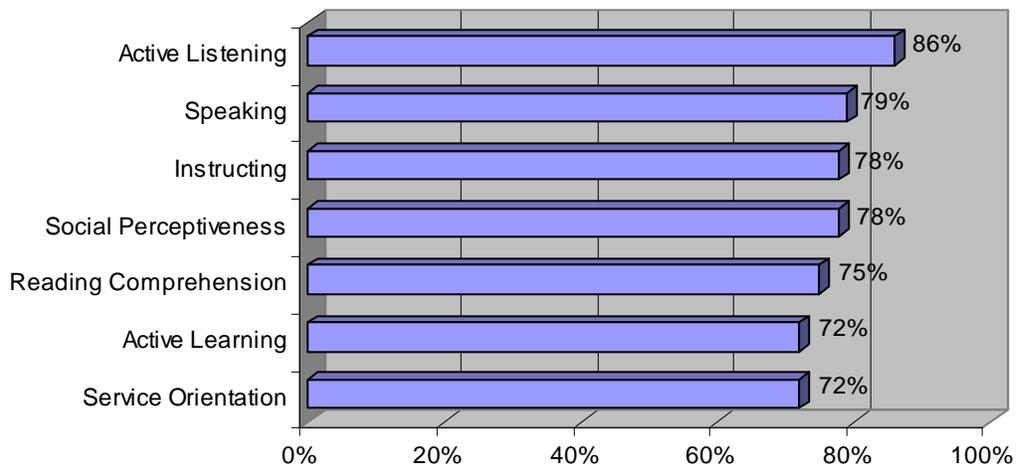
Figure 23 Medical Assistants - Wage Distribution



Skill Assessment

Active listening and speaking were ranked as the most important skills for medical assistants (see Figure 24).

Figure 24 Medical Assistants - Skill Importance¹⁶



Source: O*Net Online Occupational Information Network, 2006.

For medical assistants, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Speaking – Talking to others to convey information effectively.

Instructing – Teaching others how to do something.

Social Perceptiveness – Being aware of others' reactions and understanding why they react as they do.

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

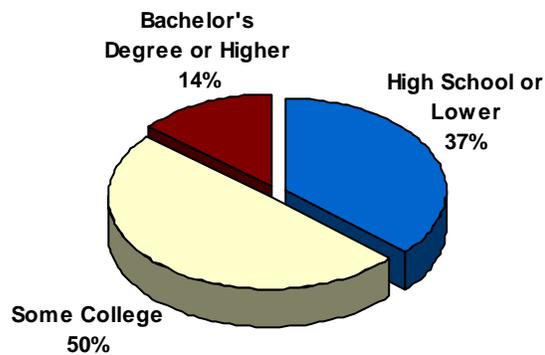
¹⁶ A rating of zero indicates the skill is "not important," while a rating of 100 indicates the skill is "extremely important."

Education and Sector Requirements

Formal training in medical assisting, while generally preferred, is not always required. Employers prefer to hire experienced workers or certified applicants who have passed a national examination, indicating that the medical assistant meets certain standards of competence.

The American Association of Medical Assistants awards the Certified Medical Assistant credential; the American Medical Technologists Agency awards the Registered Medical Assistant credential; the American Society of Podiatric Medical Assistants awards the Podiatric Medical Assistant Certified credential; and the Joint Commission on Allied Health Personnel in Ophthalmology awards credentials at three levels: Certified Ophthalmic Assistant, Certified Ophthalmic Technician, and Certified Ophthalmic Medical Technologist.

Figure 25 Medical Assistants - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following programs are offered by Orange County education providers:

- American Career College (Anaheim) – Medical Assistant Certificate;
- Bryman College (Anaheim) – Medical Assisting program; Medical Administrative Assistant program; Medical Insurance Billing/ Coding program;
- Career Networks Institute (Costa Mesa) – Computerized Medical Clinical Assistant program; Computerized Medical Office Administration; Computerized Medical Insurance Billing;
- Central County ROP – Medical Assistant – Front/ Back Office classes;
- Coastline ROP – Medical Assistant – Front Office Internship; Medical Assistant – Back Office Internship; Medical Office Management and Billing program;
- Concorde Career Institute (Garden Grove) – Medical Assistant program; Insurance Coding and Billing Specialist program;
- Health Staff Training Institute (Santa Ana) – Medical Administrative Assistant program; Medical Assistant program;
- Intercoast Colleges (Orange) – Medical Assistant program; Administrative Medical Assistant program;
- Maric College (Anaheim) – Medical Assisting program;
- Modern Technology School (Fountain Valley) – Medical Assistant – Back Office Diploma;
- Newbridge College (Santa Ana) – Medical Assistant program;
- Orange Coast College – Medical Assisting program;
- Pacific College (Costa Mesa) – Medical Assistant program;
- Saddleback College – Medical Assistant program;
- Santa Ana College – Medical Assistant – Administrative/ Clerical program;
- School of Continuing Education (Yorba Linda) – Medical Assisting – Front Office Procedures classes;
- South Coast College (Orange) – Medical Assisting/ Billing Specialist program.

Recruitment Strategies

Jobs as medical assistants may be found by applying to doctors' offices, government personnel offices, college placement centers, and private employment agencies. There is information about job openings in newspaper classified ads and Internet job listings. Those looking for a civil service job must pass a test.

Positions that Move into this Occupation

File clerks, dietary aides, and central supply techs can advance into positions as medical assistants.

Positions that Build upon this Occupation

Medical assistants can advance into positions as pharmacy aides, physical therapy assistants, histologic technicians, receptionists, LVNs, surgical techs, respiratory therapy technicians, medical coder trainees, occupational therapy assistants, and laboratory assistants.

Medical and Clinical Laboratory Technicians

Occupation Description

Medical and clinical laboratory technicians perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. They may work under the supervision of a medical technologist. Within the Orange County healthcare sector, employment as a medical and clinical laboratory technician is contained in the medical offices and clinics, and the hospital and emergency care services/ acute care segments.

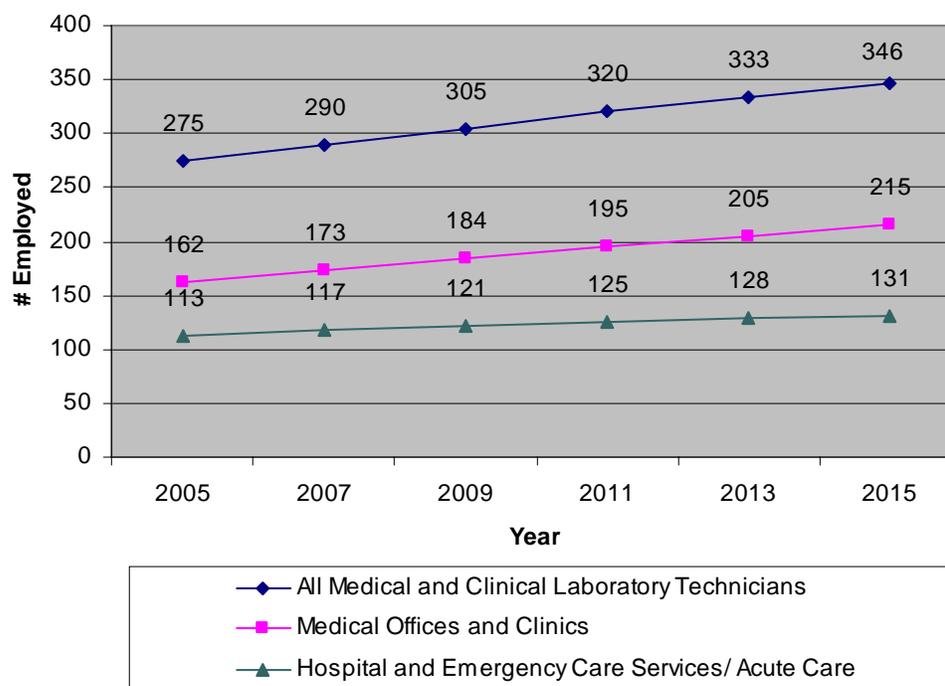
Secondary Titles

Secondary titles include cytotechnologist, laboratory assistant, laboratory associate, laboratory technician, medical laboratory technician, and non-registered technician.

Employment Level and Projected Growth¹⁷

In 2005, there were 275 medical and clinical laboratory technicians in the healthcare sector in Orange County. Three hundred and forty-six (346) medical and clinical laboratory technicians are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.6 percent (see Figure 26).

Figure 26 Medical and Clinical Laboratory Technicians - Employment Forecast

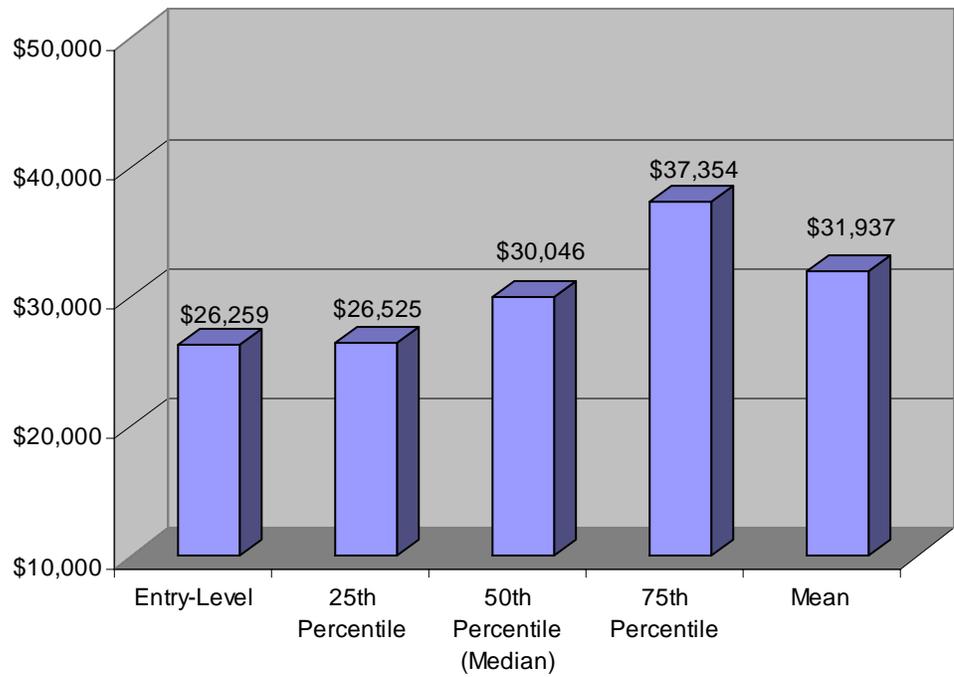


¹⁷ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for medical and clinical laboratory technicians in Orange County was \$30,046 while the mean, or average, wage was higher at \$31,937. The entry-level wage was \$26,259 (see Figure 27).

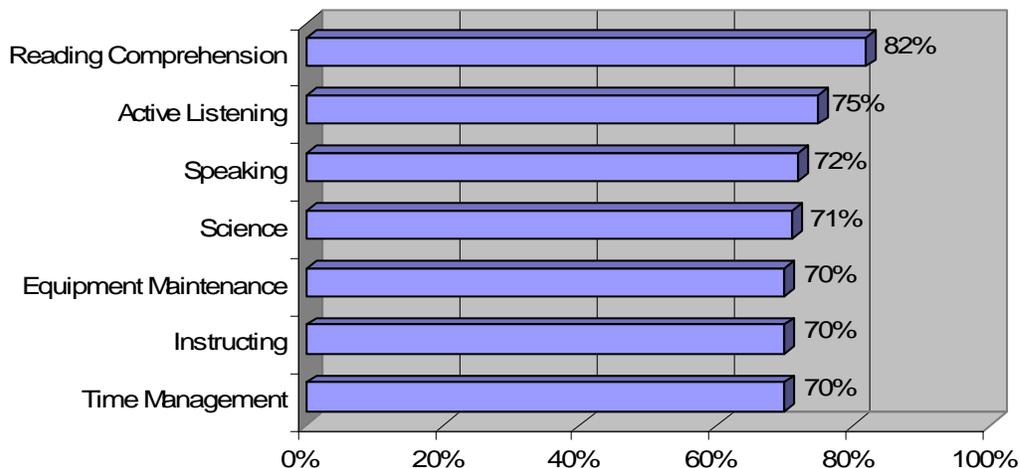
Figure 27 Medical and Clinical Laboratory Technicians - Wage Distribution



Skill Assessment

Reading comprehension and active listening were ranked as the most important skills for medical and clinical laboratory technicians (see Figure 28).

Figure 28 Medical and Clinical Laboratory Technicians - Skill Importance¹⁸



Source: O*Net Online Occupational Information Network, 2006.

For medical and clinical laboratory technicians, the four most important skills are:

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Speaking – Talking to others to convey information effectively.

Science – Using scientific rules and methods to solve problems.

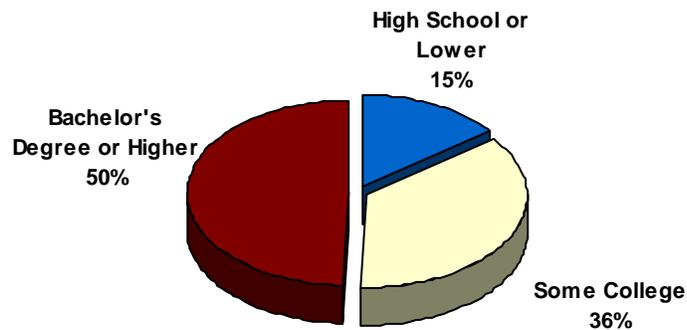
¹⁸ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

The usual requirement for medical and clinical laboratory technicians is either an associate degree from a community or junior college, or a certificate from a hospital, a vocational or technical school, or one of the U.S. Armed Forces. A few technicians learn their skills on the job.

Certification is a voluntary process by which a non-governmental organization, such as a professional society or certifying agency, grants recognition to an individual whose professional competence meets prescribed standards. However, certification is a prerequisite for most jobs and often is necessary for advancement. Agencies certifying medical and clinical laboratory technicians include the Board of Registry of the American Society for Clinical Pathology, the American Medical Technologists, the National Credentialing Agency for Laboratory Personnel, and the Board of Registry of the American Association of Bioanalysts.

Figure 29 Medical and Clinical Laboratory Technicians - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following courses are offered by Orange County education providers:

- Health Staff Training Institute (Santa Ana) – Medical Lab Technician program;
- Newbridge College (Santa Ana) – Medical Laboratory Technician Diploma/ Phlebotomy Certificate of Achievement (graduate program).

Recruitment Strategies

Trainees are usually hired by laboratories where they worked as interns. The California Association for Medical Laboratory Technology often lists the openings of employers that are recruiting. Job seekers can also check classified ads in newspapers, online job listings and medical lab journals; network with other technicians; and apply directly to medical laboratories and health service centers. Hospitals and reference laboratory websites are also good places to find current postings.

Positions that Move into this Occupation

Histologic technicians can advance into positions as medical and clinical laboratory technicians.

Positions that Build upon this Occupation

Medical and clinical laboratory technicians can advance into positions as cytogenetic technologists and medical and clinical laboratory technologists.

Medical Records and Health Information Technicians

Occupation Description

Medical records and health information technicians compile, process, and maintain medical records of hospital and clinic patients in a manner consistent with medical, administrative, ethical, legal, and regulatory requirements of the healthcare system. They process, maintain, compile, and report patient information for health requirements and standards. Within the Orange County healthcare sector, employment as a medical records and health information technician is contained in the medical offices and clinics, hospital and emergency care services/ acute care, and long-term care segments.

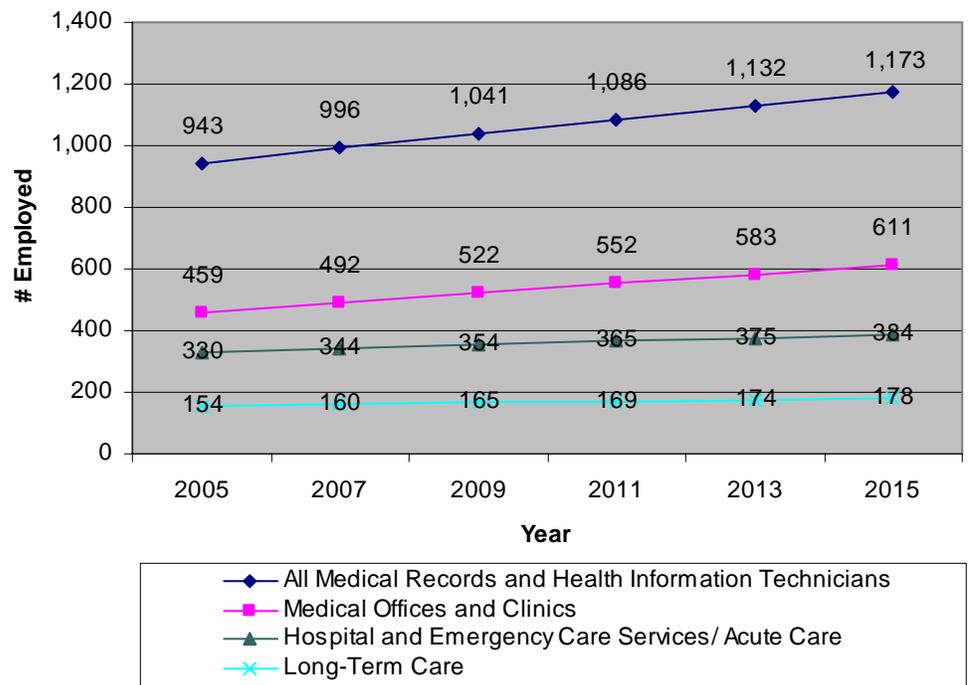
Secondary Titles

Secondary titles include coder, file clerk, health information clerk, health information systems technician, medical records analyst, medical records clerk, medical records director, medical records technician, office manager, and receptionist.

Employment Level and Projected Growth¹⁹

In 2005, there were 943 medical records and health information technicians in the healthcare sector in Orange County. One thousand one hundred and seventy-three (1,173) medical records and health information technicians are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.4 percent (see Figure 30).

Figure 30 Medical Records and Health Information Technicians - Employment Forecast

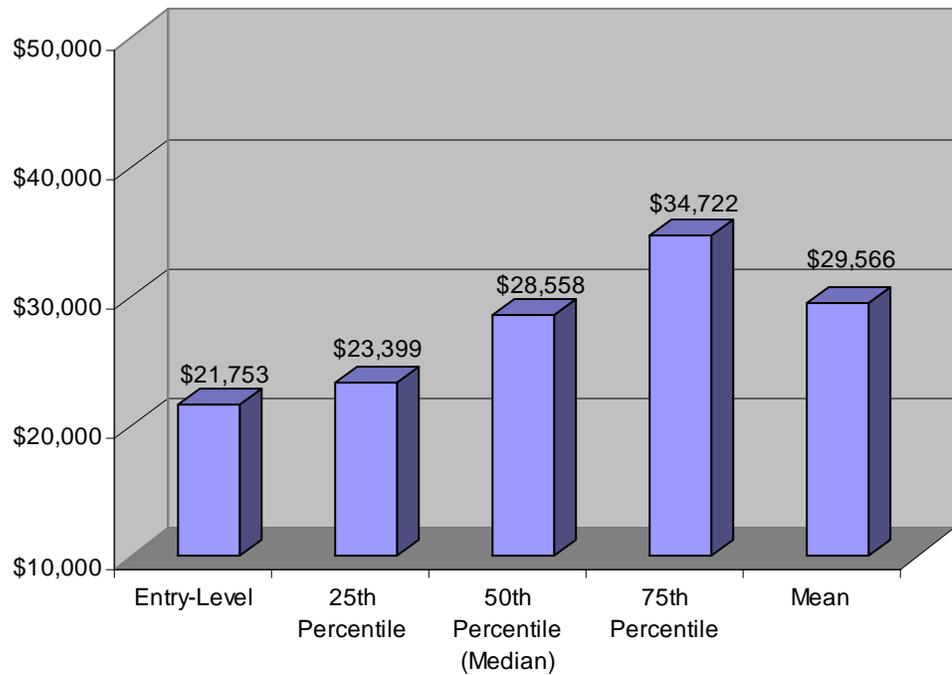


¹⁹ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for medical records and health information technicians in Orange County was \$28,558 while the mean, or average, wage was higher at \$29,566. The entry-level wage was \$21,753 (see Figure 31).

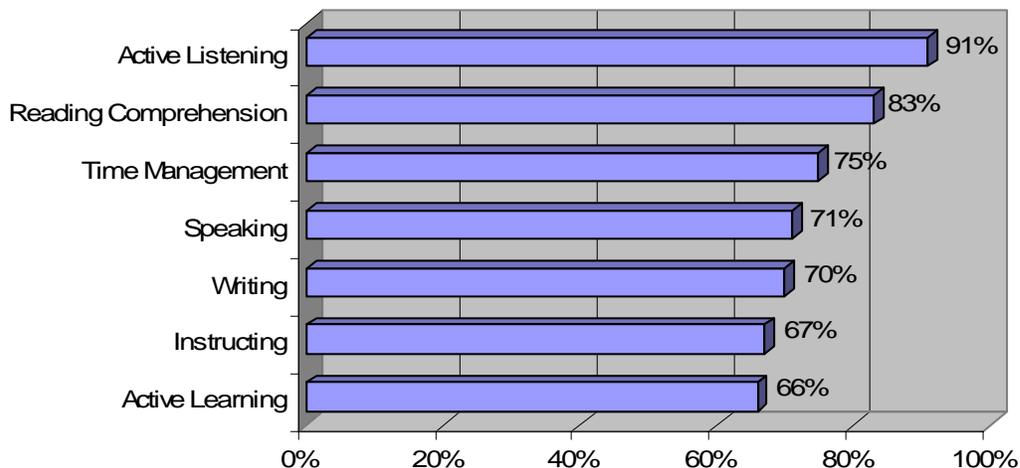
Figure 31 Medical Records and Health Information Technicians - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for medical records and health information technicians (see Figure 32).

