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# Environmental Scan Report Allied Health

## Los Angeles County

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**OVER THE NEXT FIVE YEARS, NEARLY 60,000 JOBS WILL BE AVAILABLE IN THE HEALTH CARE INDUSTRY IN LOS ANGELES COUNTY, OF WHICH, 60% WILL BE IN ALLIED HEALTH OCCUPATIONS. FORECASTS PROJECT THE CREATION OF NEARLY 20,000 ALLIED HEALTH JOBS FROM 2007 TO 2012. - Source: EMSI**

## Executive Summary

The healthcare industry is a vital part of Los Angeles County's economy, representing 8.5% of all jobs. With a projected growth rate of 23% over the coming decade as compared to 13% growth for jobs in all industries combined, during that same period,<sup>1</sup> its importance in the local economy will increase significantly. The robust growth that is projected for the industry is due to several factors, including increasing demand for healthcare services as the population ages and the concurrent retirements of baby-boomer generation workers. The gap resulting from these factors will magnify long-standing shortages in qualified healthcare workers that have been documented and discussed for decades.<sup>2</sup>

The community colleges offer programs in allied health and are key players in the challenge to provide qualified candidates to the industry. This report examined the growth rates of all allied health occupations in Los Angeles County from 2007 to 2012 and developed a list of six occupations of special interest to the colleges: Cardiovascular Technologists and Technicians, Diagnostic Medical Sonographers, Medical and Clinical Laboratory Technicians, Pharmacy Technicians, Physical Therapist Assistants, and Surgical Technologists. A second review considered growth for a longer period (2007-2017), adding Respiratory Therapists and Nuclear Medicine Technologists to the list of occupations of interest.

To validate the data, the Center of Excellence conducted an employer survey and contacted hospitals and medical centers located in Los Angeles County. Respondents indicated difficulties in hiring candidates for a variety of allied health positions along with a long list of positions such as Pharmacists and Physical Therapists that require higher-level degrees. Employers' biggest problem when hiring at all levels is finding experienced candidates.

The community colleges currently have very few programs for the occupations projected to have high-growth in the next 5 and 10 years in Los Angeles County. In fact, there are only two programs in the county (Pharmacy Technician and Physical Therapist Assistant, both at Cerritos College) for the top 6 occupations presenting an opportunity. It is therefore recommended that after further research, the community colleges consider creating programs for the fast-growing occupations presented in this report. Additional recommendations for action include: increasing the emphasis on career ladders, providing better introductions to the allied health field for potential and incoming students, creating a "pipeline" by partnering with ROPs and secondary education to increase awareness of allied health careers, building stronger and broader partnerships with employers, and increasing the supply of experienced candidates by encouraging students to work while they learn and finding ways to bring students with nontraditional backgrounds through the system.

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<sup>1</sup> Source: Economic Modeling Specialists, Inc. (EMSI), September 2007

<sup>2</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)  
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## Introduction

The healthcare industry's 14 million workers in the United States make it the largest industry in the country today. With a 10-year projected growth of over 3 million new jobs, it will account for 20% of the country's job growth. During this same period, another million candidates will be hired to replace those who retire or leave the industry for a total of 4 million hires in the coming decade.<sup>3</sup>

The projected growth of the healthcare industry comes on the heels of a shortage of workers in most segments of the industry that has been reported and documented at a global, national, and local level for the past two decades. Despite the attention and concern aimed at this shortage, it continues to worsen. Nationally, the allied health workforce shortage is predicted to reach 1.6 million to 2.5 million workers by 2020.<sup>4</sup> In the last year, a California-based study<sup>5</sup> and a special U.N.-sponsored meeting<sup>6</sup> both documented the continually widening gap between the growing need and the available health care workforce at all levels.

Even without the supply and demand issues facing the industry's workforce, its workers would face significant challenges due to the technological advances that regularly result in new procedures and methods of diagnosis and treatment. Information technology also contributes to improved patient care and worker efficiency, but requires constant training and re-training of personnel at all levels. Other issues that are shaping the industry are cost containment and quality control, insurance industry pressures through the provisions of its health care plans, and federal- and state-governments' legislation that further regulates and complicates the industry.<sup>7</sup>

In Los Angeles County, the healthcare industry represents 8.5% of the workforce today, but its projected growth rate of 23% over the next decade will be significantly greater than the 13% growth projected for all jobs in the county during that period.

## Labor Market

### Employers

In Los Angeles County, ambulatory care establishments like offices of physicians, and other health practitioners employ 55% of all health care industry workers. Hospitals are the second largest employers in the industry with 28% of workers. Table 1 illustrates how employers of health care workers will shift as the number of health care workers employed in smaller, non-hospital settings grow significantly more than workers currently employed in hospital settings.

<sup>3</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2008-09 Edition*, Health Care, on the Internet at <http://www.bls.gov/oco/cg/cgs035.htm>.

<sup>4</sup> Kennedy Information Recruiting Trends, "Allied Health Professional Shortage Forecast" online at <http://www.recruitingtrends.com/online/news/718-1.html>

<sup>5</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfsc/co\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfsc/co_alliedhealth_report_10-30-07_final.pdf)

<sup>6</sup> "Massive Global Health Worker Shortage Targeted at U. N.-Sponsored Meeting", January 10, 2008, U.N. Centre News online at (<http://www.un.org/apps/news/story.asp?NewsID=25256&Cr=AIDS&Cr1=health>)

<sup>7</sup> Bureau of Labor Statistics, U.S. Department of Labor, *Career Guide to Industries, 2008-09 Edition*, Health Care, on the Internet at <http://www.bls.gov/oco/cg/cgs035.htm>

**TABLE 1- Industry Employment Projections 2007-2017  
Los Angeles County**

NAICS Code	Name	2007 Jobs	2017 Jobs	Change	% Change
62	All Health Care	384,665	480,717	96,052	25%
621	Ambulatory Care (i.e. physicians' offices)	209,701	268,730	59,029	28%
622	Hospitals	107,676	126,953	19,277	18%
623	Nursing and Residential Care Facilities	67,288	85,034	17,746	26%

Source: EMSI Complete Employment – September 2007

### Occupations

With over 200 occupational titles, the health care industry offers widely varied employment opportunities. Table 2 shows the allied health occupations in Los Angeles County that are expected to grow by more than 50 jobs per year from 2007-2012. The occupations are listed with those with the highest projected demand on the left side of the table.<sup>8</sup>

**TABLE 2 - Health Care Occupations Projected to Grow by More than 50 Jobs/Year, 2007-2012, Los Angeles County**

Nursing Aides, Orderlies, and Attendants	Massage Therapists
Medical Assistants	Emergency Medical Technicians and Paramedics
Home Health Aides	Surgical Technologists
Dental Assistants	Medical Transcriptionists
Licensed Practical and Vocational Nurses	Pharmacy Aides
Dental Hygienists	Physical Therapist Aides
Pharmacy Technicians	Opticians, Dispensing
Medical and Clinical Laboratory Technologists	Physical Therapist Assistants
Medical and Clinical Laboratory Technicians	Medical Equipment Preparers
Medical Records and Health Information Technicians	Cardiovascular Technologists and Technicians
Radiologic Technologists and Technicians	Diagnostic Medical Sonographers
Respiratory Therapists	Speech-Language Pathologists
Physical Therapists	Occupational Health and Safety Specialists

Source: EMSI Complete Employment - September 2007

The acute shortage of nurses noted in Table 2 has been publicized and documented for a number of years while a limited amount of attention has been paid to the allied health occupations, which represent 60% of the health care workforce and are potentially as

<sup>8</sup> Source: Economic Modeling Specialists, Inc. (EMSI), September 2007

important as nursing to the effectiveness of the health care system. In fact, of the 30 fastest-growing occupations in the labor market, more than half are in the allied health field.<sup>9</sup>

## **Demand**

### **Trends**

The 2007 report “Closing the Health Workforce Gap in California: The Education Imperative”<sup>10</sup> prepared by Health Workforce Solutions for The Campaign for College Opportunity, identifies a number of factors that are exacerbating the health care workforce shortage in California: 1) The age, diversity, and growth rates of the California population are driving a steady increase in demand for health care services; 2) California is already behind the rest of the nation in the proportion of health care professionals to the general population; 3) Shortfalls are expected to increase as limited educational capacity restricts workforce supply; and 4) Retirement of baby boomers working in the allied health occupations will magnify the shortfall crisis.

### **Growth**

A review of the allied health occupational demand and projected growth in Los Angeles County revealed a widening gap similar to the statewide forecast shown in the Campaign for College Opportunity<sup>11</sup> report. Given the limited resources available to community colleges for initiating new programs, this scan will highlight those occupations that warrant further study as potential opportunities to create new community college programs to prepare students for high-growth high-demand occupations.