Figure 32 Medical Records and Health Information Technicians - Skill Importance²⁰



Source: O*Net Online Occupational Information Network, 2006.

For medical records and health information technicians, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

Time Management - Managing one's own time and the time of others.

Speaking – Talking to others to convey information effectively.

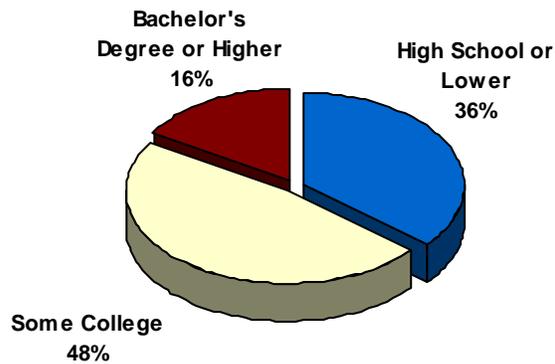
Writing – Using scientific rules and methods to solve problems.

²⁰ A rating of zero indicates the skill is "not important," while a rating of 100 indicates the skill is "extremely important."

Education and Sector Requirements

Medical records and health information technicians entering the field usually have an associate's degree from a community or junior college. Most employers prefer to hire registered health information technicians (RHIT), who must pass a written examination offered by the American Health Information Management Association (AHIMA). To take the examination, a person must graduate from a two-year associate's degree program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) of the American Medical Association. Technicians trained in non-CAAHEP-accredited programs, or on the job, are not eligible to take the examination.

Figure 33 Medical Records and Health Information Technicians - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following programs are offered by Orange County education providers:

- Career Networks Institute (Costa Mesa) – Computerized Medical Office Receptionist program;
- Cypress College – Health Information Technology.

Recruitment Strategies

Networking through professional associations and using professional health sector search firms are the most common ways to find job leads. Job seekers should also apply directly to health services centers, health research facilities, computer and accounting companies specializing in health information, and state and federal agencies and private contractors responsible for managing the Medicare Health Insurance program. Recent graduates should apply with their school placement office.

Medical records administrators often get hired before graduation through instructor recommendations and placement.

Positions that Move into this Occupation

Certified nurse assistants, medical assistants, unit assistants, home health aides, respiratory therapy assistants, and physical therapy aides can advance into positions as medical records and health information technicians.

Positions that Build upon this Occupation

Medical records and health information technicians can advance into positions as supervisors, directors, or assistant directors of a medical records and health information department.

Occupational Therapists

Occupation Description

Occupational therapists assess, plan, organize, and participate in rehabilitative programs that help restore vocational, homemaking, and daily living skills, as well as general independence, to disabled people. Within the Orange County healthcare sector, employment as an occupational therapist is contained in the hospital and emergency care services/ acute care, medical offices and clinics, and long-term care segments.

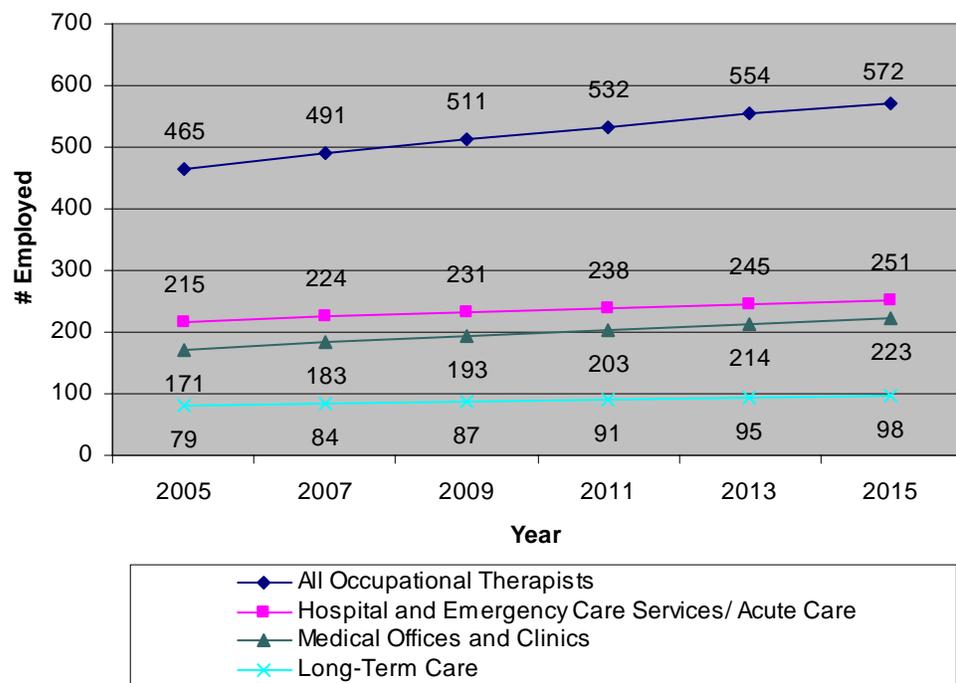
Secondary Titles

Secondary titles include certified occupational therapy assistant, registered occupational therapist, and staff therapist.

Employment Level and Projected Growth²¹

In 2005, there were 465 occupational therapists in the healthcare sector in Orange County. Five hundred and seventy-two (572) occupational therapists are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.3 percent (see Figure 34).

Figure 34 Occupational Therapists - Employment Forecast

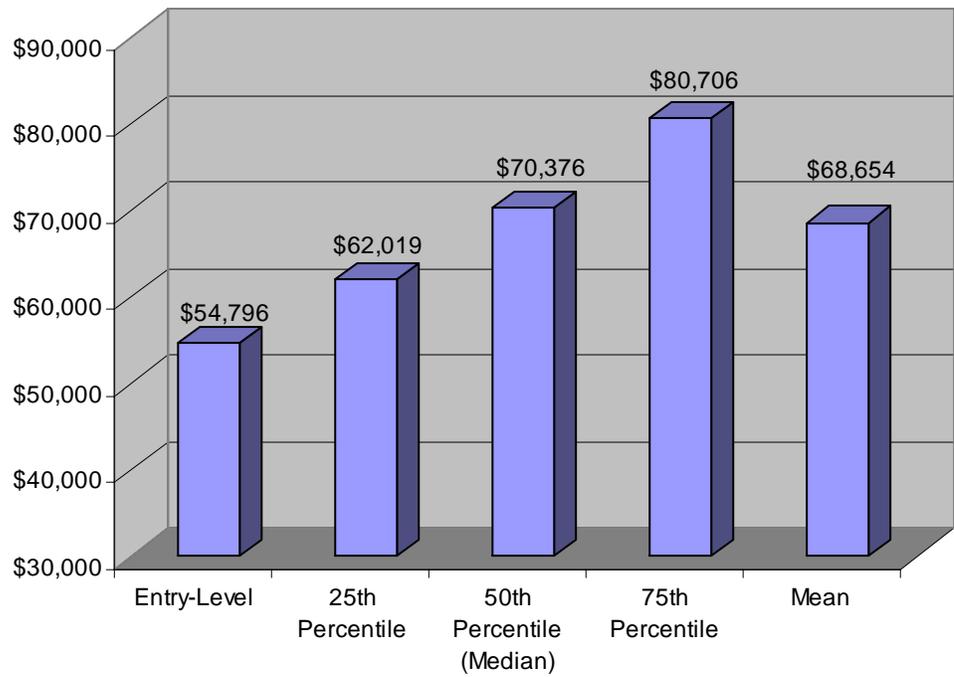


²¹ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for occupational therapists in Orange County was \$70,376 while the mean, or average, wage was lower at \$68,654. The entry-level wage was \$54,796 (see Figure 35).

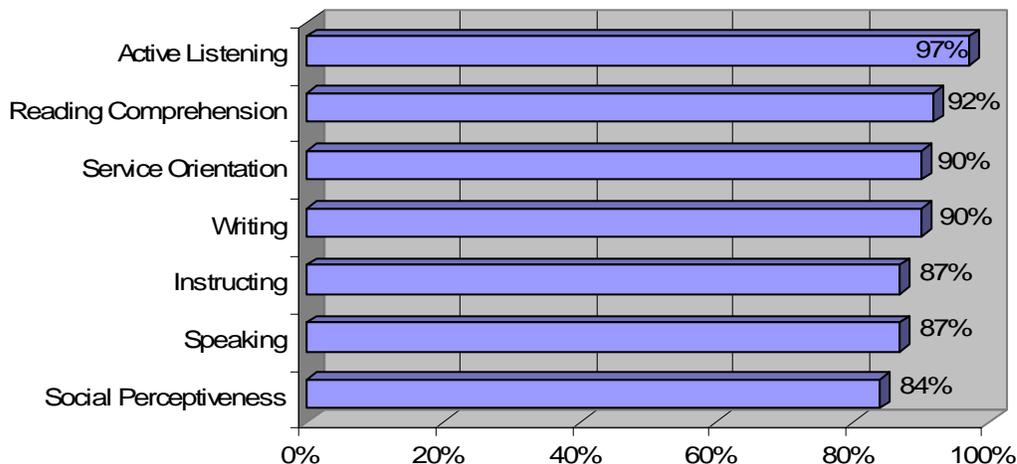
Figure 35 Occupational Therapists - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for occupational therapists (see Figure 36).

Figure 36 Occupational Therapists - Skill Importance²²



Source: O*Net Online Occupational Information Network, 2006.

For occupational therapists, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.

Service Orientation – Actively looking for ways to help people.

Writing – Communicating effectively in writing as appropriate for the needs of the audience.

Instructing – Teaching others how to do something.

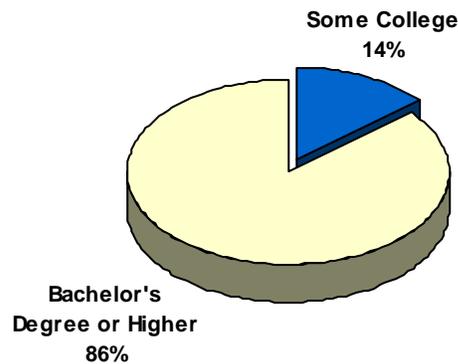
²² A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

Currently, a bachelor's degree in occupational therapy is the minimum requirement for entry into the field. However, the Representative Assembly of the American Occupational Therapy Association voted in 1999 to delete all entry-level bachelor programs as of 2007. At that time, entry to occupational therapy practice will be at the graduate degree level only. Students in the bachelor's program will need to continue their education and earn an M.A. degree in Occupational Therapy in order to practice.

All states regulate the practice of occupational therapy. To obtain a license, applicants must graduate from an accredited educational program and pass a national certification examination. Those who pass the exam are awarded the title "Occupational Therapist Registered (OTR)." In California, occupational therapists are required to hold a license granted by the California Board of Occupational Therapy. To qualify for this license, applicants must have passed a certification exam administered by the National Board for Certification in Occupational Therapy, and must have successfully completed an occupational therapy program at an American Occupational Therapy Association accredited institution.

Figure 37 Occupational Therapists - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-2005 Edition.

Education and Training Providers

Although Orange County institutions do not offer specific education and training programs for occupational therapists, the University of California, Los Angeles offers the following programs:

- Bachelor of Science in Occupational Therapy;
- Master of Arts in Occupational Therapy;
- Doctorate of Occupational Therapy.

Recruitment Strategies

Direct application to employers remains one of the most effective job search methods. Some of the primary recruitment strategies include staff member referrals, professional development opportunities, and newspaper advertisements.

Positions that Move into this Occupation

Occupational therapy assistants can advance into occupational therapist positions.

Positions that Build upon this Occupation

In large health facilities, occupational therapists may be promoted to supervisory positions. Opportunities for promotion are more limited in smaller facilities.

Pharmacy Technicians

Occupation Description

Pharmacy technicians prepare medications under the direction of a pharmacist. They may measure, mix, count, label, and record amounts and dosages of medications. Within the Orange County healthcare sector, employment as a pharmacy technician is contained in the hospital and emergency care services/ acute care segments.

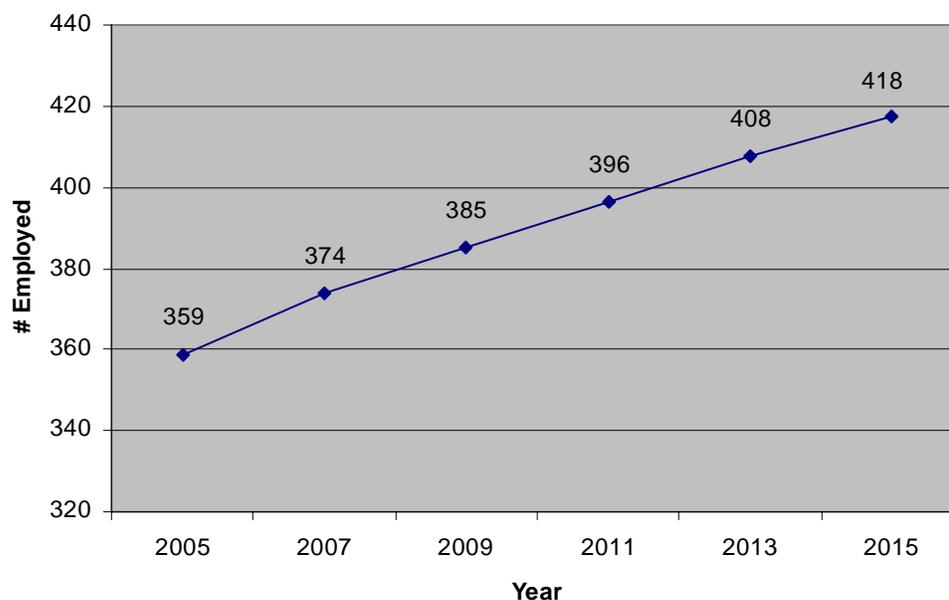
Secondary Titles

Secondary titles include certified pharmacy technician and pharmaceutical care associate.

Employment Level and Projected Growth²³

In 2005, there were 359 pharmacy technicians in the healthcare sector in Orange County. Four hundred and eighteen (418) pharmacy technicians are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 1.7 percent (see Figure 38).

Figure 38 Pharmacy Technicians - Employment Forecast

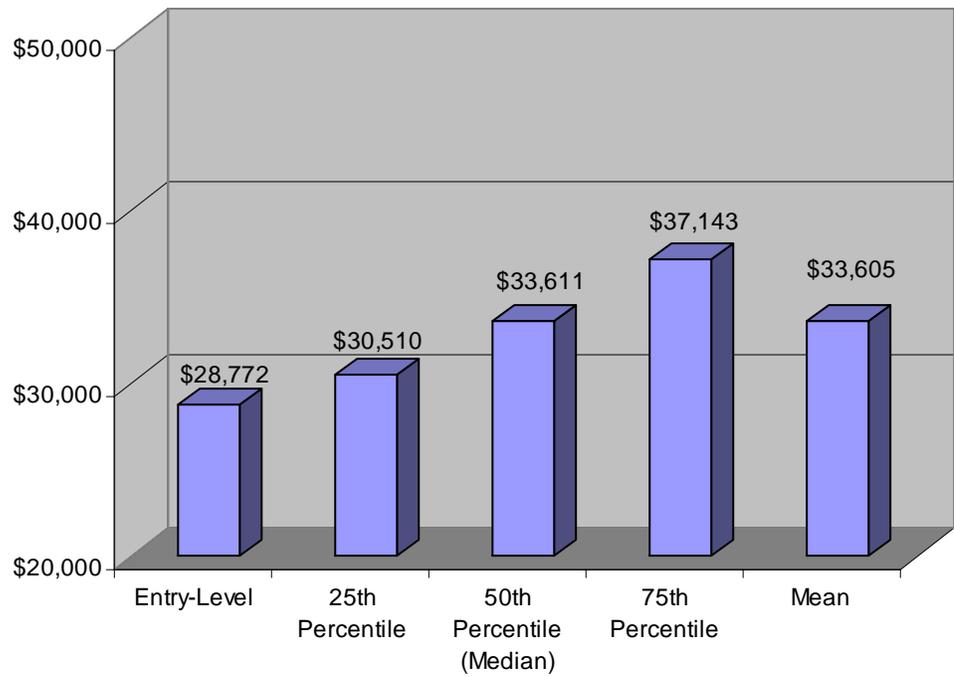


²³ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for pharmacy technicians in Orange County was \$33,611 while the mean, or average, wage was lower at \$33,605. The entry-level wage was \$28,772 (see Figure 39).

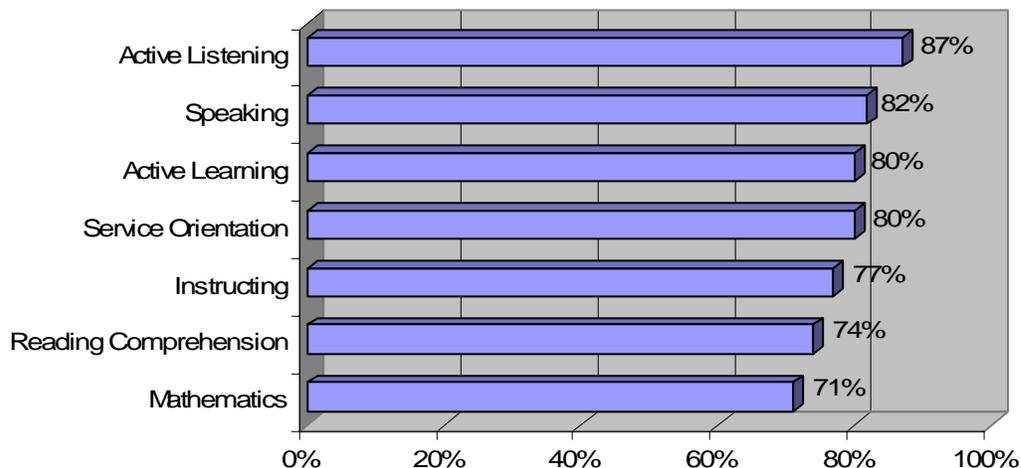
Figure 39 Pharmacy Technicians - Wage Distribution



Skill Assessment

Active listening and speaking were ranked as the most important skills for pharmacy technicians (see Figure 40).

Figure 40 Pharmacy Technicians - Skill Importance²⁴



Source: O*Net Online Occupational Information Network, 2006.

For pharmacy technicians, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Speaking – Talking to others to convey information effectively.

Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.

Service Orientation – Actively looking for ways to help people.

Instructing – Teaching others how to do something.

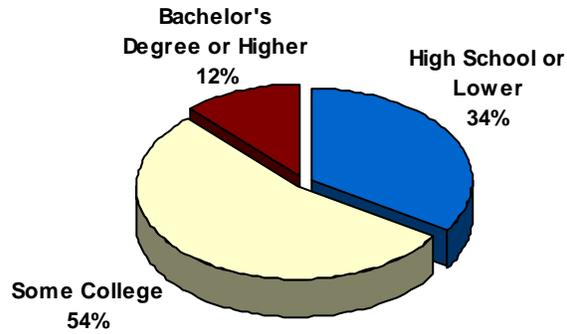
²⁴ A rating of zero indicates the skill is "not important," while a rating of 100 indicates the skill is "extremely important."

Education and Sector Requirements

Employers who have neither the time nor money to provide on-the-job training often seek pharmacy technicians with at least an associate's degree.

The Pharmacy Technician Certification Board administers the National Pharmacy Technician Certification Examination. This exam, which is voluntary in California, determines the competency of individuals to work as pharmacy technicians.

Figure 41 Pharmacy Technicians - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following Orange County institutions offering education and training programs for pharmacy technicians:

- American Career College (Anaheim);
- Bryman College (Anaheim Campus);
- Career Networks Institute (Orange);
- Health Staff Training Institute (Santa Ana);
- Intercoast Colleges (Orange);
- Santa Ana College – Pharmacy Technology Associate's degree and Certificate programs;
- School of Continuing Education (Anaheim).

Recruitment Strategies

Students in pharmacy technician training programs are sometimes hired after graduation by one of the hospitals in which they performed their supervised clinical work experience. Hospitals frequently advertise openings in newspaper advertisements or recruit through private employment agencies. Job seekers should also apply directly to hospital personnel departments throughout the state. Newspaper advertisements and online job listings are also a good place to look.

Positions that Move into this Occupation

Pharmacy aides can advance into positions as pharmacy technicians.

Positions that Build upon this Occupation

Pharmacy technicians can advance into positions as pharmacist interns and pharmacists.

Physical Therapists

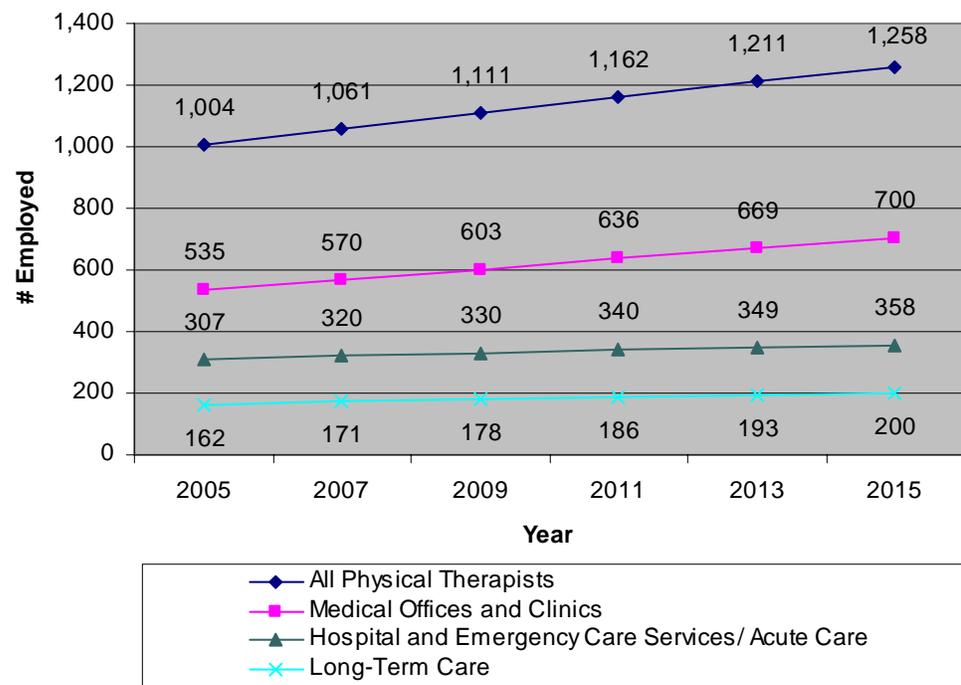
Occupation Description

Physical therapists assess, plan, organize, and participate in rehabilitative programs that improve mobility, relieve pain, increase strength, and decrease or prevent deformity of patients suffering from disease or injury. Within the Orange County healthcare sector, employment as a physical therapist is contained in the medical offices and clinics, hospitals and emergency care services/ acute care, and long-term care segments.

Employment Level and Projected Growth²⁵

In 2005, there were 1,004 physical therapists in the healthcare sector in Orange County. One thousand two hundred and fifty-eight (1,258) physical therapists are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.5 percent (see Figure 42).

Figure 42 Physical Therapists - Employment Forecast

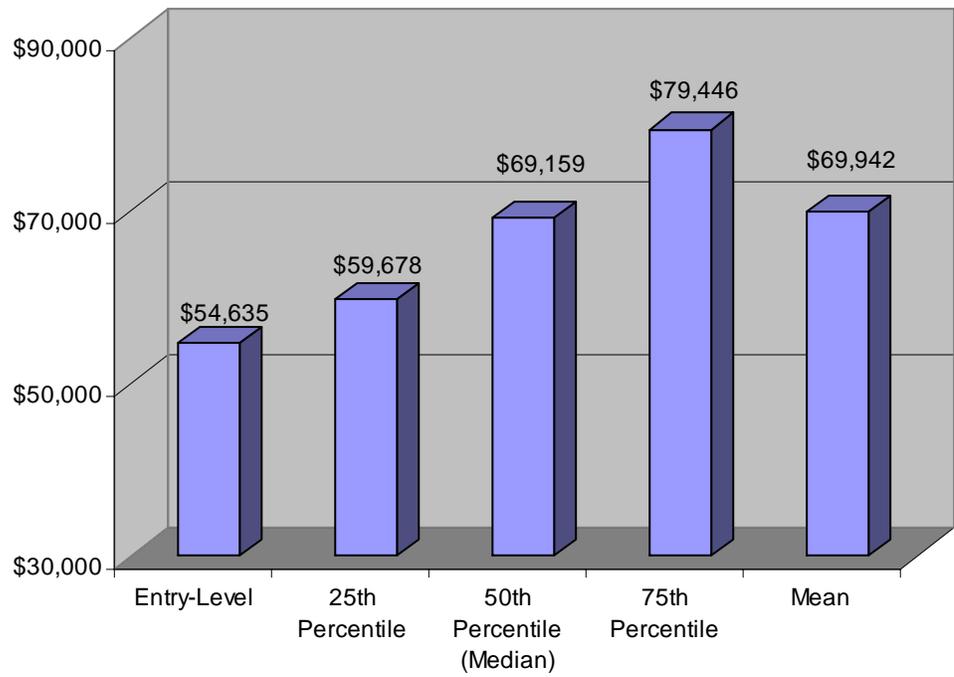


²⁵ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for physical therapists in Orange County was \$69,159 while the mean, or average, wage was higher at \$69,942. The entry-level wage was \$54,635 (see Figure 43).

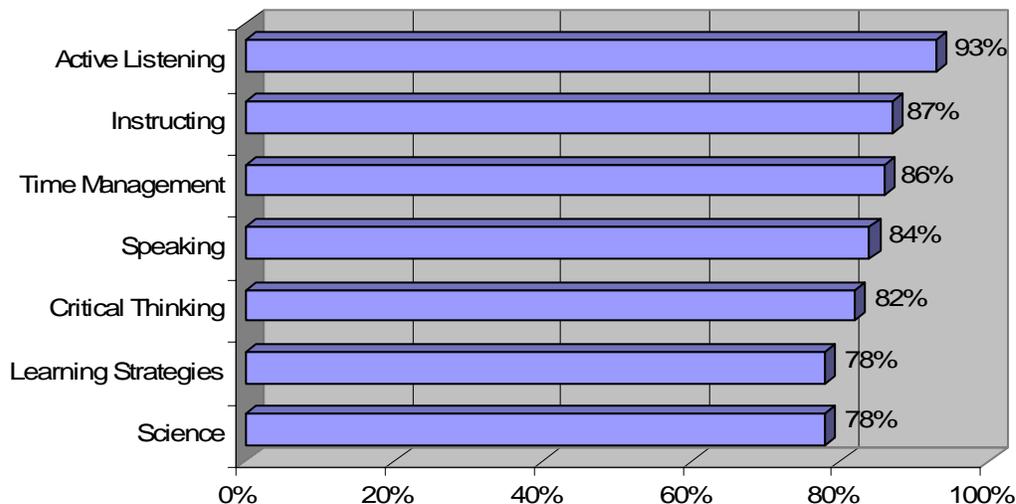
Figure 43 Physical Therapists - Wage Distribution



Skill Assessment

Active listening and instructing were ranked as the most important skills for physical therapists (see Figure 44).

Figure 44 Physical Therapists - Skill Importance²⁶



Source: O*Net Online Occupational Information Network, 2006.

For physical therapists, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Instructing – Teaching others how to do something.

Time Management – Managing one's own time and the time of others.

Speaking – Talking to others to convey information effectively.

Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

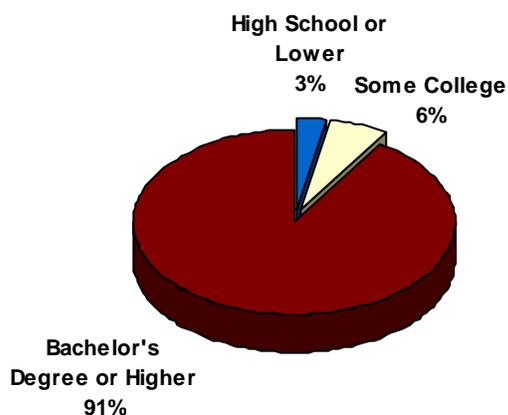
²⁶ A rating of zero indicates the skill is "not important," while a rating of 100 indicates the skill is "extremely important."

Education and Sector Requirements

All physical therapist programs seeking accreditation are required to offer degrees at the master's degree level and above, in accordance with the Commission on Accreditation in Physical Therapy Education.

All states require physical therapists to pass a licensure exam before they can practice, after graduating from an accredited physical therapist educational program. The Physical Therapy Board licenses physical therapists who work in California. Licensing requirements include graduation from a school of physical therapy, approved by the American Physical Therapy Association, and applicants must pass a written examination administered by the Physical Therapy Board. Licenses must be renewed every two years.

Figure 45 Physical Therapists - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following Orange County institutions offering education and training programs for physical therapists:

- California State University, Long Beach - Masters of Physical Therapy program;

Recruitment Strategies

Physical therapists can find jobs through school placement offices, professional associations, or leads in medical journals. Direct application to employers remains one of the most effective job search methods. Private facilities are listed in the yellow pages under physical therapy, hospitals, and rehabilitation services. California job openings can be found at various online job-listing systems.

Positions that Move into this Occupation

Physical therapist assistants can advance into positions as physical therapists.

Positions that Build upon this Occupation

An advanced degree in physical therapy is sometimes a prerequisite for appointment to supervisory, administrative, teaching, or research positions.

Radiologic Technologists and Technicians

Occupation Description

Radiologic technologists and technicians take X-rays and CAT scans or administer non-radioactive materials into patient's blood stream for diagnostic purposes. This occupation includes technologists who specialize in other modalities, such as computed tomography and magnetic resonance and workers whose primary duties are to demonstrate portions of the human body on X-ray film or fluoroscopic screen. Within the Orange County healthcare sector, employment as a radiologic technologist and technician is contained in the hospital and emergency care services/ acute care and medical offices and clinics segments.

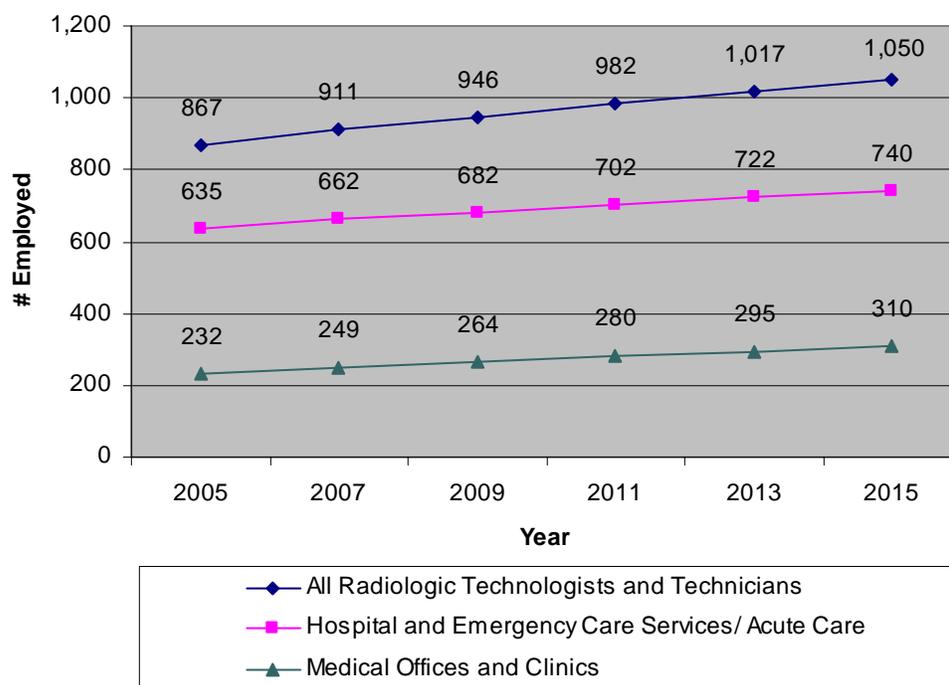
Secondary Titles

Secondary titles include radiological technologist/ technician, magnetic resonance imaging technologist/ technician, radiology technologist/ technician, X-ray technologist/ technician, CT scan technologist/ technician, mammographer, and staff radiographer.

Employment Level and Projected Growth²⁷

In 2005, there were 867 radiologic technologists and technicians in the healthcare sector in Orange County. One thousand and fifty (1,050) radiologic technologists and technicians are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.1 percent (see Figure 46).

Figure 46 Radiologic Technologists and Technicians - Employment Forecast

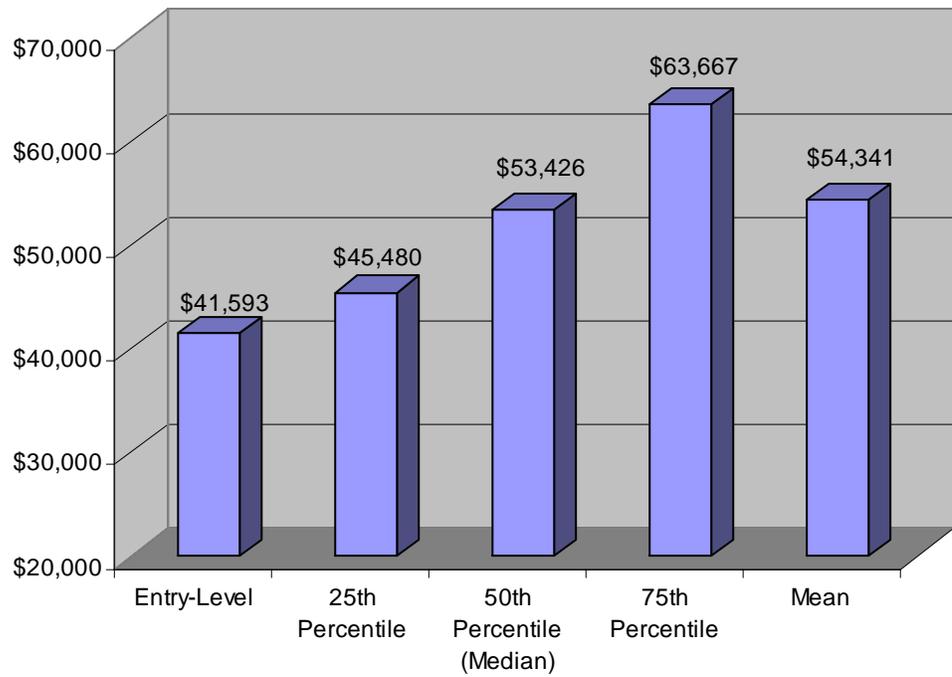


²⁷ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for radiologic technologists and technicians in Orange County was \$53,426 while the mean, or average, wage was higher at \$54,341. The entry-level wage was \$41,593 (see Figure 47).

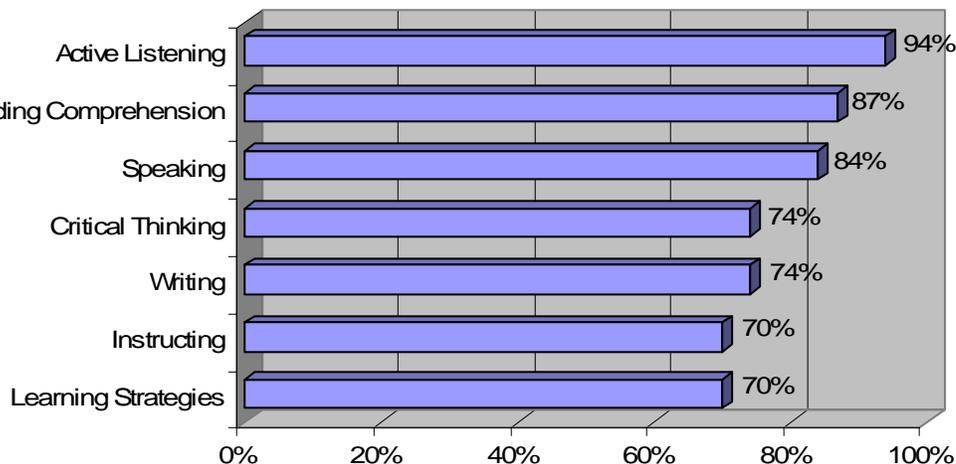
Figure 47 Radiologic Technologists and Technicians - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for radiologic technologists and technicians (see Figure 48).

Figure 48 Radiologic Technologists and Technicians - Skill Importance²⁸



Source: O*Net Online Occupational Information Network, 2006.

For radiologic technologists and technicians, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work related documents.

Speaking – Talking to others to convey information effectively.

Critical Thinking – Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Writing – Communicating effectively in writing as appropriate for the needs of the audience.

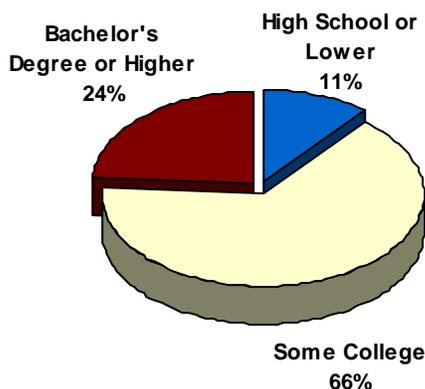
²⁸ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

Formal training programs in radiography range in length from one to four years and lead to a certificate, associate's degree, or bachelor's degree. Two-year associate's degree programs are usually required and are most prevalent.

The American Registry of Radiologic Technologists offers voluntary registration for radiologic technologists. To be eligible for registration, technologists generally must have graduated from an accredited program and pass an examination. Many employers prefer to hire registered radiographers. To be re-registered, radiographers must complete 24 hours of continuing education every other year. California also requires certification for medical or dental radiography.

Figure 49 Radiologic Technologists and Technicians - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The Orange County institutions offering education and training programs for radiologic technologists and technicians include:

- Cypress College (Cypress) – Radiologic Technology and Medical Sonography programs;
- Orange Coast College (Costa Mesa) – Radiologic Technology program.

Recruitment Strategies

Students whose performance is superior during the clinical portion of their training may be hired after graduation by the hospital in which they trained. School instructors may refer qualified graduates to other jobs. Additional information regarding openings can be obtained from the American Society of Radiologic Technologists website. Job seekers can also file applications directly with employers for future consideration.

Positions that Move into this Occupation

Ortho technicians, EKG technicians, ED technicians, OB monitor technicians, echo technicians, and optical technicians can advance into positions as radiologic technologists and technicians.

Positions that Build upon this Occupation

Radiologic technologists and technicians can advance into positions as diagnostic ultra-sonographers, nuclear med technicians, MRI technicians, radiation therapy technicians, or chief radiologic technologist.

Registered Nurses

Occupation Description

Registered nurses assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. They administer nursing care to ill, injured, convalescent, or disabled patients. They may also advise patients on health maintenance and disease prevention or provide case management. Licensing or registration is required. Registered nurses include advance practice nurses such as nurse practitioners, clinical nurse specialists, certified nurse midwives, and certified registered nurse anesthetists. Advanced practice nursing is practiced by Registered nurses who have specialized formal, post-basic education and who function in highly autonomous and specialized roles. Within the Orange County healthcare sector, employment as a registered nurse is contained in the hospital and emergency care services/ acute care, medical offices and clinics, long-term care, and outpatient care and medical labs segments.

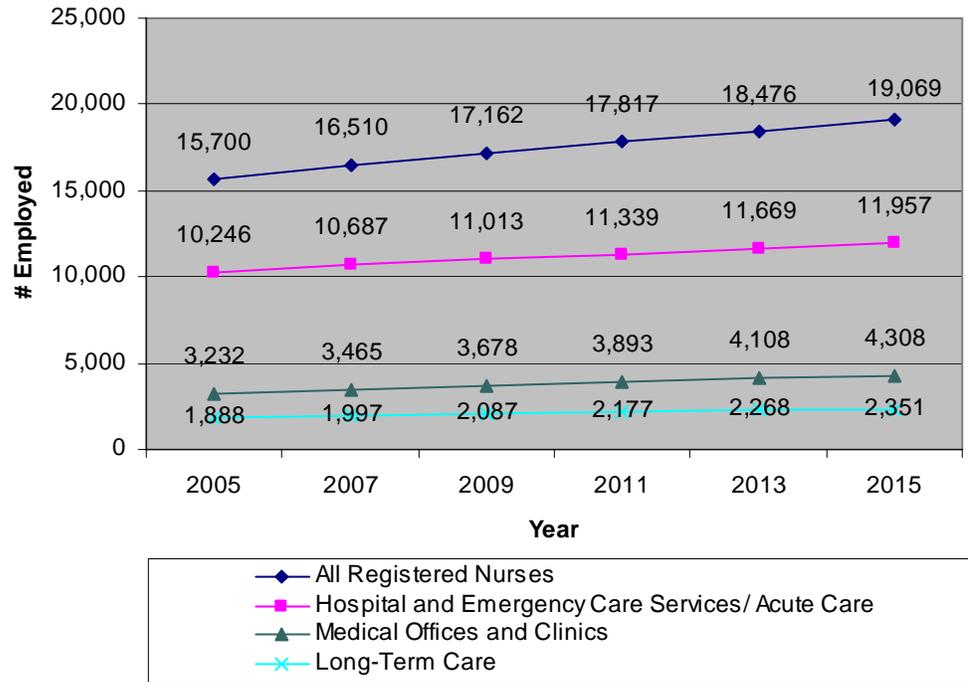
Secondary Titles

Secondary titles include cardiac care unit nurse, charge nurse, clinical nurse, coronary care unit nurse, oncology registered nurse, operating room registered nurse, relief charge nurse, staff nurse, and staff registered nurse.

Employment Level and Projected Growth²⁹

In 2005, there were 15,700 registered nurses in the healthcare sector in Orange County. Nineteen thousand and sixty-nine (19,069) registered nurses are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 2.1 percent (see Figure 50).