The following criteria were used in reviewing the occupational data for all allied health occupations and choosing those most appropriate for the consideration and attention of the Los Angeles County community colleges.

- ❑ From the list allied health occupations, those with the projected growth of over 25% (for new jobs and job replacement) were selected. See Appendix B for the full list.
- ❑ The list was further narrowed to include only those professions which require community college education, certification, or an AA degree.
- ❑ This group was then examined and narrowed to include only those occupations that have a median pay of over \$15/hour in Los Angeles County.
- ❑ Finally, the absolute number of new employees needed in the coming 5 years was matched against the capacity of the existing (public and private) programs in order to eliminate those occupations where there is already sufficient capacity to meet current and future needs.

Table 3 details the six occupations that met all of the criteria listed above.

<sup>9</sup> Kennedy Information Recruiting Trends, “Allied Health Professional Shortage Forecast,” available online at <http://www.recruitingtrends.com/online/news/718-1.html>

<sup>10</sup> Health Workforce Solutions, “Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf) page 1

<sup>11</sup> Health Workforce Solutions, “Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

**TABLE 3 - Top 6 Occupations of Current Interest to  
Los Angeles County Community Colleges**

SOC Code	Occupation	Total Employment		Employment Growth		Growth + Replacement		Average # of Job Openings Per Year	2007 Median Hourly Wages
		2007 Jobs	2012 Jobs	# of Jobs	%	# of Jobs	%		
29-2052	Pharmacy Technicians	6,629	7,531	902	14%	2,073	31%	415	\$16.70
29-2012	Medical and Clinical Laboratory Technicians	3,870	4,238	368	10%	1,303	34%	261	\$17.11
29-2055	Surgical Technologists	3,000	3,300	300	10%	902	30%	180	\$21.11
31-2021	Physical Therapist Assistants	1,009	1,168	159	16%	435	43%	87	\$27.13
29-2032	Diagnostic Medical Sonographers	1,124	1,242	118	10%	378	34%	76	\$28.76
29-2031	Cardiovascular Technologists and Technicians	951	1,026	75	8%	305	32%	61	\$24.38

Source: EMSI Complete Employment - September 2007

Since the comparison of current capacity to current and future demand is central to decisions about expansion of programs and development of new programs, Table 4 shows the criteria used in making recommendations about the six occupations listed in Table 3.

**TABLE 4 – Current Capacity versus Projected Demand  
Top 6 Occupations of Interest to L.A. County Community Colleges**

<b>SOC Code</b>	<b>Description</b>	<b>Average # of Job Openings/Yr 2007-12</b>	<b>Criteria Used to Include in Top Six (Table 3)</b>
29-2052	Pharmacy Technicians	415	Currently only 4 programs in L. A. County (only 1 at a Community College) compared 400+ openings
29-2012	Medical and Clinical Laboratory Technicians	261	Currently only 2 programs in L.A. County, none at Community Colleges, to fill 261 openings
29-2055	Surgical Technologists	180	150 graduates and certificates per year <sup>12</sup> . None awarded by community colleges.
31-2021	Physical Therapist Assistants	87	Currently, 32 grads from Cerritos are only grads in L.A. County <sup>13</sup>
29-2032	Diagnostic Medical Sonographer	76	No CAAHEP Accredited Programs in LA county. <sup>14</sup> Three non-accredited programs in LA County each produce an average of 12 grads per year,
29-2031	Cardiovascular Technologists and Technicians	61	Currently, no programs in Los Angeles County

Appendix C provides a list of high-demand/high-growth occupations that are not included in the Top 6 list, along with the reasons why they were not included on this list.

### ***Accelerating Demand***

Because of the long lead time required to mount new programs at the community colleges, it is beneficial to consider the occupational demand for a period that goes further out than the five years used in determining the Top 6 in this study. This becomes of special interest in occupations where the projected growth increases dramatically 5-10 years from now as compared to the growth projected for the coming five years. When examining demand data for a 10-year span, the occupations listed in Table 5 (some of which already appear in the Top 6 group) represent areas of need that will emerge with accelerated speed 5-10 years from now.

<sup>12</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf) Appendix B

<sup>13</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

<sup>14</sup> Commission on Accreditation of Allied Health Education Programs, online at <http://www.caahep.org>

Two of the occupations in Table 5 did not appear in the Top 6 Occupations of current interest. Nuclear Medicine Technologist is related to Radiation Technologist and requires one year of study after the candidate has work experience in a similar field. In Los Angeles County at this time there are only two programs and both are located at medical centers.<sup>15</sup> There are numerous programs serving Respiratory Therapists but given the projected growth rate these may be valid areas for future program expansion (See Appendix G).

**TABLE 5 – Comparison of Five- and Ten-Year Projected New Jobs  
Los Angeles County**

SOC Code	Description	Total Number of New Jobs			New Job Growth	
		2007 Jobs	2012 Jobs	2017 Jobs	% Growth Years 1-5	% Growth Years 6-10
29-2012	Medical and Clinical Laboratory Technicians	3,870	4,238	5,062	10%	19%
29-1126	Respiratory Therapists	3,408	3,717	4,292	9%	15%
29-2033	Nuclear Medicine Technologists	864	892	1012	3%	13%
29-2031	Cardiovascular Technologists and Technicians	951	1,026	1,326	8%	29%

*NB: This analysis uses projections of new jobs only. It does not include additional demand created by retirements and replacements. Source: EMSI Complete Employment – September 2007*

## Occupational Descriptions

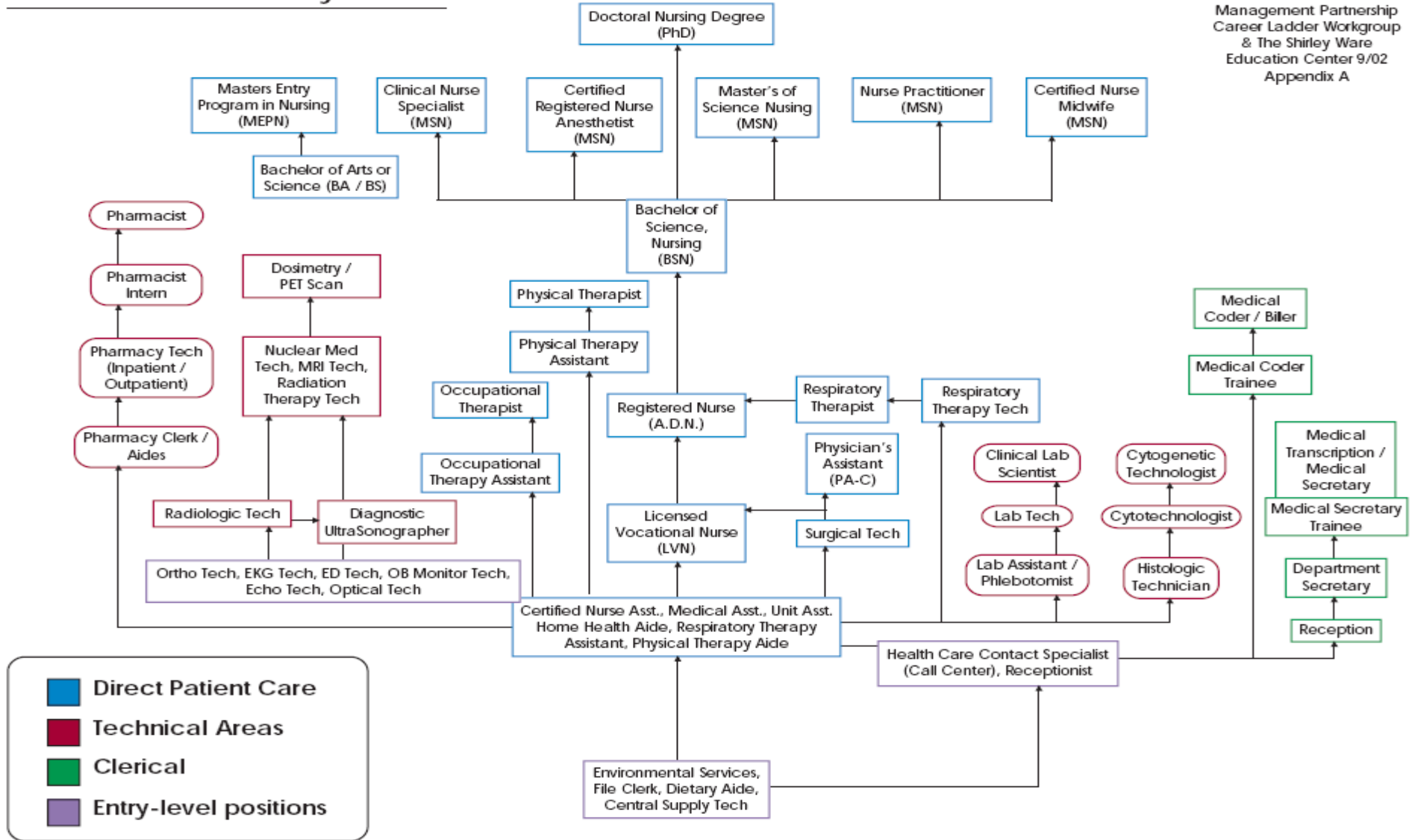
Occupational descriptions for each of the Top 6 Occupations identified in this study and certification requirements are discussed in Appendix D.