Figure 50 Registered Nurses - Employment Forecast³⁰



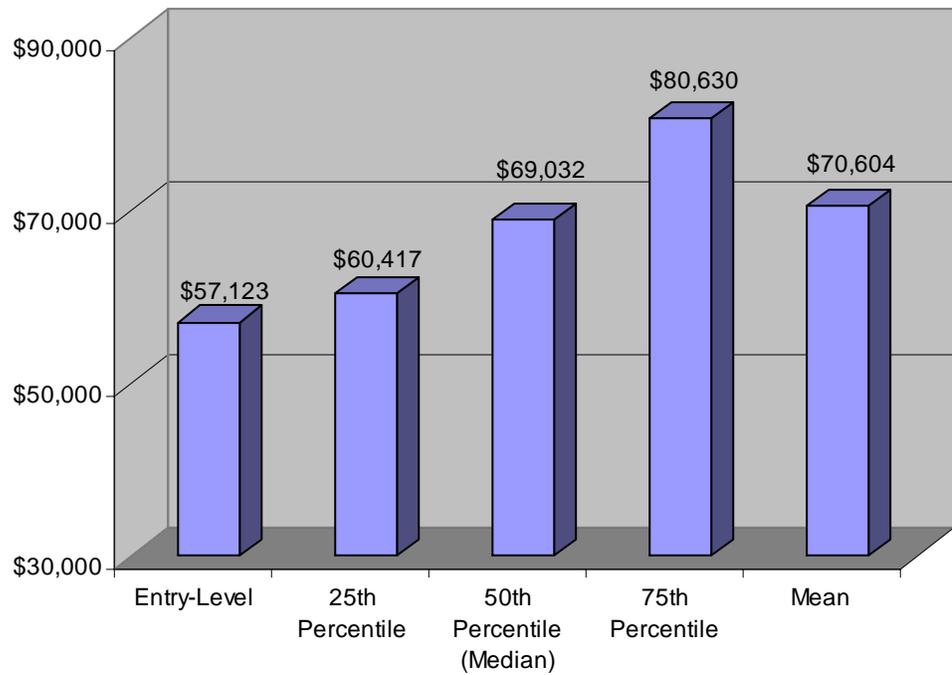
²⁹ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

³⁰ Segments with less than five percent of total employment are not shown.

Wages

In 2005, the median annual wage for registered nurses in Orange County was \$69,032 while the mean, or average, wage was higher at \$70,604. The entry-level wage was \$57,123 (see Figure 51).

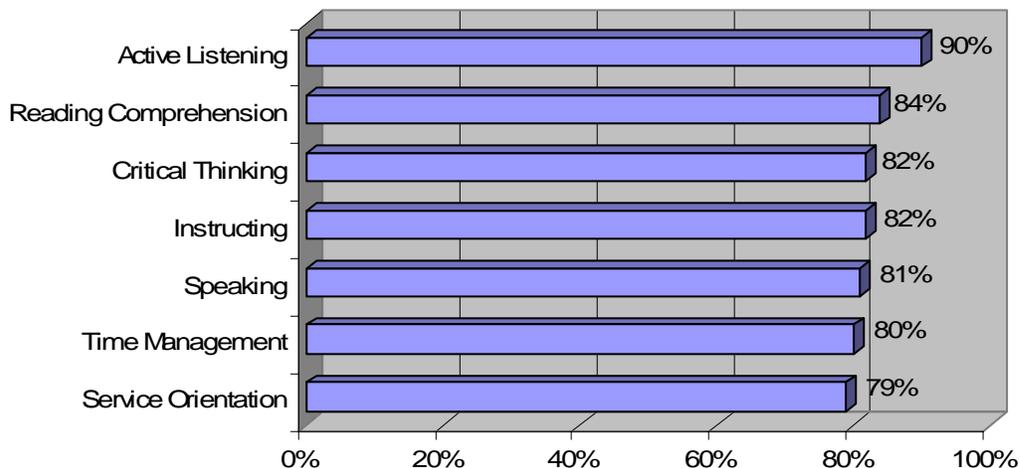
Figure 51 Registered Nurses - Wage Distribution



Skill Assessment

Active listening and reading comprehension were ranked as the most important skills for registered nurses (see Figure 52).

Figure 52 Registered Nurses - Skill Importance³¹



Source: O*Net Online Occupational Information Network, 2006.

For registered nurses, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.

Critical Thinking – Using logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Instructing – Teaching others how to do something.

Speaking – Talking to others to convey information effectively.

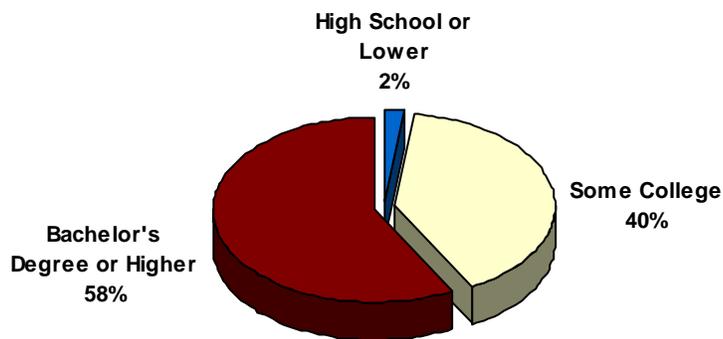
³¹ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

Individuals interested in becoming registered nurses must obtain either a bachelor's of science degree in nursing (BSN) or an associate degree in nursing (ADN). BSN programs, offered by colleges and universities, take about four years to complete. ADN programs, offered by community and junior colleges, typically take two years to complete. Individuals who already have a bachelor's degree in another discipline can pursue a master's entry program in nursing to become a registered nurse. Accelerated BSN programs also are available for individuals who have a bachelor's or higher degree in another field and who are interested in moving into nursing.

In all states, students must graduate from an approved nursing program and pass a national licensing examination in order to obtain a nursing license. Nurses may be licensed in more than one state, either by examination, by the endorsement of a license issued by another state, or through a multi-state licensing agreement. In California, registered nurses must be licensed by the State Board of Registered Nursing. The state requires that registered nurses renew their licenses every two years and complete 30 hours of continuing nursing education during each two-year period.

Figure 53 Registered Nurses - Educational Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The Orange County institutions offering education and training programs for registered nurses include:

- Cypress College – Associate Degree Registered Nursing program from a Diploma School of Nursing; Licensed Vocational Nurse to Registered Nurse program; Licensed Psychiatric Technician to Registered Nurse program;
- Golden West College – Associate Degree and Certificate of Achievement Nursing programs;
- Saddleback College – Associate Degree Nursing program;
- Santa Ana College – General Registered Nursing program and Licensed Vocational Nurse to Registered Nurse program;
- California State University, Fullerton – Bachelor of Science Degree Nursing program from a Nursing Associate Degree; Master of Science Degree Nursing program from a Nursing Associate Degree.

Recruitment Strategies

Direct application to employers remains one of the most effective job search methods. Private facilities are listed in the yellow pages under hospitals, nurse registries, medical clinics, and physicians and surgeons. California job openings can be found at various online job-listing services.

Nursing schools' graduate placement services link registered nurses and nurse practitioners with jobs. Individuals also can apply directly to hospitals, clinics, and physicians. Newspaper ads and Internet job listings also have job leads. State, county, city, and federal personnel administration offices provide announcements of jobs and requirements.

Positions that Move into this Occupation

Licensed practical and licensed vocational nurses and staff nurses can advance into positions as registered nurses.

Positions that Build upon this Occupation

Registered nurses can advance into positions as nurse educator, clinical nurse specialist, critical care nurse, nurse practitioner, certified nurse midwife, assistant head nurse, or head nurse. Those with bachelor's degrees may become nursing administrators, consultants, educators, or researchers.

Respiratory Therapists

Occupation Description

Respiratory therapists assess, treat, and care for patients with breathing disorders. They assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. They initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment. Within the Orange County healthcare sector, employment as a respiratory therapist is contained in the hospital and emergency care services/ acute care, and medical offices and clinics segments.

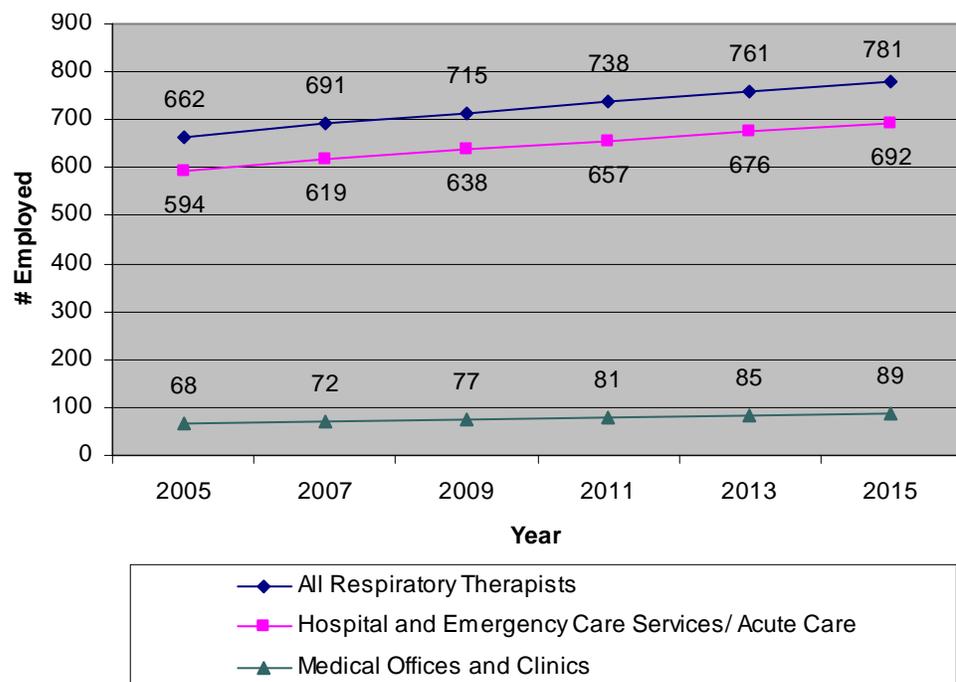
Secondary Titles

Secondary titles include certified respiratory therapist, clinical coordinator of respiratory therapy, director of cardiopulmonary services, registered respiratory therapist, respiratory care practitioner, and staff respiratory therapist.

Employment Level and Projected Growth³²

In 2005, there were 662 respiratory therapists in the healthcare sector in Orange County. Seven hundred and eighty-one (781) respiratory therapists are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 1.8 percent (see Figure 54).

Figure 54 Respiratory Therapists - Employment Forecast

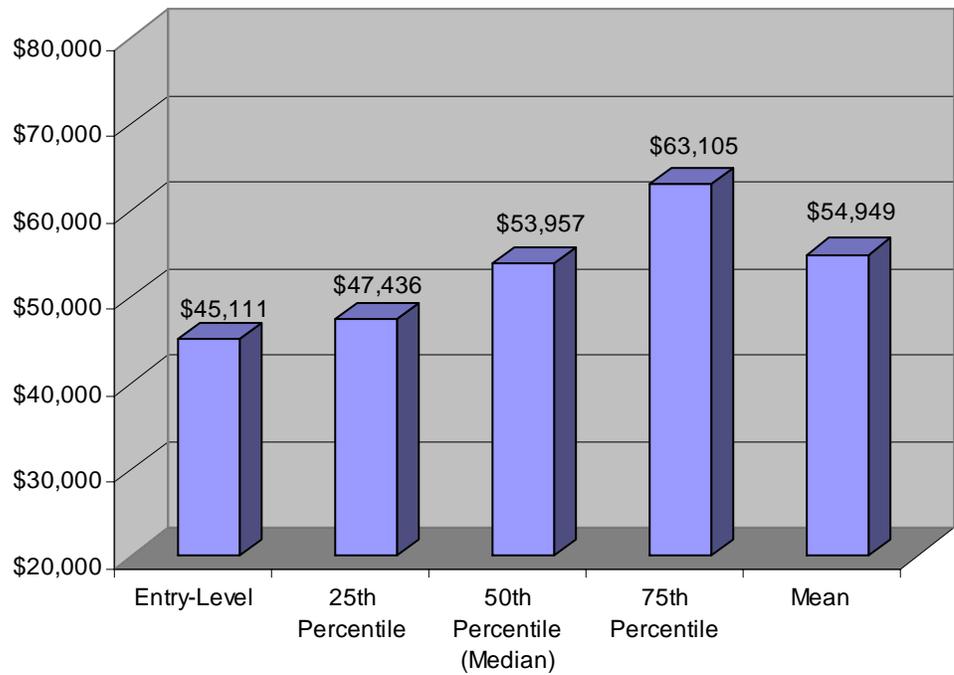


³² Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for respiratory therapists in Orange County was \$53,957 while the mean, or average, wage was higher at \$54,949. The entry-level wage was \$45,111 (see Figure 55).

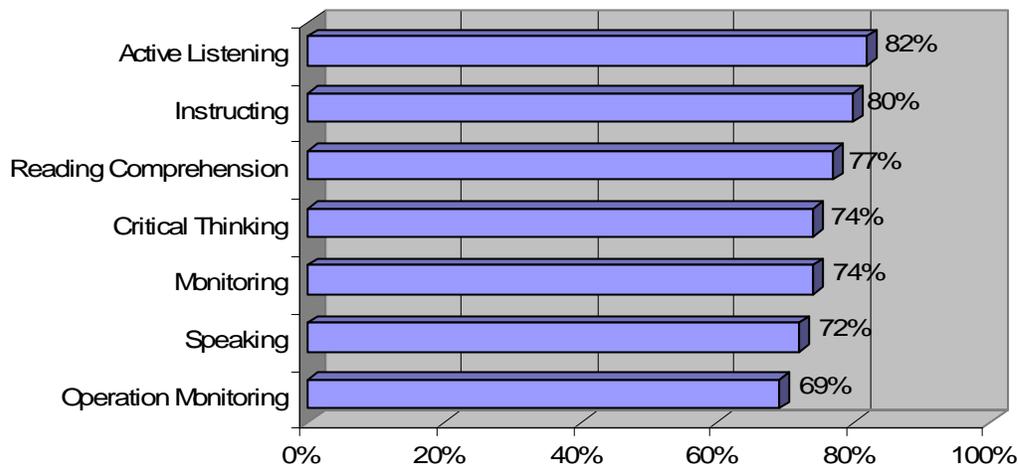
Figure 55 Respiratory Therapists - Wage Distribution



Skill Assessment

Active listening and instructing were ranked as the most important skills for respiratory therapists (see Figure 56).

Figure 56 Respiratory Therapists - Skill Importance³³



Source: O*Net Online Occupational Information Network, 2006.

For respiratory therapists, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Instructing – Teaching others how to do something.

Reading Comprehension – Understanding written sentences and paragraphs in work-related documents.

Critical Thinking – Using logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Monitoring – Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

³³ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

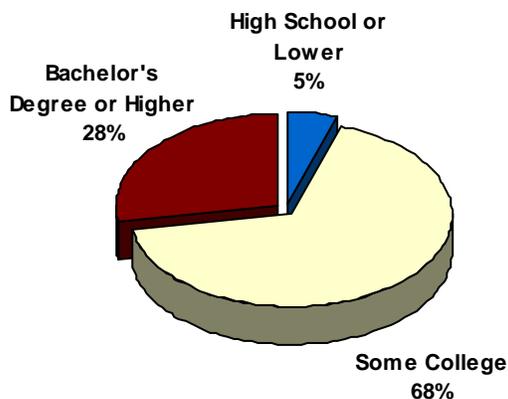
Formal training is necessary for entry as a respiratory therapist. Training programs are conducted by community colleges, universities, and hospitals. An associate's degree has become the general requirement for entry into this field.

The National Board for Respiratory Care (NBRC) offers voluntary certification and registration to graduates of programs accredited by CAAHEP or the Committee on Accreditation for Respiratory Care (CoARC). Two credentials are awarded to respiratory therapists who satisfy the requirements: registered respiratory therapist (RRT) and certified respiratory therapist (CRT). Graduates from accredited programs in respiratory therapy may take the CRT examination.

In California, persons engaged in respiratory or inhalation therapy must be certified. There are two exams a prospective therapist may take. Both exams require the completion of an American Medical Association approved one- or two-year program. The entry-level exam, which all candidates must take, is for the Certified Respiratory Therapy Technician (CRTT). This exam requires at least one year of approved training, and consists of a multiple-choice written test. The advanced exam, Registered Respiratory Therapist (RRT), can be taken by persons who have completed at least two years of approved training. This exam consists of a written and clinical simulation test. All candidates must present proof of high school graduation or its equivalent. To maintain active certified status, annual renewal is also required.

Most employers also require respiratory therapists to maintain a cardiopulmonary resuscitation (CPR) certification.

Figure 57 Respiratory Therapists - Education Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following education providers offer programs in Orange County:

- Concorde Career Institute (Garden Grove) – AS degree in Respiratory Therapy;
- Orange Coast College – Associate's degree in Respiratory Care.

Recruitment Strategies

Respiratory Therapists with outstanding achievement during training are frequently hired by the hospitals where they obtained their training. Others may apply directly to hospitals and civil service agencies. They may also register with the California Employment Development Department Job Service, private registries and medical employment agencies. Other sources of assistance are professional associations, advertisements in newspapers or medical journals, Internet job listings, and referrals from instructors.

Positions that Move into this Occupation

Respiratory therapy technicians can advance into positions as respiratory therapists.

Positions that Build upon this Occupation

Respiratory therapists can advance into positions as registered nurses. They may also advance in clinical practice by moving from general care to the care of critically ill patients who have significant problems in other organ systems, such as the heart or kidneys. Those who have a higher level of expertise, especially those with bachelor's or master's degrees, may advance to teaching, supervisory, or managerial positions in a respiratory therapy department. Respiratory therapists in home health care and equipment rental firms may become branch managers.

Surgical Technologists

Occupation Description

Surgical technologists assist in operations, under the supervision of surgeons, registered nurses, or other surgical personnel. They may help set up operating rooms, prepare and transport patients for surgery, adjust lights and equipment, pass instruments and other supplies to surgeons and surgeon's assistants, hold retractors, cut sutures, and help count sponges, needles, supplies, and instruments. Within the Orange County healthcare sector, employment as a surgical technologist is contained in the hospital and emergency care services/ acute care and outpatient care and medical laboratories segments.

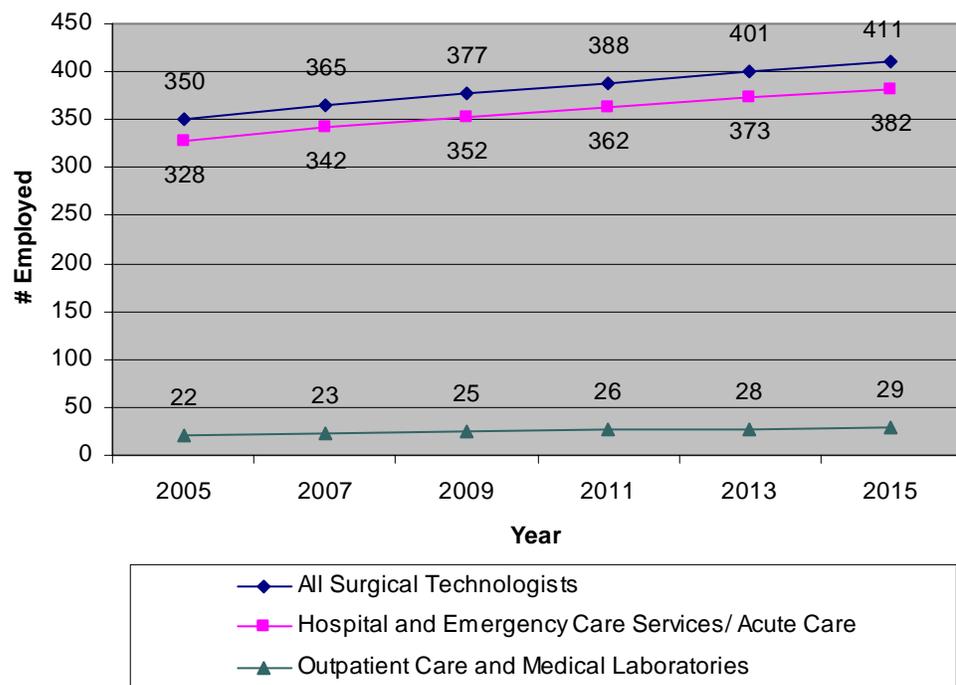
Secondary Titles

Secondary titles include certified surgical technologist, operating room technician, and surgical technician.

Employment Level and Projected Growth³⁴

In 2005, there were 350 surgical technologists in the healthcare sector in Orange County. Four hundred and eleven (411) surgical technologists are projected to be employed within the county healthcare sector by 2015, an average annual growth rate of 1.7 percent (see Figure 58).