## Career Ladders

The importance of clinical practice and work experience in most allied health occupations makes a compelling case for the use of career ladders in the education of health care workers. As the following chart and the ones in Appendix E indicate, allied health workers can combine their experience on-the-job with further education to make any number of lateral moves or to advance to higher-level, higher-paying careers. The career ladders that illustrate the interrelationships between “families” of allied health occupations like technical, patient care, and clerical offer special opportunities for grouping programs. Students (and former students) can be supported in making career ladder moves if colleges offer a complementary group of programs that focus on one of these “families” of occupations.

<sup>15</sup> Bates, Timothy and Chapman, Susan, “Tracking the Supply of Health Professions Education Programs in California”, UCSF Center for the Health Professions, April 2007, found online at [http://futurehealth.ucsf.edu/pdf\\_files/HWTC%20Tracking%20the%20Supply%207%2026%2007%20FINAL.pdf](http://futurehealth.ucsf.edu/pdf_files/HWTC%20Tracking%20the%20Supply%207%2026%2007%20FINAL.pdf)

## Career Ladder Pathways



Kaiser Permanente Labor Management Partnership Career Ladder Workgroup & The Shirley Ware Education Center 9/02 Appendix A

Source: "The Career Ladder Mapping Project: Allied Health Project on Career Ladders," Health Career Path Mapping and Worksite Training Development Project of the Shirley Ware Education Center, Oakland, California, December 2002, Appendix A, <http://www.seiu-uhw.org/documents/swec/CareerLadderMappingProject>

Here are two examples of career ladder relationships that could be used by community colleges to mount complementary programs.

### Cardiovascular Technicians and Diagnostic Medical Sonographers<sup>16</sup>

Radiologic Technologist	Cardiovascular Technologist	Diagnostic Medical Sonographer
Cardiovascular Technician		
Respiratory Therapist		Occupational Therapist Assistant

### Surgical Technician and Medical or Clinical Laboratory Technician<sup>17</sup>

Radiological Technician
Medical or Clinical Lab Technician
Surgical Technician
Sterile Processing Technician

## Industry Validation

The Center of Excellence surveyed hospitals and medical centers in Los Angeles county, which employ allied health workers and obtained responses from 15 facilities. (See Appendix F for survey questions.) The survey was conducted by mail and phone, and addressed to the human resource managers. The purpose of this initial survey was to discover for which occupations employers had unmet workforce development needs, compare employers' input to labor market data and to strategically select occupations for further study. Hospitals and medical centers were surveyed because they employ most, if not all, of the allied health occupations considered. However, as noted earlier, only 28% of the workers in the allied health industry in Los Angeles work in a hospital setting, so the sample may not be representative of other types of employers' needs.

Responses from the 15 facilities were very different, suggesting different staffing patterns, job requirements, recruiting methods, availability of training programs in the proximity of the facilities, and job applicants' preparedness levels. Despite a lack of clear trends in the responses, there is no reason to expect that Los Angeles County will experience a lower rate of demand in allied health occupations than that reported for the state of California in "Closing the Health Workforce Gap in California: The Education Imperative" discussed earlier in the Demand section of this report.<sup>18</sup>

<sup>16</sup> Fresno County Workforce Investment Board, "Career Ladder for Cardiovascular Technicians." Found online at [http://www.workforce-connection.com/wfc\\_intranet/lmi/pdf/Cardiovascular%20Tech%20Career%20Ladder.pdf](http://www.workforce-connection.com/wfc_intranet/lmi/pdf/Cardiovascular%20Tech%20Career%20Ladder.pdf)

<sup>17</sup> Explore Health Careers.org, "Career Ladders Help Health Workers Move up Faster" found online at <http://www.explorehealthcareers.org/en/Article.164.aspx>

<sup>18</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

In general, the survey results confirmed the trends seen in the data:

- **Of the occupations that can be served with community college students (who earn AA degrees or Certificates), these were noted as difficult to recruit qualified candidates by at least one of the employers surveyed:** Physical Therapist Assistants and Aids (mentioned by 8 of the employers); Medical and Clinical Laboratory Technicians (mentioned by 7 of the employers); Surgical Technologists (especially those with experience; mentioned by 4 employers); Radiology and Respiratory Technicians (mentioned by 2 employers); Medical Records and Health Information Technicians (mentioned by 2 employers); Occupational Therapist Aides; Cardiovascular and Radiologic Technicians; Coders; and Admissions Clerks. Although it was only mentioned as an area of need by one of the largest employers and one other, 5 others noted that there is not much turnover in Medical Transcriptionists and therefore not much difficulty finding candidates for those jobs.
- **In answer to questions about the skills and knowledge applicants most often lack, the most frequent answer was “experience.”** Many employers indicated that they have a policy of hiring only experienced candidates, and that experience must be in a hospital setting. Even when they do not require experience, they look for it and give experienced applicants an advantage in the hiring process.
- **Increase hands-on and experiential programs.** The preference for experienced candidates was echoed again in the questions about general suggestions or comments for the colleges. Employers asked for more programs to combine school and experience or to give students access to internship opportunities. Some of the employers surveyed are already providing programs like these and others expressed a willingness to engage in such programs.
- **Incidental to the questions asked, almost all employers reported difficulty in finding qualified candidates for positions requiring more than community college education, such as:** Pharmacists (mentioned by ten of the employers including one who indicated a need to hire 25 in the coming year), Occupational and Physical Therapists (mentioned by 8 of the employers surveyed), Speech Therapists (mentioned by 4 employers), Clinical and Lab Scientists (mentioned by 4 employers), Respiratory Therapists (mentioned by 2 employers including the largest employer in the study); Polysomography Technicians (mentioned by 2 employers); Sterile Processing Technicians (mentioned by the largest employer in the survey); Pathologists, Histologists, NICU Respiratory Therapists, Behavioral Health workers; Masters of Social Welfare, Audiologists; and Dietitians.
- **In answer to questions about which occupations are most difficult to fill with qualified applicants, there were no clear patterns among employers surveyed.** No conclusions could be drawn from the employer survey because of the limited number of responses regarding specific occupations. Most of the employers surveyed indicated that they expected only one or two openings in any given occupation in the coming year. The largest employer surveyed, did indicate they

would be hiring as many as 5-10 candidates in the coming year into some of the occupations of interest.

The wide range of responses to the employer surveys is indicative of the wide range of occupations that are part of the allied health workforce, and the difficulty of scanning the current and projected future environmental setting of those occupations. In light of the differences in responses that were received during the survey, what may be most striking about the results is the fact that two similar responses were given by almost every employer who was surveyed. Those responses were: the need for experienced workers in all allied health occupations and the critical need for health care professionals at the BA and graduate degree level. Both responses were incorporated in the recommendations made in this report.

### Existing Programs

There are numerous allied health programs provided by private and public colleges throughout the Los Angeles County area. Here are the schools that have programs in the Top 6 occupations identified in this study.

**TABLE 6- Education and Training Programs for the Top 6 Occupations**

<b>Program</b>	<b>Public and Private Schools Providing This Program</b>
Pharmacy Technologist	Cerritos College American Career College – Los Angeles Charles R. Drew University of Medicine and Science North-West College (Pasadena & Glendale & West Covina)
Medical and Clinical Laboratory Technicians	National University, Los Angeles Newbridge College, Long Beach
Surgical Technologist	American College of Health Professions/Redlands Bryman College/Reseda California Paramedical and Tech College/Long Beach Career Colleges of America/South Gate Concorde Career Center/North Hollywood Glendale Career College Premier Career College/Irwindale Simi Valley Adult School/Simi Valley
Physical Therapist Assistants	Cerritos College
Diagnostic Medical Sonographer	Maric College, North Hollywood Newbridge College, Long Beach Charles R Drew University
Cardiovascular Tech	No programs found in Los Angeles County

## Community College Programs in Los Angeles County

Despite the large number of technical and vocational programs available at the community colleges in Los Angeles County, the list below shows a striking absence of programs in the Top 6 Occupations of interest in this scan. There are numerous allied health programs at the colleges, but they tend to cluster around Nursing and/or other occupations like Respiratory Therapy or Medical Assistant. Years ago, when those programs were established, they were in the areas of greatest need. Now it appears that the areas of greatest need may be shifting. All of the allied health programs in the Los Angeles community colleges can be found in Appendix G.

### Programs Offered at Cerritos College

#### **Pharmacy Technician**

AA Degree and Certificate of Achievement  
(31-33 units)

- Medication Calculations
- Pharmaceutics
- Pharmacy Introduction
- Pharmacy Skills Lab Introduction
- Pharmacy Operations I, II, and III
- Over-The-Counter Products
- Pharmacy Technician Pharmacology I II
- Clinical Experience I and II
- Medical Terminology or Introduction to Anatomy and Physiology

#### **Physical Therapist Assistant**

AA Degree (69 units)

- Introduction to Physical Therapy
- Kinesiology
- Pathology
- Clinical Practicum I and II
- Soft Tissue Interventions
- Physical Therapy Aspects of Growth and Development
- Neurology
- Physical Therapy Aspects of Aging and Integumentary Management
- Therapeutic Exercise
- Prosthetics and Orthotics for Allied Health Professionals
- Activities of Daily Living
- Advanced Modalities
- Clinical Affiliation
- Human Anatomy
- Human Physiology
- Medical Terminology
- General Introductory Psychology
- Oral Communication or Fundamentals of Speaking

## Implications and Recommendations for Community Colleges

### Look Ahead Five to Ten Years and Focus on Emerging Demand

The lead time needed for development of new programs at the community colleges is generally 2-5 years from early discussions until the first group of students complete their programs or degrees. The preliminary employer survey conducted for the purpose of this report was inconclusive in confirming the demand for new programs since the facilities surveyed had such varied needs. However, the demand projections combined with the demographic shifts that are occurring as baby boomers retire and require more health care services, suggest that shortages in qualified candidates will continue to increase and reach critical levels in the coming decade. The 5- and 10-year projections of growth justify the need to start discussions about how future workforce demands will be met by considering both current demand for workers and projected future demand. More research is needed on specific occupations within allied health to confirm opportunities for the community colleges to create new programs. The Center of Excellence will continue to study the allied health industry and prepare further reports focusing on groups of occupations that can be clustered for analysis. The narrower focus of future reports will allow in-depth analysis and richer input from all types of facilities that employ the occupations examined.

### Orient Programs Around Career Ladders

The two consistent results from the employer survey were the importance of experience in finding qualified recruits and the long list of jobs requiring BA/BS or MA/MS degrees that cannot be filled. The community colleges can take a leading role in meeting both of these industry needs in several ways.

- In addition to serving students who seek certificates or AA degrees, community colleges can focus on providing an appropriate lower division experience for students who are seeking higher-level degrees for professional health care jobs. Cerritos College does this with its various Career Pathway transfer programs, like Pre-Pharmacy, Pre-Physical Therapy, Pre-Chiropractic, Pre-Optometry, and Pre-Medical which are designed for transferring students.
- Even for those students who initially plan to complete their education at the community college level, emphasizing the opportunity they have to engage in a career that includes constant possibilities for advancement to higher positions may encourage them to return to school and train for another position at a later time. Allied health students who see themselves as lifelong learners have many roads they can take to “reinvent” themselves numerous times during their careers.

The colleges’ responsibility in this is to demonstrate the potential career ladders and interrelationships between occupations and encourage students to think beyond their first degree or certificate, creating a pipeline of entrants into the higher-level positions in the industry that are in such great demand.

## Consider Developing New Programs at Colleges Already Serving the Industry

Although it would be convenient for students to have programs distributed geographically across the county, those schools with existing programs in allied health are in the best position to add new programs because they have faculty, facilities, connections and potential students to make those new programs successful. Schools already offering allied health programs should consider expanding those programs or adding programs that are connected to their existing programs through career ladder links (See Appendix E). The Vocational/Career and Technical Education Deans in Los Angeles County, through their regional meetings, can provide leadership in program development that coordinates existing and new programs and builds career ladders on a regional level and publicizes complementary programs at different schools. The Center of Excellence can provide technical assistance, help colleges develop partnerships with employers, and provide data needed for grant applications and program approval.

## Build Student Awareness of the Entire Field of Allied Health

The “Perceptions of an Ideal Career versus Perceptions of Six Health Careers” article<sup>19</sup> stated that:

Health care is increasingly dependent on highly collaborative interprofessional teams. Thus, shortages in any area will impact the entire system. Efforts for a more accurate media/marketing portrayal of the decision-making, job security, intellectual rigor, and public appreciation components of these careers would support better alignment of perceptions of an ideal career and a health care career. Arguably, greater visibility and stronger alignment would facilitate greater interest in these careers in this 18- to 24-yr-old age cohort. Such efforts are important, because it is during this life stage that individuals make definitive life choices about career direction.

A variety of methods can be employed to introduce students to the broad range of allied health careers so they can make better decisions about their education and careers. This recommendation was also made by three of the employers interviewed for the purpose of this report and reiterated in the Closing the Health Care Workforce Gap Statewide study.<sup>20</sup> A survey course, like the one Orange Coast College (Costa Mesa) requires students to take before entering an Allied Health program or the “Gateway to Health Careers” at San Francisco City College<sup>21</sup>, could be used to give students the bigger picture of this growing industry.

In addition, the Regional Health Occupational Resource Centers<sup>22</sup> and the Centers of Excellence<sup>23</sup> are each in the process of creating a statewide Career Technical Education (CTE) Hub which will promote careers to students, parents, counselors, instructors, and

<sup>19</sup> Palumbo, Mary Val; Rambur, Betty; McIntosh, Barbara; and Naud, Shelly. “Perceptions of an Ideal Career versus Perceptions of Six Health Careers”, *Journal of Allied Health*, Spring 2008, Volume 37 Issue 1, pp. 8 ff. found online at [http://www.asahp.org/pdf/JAH\\_Spring08\\_Palumbo.pdf](http://www.asahp.org/pdf/JAH_Spring08_Palumbo.pdf)

<sup>20</sup> Health Workforce Solutions, “Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

<sup>21</sup> Committee on the Future Health Care Workforce for Older Americans, “Retooling for an Aging American: Building the Health Care Workforce” Institute of Medicine, The National Academies Press, Washington, D.C., 2008, download at [www.nap.edu/catalog/12089.html](http://www.nap.edu/catalog/12089.html)

<sup>22</sup> Regional Health Occupational Resource Centers, <http://healthoccupations.org/rhorc>

<sup>23</sup> Centers of Excellence, <http://www.coecc.net/>

administrators of community colleges, ROPs, high-schools, adults schools, and other CTE partners. The CTE Hubs will provide great value to colleges and help create pipelines of new entrants to the industry. Other methods for introducing students to the field include high-school outreach programs, in-service training for high school counselors, outreach from employers, and promotion of web sites like [www.explorehealthcareers.org](http://www.explorehealthcareers.org), which includes a wealth of information for students and even hosts a game ([Outbreak at Watersedge](#)) to help them see how the various health care occupations work. The proposed activities to increase awareness of the careers need to be combined with up-to-date, relevant information about the occupations that are most needed now and those that will be in highest demand in the coming years. Following-up on this report, the Center of Excellence will continue to conduct research on education and training needs for high-growth, high-demand, allied health occupations in Los Angeles County.

### **Offer Programs that Support and Encourage Working Adults**

Employers surveyed for this study expressed the desire and/or requirement to hire candidates who have experience. Employers suggested expanded internships and clinical components and expressed a willingness to provide these experiences for students. Other opportunities could be staged as work experience or even service learning opportunities. These give students a chance to “try on” a job before spending a year or two preparing for it. Traditionally, the more rigorous allied health programs have required full-time participation in school and discouraged students from trying to hold even part-time jobs. This policy should be examined carefully in light of the employers’ desire to hire candidates with real-world, work experience.

California’s large immigrant population brings with it professionals from a variety of backgrounds in allied health in other countries. In addition to immigrants, there are many individuals with non-traditional healthcare experience, in settings like the military. Finding a way to bring these professionals into and through the existing programs will result in a more experienced workforce to meet employers’ needs.<sup>24</sup>

### **Work with ROP’s and Secondary Education to Create a Pipeline**

Interest in allied health occupations can be built as the colleges work with Regional Occupational Programs, middle schools and secondary education. These efforts can use existing partnerships as a starting point, building regional and even systemwide programs to bring students into contact with the occupations and with the programs at the colleges. Allied health faculty and deans who are active in campus outreach efforts can insure a spot for allied health on the agenda of college days and other events aimed at entering students. Coupled with earlier recommendations to help students consider career ladder opportunities available to them if they go beyond their community college education, this pipeline can be constructed to reach all the way from middle school to graduate and professional degrees. Again, the new CTE Hubs will be instrumental in enhancing collaboration with CTE partners and promoting high-demand careers to students and partnering educational institutions.