Figure 58 Surgical Technologists - Employment Forecast

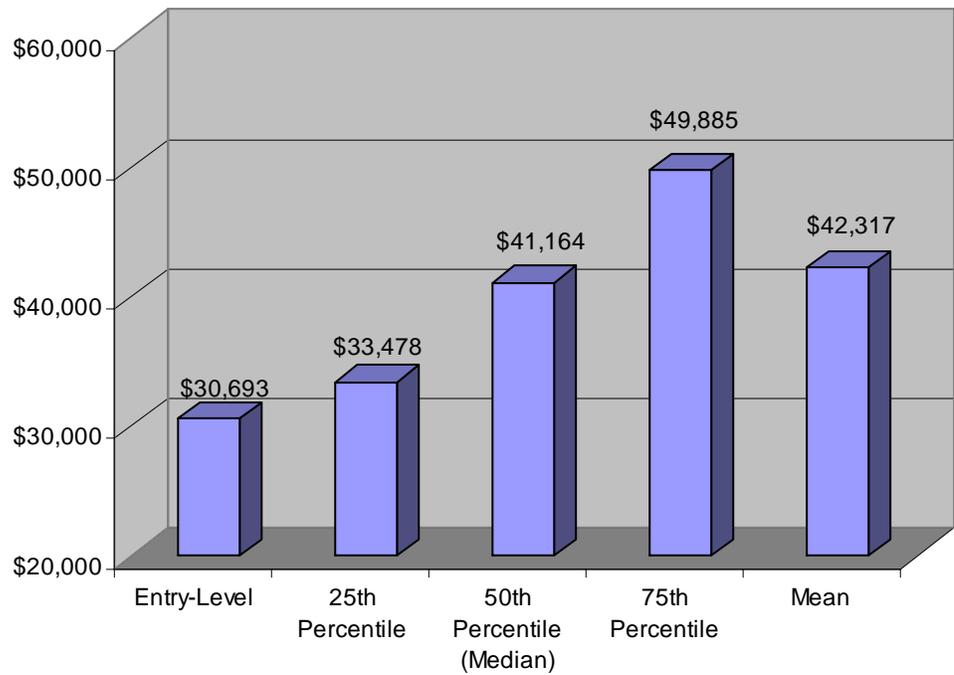


³⁴ Please note that the increase in total employment for each occupation over time represents the increase in demand for position and not the total number of new hires. New hires in each occupation will be much higher as it will include positions filled for replacements and separations as well as the increase in total employment.

Wages

In 2005, the median annual wage for surgical technologists in Orange County was \$41,164 while the mean, or average, wage was higher at \$42,317. The entry-level wage was \$30,693 (see Figure 59).

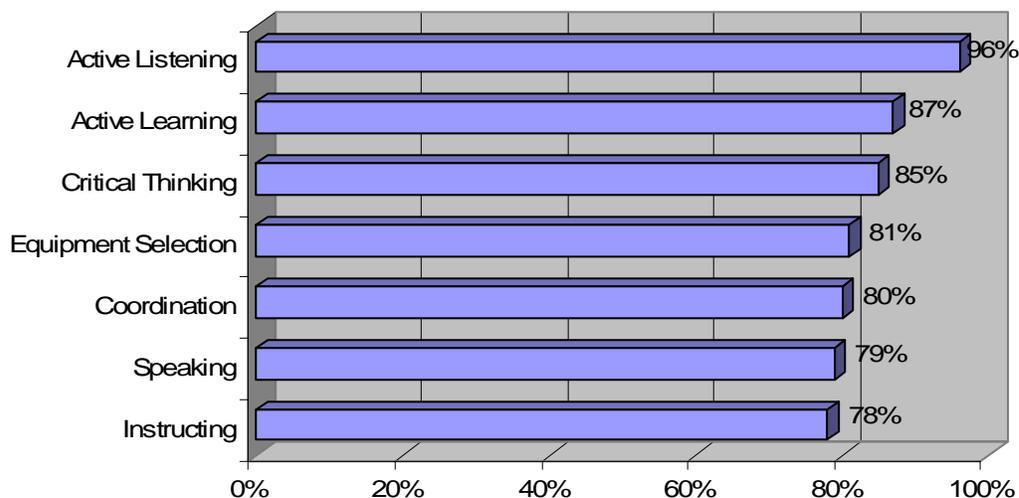
Figure 59 Surgical Technologists - Wage Distribution



Skill Assessment

Active listening and active learning were ranked as the most important skills for surgical technologists (see Figure 60).

Figure 60 Surgical Technologists - Skill Importance³⁵



Source: O*Net Online Occupational Information Network, 2006.

For surgical technologists, the five most important skills are:

Active Listening – Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.

Active Learning – Understanding the implications of new information for both current and future problem-solving and decision-making.

Critical Thinking – Using logic and reasoning to identify strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Equipment Selection – Determining the kind of tools and equipment needed to do a job.

Coordination – Adjusting actions in relation to others' actions.

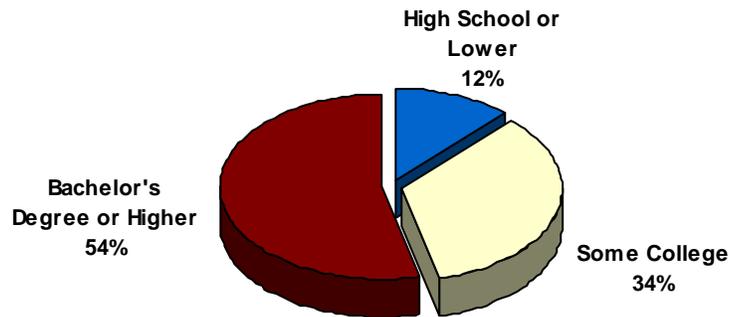
³⁵ A rating of zero indicates the skill is “not important,” while a rating of 100 indicates the skill is “extremely important.”

Education and Sector Requirements

Almost all employers require Basic Life Support (BLS) CPR certification and completion of a two-year certification program. Most employers prefer to hire certified technologists. Technologists may obtain voluntary professional certification from the Liaison Council on Certification for the Surgical Technologist by graduating from a CAAHEP-accredited program and passing a national certification examination. They may then use the certified surgical technologist (CST) designation. Continuing education or reexamination is required to maintain certification, which must be renewed every four years.

Certification may also be obtained from the National Center for Competency Testing (NCCT). To qualify to take the exam, candidates must follow one of three paths: complete an accredited training program, undergo a two year hospital on-the-job training program, or acquire seven years of experience working in the field. After passing the exam, individuals may use the designation tech in surgery-certified, TS-C (NCCT). This certification may be renewed every five years through either continuing education or reexamination.

Figure 61 Surgical Technologists - Education Profile



Source: U.S. Bureau of Labor Statistics Occupational Outlook Handbook, 2004-05 Edition.

Education and Training Providers

The following education providers offer surgical technologist programs in Orange County:

- American Career College (Anaheim);
- Newbridge College (Santa Ana).

Recruitment Strategies

Some training programs offer job placement services. Job seekers should also check hospital job postings, Internet job listings, and the classified advertisements in newspapers to find a job.

Positions that Move into this Occupation

Certified nurse assistants, medical assistants, unit assistants, home health aides, respiratory therapy assistants, and physical therapy aides can advance into positions as surgical technologists

Positions that Build upon this Occupation

Surgical technologists can advance into positions as physician's assistants.

OCCUPATIONAL OVERVIEW

In 2005, the occupations with the greatest employment were registered nurses, medical assistants, and licensed practical and vocational nurses. These occupations are projected to have the greatest employment in 2015 as well (Table 6).

Table 6 Healthcare Occupations with the Greatest Employment in Orange County, 2005 and 2015

Occupation	2005 Employment	2015 Projected Employment
Registered Nurses	15,701	19,069
Medical Assistants	4,730	6,213
Licensed Practical and Licensed Vocational Nurses	3,108	3,726
Home Health Aides	2,781	3,653
Physical Therapists	1,004	1,258
Medical Records and Health Information Technicians	943	1,173
Radiologic Technologists and Technicians	867	1,050
Respiratory Therapists	662	781
Occupational Therapists	466	572
Pharmacy Technicians	359	418

Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics Survey, and Godbe Research, 2005.

In 2005, the median annual wage for healthcare occupations in Orange County was \$44,239. The occupations that had the highest median annual wages were dental hygienists, physician assistants, and occupational therapists (Table 7).

Table 7 Healthcare Occupations with the Highest Median Annual Wages in Orange County in 2005

Occupation	Wage
Dental Hygienists	\$87,445
Physician Assistants	\$70,746
Occupational Therapists	\$65,131
Physical Therapists	\$64,958
Speech Language Pathologists	\$64,665
Nuclear Medicine Technologists	\$61,661
Registered Nurses	\$60,521
Radiation Therapists	\$59,811
Diagnostic Medical Sonographers	\$58,361
Clinical, Counseling, and School Psychologists	\$58,260

Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics Survey, and Godbe Research, 2005.

WAGES

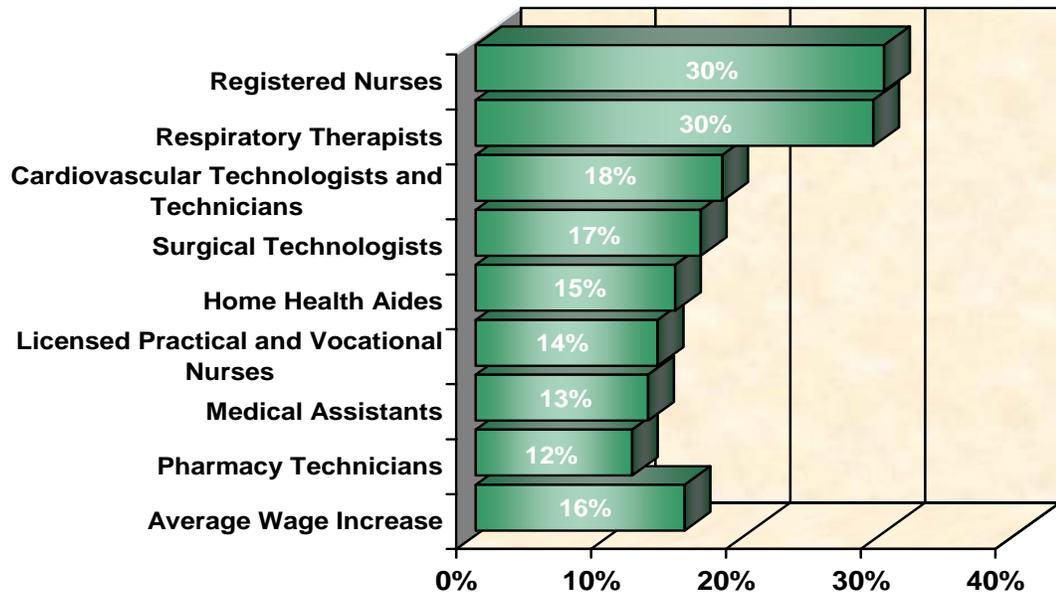
In 2005, the average annual wage in the Orange County healthcare sector was \$46,178 (Table 8). The highest wages within the sector were found in other ambulatory healthcare services (\$60,405), and offices of physicians (\$60,283). The lowest wages within the sector were found in community care facilities for the elderly (\$31,021).

Table 8 Healthcare Sector Average Wages in Orange County, 2005

NAICS Code	Sub-Sector	2005 Annual Average Wage
6211	Offices of Physicians	\$60,283
6212	Offices of Dentists	\$52,966
6213	Offices of Other Health Practitioners	\$52,234
6214	Outpatient Care Centers	\$44,826
6215	Medical and Diagnostic Laboratories	\$57,424
6216	Home Healthcare Services	\$51,722
6219	Other Ambulatory Healthcare Services	\$60,405
6221	General Medical and Surgical Hospitals	\$47,943
6223	Specialty Hospitals (except Psychiatric and Substance Abuse)	\$32,277
6231	Nursing Care Facilities	\$37,516
6232	Residential Mental Retardation, Mental Health and Substance Abuse Facilities	\$32,692
6233	Community Care Facilities for the Elderly	\$31,021
6239	Other Residential Care Facilities	\$38,961
Healthcare Sector Average		\$46,178

Source: California Employment Development Department, Labor Market Information Division, Occupational Employment Statistics Survey, and Godbe Research 2005.

Figure 62 Wage Pressure – Average Wage Gain 2001 to 2005



An examination of occupational wage pressure (Figure 62), the average increase in wages from 2001 to 2005, reveals that many of the occupations experiencing the greatest wage pressure over the next five years will also be experiencing the greatest job growth (Figure 6 and Figure 7). Home Health Aides are in the top five occupations experiencing both growth and wage pressure. Registered Nurses are expected to have the highest growth overall and also have the greatest amount of wage pressure.

INDUSTRY TRENDS³⁶

The major issues facing the healthcare sector include a continuing decline in hospital profitability and continuing increases in healthcare insurance costs for both employers and consumers within a system that is becoming increasingly consumer-driven. These trends will likely increase the demand for healthcare employment in the region.

Declining Hospital Profitability

Hospital profitability is predicted to decline in the foreseeable future as cost burdens are shifted to hospital facilities, hospital costs exceed Medicare and Medicaid reimbursements, and hospitals treat a growing number of uninsured patients. Forty-six percent of hospitals and health systems have low credit ratings, and many hospitals operate with low to negative profit margins; according to California's Office of Statewide Health Planning and Development, more than half of California hospitals have negative patient care margins.

Historically, inadequate Medicare reimbursement has adversely impacted hospitals, but most particularly in recent years. Between 1998 and 2002, California hospitals bore the brunt of \$6 billion in Medicare payment cuts as a result of the federal Balanced Budget Act passed in 1997. In thirteen of the last fifteen years, hospitals have suffered from a 21 percent payment gap resulting from Medicare reimbursement updates that have not kept pace with inflation. Although Medicare reimbursement rates increased in 2004 and 2005, this is only a temporary boon for hospitals. Continued budget cuts at the national level make it likely that inadequate hospital Medicare reimbursement will persist.

Medicaid payment shortfalls will continue to plague hospitals as well. The Medicaid fiscal crisis is particularly extreme in California: California ranks last among the states in per-beneficiary spending, but first in percentage of state residents enrolled in Medi-Cal, at 18 percent. With California's continuing budget crisis, Medi-Cal spending will be a likely target for state legislators. Working groups of governors and state legislators nationwide have proposed sweeping reforms to the Medicaid program, including increasing the costs (through co-pays) and reducing the benefits to recipients. In the meantime, states are dropping recipients from their Medicaid rolls by reducing eligibility, thereby increasing the already growing uninsured population.

The growing uninsured population, particularly in California, greatly contributes to hospitals' financial woes. In California, where over 20 percent of the state's population is without health insurance and another 4 percent is underinsured, hospitals' uncompensated care costs rose from less than \$4 billion in 2002 to slightly more than \$5 billion in 2003. Because of the economic slowdown, California's uninsured population is expected to increase. Indigent care in itself tends to be more costly by default; because uninsured individuals lack a regular (and therefore preventive) source of care, health problems are usually addressed when it is most costly to do so - at the emergency room.

Increasing Health Insurance Costs

Increases in health insurance premiums continue to negatively impact both employers and consumers. Since 2001, health insurance premiums for a family of four have increased annually at a double-digit rate of growth, while workers' earnings have been slowly decreasing in the same time period. As a result, employers are reacting by

California ranks last among the states in per-beneficiary spending, but first in percentage of state residents enrolled in Medi-Cal, at 18 percent.

³⁶ A modified version of the "Industry Trends" section was originally written by SourcePoint and Godbe Research for San Diego Workforce Partnership's Healthcare Sector study (2006).

thinning out the health plan benefits that they offer their employees, increasing the share of premiums paid by the employees, and declining to provide coverage for employees' dependents.

Health insurance plans in turn have been moving towards what is known as "consumer-driven healthcare," which increases consumers' responsibility for the costs associated with their healthcare. For example, medical savings accounts with defined contributions accompanied by catastrophic insurance are emerging as an option to keep consumers' out-of-pocket premium expenses low. The use of medical savings accounts allows consumers to purchase health insurance plans with lower monthly premiums but higher deductibles. It is anticipated that this solution may backfire on healthcare insurance providers for two reasons: One, adverse selection may result, with the highest-cost consumers - those with the most serious medical problems - opting for these low-premium/high-deductible plans because they will easily reach their deductible during the plan year. Two, consumers with higher deductibles may be more reluctant to seek care except for the most life-threatening (and therefore the most costly) health problems, putting off the preventive care office visits that might have averted the serious health conditions.

DEMOGRAPHICS OF ORANGE COUNTY

In 2005 there were approximately 3,033,090 people living in Orange County. Nineteen percent of the population (587,810) in Orange County is over the age of 55. This group is expected to increase to twenty-one percent of the population (675,551) by the year 2010. Growth in this group will account for thirty-nine percent (87,741) of the overall population growth (224,577) expected in Orange County over the next five years.

In 2005 twenty-one percent of the population (635,714) is between the ages of 20 and 34. This group is expected to increase in absolute numbers. However, the percent of the population they represent will diminish. In 2010, twenty percent (663,134) of the populations will be between the ages of 20 and 34. This decrease is due to an expected decline in people between the ages of 25 to 34 years old over the next 5 years. Growth in this group will represent twelve percent (27,420) of the overall population growth (224,577) expected in Orange County over the next five years.

Figure 63 Orange County Population Density by Zip Code

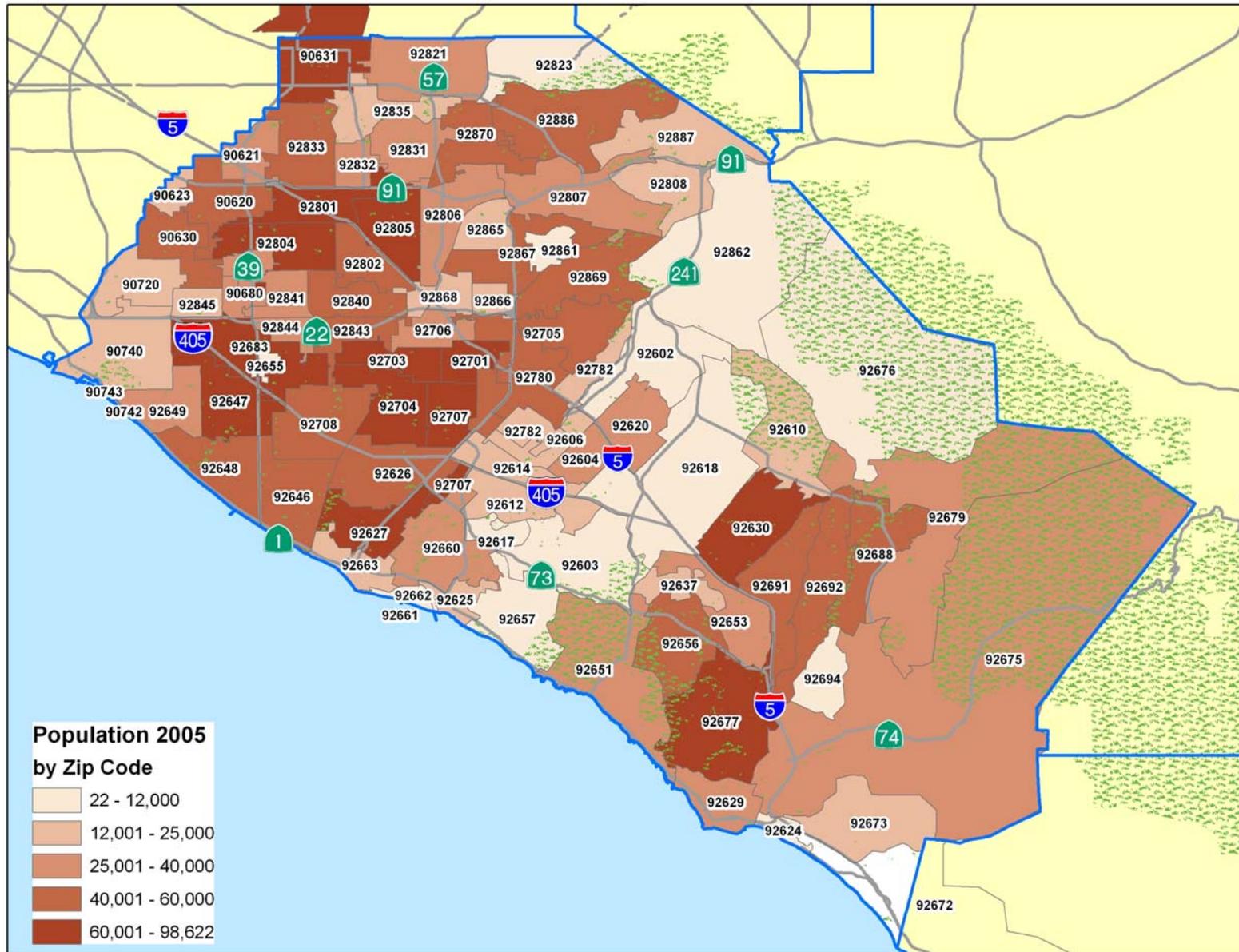


Figure 64 2010 Orange County Population Density by Zip Code

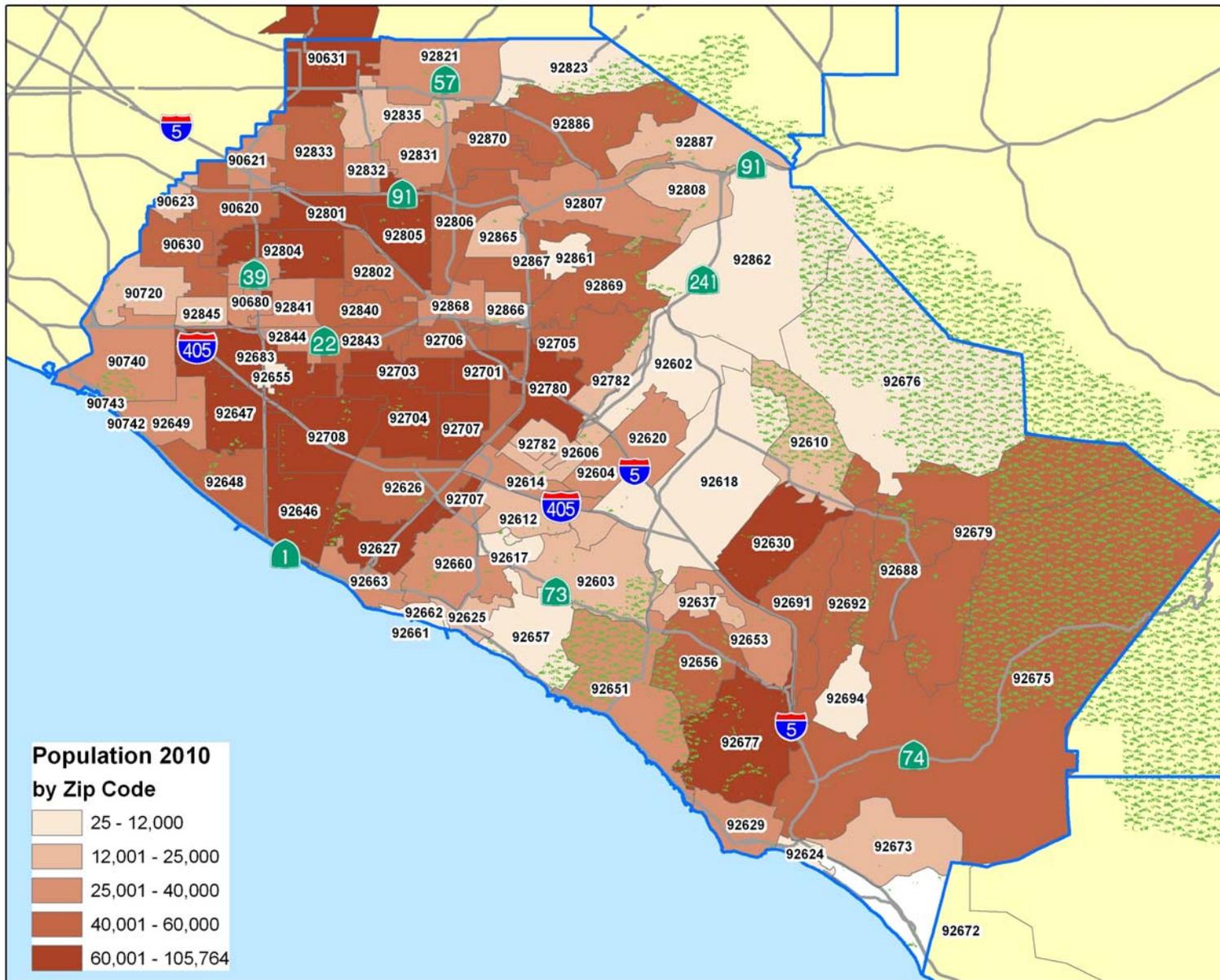


Figure 65 2005 Orange County Population Density



Figure 66 Population Density Increasing in Orange County (2005 to 2010)