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<sup>24</sup> Godbe Research, “Orange County Healthcare Industry Report,” Orange County Workforce Investment Board, April 2006, found online at <http://www.ocwib.org/Docs/Orange%20County%20Healthcare%20Industry%20Report.pdf>

## **Build Broader Partnerships with Business**

The ongoing challenge to build viable partnerships with businesses is magnified in the health care sector by the variety of occupations, the large number of very small employers, and the dynamic nature of the field. Community college programs can get a more accurate picture of the changes in an occupation through the internships, clinical practice, work experience, and service learning opportunities in the field that are supervised by college faculty. Advisory committees can provide a better assessment of the current state of a program area if they contain representatives from professional organizations along side those of local employers. As the health care industry workforce becomes concentrated more and more in smaller-sized businesses and offices, the colleges will have to exercise increased vigilance and creativity to ensure the voice of the industry is clearly heard in their program development decisions.

## **Conclusion**

The community colleges cannot solve the healthcare worker shortage on their own, but they are key players in meeting that challenge. In this environmental scan, eight occupations that represent potential opportunities for new and/or expanded programs in the coming 5-10 years have been suggested. More importantly, a series of strategies are presented in the form of recommendations. These strategies speak not only to increasing the numbers of candidates available for allied health positions, but making sure those candidates have the experience and qualifications to make them successful and valuable members of the healthcare industry. The Center of Excellence will continue to conduct research on the workforce development needs of the allied health industry in Los Angeles County, and prepare further reports focusing on occupations that present an opportunity for colleges to create new programs, or modify/update existing ones, to better respond to regional needs.

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## Appendix A: How to Utilize this Report

### ***About Us - Description of BWPI***

The Business and Workforce Performance Improvement (BWPI) initiative is focused on building the capacity of the colleges in the area of economic and workforce development to enhance their ability to deliver education and training services to businesses and workers in high growth industries, new technologies, and other clusters of opportunities.

The Centers of Excellence (COE) within BWPI provide information regarding workforce trends, increasing awareness and visibility about the colleges economic and workforce development programs and services, and building partnerships with business and industry. The difference this will make to the colleges is that it will position them as THE workforce partners of choice to business and industry and ensure that college programs are current and responsive. This will contribute to the overall economic vitality of the communities in which they serve.

### ***How to Use This Environmental Scan Report***

The Centers of Excellence within the Business and Workforce Performance Improvement Initiative of the California Community College Economic and Workforce Development Program have undertaken Environmental Scanning to provide targeted and valuable information to community colleges on high growth industries and occupations.

This report is intended to assist the decision-making process of California community college administrators and planners in addressing local and regional workforce needs and emerging job opportunities in the workplace as they relate to college programs. The information contained in this report can be used to guide program offerings, strengthen grant applications, and support other economic and workforce development efforts.

This report is designed to provide current industry data that will:

- Define potential strategic opportunities relative to an industry's emerging trends and workforce needs;
- Influence and inform local college program planning and resource development; and
- Promote a future-oriented and market responsive way of thinking among stakeholders.

This Environmental Scan included a review of the California Regional Economies Project reports and Employment Development Department (EDD) Labor Market Information (LMID) projections that cover the communities in this region, as well as many other sources as referenced.

### ***Important Disclaimer:***

All representations included in this report/study have been produced from a secondary review of publicly and/or privately available data and/or research reports. Efforts have been made to qualify and validate the accuracy of the data and the reported findings. The purpose of the Environmental Scan is to assist the California Community Colleges to respond to emerging market needs for workforce performance improvement. However, neither the BWPI Centers of Excellence, COE host college or California Community Colleges Chancellor's Office are responsible for applications or decisions made by recipient community colleges or their representatives based upon this study including components or recommendation.

## Appendix B – Allied Health Occupations Five Year Projected Growth

Region: Los Angeles County

Eliminate:

- Under \$15/hr
- BA/MA req
- Group of jobs

Focus on:

- Over 80 new jobs/year
- Over 25% employment growth
- Over \$20/hr

May eliminate positions that only require on-the-job training

Description	Total Employment		Employment Growth		Growth + Replacement		Av. # Job Openings Per Year	2007 Median Hourly Earnings	Education and Training Levels
	2007 Jobs	2012 Jobs	Absolute number	% change	Absolute number	% change			
Nursing aides, orderlies, and attendants	35,221	37,851	2,630	7%	8,638	25%	1,728	\$10.45	Postsecondary vocational award
Medical assistants	17,076	20,093	3,017	18%	8,061	47%	1,612	\$14.76	Moderate-term on-the-job training
Home health aides	14,609	16,686	2,077	14%	5,561	38%	1,112	\$9.30	Short-term on-the-job training
Dental assistants	10,468	12,564	2,096	20%	5,372	51%	1,074	\$13.74	Moderate-term on-the-job training
Licensed practical and licensed vocational nurses	19,325	20,722	1,397	7%	5,006	26%	1,001	\$21.30	Postsecondary vocational award
Dental hygienists	7,343	8,771	1,428	19%	3,059	42%	612	\$35.25	Associate's degree
Healthcare support workers, all other	8,908	9,697	789	9%	2,502	28%	500	\$13.40	Short-term on-the-job training
Pharmacy technicians	6,629	7,531	902	14%	2,073	31%	415	\$16.70	Moderate-term on-the-job training

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May eliminate positions that only require on-the-job training

Description	Total Employment		Employment Growth		Growth + Replacement		Av. # Job Openings Per Year	2007 Median Hourly Earnings	Education and Training Levels
	2007 Jobs	2012 Jobs	Absolute number	% change	Absolute number	% change			
Medical and clinical laboratory technologists	4,322	4,707	385	9%	1,310	30%	262	\$33.18	Bachelor's degree
Medical and clinical laboratory technicians	3,870	4,238	368	10%	1,303	34%	261	\$17.11	Associate's degree
Medical records and health information technicians	4,277	4,731	454	11%	1,279	30%	256	\$14.80	Associate's degree
Radiologic technologists and technicians	4,757	5,127	370	8%	1,273	27%	255	\$26.78	Associate's degree
Respiratory therapists	3,408	3,717	309	9%	1,232	36%	246	\$28.01	Associate's degree
Physical therapists	5,093	5,426	333	7%	1,217	24%	243	\$33.13	Master's degree
Massage therapists	3,724	4,128	404	11%	1,129	30%	226	\$15.06	Postsecondary vocational award
Healthcare technologists and technicians, all other	4,073	4,310	237	6%	1,055	26%	211	\$18.13	Postsecondary vocational award
Emergency medical technicians and paramedics	3,453	3,802	349	10%	956	28%	191	\$11.83	Postsecondary vocational award
Surgical technologists	3,000	3,300	300	10%	902	30%	180	\$21.11	Postsecondary vocational award
Medical transcriptionists	2,578	2,819	241	9%	781	30%	156	\$19.27	Postsecondary vocational

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May eliminate positions that only require on-the-job training

Description	Total Employment		Employment Growth		Growth + Replacement		Av. # Job Openings Per Year	2007 Median Hourly Earnings	Education and Training Levels
	2007 Jobs	2012 Jobs	Absolute number	% change	Absolute number	% change			
Pharmacy aides	2,679	2,965	286	11%	667	25%	133	\$9.75	Short-term on-the-job training
Physical therapist aides	1,673	1,858	185	11%	551	33%	110	\$12.99	Short-term on-the-job training
Opticians, dispensing	2,968	3,075	107	4%	452	15%	90	\$14.89	Long-term on-the-job training
Physical therapist assistants	1,009	1,168	159	16%	435	43%	87	\$27.13	Associate's degree
Medical equipment preparers	1,740	1,900	160	9%	409	23%	82	\$12.09	Short-term on-the-job training
Diagnostic medical sonographers	1,124	1,242	118	10%	378	34%	76	\$28.76	Associate's degree
Cardiovascular technologists and technicians	951	1,026	75	8%	305	32%	61	\$24.38	Associate's degree
Healthcare practitioners and technical workers, all other	964	1,047	83	9%	285	30%	57	\$28.19	Postsecondary vocational award
Speech-language pathologists	2,753	2,654	(99)	(4%)	282	10%	56	\$32.57	Master's degree
Occupational health and safety specialists	1,543	1,585	42	3%	276	18%	55	\$32.32	Bachelor's degree

Region: Los Angeles County

Eliminate:

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- BA/MA req
- Group of jobs

Focus on:

- Over 80 new jobs/year
- Over 25% employment growth
- Over \$20/hr

May eliminate positions that only require on-the-job training

Description	Total Employment		Employment Growth		Growth + Replacement		Av. # Job Openings Per Year	2007 Median Hourly Earnings	Education and Training Levels
	2007 Jobs	2012 Jobs	Absolute number	% change	Absolute number	% change			
Nuclear medicine technologists	864	892	28	3%	172	20%	34	\$32.86	Associate's Degree
Dental laboratory technicians	1,430	1,354	(76)	(5%)	141	10%	28	\$14.81	Long-term on-the-job training
Dietician technicians	609	649	40	7%	136	22%	27	\$14.56	Moderate-term on-the-job training
Psychiatric technicians	2,645	2,558	(87)	(3%)	133	5%	27	\$22.00	Moderate-term on-the-job training
Psychiatric aides	3,364	3,363	(1)	(0%)	114	3%	23	\$7.87	Short-term on-the-job training
Occupational therapist assistants	335	371	36	11%	102	30%	20	\$25.77	Associate's degree
Radiation therapists	265	282	17	6%	80	30%	16	\$38.33	Associate's degree
Occupational therapist aides	288	302	14	5%	51	18%	10	\$9.76	Short-term on-the-job training
Occupational health and safety technicians	208	218	10	5%	50	24%	10	\$24.39	Postsecondary vocational award
Respiratory therapy technicians	320	314	(6)	(2%)	28	9%	6	\$24.89	Associate's degree
	<b>189,868</b>	<b>209,043</b>	<b>19,175</b>	<b>10%</b>	<b>57,754</b>	<b>30%</b>	<b>11,551</b>	<b>\$17.34</b>	

Source: EMSI Complete Employment - September 2007

## Appendix C – Occupations Not Included in Top 6

Occupation	Reason for Not Including in Top 6	
31-2022 Physical Therapist Aides	Usually learn on the job, no degree or certification required, median wage below \$15/hr	
31-9011 Massage Therapists	Private schools and community services programs currently training people for certification. Many shortages occur because massage therapists can be self-employed and do not want to work in institutional settings.	
29-2021 Dental Hygienists	A separate report is being prepared on this high demand occupation	
Nurses	Numerous reports and surveys have documented the need for more qualified nurses on the national and local level.	
29-2071 Medical Records and Health Information Technicians	Median Wages Below \$15/hr	\$14.80
31-9092 Medical Assistants	Median Wages Below \$15/hr	\$14.76/hr
31-9092 Home Health Aides	Median Wages Below \$15/hr	\$9.30/hr
31-1011 Pharmacy Aides	Median Wages Below \$15/hr	\$9.75/hr
31-9095 Physical Therapist Aides	Median Wages Below \$15/hr	\$12.99/hr
31-2022 Opticians, Dispensing	Median Wages Below \$15/hr	\$14.89/hr
29-2081 Medical Equipment Preparers	Median Wages Below \$15/hr	\$12.09/hr
31-9093 Dietetic Technicians	Median Wages Below \$15/hr	\$14.56/hr
29-2051 Psychiatric Aides	Median Wages Below \$15/hr	\$7.87/hr
31-1013 Occupational Therapist aides	Median Wages Below \$15/hr	\$9.76/hr
29-2011 Medical and Clinical Laboratory Technologists	Requires a BA degree	
29-1123 Physical Therapists	Requires an MA degree	
29-1127 Speech-Language Pathologists	Requires an MA degree	
29-9011 Occupational Health and Safety Specialists	Requires an BA degree	
29-2034 Radiologic Technologists and Technicians	There are already six community colleges in Los Angeles County with programs in this occupation	
29-1126 Respiratory Therapists	There are already five community colleges in Los Angeles county with programs in this occupation	
29-2041 Emergency Medical Technicians and Paramedics	There are already seven community colleges in Los Angeles county with programs in this occupation	
31-9094 Medical Transcriptionists	There are already five community colleges in Los Angeles County with programs in this occupation. Also, the occupation is unlicensed so programs are undefined and can be unfocused.	

## Appendix D - Occupational Descriptions and Certification Requirements

### Cardiovascular Technologists and Technicians<sup>25</sup>

Other 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.

Cardiovascular Technologists and Technicians assist physicians in diagnosing and treating ailments of the heart and blood vessels. Technologists focus on more invasive procedures while Technicians specialize in stress testing and electrocardiograms. Most programs are based in two-year community colleges; however some Technicians are still trained on the job. The majority of Cardiovascular Technologists and Technicians work in a hospital setting.

#### Educational and Certification Requirements

One year is dedicated to core courses followed by a year of specialized instruction in either invasive, noninvasive cardiovascular, or noninvasive vascular technology. Those who are qualified in a related allied health profession only need to complete the year of specialized instruction. (<http://www.explorehealthcareers.org/en/Career.30b.aspx>)

Technologists complete an Associate Degree and Technicians complete a one-year certificate program or on-the-job training.

No licensing is required in California. Voluntary certification for Technologists available from Cardiovascular Credentialing International or the American Registry of Diagnostic Medical Sonographers.

### Diagnostic Medical Sonographer

Other titles include ultrasonographers, or ultrasound technologists.

Diagnostic Medical Sonographers are part of the overall family of diagnostic imaging professionals. They work with sound waves to obtain images of a patient's body and have some overlap with the Cardiovascular Technologists who utilize ultrasound as one of their standard imaging technologies. Diagnostic Medical Sonographers typically view the images on a screen during the exam and capture certain ones for review by a physician to aid in a diagnosis.<sup>26</sup>

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<sup>25</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf) Appendix A

<sup>26</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

## Educational and Certification Requirements

Training for this occupation takes place in a variety of educational settings and is not mandated by the state. This is an unlicensed occupation in California although voluntary national registration is available through the American Registry of Diagnostic Medical Sonographers (ARDMS) is desirable. Individuals that do pursue registration must complete continuing education requirements to maintain their status.<sup>27</sup>

## Medical and Clinical Laboratory Technicians

(Other Titles include Cytotechnologist, Laboratory Assistant, Laboratory Associate, Laboratory Technician and Non-registered Technician)

Although they are not often personally involved with patients, laboratory technologists and technicians play a crucial role in the process of providing personalized care. They generate vitally important data for identifying and treating cancer, heart disease, diabetes, and many other health conditions.

Using sophisticated biomedical instrumentation and technology, as well as highly skilled manual techniques, clinical laboratory professionals examine and analyze body fluids, tissues, and cells to identify bacteria, parasites, and other microorganisms. They also evaluate test results for accuracy and help interpret them for the physician.<sup>28</sup>

## Educational and Certification Requirements

To become a Clinical Laboratory Technician (CLT), or Medical Laboratory Technician (MLT), you must earn a two-year associate's degree from an approved program and pass a certification exam, which you can take through one of three agencies:

- National Credentialing Agency for Laboratory Personnel (NCA)
- American Society for Clinical Pathology (ASCP)
- American Medical Technologists (AMT)<sup>29</sup>

## Related Career Opportunities

Cardiac Catheterization	Diagnostic Medical Sonographer
Cardiographic Technician	Echocardiographer
Cardiopulmonary Technician	Electrocardiograph Technician
Cardiology Technician	Related Department Manager
Vascular Technologist	

<sup>27</sup> Diagnostic Medical Sonographer Career Profile found online at Explore Health Careers:  
<http://www.explorehealthcareers.org/en/Career.29.aspx>

<sup>28</sup> Clinical Laboratory Testing/Technician Career Profile, found online at Explore Health Careers:  
<http://www.explorehealthcareers.org/en/Career.28.aspx>

<sup>29</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at  
[http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

## Pharmacy Technician

(Other titles include Certified Pharmacy Technician and Pharmaceutical Care Associate)

Pharmacy Technicians are entry-level pharmacy workers that support pharmacists in preparing and dispensing medicine. They are also involved in general customer service and with administrative activities including inventory duties and completing insurance claims. About 70% are employed in the retail setting. Those employed in a hospital may also be involved in the preparation of intravenous packs.<sup>30</sup>

### Educational and Certification Requirements

In California, you must be certified by meeting one of the following qualifications:

- An Associate degree in pharmacy technology
- Completion of a training course accredited by the American Society of Health-System Pharmacists (ASHP);
- Any other course that provides a minimum of 240 hours instruction as specified in section 1793.6 (c) of Title 16 of the California Code of Regulations.
- Graduation from a school of pharmacy accredited by the American Council on Pharmaceutical Education (ACPE).
- Certification by the Pharmacy Technician Certification Board (PTCB).<sup>31</sup>

## Physical Therapist Assistant

Physical Therapist Assistants (PTAs) perform components of physical therapy procedures and related tasks, as directed by a supervising physical therapist (PT). PTAs help patients who have movement difficulties due to injury or disease, by assisting the PT with therapies designed to improve mobility, relieve pain, and prevent or limit permanent physical disability. Patients may include accident victims and individuals with short- and long-term disabling conditions, such as low back pain, fractures, head injuries, arthritis, heart disease, and cerebral palsy.<sup>32</sup>

### Educational and Certification Requirements

To qualify for licensure, PTAs must have an associate degree in Physical Therapy Assisting (or meet the equivalence requirements that factor in years of previous work experience) and must pass both a national PTA exam and a California specific exam on laws and regulations related to the practice of physical therapy.