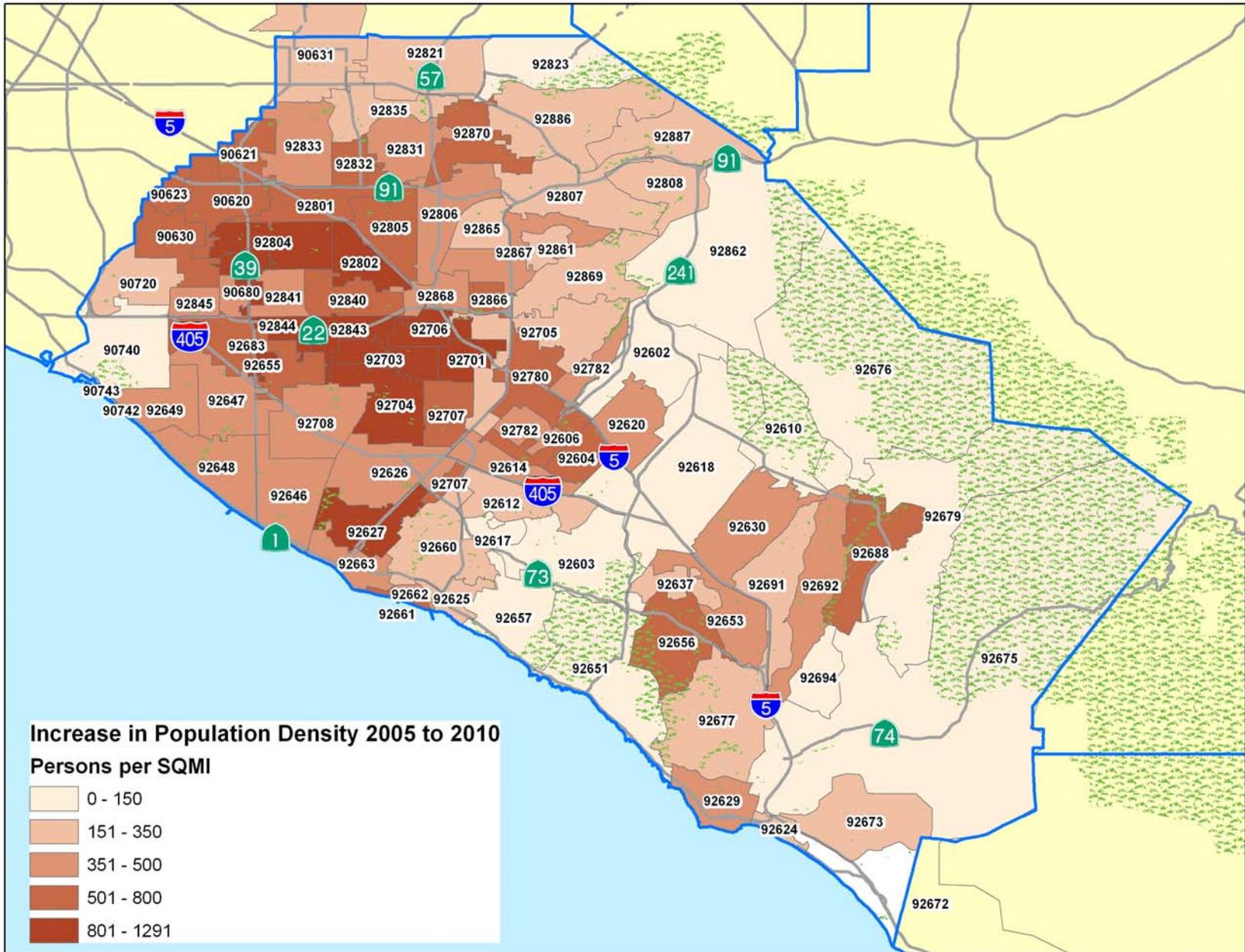


Figure 67 Percent Growth in Population (2005 to 2010)

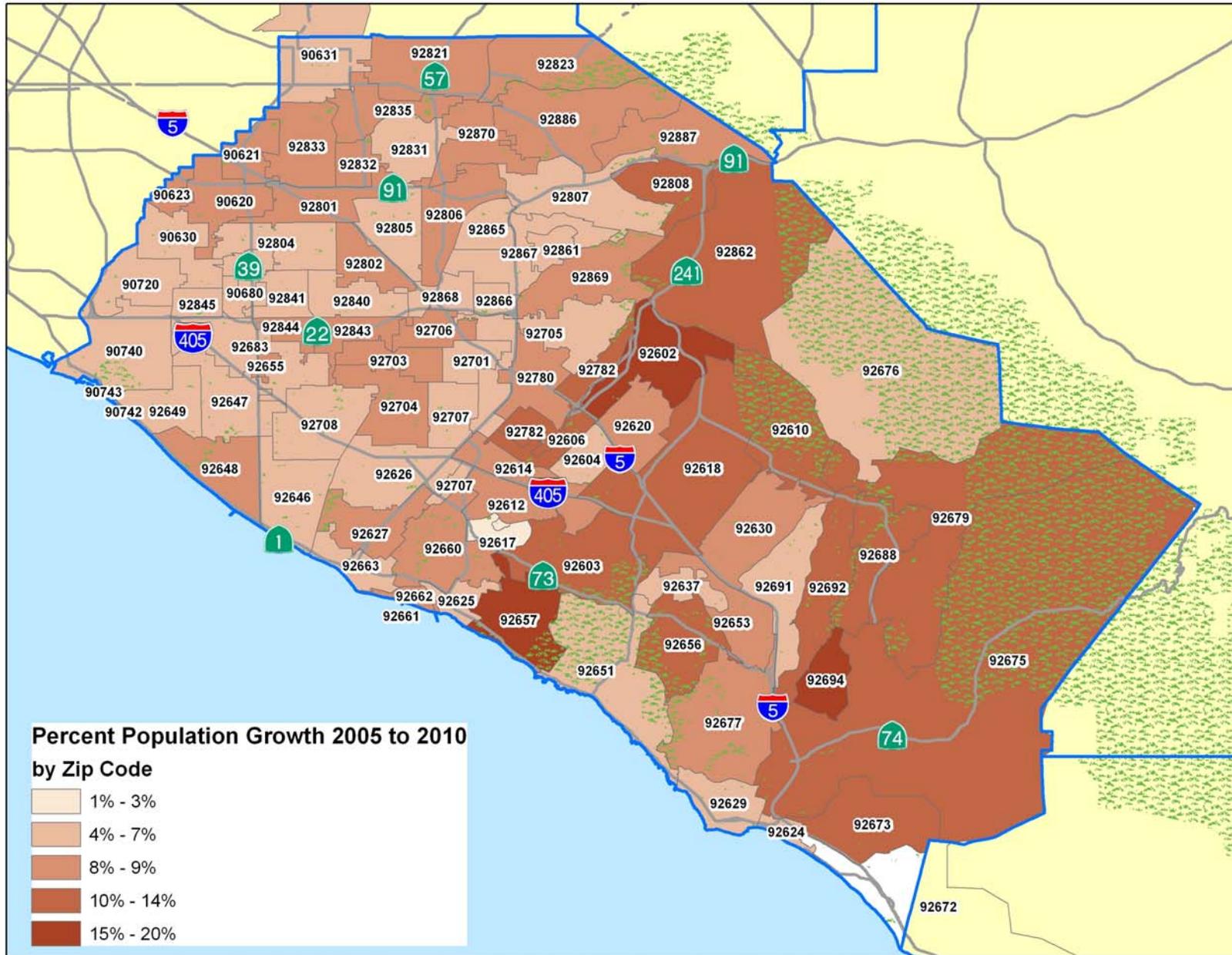


Figure 68 2005 Population Density of Individuals 55 and Over

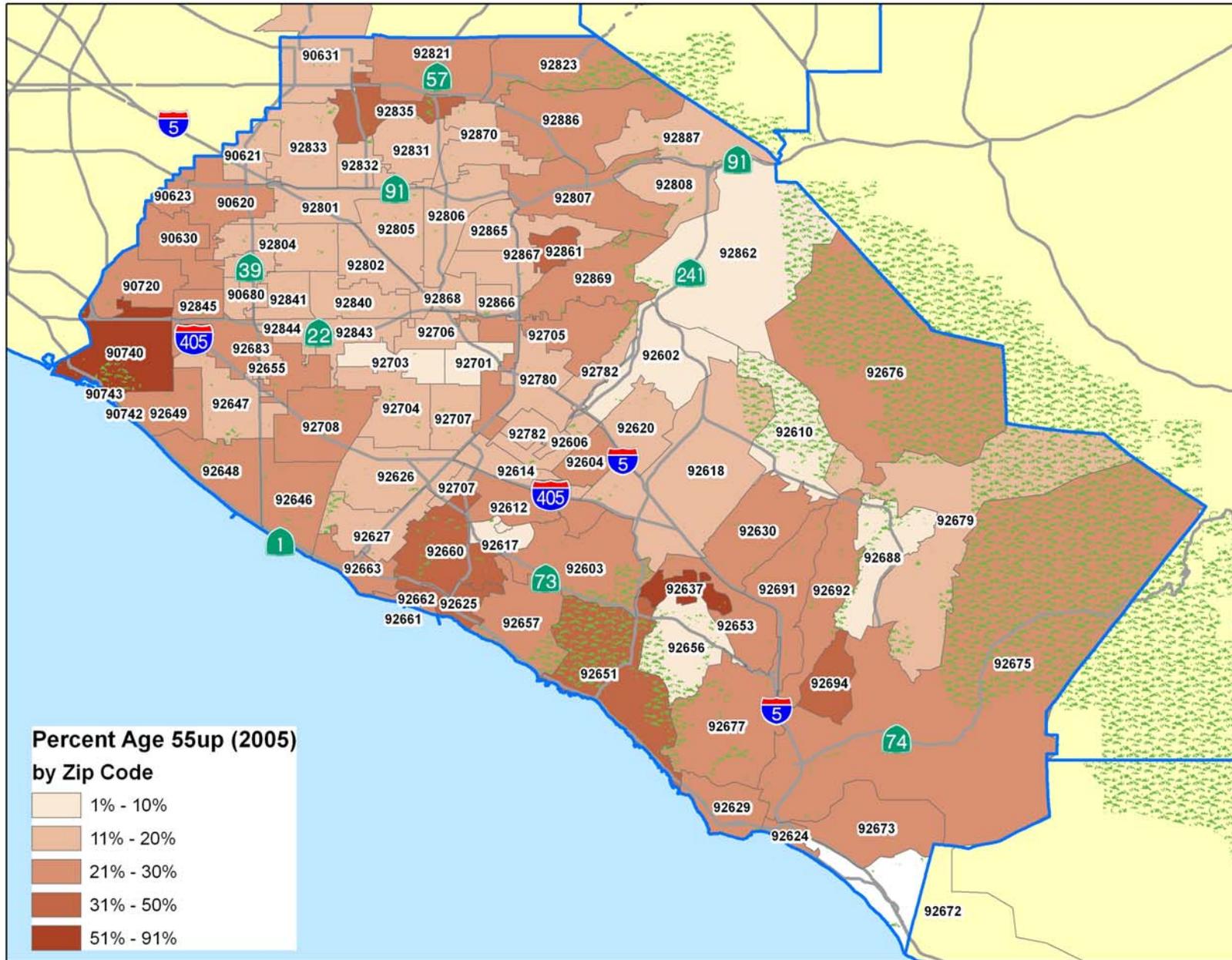
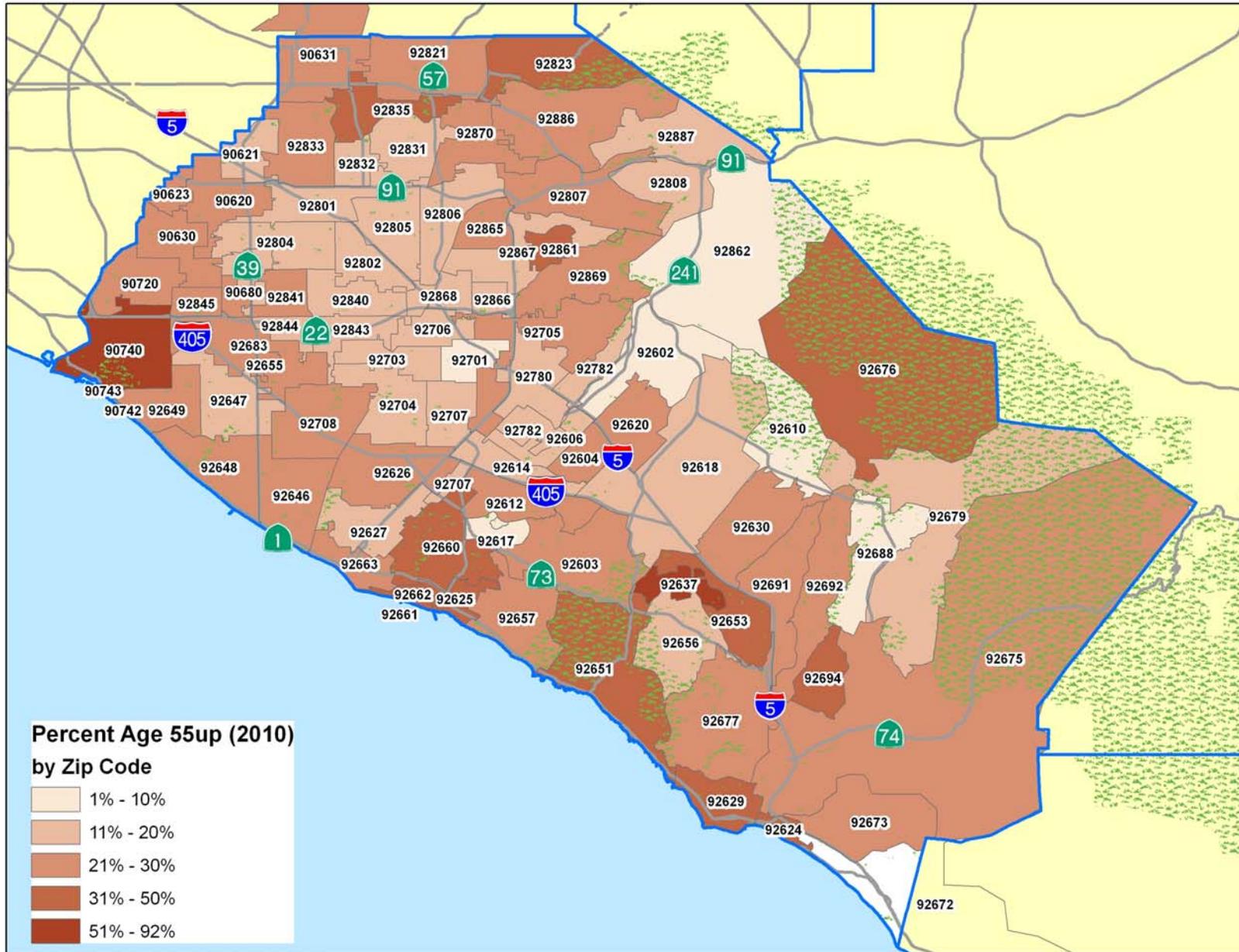


Figure 69 2010 Population Density of Individuals 55 and Over



EDUCATION AND TRAINING PROVIDERS IN ORANGE COUNTY

A listing of education and training providers in Orange County can be found in Table 9. This list was compiled using a combination of interviews with education and training providers, ROP providers, and extensive internet research on available programs. This table displays the provider's name, type of institution, location, and programs available.

This information was available for 49 education and training providers in the County, including;

- Twenty-three Private Training Providers;
- Nine Community Colleges;
- Four Universities;
- Four ROP Centers;
- Four ROPs (three individual plus one serving three districts);
- Three High School Academies;
- Two High School Career Pathways.