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<sup>30</sup> Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf) Appendix A

<sup>31</sup> California State Board of Pharmacy, Pharmacy Technician Registration Requirements, found online at [http://www.pharmacy.ca.gov/forms/tch\\_app\\_pkt.pdf](http://www.pharmacy.ca.gov/forms/tch_app_pkt.pdf)

<sup>32</sup> Physical Therapist Assistant Career Profile, found online at Explore Health Careers: <http://www.explorehealthcareers.org/en/Career.9.aspx>

Legislation on mandatory continuing education (AB120) became effective January 2007 requiring PTAs to have up to 30 contact hours in order to apply for renewal.<sup>33</sup>

## **Surgical Technologists**

Other titles include Certified Surgical Technologist, Operating Room Technician, and Surgical Technician

Surgical Technologists are sometimes known as scrubs or operating room technicians. They work as part of a team with surgeons and registered nurses in all aspects of the operative setting. They may prepare patients, facilities and instruments prior to a surgery and they assist during surgical procedures by passing instruments, checking vital signs, and handling specimens. After a procedure they may be involved in cleaning the operating room and moving patients to recovery rooms.<sup>34</sup>

## **Educational and Certification Requirements**

California does not license or register Surgical Technologists. Most Surgical Technologists complete a one-year Surgical Technician/Technology training program accredited by the American Medical Association's Committee on Allied Health Education and Accreditation. Some hospitals require certification by the Liaison Council on Certification of Surgical Technologists.<sup>35</sup>

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.<sup>36</sup>

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<sup>33</sup>Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, found online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf) Appendix A

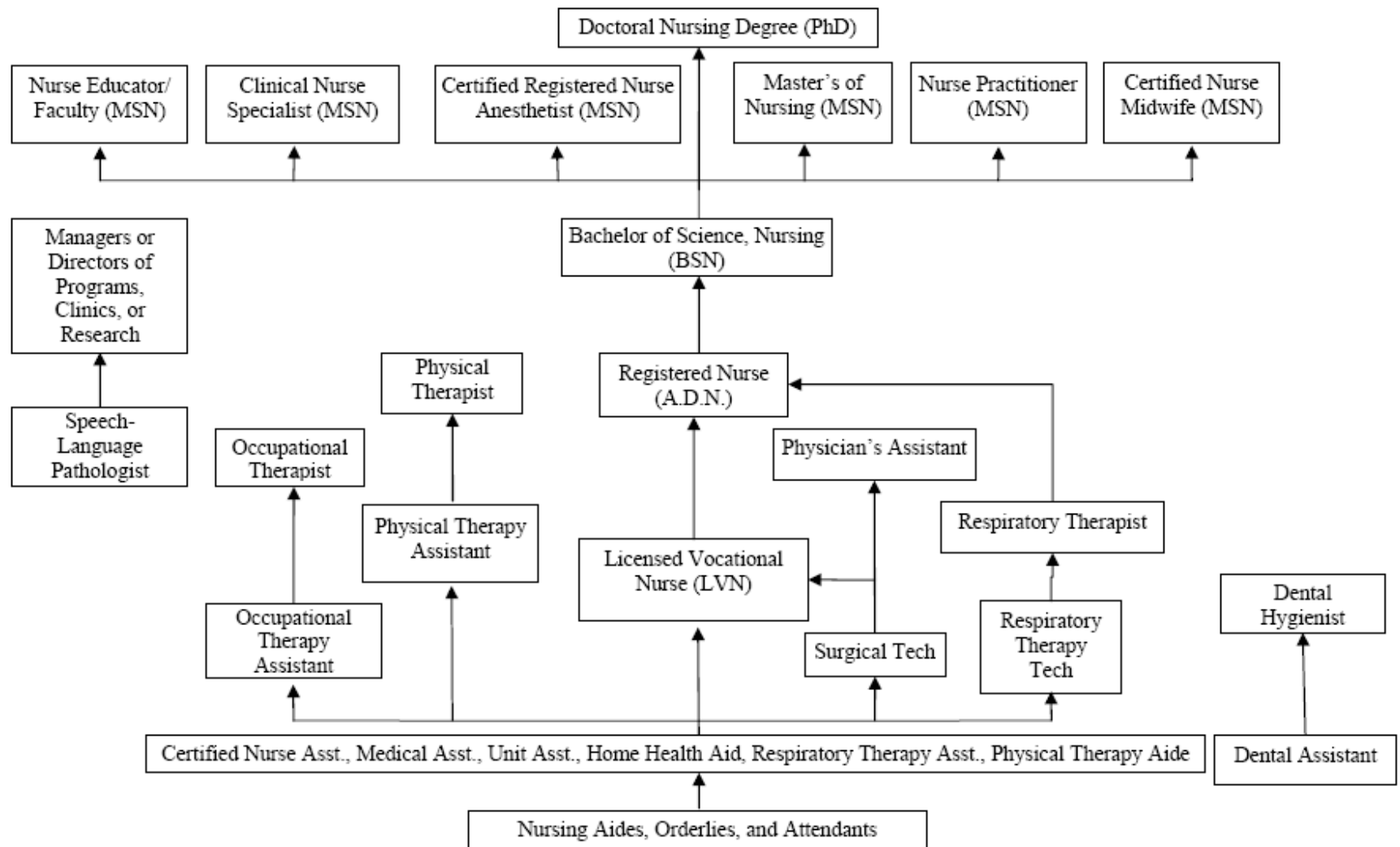
<sup>34</sup>Health Workforce Solutions, "Closing the Health Workforce Gap in California: An Education Imperative, November 5, 2007, The Campaign for College Opportunity, San Francisco, available online at [http://www.collegecampaign.org/assets/docs/hcwfs/cco\\_alliedhealth\\_report\\_10-30-07\\_final.pdf](http://www.collegecampaign.org/assets/docs/hcwfs/cco_alliedhealth_report_10-30-07_final.pdf)

<sup>35</sup>State of California Employment Development Department, Surgical Technologist, Health Care Careers, found online at <http://www.calmis.ca.gov/file/healthcare/hcc-surgical-technologists.pdf>

<sup>36</sup>Godbe Research, "Orange County Healthcare Industry Report," Orange County Workforce Investment Board, April 2006, found online at <http://www.ocwib.org/Docs/Orange%20County%20Healthcare%20Industry%20Report.pdf>

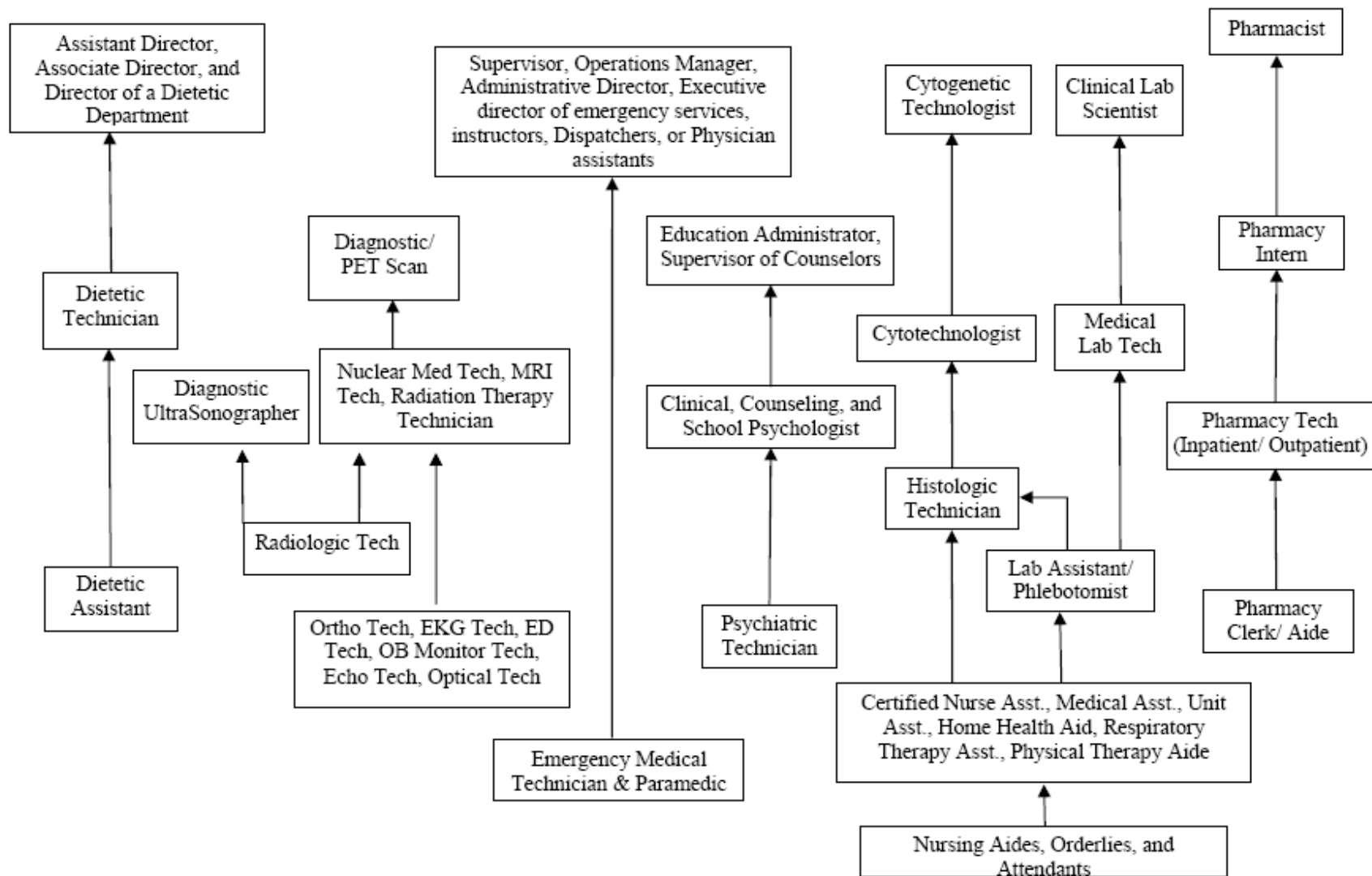
## Appendix E – Career Ladders

### Patient Care Career Ladder



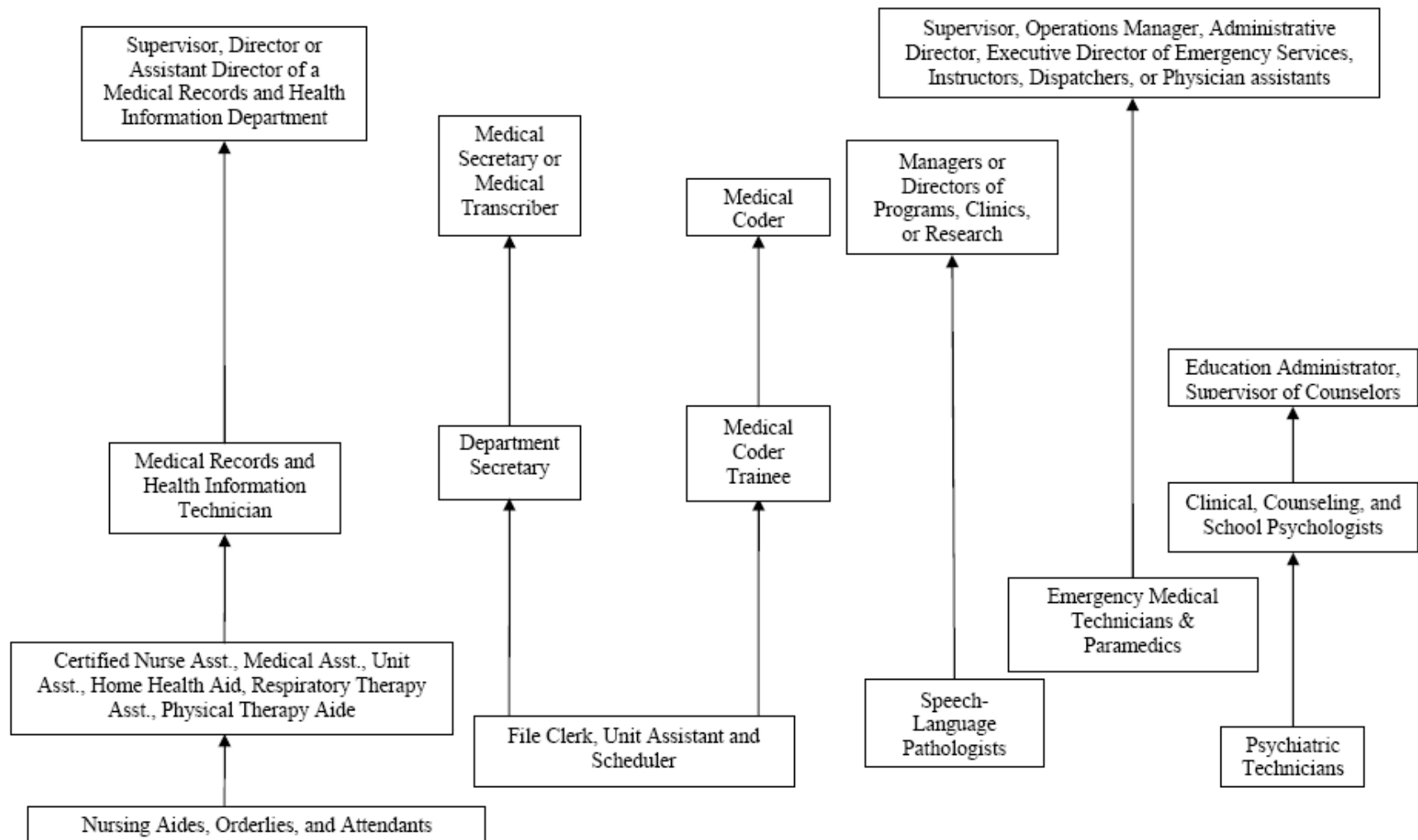
Source: Godbe Research, "Orange County Healthcare Industry Report," Orange County Workforce Investment Board, April 2006, available online at <http://www.ocwib.org/Docs/Orange%20County%20Healthcare%20Industry%20Report.pdf>

## Technical Career Ladder



Source: Godbe Research, "Orange County Healthcare Industry Report," Orange County Workforce Investment Board, April 2006, found online at <http://www.ocwib.org/Docs/Orange%20County%20Healthcare%20Industry%20Report.pdf>

## Clerical Career Ladder



Source: Godbe Research, "Orange County Healthcare Industry Report," Orange County Workforce Investment Board, April 2006, found online at <http://www.ocwib.org/Docs/Orange%20County%20Healthcare%20Industry%20Report.pdf>

## Appendix F – Survey Questions

This survey is conducted on behalf of the California Community Colleges to evaluate the education and training needs in Allied Health in Los Angeles County. Thank you for answering the following questions. Your individual responses will be kept confidential; only aggregated data will be presented in our report.

### **Part I. Allied Health Occupations Hiring and Training Needs**

1. For which positions (**other than nursing**) do you have difficulty recruiting qualified candidates?

- a. \_\_\_\_\_
- b. \_\_\_\_\_
- c. \_\_\_\_\_
- d. \_\_\_\_\_

2. What skills or job requirements do applicants often lack?

- |             |  |
|-------------|--|
| Occupation: | Skills and job requirements often lacking: |
| a. _____    | _____                                      |
| b. _____    | _____                                      |
| c. _____    | _____                                      |
| d. _____    | _____                                      |

3. How many employees in each category do you anticipate hiring in the next 12 months?

- |             |                      |
|-------------|----------------------|
| Occupation: | Number of new hires: |
| a. _____    | _____                |
| b. _____    | _____                |
| c. _____    | _____                |
| d. _____    | _____                |

### **Part II. <<Occupation Title>> and repeat for each occupation**

1. How many <<Occupation Title>> does your organization currently employ? \_\_\_\_\_

2. How many do you anticipate hiring in the next 12 months? \_\_\_\_\_

3. How difficult is it to find qualified applicants to fill these positions?

- Experienced:       Not Difficult       Somewhat Difficult       Very Difficult       N/A
- Inexperienced:       Not Difficult       Somewhat Difficult       Very Difficult       N/A

4. What skills or job requirements do applicants often lack?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

5. When you hire for these positions, is prior experience required?  Yes  No If yes, how much? \_\_\_\_\_

6. Is training acceptable as a substitute for experience for these positions?  Yes  No If yes, how much?

\_\_\_\_\_

7. What is the minimum level of formal education required for these positions? (Check one)

- Less than high school diploma       High school diploma or equivalent       Some College
- Associate Degree (2 year)       Other: \_\_\_\_\_

**Part III. Additional Comments**

1. Do you believe that the community colleges in Los Angeles County should create new programs for allied health professions?  Yes  No If yes, which ones and why? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

2. Do you have any other comments regarding the role of the community colleges in preparing students to work in allied health? \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

3. May we contact you again if we have further questions?  Yes  No

Thank you very much!