Table 9 Orange County Education & Training Facilities

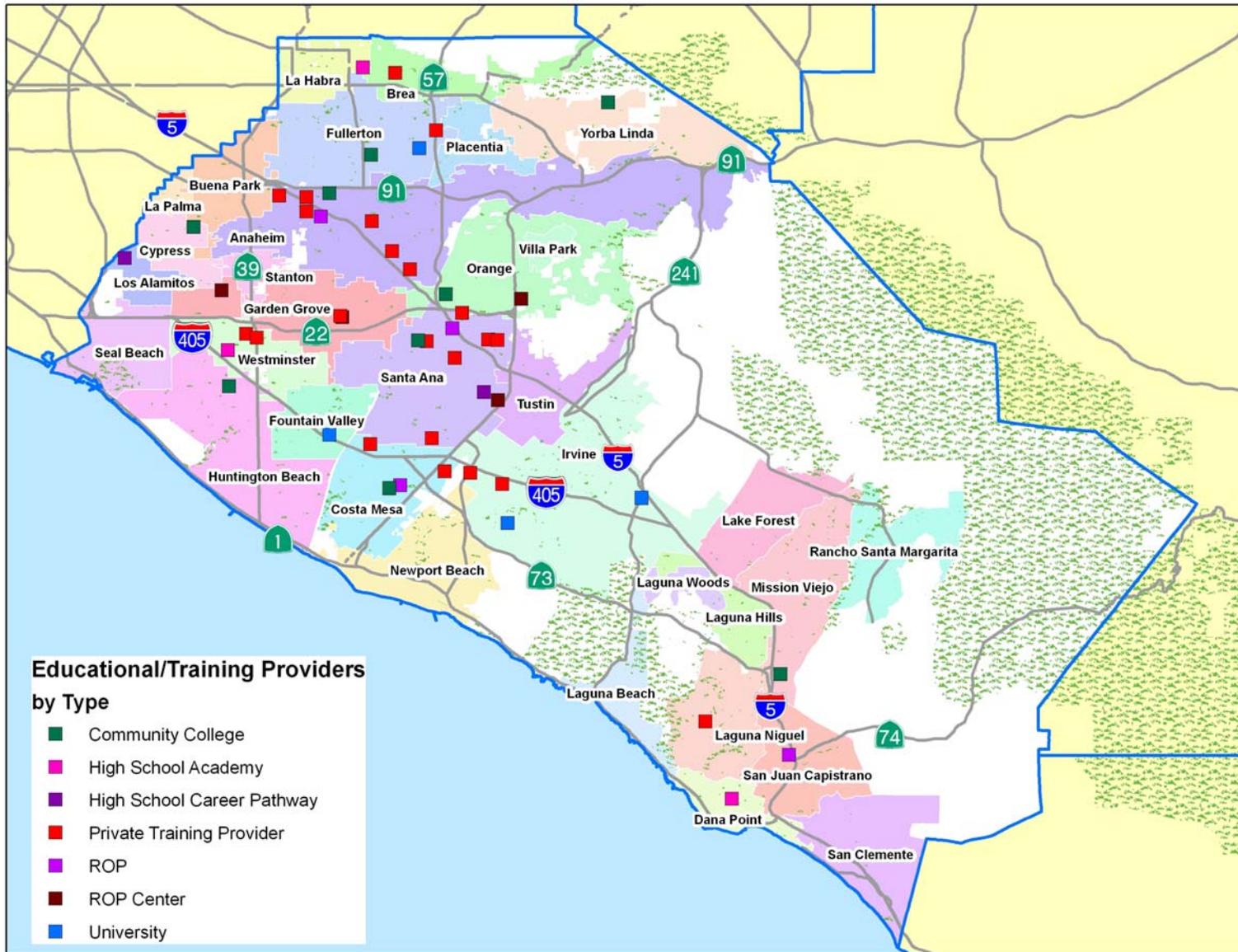
Orange County Healthcare Education & Training Providers	American Career College	Brown Mackie College	Bryman College	California Learning Center	California Learning Center	California State University	Capistrano-Laguna ROP	Career Networks Institute	Center for Employment Training	Central County ROP 3 Districts:	Career Education Center	Lincoln Education Center
	Private Training Provider	Private Training Provider	Private Training Provider	Private Training Provider	Private Training Provider	University	ROP	Private Training Provider	Private Training Provider		ROP Center	ROP Center
	Anaheim	Santa Ana	Anaheim	Santa Ana	Anaheim	Fullerton	San Juan Capistrano	Orange	Santa Ana		Orange	Garden Grove
General Health Science						1	1					
Health Care Administration						1						
Health Services/ Systems Management												
General Nursing						1						
School Nurse/ Health Assistant												
Pre-Nursing												
Medical Assisting		1	1	1	1			1				
Billing Specialist	1	1	1	1	1		1	1				
Other occupation-related courses	1										1	1
Registered Nurses												
Nursing Aides, Orderlies, & Attendants							1				1	
Licensed Practical & Licensed Vocational Nurses	1		1									
Medical Assistants (Administrative/ Clinical/ Billing)	1		1	1	1		1	1	1		1	
Dental Assistants	1		1				1					
Home Health Aides							1					
Dental Hygienists												
Medical & Clinical Lab Technicians												
Medical Records & Health Information Technicians												
Pharmacy Technicians	1		1					1				
Emergency Medical Technicians & Paramedics							1					
Radiologic Technologists & Technicians												
Physical Therapists												
Physical Therapist Assistants												
Physical Therapist Aides												
Medical & Clinical Laboratory Technologists												
Respiratory Therapists												
Clinical, Counseling, and School Psychologists												
Pharmacy Aides												
Surgical Technologists	1		1									
Speech-Language Pathologists						1						
Dietetic Technicians												
Physician Assistants												
Cardiovascular Technologists & Technicians												
Psychiatric Technicians												
Respiratory Therapy Technicians												
Occupational Therapist Assistants												
Dental Laboratory Technician												
Medical Transcriptionists										1		
Occupational Therapists												
Mental Health & Substance Abuse Social Workers												
Medical Equipment Preparers												
Dietiticians & Nutritionists												
Radiation Therapists												
Orthotists and Prosthetists												

Orange County Healthcare Education & Training Providers	Chapman Hettinga Education Center	Ritchey Center	Century High School	Chapman University College	Coastline ROP	Concorde Career Institute	Cypress College	Dana Hills High School	De Vry University	Fullerton College	Golden West College	Healthstaff Training Institute
	ROP Center	ROP Center	High School Career Pathway	University	ROP	Private Training Provider	Community College	High School Academy	Private Training Provider	Community College	Community College	Private Training Provider
	Garden Grove	Santa Ana	Santa Ana	Irvine	Costa Mesa	Garden Grove	Cypress	Dana Point	Irvine	Fullerton	Huntington Beach	Santa Ana
General Health Science			1				1	1				
Health Care Administration				1								
Health Services/ Systems Management				1					1			
General Nursing							1				1	
School Nurse/ Health Assistant												
Pre-Nursing										1		
Medical Assisting	1	1										
Billing Specialist	1	1			1	1						
Other occupation-related courses	1	1										
Registered Nurses							1					
Nursing Aides, Orderlies, & Attendants					1							
Licensed Practical & Licensed Vocational Nurses						1						
Medical Assistants (Administrative/ Clinical/ Billing)	1	1			1	1						1
Dental Assistants		1			1	1	1					
Home Health Aides	1	1										
Dental Hygienists						1	1					
Medical & Clinical Lab Technicians												
Medical Records & Health Information Technicians							1					
Pharmacy Technicians												1
Emergency Medical Technicians & Paramedics	1	1			1							
Radiologic Technologists & Technicians							1					
Physical Therapists												
Physical Therapist Assistants												
Physical Therapist Aides												
Medical & Clinical Laboratory Technologists												
Respiratory Therapists						1						
Clinical, Counseling, and School Psychologists												
Pharmacy Aides												
Surgical Technologists												
Speech-Language Pathologists												
Dietetic Technicians										1		
Physician Assistants												
Cardiovascular Technologists & Technicians												
Psychiatric Technicians							1					
Respiratory Therapy Technicians												
Occupational Therapist Assistants												
Dental Laboratory Technician												
Medical Transcriptionists												
Occupational Therapists												
Mental Health & Substance Abuse Social Workers												
Medical Equipment Preparers												
Dietiticians & Nutritionists										1		
Radiation Therapists												
Orthotists and Prosthetists												

Orange County Healthcare Education & Training Providers	Huntington College of Dental Technology	Institute for Medical Studies	Intercoast Colleges	Ivory Dental Technological College	Los Alamitos High School	Maric/ CEI College	Modern Technology School	Newbridge College	Newbridge College	North Orange County ROP	Orange Coast College	Pacific College
	Private Training Provider	Private Training Provider	Private Training Provider	Private Training Provider	High School Career Pathway	Private Training Provider	Private Training Provider	Private Training Provider	Private Training Provider	ROP	Community College	Private Training Provider
	Westminster	Lagina Niguel	Santa Ana	Westminster	Los Alamitos	Anaheim	Anaheim	Santa Ana	Long Beach	Anaheim	Costa Mesa	Costa Mesa
General Health Science					1							1
Health Care Administration												
Health Services/ Systems Management												
General Nursing												
School Nurse/ Health Assistant											1	
Pre-Nursing												
Medical Assisting						1				1		
Billing Specialist								1	1	1		
Other occupation-related courses	1						1	1	1	1	1	
Registered Nurses												
Nursing Aides, Orderlies, & Attendants												1
Licensed Practical & Licensed Vocational Nurses										1		
Medical Assistants (Administrative/ Clinical/ Billing)			1				1	1	1	1	1	1
Dental Assistants									1	1	1	
Home Health Aides										1		
Dental Hygienists												
Medical & Clinical Lab Technicians								1	1			
Medical Records & Health Information Technicians												
Pharmacy Technicians			1							1		
Emergency Medical Technicians & Paramedics										1	1	
Radiologic Technologists & Technicians							1				1	
Physical Therapists												
Physical Therapist Assistants												1
Physical Therapist Aides												
Medical & Clinical Laboratory Technologists												
Respiratory Therapists												
Clinical, Counseling, and School Psychologists												
Pharmacy Aides												
Surgical Technologists								1	1			
Speech-Language Pathologists											1	
Dietetic Technicians											1	
Physician Assistants												
Cardiovascular Technologists & Technicians												1
Psychiatric Technicians												
Respiratory Therapy Technicians											1	
Occupational Therapist Assistants												
Dental Laboratory Technician	1			1								
Medical Transcriptionists						1					1	
Occupational Therapists												
Mental Health & Substance Abuse Social Workers												
Medical Equipment Preparers												
Dietiticians & Nutritionists											1	
Radiation Therapists												
Orthotists and Prosthetists												

Orange County Healthcare Education & Training Providers	Saddleback College	Santa Ana College	School of Continuing Education	School of Continuing Education	Sonora High School	South Baylo University	South Coast College	Southern California College of Optometry	Southern California University of Health Sciences	Stanbridge College	University of California	University of Phoenix	Westminster High School
	Community College	Community College	Community College	Community College	High School Academy	Private Training Provider	Community College	Private Training Provider	Private Training Provider	Private Training Provider	University	University	High School Academy
	Mission Viejo	Santa Ana	Anaheim	Yorba Linda	La Habra	Anaheim	Orange	Fullerton	Whitter	Irvine	Irvine	Fountain Valley	Westminster
General Health Science													1
Health Care Administration													
Health Services/ Systems Management													
General Nursing		1									1	1	
School Nurse/ Health Assistant													
Pre-Nursing		1											
Medical Assisting							1						
Billing Specialist				1			1						
Other occupation-related courses						1		1					
Registered Nurses	1	1											
Nursing Aides, Orderlies, & Attendants													
Licensed Practical & Licensed Vocational Nurses	1									1			
Medical Assistants (Administrative/ Clinical/ Billing)	1	1		1						1			
Dental Assistants													
Home Health Aides													
Dental Hygienists													
Medical & Clinical Lab Technicians													
Medical Records & Health Information Technicians													
Pharmacy Technicians		1	1										
Emergency Medical Technicians & Paramedics	1												
Radiologic Technologists & Technicians													
Physical Therapists													
Physical Therapist Assistants													
Physical Therapist Aides			1										
Medical & Clinical Laboratory Technologists													
Respiratory Therapists													
Clinical, Counseling, and School Psychologists													
Pharmacy Aides													
Surgical Technologists													
Speech-Language Pathologists		1											
Dietetic Technicians		1											
Physician Assistants													
Cardiovascular Technologists & Technicians													
Psychiatric Technicians													
Respiratory Therapy Technicians													
Occupational Therapist Assistants		1											
Dental Laboratory Technician													
Medical Transcriptionists							1						
Occupational Therapists													
Mental Health & Substance Abuse Social Workers													
Medical Equipment Preparers													
Dietitians & Nutritionists		1	1										
Radiation Therapists													
Orthotists and Prosthetists													

Figure 70 Education and Training Facilities



CAREER LADDER PATHWAYS

The focus on career ladders and pathways within the healthcare sector has intensified as the need for skilled and experienced workers within the sector has increased. The growing demand for journeyman level occupations such as registered nurses and dental hygienists provides an opportunity for today's certified nurse assistants and dental assistants to attain higher wages by increasing their skills and productivity. While the advantages of career ladders for employees have always been obvious - acquiring better jobs and higher wages, career ladders provide advantages to employers as well. By advancing staff through career ladders, employers are able to develop the human capital in their own organizations, which both builds employee loyalty and saves them the expense of recruiting workers from the external labor market.

HEALTHCARE CAREER LADDERS

The three healthcare career ladder flow charts, shown on the next pages, show potential career paths in all four healthcare sector segments: hospital and emergency services, medical laboratories and outpatient centers, medical offices and clinics, and long-term care.³⁷ The three career paths cut across the four sector segments, and are defined instead by occupation type:

Patient Care Positions (Figure 71) - Employees that have direct patient contact, such as nurses.

Technical Positions (Figure 72) - Employees that run tests or dispense medications, such as pharmacy technicians.

Clerical Positions (Figure 73) - Employees that process paperwork or handle billing, dictation, and scheduling, such as unit assistants.

⁶ These flow charts were largely replicated from the San Diego Workforce Partnership Healthcare Cluster study which took its data from The Career Ladder Mapping Project, with minor revisions based on advisory committee feedback and research findings. The Career Ladder Mapping Project was produced by the Shirley Ware Education Center, Service Employees International Union, and Kaiser Permanente-Northern California Region, in December 2002.

Figure 71 Patient Healthcare Career Ladders

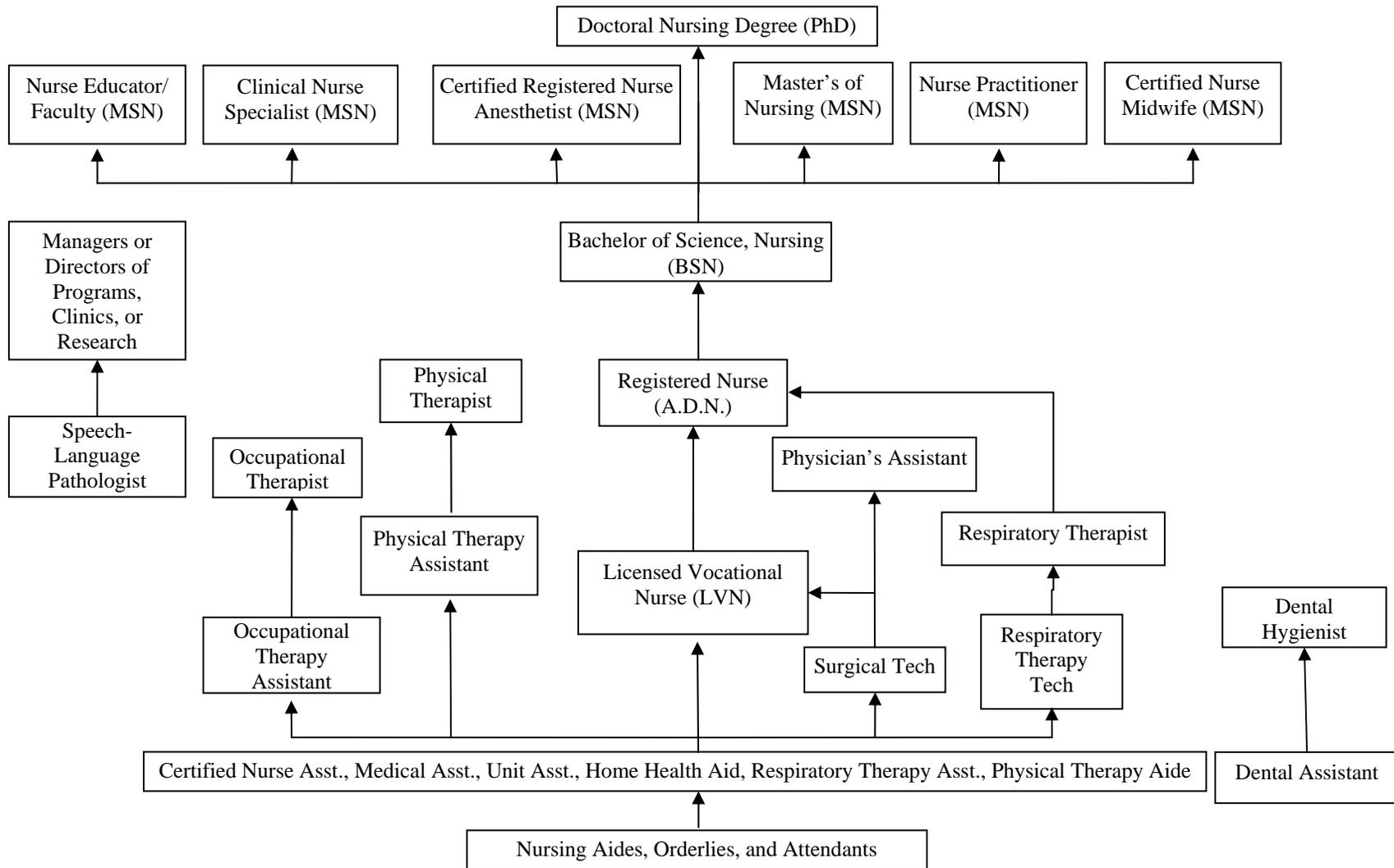


Figure 72 Technical Healthcare Career Ladders

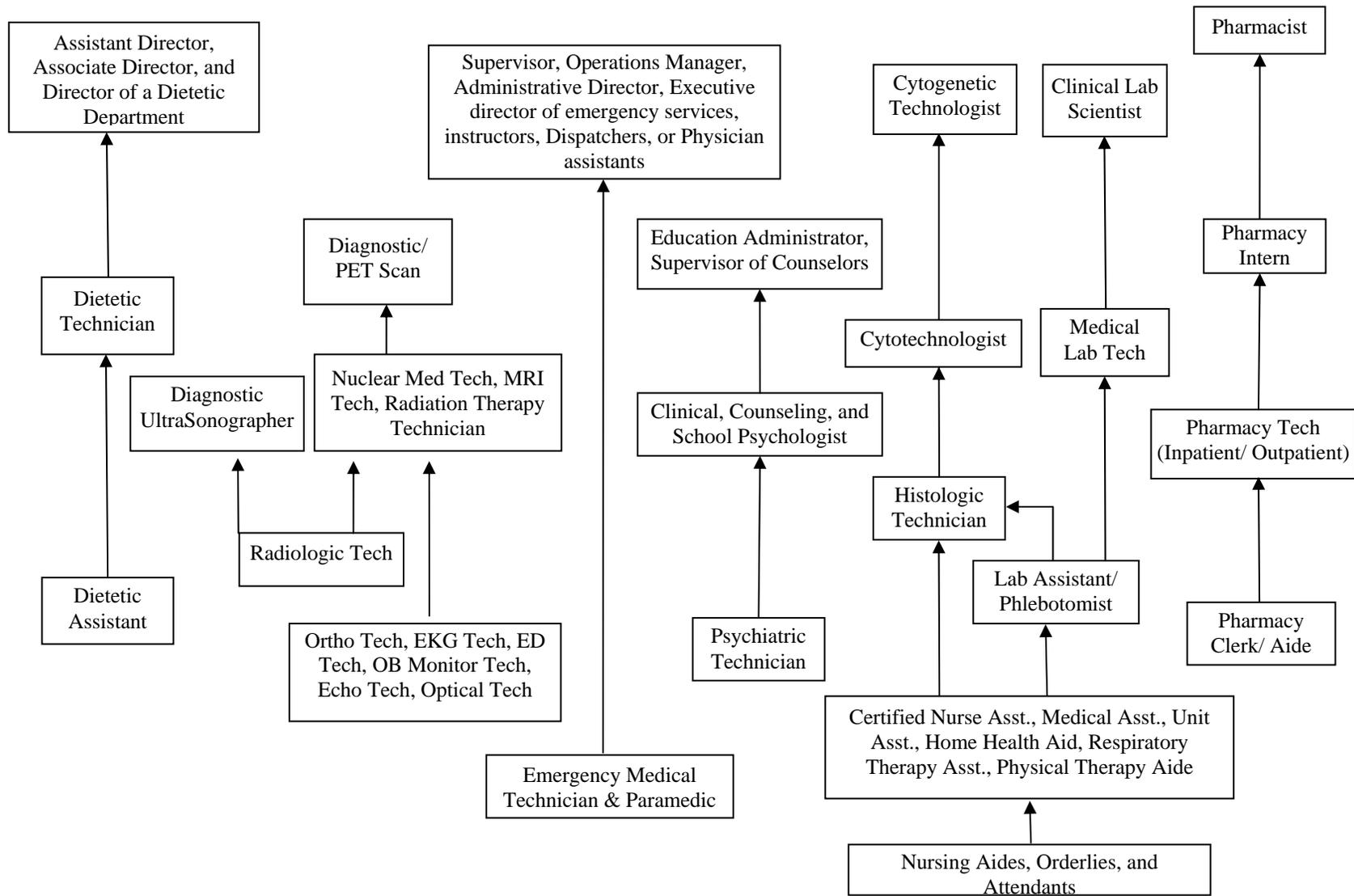
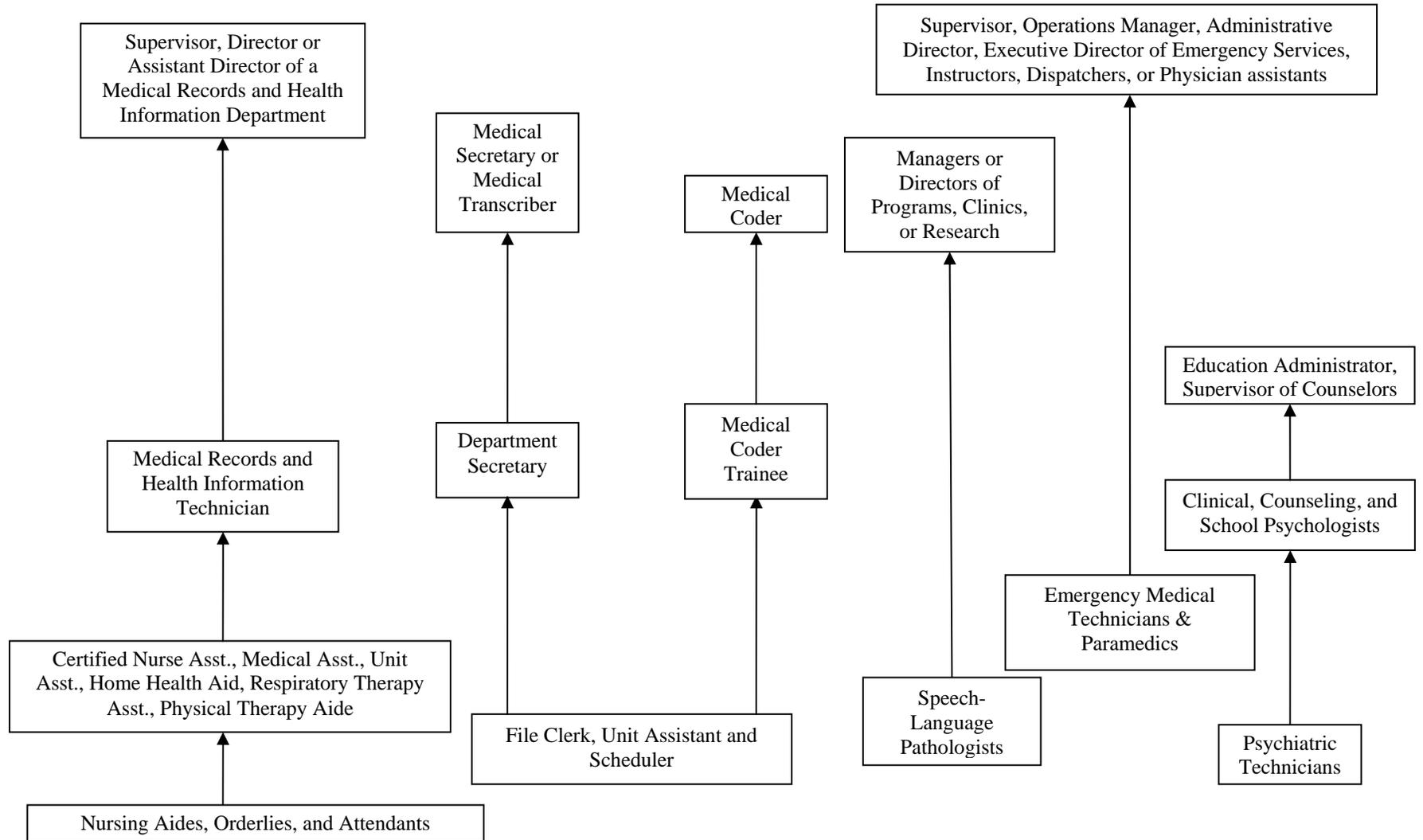


Figure 73 Clerical Healthcare Career Ladders



APPENDIX A: METHODOLOGY

Using a database compiled from InfoUSA, firms in Orange County with at least ten employees in the healthcare industry were called to complete a phone survey interview. Interviews were conducted from January 23 through February 17, 2006 and each interview typically lasted 20 to 30 minutes.

Understanding the “Margin of Error”

Because a survey only contains responses from a limited number of firms, who are part of a larger population group, by mere chance alone, there will almost always be some difference between a sample and the population from which it was drawn. For example, researchers might collect information from 100 companies in a town of 2,500 companies. Because not all firms in the population were surveyed, there are likely to be differences between the results obtained from interviewing the sample respondents and the results that would be obtained if all firms in the population were interviewed. These differences are known as “sampling error,” and they can be expected to occur regardless of how scientifically the sample has been selected. The advantage of using a scientifically drawn sample, however, is that the maximum amount of sampling error can be determined based on four factors: the size of the population, the chosen sample size, a confidence level, and the dispersion of responses to a survey question. Of the four factors, sample size is the most influential variable.

Table 10 shows the sampling variation that applies to various percentage results that might have been obtained through the survey. The table shows that if a sample of 150 firms is randomly drawn from the estimated 1,302 firms in Orange County, one can be 95 percent confident that the margin of error, due to sampling, will not vary by more than the indicated number of percentage points (plus or minus) from the result that would have been obtained if the interviews had been conducted with all people in the universe represented in the sample.

Table 10 Margin of Error

<i>n</i>	Distribution of Responses				
	90% / 10%	80% / 20%	70% / 30%	60% / 40%	50% / 50%
1,000	0.89%	1.19%	1.36%	1.46%	1.49%
900	1.09%	1.45%	1.66%	1.78%	1.81%
800	1.29%	1.72%	1.97%	2.11%	2.15%
700	1.51%	2.01%	2.31%	2.47%	2.52%
600	1.76%	2.35%	2.69%	2.88%	2.94%
500	2.06%	2.75%	3.15%	3.37%	3.44%
400	2.45%	3.26%	3.74%	4.00%	4.08%
300	2.98%	3.97%	4.55%	4.86%	4.96%
150	4.52%	6.02%	6.90%	7.38%	7.53%
100	5.65%	7.54%	8.63%	9.23%	9.42%
50	8.16%	10.88%	12.46%	13.32%	13.60%

As the table indicates, the maximum margin of error for all aggregate responses is between 4.52 and 7.53 percent for the sample of 150 firms. This means that for a given question answered by all respondents, one can be 95 percent confident that the

difference between the percentages reported here based on the responses of the sample population, and the percentages that would be calculated for responses from the total population, is no greater than 7.53 percent. The percent margin of error applies to both sides of the answer, so that for a question in which 50 percent of respondents said yes, one can be 95 percent confident that the actual percent of the population that would say yes is between 42.47 percent and 57.53percent (see the last column of Table 10).

Questionnaire Design

Randomization of Questions

To avoid the problem of systematic position bias - where the order in which a series of questions is asked systematically influences the answers to some of the questions - several of the questions in this survey were randomized such that respondents were not consistently asked the questions in the same order. The series of items in questions 11, 12, and 13 were randomized to avoid the systematic position bias.

Occupation Selection for Questions

Due to the length of the occupational questions (questions 15 through 26) respondents were asked questions for as many as five occupations if the survey was completed over the phone and up to five occupations if the survey was completed online. If a firm indicated that they had more than four of the occupations being evaluated (or five for the online survey), the occupations that were used for questions 15 through 26 were initially determined randomly. After a few weeks of data collection, certain occupations that had a lower response rate were given a higher priority and were automatically included for questions 16 through 26, if that particular occupation was employed at the specific firm.

A Note on “Rounding”

Conventional rounding rules are applied (i.e., numbers that include 0.5 or higher are rounded to the next highest whole number and numbers that include 0.4 or lower are rounded to the next lowest whole number). Because of rounding, the reader may notice that percentages in the discussion may not sum to 100 percent.

To display information relevant to a particular analysis in the most efficient manner possible, the sizing of table columns and fonts vary to fit the analytical needs.

APPENDIX B: SURVEY QUESTIONNAIRE

**Godbe Research
January 2006
Final Draft**

**Orange County Healthcare Employer Survey
2006**

Hello, my name is _____. May I please speak to [name] or [the person handling human resource issues at [company]?]

Hello, my name is _____ and I'm calling on behalf of the Orange County Workforce Investment Board. I'm following up on a letter sent from **[Name of Cluster Signator]** asking you to participate in a survey that will address your future business needs for trained and educated employees.

<< if needed>> The survey should take no more than ten minutes of your time. By answering this survey, you can help regional workforce agencies develop the appropriate type of training that will prepare the employees you will be looking for in the future. <<end of optional section 2>>

<< if needed>> The survey has been commissioned by the Orange County Workforce Investment Board, which is committed to developing the regional workforce. The survey is being conducted by Godbe Research, an independent research firm. <<end of optional section 3>>

(FOR THOSE WHO AGREE TO PARTICIPATE):

i. Do you have Internet access and e-mail at your work?

- Yes----- 1 (Go to Qii)
- No----- 2 (Go to Qiv)
- Don't Know/Refuse ----- 3 (Go to Qiv)

ii. The survey can be taken on the Internet. If you provide me with your e-mail address, I can send you an e-mail with a link to the survey. (GET E-MAIL ADDRESS AND CONFIRM THAT IT IS CORRECT. THANK THEM AND ENCOURAGE THEM TO PARTICIPATE WHEN THEY RECEIVE THE E-MAIL).

(IF NEEDED): Your email address will be confidential and will not be used for any other purpose.

(WAS CONFIDENTIAL EMAIL STATEMENT USED?):

Yes----- 1
No----- 2

(IF RESPONDENT REFUSES TO PROVIDE E-MAIL ADDRESS, GO TO Qiii)

- iii. Ok, we can either conduct the interview over the phone or we can provide you with the website address and a unique number [PIN #], which you can use to participate online. (IF CHOOSES URL, MAKE SURE TO CONFIRM RESPONDENT HAS WRITTEN DOWN THE CORRECT ADDRESS AND PIN #. IF CHOOSES PHONE, GO TO Qiv)
- iv. (FOR RESPONDENTS WHO ANSWERED NO OR DON'T KNOW TO Qi) We can take your survey responses by phone right now. (IF THE RESPONDENT INDICATES THAT NOW IS NOT A GOOD TIME, TRY TO SCHEDULE A MORE CONVENIENT TIME FOR A CALLBACK).
- v. Record PIN #: _____. (FROM SAMPLE SHEET IF PHONE RECRUITED. IF CALLED 1-888 PHONE NUMBER, ASK THEM TO READ THE PIN FROM THE LETTER)



First, I'd like to ask you a few general questions about your business.

- 1. How many permanent full-time employees work at your business location?

Record # full-time: _____

- 2. How many permanent part-time employees work at your business location?

Record # part-time: _____

- 3. How many temporary and/or seasonal employees currently work at your business location?

Record # temporary: _____

- 4. Including all full-time and part-time employees, how many **permanent** employees do you expect to have 12 months from now?

Record # employees: _____

- 5. How many temporary and/or seasonal employees do you expect to have 12 months from now?

Record # temporary: _____

6. What percentage of your current **permanent** employees, full-time and part-time, will still be working at your business location 12 months from now?

Record % retained 12 months from now: _____

7. When a non entry-level position becomes available in your firm, do you more often hire from outside or promote from within the company?

- Promote from within ----- 1
- Even split (50-50 outside & promote) ----- 2
- Recruit from outside ----- 3
- (DON'T READ) Don't know ----- 4
- (DON'T READ) Refused ----- 5

8. How often does your business recruit individuals from outside the County but within the Southern California region for employment?

- Always ----- 1
- Frequently ----- 2
- Sometimes ----- 3
- Rarely ----- 4
- Never ----- 5
- (DON'T READ) Refused ----- 6

9. How often does your business recruit individuals from outside Southern California for employment?

- Always ----- 1
- Frequently ----- 2
- Sometimes ----- 3
- Rarely ----- 4
- Never ----- 5
- (DON'T READ) Refused ----- 6

10. In the next 3 years, what percentage of your current employees do you expect will retire?

Record % retiring in next 3 years: _____

11. Next, I'm going to read a list of issues facing the region's workforce in the coming years, please tell me how much difficulty your firm faces in addressing these workforce needs.

Here's the (first/next) one: _____. Please tell me whether your business has no difficulty, some difficulty, or great difficulty in dealing with this issue or it is not issue that your firm has considered.

Randomize

- | | <u>No
difficulty</u> | <u>Some
difficulty</u> | <u>Great
difficulty</u> | <u>Not an
Issue</u> | <u>(DON'T
READ)
DK/NA</u> |
|--|--------------------------|----------------------------|-----------------------------|-------------------------|-----------------------------------|
| A. Replacing retired workers with qualified employees within the firm ----- | 1 | 2 | 3 | 4 | 5 |
| B. Replacing retired workers with qualified candidates from outside the firm ----- | 1 | 2 | 3 | 4 | 5 |
| C. Developing strategies to retain valuable employees ----- | 1 | 2 | 3 | 4 | 5 |
| D. Recruiting entry-level employees with adequate training and education ----- | 1 | 2 | 3 | 4 | 5 |
| E. Recruiting non entry-level employees with adequate skills and work experience ----- | 1 | 2 | 3 | 4 | 5 |
| F. Implementing internal training programs that improve productivity and increase employee retention ----- | 1 | 2 | 3 | 4 | 5 |
| G. Recruiting employees with reasonable salary requirements ----- | 1 | 2 | 3 | 4 | 5 |

12. Next, I'd like to ask you about employee development practices at your business location. As I read each of the following employee development practices, please indicate whether your business uses each practice.

Randomize

- | | <u>Yes</u> | <u>No</u> | <u>(DON'T
READ)
DK/NA</u> |
|--|------------|-----------|-----------------------------------|
| A. Formal on-the-job training ----- | 1 | 2 | 3 |
| B. Informal on-the-job training ----- | 1 | 2 | 3 |
| C. In-house classroom training ----- | 1 | 2 | 3 |
| D. Career development programs that provide career advancement for current employees ----- | 1 | 2 | 3 |
| E. Employer-paid outside training ----- | 1 | 2 | 3 |

F. Tuition assistance at a college or university -----1-----2----- 3

13. Next, I'd like to ask you about how your firm recruits applicants for hiring. As I read each of the following recruitment practices, please indicate whether your firm uses each practice.

Randomize

	<u>Yes</u>	<u>No</u>	<u>(DON'T READ) DK/NA</u>
A. Advertising in local newspapers, on the web or in print -----	1	2	3
B. Job announcements on your company's website-----	1	2	3
C. Advertising on job-finder websites, like Monster.com -----	1	2	3
D. Participation at local and regional job fairs -----	1	2	3
E. Working with local community college programs or university departments for recruiting -----	1	2	3
F. Using Orange County One-Stop job centers -----	1	2	3

14. Are you satisfied or dissatisfied with your firm's current workforce recruitment strategies? Is that very (satisfied/dissatisfied) or somewhat (satisfied/dissatisfied) with your firm's current workforce recruitment strategies?

Very satisfied-----	1
Somewhat satisfied-----	2
Somewhat dissatisfied -----	3
Very dissatisfied -----	4
(DON'T READ) DK/NA-----	5

Occupation - Related Questions

15. Now, I'm going to ask you about specific occupations within your business/company. The occupational titles we are using may differ from the specific position titles used in your company. For these questions, I would like you to try to equate your company's specific position titles with the more generic ones we will use here. Please tell me if your company employs, at your location, individuals in positions matching the following generic occupational titles:

Here's the (first/next) one: _____ (READ ITEM & BRIEF DEFINITION, THEN ASK): Do you have employees who fit this occupational description at your business location?

Occupational List <<number of occupations is dependent on cluster>>

- 1 (occupation 1 – brief definition)
- 2 (occupation 2 – brief definition)
- 3 (occupation 3 – brief definition)
- 4 (occupation 4 – brief definition)
- 5 (occupation 5 – brief definition)
- 6 (occupation 6 – brief definition)
- 7 (occupation 7 – brief definition)
- 8 (occupation 8 – brief definition)
- 9 (occupation 9 – brief definition)
- 10 (occupation 10 – brief definition)
- 11 (occupation 11 – brief definition)
- 12 (occupation 12 – brief definition)
- 13 (occupation 13 – brief definition)

(RANDOMLY SELECT UP TO 5 OF THE OCCUPATIONS THAT THE RESPONDENT INDICATED ARE REPRESENTED AT THEIR BUSINESS LOCATION IN Q16. ASK Q.'S 16-26 IN THE SELECTED BUSINESSES – FOR INTERNET SURVEY SELECT UP TO 5 OF THE OCCUPATIONS THAT THE RESPONDENT INDICATED ARE REPRESENTED AT THEIR BUSINESS LOCATION)

Next, I'm going to ask you a few questions about several of the occupations you mentioned.

16. As I read each of the following occupations, please tell me how many individuals at your business location are currently employed in the occupation. (READ ITEMS IN SEQUENCE).

- A. Occupation 1----- ### (3 digit number)
- B. Occupation 2----- ### (3 digit number)
- C. Occupation 3----- ### (3 digit number)
- D. Occupation 4----- ### (3 digit number)
- E. Occupation 5----- ### (3 digit number)

17. How many of the current _____ [USE NUMBER FROM ABOVE & NAME OF OCCUPATION], do you expect, will **NOT** be working at this company in the same position **12 months from now**?

- A. Occupation 1----- ### (3 digit number)
- B. Occupation 2----- ### (3 digit number)
- C. Occupation 3----- ### (3 digit number)
- D. Occupation 4----- ### (3 digit number)
- E. Occupation 5----- ### (3 digit number)

[This number cannot be larger than the number in Q16 for each occupation]

18. As I read each of the occupations, please tell me how many total individuals you estimate will be employed in each of the occupations **12 months from now**.

- A. Occupation 1----- ### (3 digit number)
- B. Occupation 2----- ### (3 digit number)
- C. Occupation 3----- ### (3 digit number)
- D. Occupation 4----- ### (3 digit number)
- E. Occupation 5----- ### (3 digit number)

19. For the same list of occupations, I'm interested in the level of difficulty your business has in finding applicants who meet the company's hiring standards. As I read each occupation, please tell me whether your business has no difficulty, some difficulty, or great difficulty finding applicants. (READ IN SEQUENCE)

	<u>No</u> <u>difficulty</u>	<u>Some</u> <u>difficulty</u>	<u>Great</u> <u>difficulty</u>	<u>(DON'T</u> <u>READ)</u> <u>DK/NA</u>
A. Occupation #1 -----	1	2	3	4
B. Occupation #2 -----	1	2	3	4
C. Occupation #3 -----	1	2	3	4
D. Occupation #4 -----	1	2	3	4
E. Occupation #5 -----	1	2	3	4

20. For the same list of occupations, I'm interested in the level of difficulty your business has retaining current employees. As I read each occupation, please tell me whether your business has no difficulty, some difficulty, or great difficulty retaining current employees. (READ IN SEQUENCE)

	<u>No difficulty</u>	<u>Some difficulty</u>	<u>Great difficulty</u>	<u>(DON'T READ) DK/NA</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----

21. We're interested in how often your business recruits individuals from outside of Orange County for an occupation. As I read each occupation, please indicate if you always, frequently, sometimes, rarely or never recruit individuals from outside of Orange County for that occupation.

	<u>Always</u>	<u>Frequently</u>	<u>Sometimes</u>	<u>Rarely</u>	<u>Never</u>	<u>(DON'T READ) DK/NA</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----	5-----	6-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----	5-----	6-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----	5-----	6-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----	5-----	6-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----	5-----	6-----

22. Next, for the same list of occupations, I'd like to know what are the **typical** education requirements for successful applicants within each occupation. The categories are: (INTERVIEWER READ OPTIONS). Ok, here's the first one: (READ ITEM A). What are the **typical** education requirements for successful applicants in this occupation at your business location? (CONTINUE UNTIL ALL ITEMS ARE READ).

- No formal education requirements----- 1
- Completion of high school or equivalency ----- 2
- Certification or Associates Degree----- 3
- Bachelor's Degree (B.A., B.S.) ----- 4
- Professional or Graduate Degree
(M.S, Ph.D., J.D., MBA, P.E.)-----5
- DK/NA (DON'T READ)----- 6

Education Requirements	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----	5-----	6-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----	5-----	6-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----	5-----	6-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----	5-----	6-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----	5-----	6-----

23. Next, for the same list of occupations, I'd like to know what are the **typical** levels of on the job work experience for successful applicants within each occupation. The categories are: (INTERVIEWER READ OPTIONS). Ok, here's the first one: (READ ITEM A). What are the **typical** levels of on the job work experience for successful applicants in this occupation at your business location? (CONTINUE UNTIL ALL ITEMS ARE READ).

- No formal experience is needed----- 1
- Some work experience, 3 months to 2 years,
in a related occupation ----- 2
- Some work experience, 3 months to 2 years,
in the specific occupation that is being
applied for ----- 3
- At least 2 years experience, working in the
specific occupation that is being applied for 4
- (DON'T READ) DK/NA----- 5

Education Requirements	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----	5-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----	5-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----	5-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----	5-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----	5-----

24. What is the typical pay range for each occupation, from entry level to most experienced employees in that occupation? [After each response to the pay range, please clarify whether the intended response was for hourly, monthly, or annual salary]

PAY RANGE	<u>Low</u>	<u>High</u>	<u>Salary Type</u>
A. Occupation #1	###	###	H, M, or A
B. Occupation #2	###	###	H, M, or A
C. Occupation #3	###	###	H, M, or A
D. Occupation #4	###	###	H, M, or A

+++++

(Questions 25 and 26 are a loop to be repeated for each of the occupations selected for previous question set Q16-24)

Ok, for the next few questions, please answer for the: _____ (READ OCCUPATION) occupation.

25. I'm going to read a list of general skills. Please tell me which one of these skills are **most important** when considering applicants for _____ (READ OCCUPATION)?

Randomize

- A. Technical competence specific to the position----- 1
- B. Interpersonal communication skills----- 2
- C. Written communication skills----- 3
- D. Ability to work independently ----- 4
- E. Ability to follow directions ----- 5
- F. Creative problem-solving skills ----- 6

Important Skills	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----	5-----	6-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----	5-----	6-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----	5-----	6-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----	5-----	6-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----	5-----	6-----

26. I'm going to read the same list of general skills once more. Please tell me which of these skills, your _____ (READ OCCUPATION) are currently **most deficient** in?

Follow same order as given in Q25.

- A. Technical competence specific to the position----- 1
- B. Interpersonal communication skills----- 2
- C. Written communication skills----- 3
- D. Ability to work independently ----- 4
- E. Ability to follow directions ----- 5
- F. Creative problem-solving skills ----- 6

Deficient Skills	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>
A. Occupation #1 -----	1-----	2-----	3-----	4-----	5-----	6-----
B. Occupation #2 -----	1-----	2-----	3-----	4-----	5-----	6-----
C. Occupation #3 -----	1-----	2-----	3-----	4-----	5-----	6-----
D. Occupation #4 -----	1-----	2-----	3-----	4-----	5-----	6-----
E. Occupation #5 -----	1-----	2-----	3-----	4-----	5-----	6-----

We've completed all the questions about occupations. Before we finish, I'd like to verify your contact information.

Please verify for us your company Information.

- D1a Company name _____
- D1b Company address (include City and Zip) _____
- D1c Web address _____
- D1d Fax number _____

Please verify for us your personal information, so we can enter you into the lottery for the \$250 cash prize.

- D2a Name _____
- D2b Title _____
- D2c E-Mail _____



Orange County
Workforce Investment Board
Linking Business & People



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