Critical Roles: California’s Allied Health Workforce
California Hospital Association Allied Health Workforce Survey | Report of Key Findings

Introduction

In December 2007, the California Hospital Association (CHA) created the Healthcare Workforce Coalition. The coalition’s mission is to create and lead a statewide, coordinated effort to develop and implement strategic solutions to the shortage of specified non-nursing allied health professionals. Allied health includes professions such as clinical laboratory scientist, radiological technologist and respiratory therapist, among many others.

Members of this broad coalition include CHA member hospitals and health systems, as well as various stakeholders, including the University of California (UC), California State University (CSU), California Community Colleges Chancellor’s Office, California Labor and Workforce Development Agency, UC San Francisco Center for the Health Professions, California Institute for Nursing & Health Care, California Health Workforce Alliance, Office of Statewide Health Planning and Development, and California Primary Care Association.

The original goals and priorities of the coalition were established using data collected via a 2007 hospital survey. Since the original 2007 survey, deteriorating economic conditions have caused many health care professionals to postpone retirement or increase work hours, easing the demand for health care workers in the short term.

In 2010, CHA again surveyed hospitals statewide to gather up-to-date data regarding the effects of the economy on the demand for allied health professionals in the short term, and to identify hospital workforce needs and concerns in the next one, three and five years. This report highlights key findings from the 2010 survey and recommends strategies to address the long-term need for these professionals.

Summary of Recommended Strategies

- Funding for health science education and health workforce preparation at California's community colleges and universities must be a priority for the state. Hospitals are critical partners in developing a solid health care workforce, significantly investing in programs that educate and train health professionals. However, as gaps in funding for education grow more severe, hospitals will not be able to increase investments to fill these shortfalls. Funding for health science education and workforce preparation must become a priority for the state.

- Health science curriculum must be more closely aligned with the needs of employers. All too often, students who have completed their education enter their profession needing costly on-the-job training to align their skills with the demands of working in a hospital setting.

- Prerequisite courses must be standardized across the health sciences so as students transfer from one college to another they are not forced to retake courses they have already successfully completed at another college. Standardization will provide a clear pathway allowing students to progress more efficiently and mitigate capacity issues that are so prevalent with these courses.

- Articulation between California’s institutions of higher education must be enhanced. Recently passed legislation partially addresses this issue by guaranteeing students admission to a CSU if they have successfully completed the appropriate “core” units at a community college. However, much work is still needed to implement this legislation and to address transfer issues.

- California’s educational leaders and policymakers must give consideration to innovative models of education that take into account the needs of non-traditional students, such as the adult learner or the incumbent worker. Models offering courses at night, on the weekends, during the summer and online make it possible for these students to obtain a degree or certificate in an allied health occupation, while they remain in their community and/or continue working.

- Barriers related to clinical training must be addressed. For example, the application process for becoming an approved clinical laboratory training site is burdensome and antiquated, requiring phone calls and paper documents. Instead, application documents and information should be easily accessible online.

For details regarding recommendations, please see page 9.
Critical Roles: California’s Allied Health Workforce
California Hospital Association Allied Health Workforce Survey | Report of Key Findings

Methods
The 2010 CHA Allied Health Workforce Survey was prepared by the CHA Workforce Committee and CHA staff. It was designed to be a web-based survey targeting CHA member hospitals. The survey consisted of 12 multi-part questions concerning vacancies, impact of vacancies, changes in employment status, hiring freezes, workforce age and expected retirements, and long-term concerns about workforce supply. It was distributed to 200 hospitals statewide, and 125 hospitals and health systems responded for a response rate of 62.5%. The survey was distributed in January 2010 and held open for responses through May 2010. Survey analysis was conducted by researchers at the UC San Francisco Center for the Health Professions.

Description of Survey Respondents
Survey respondents were assessed based on how representative they were of the overall CHA membership. Among the parameters used to assess this were geographic location, rural designation, bed size and total full-time equivalents (FTEs).

These assessments indicated that the responding hospitals and health systems were generally representative of the CHA membership. However, hospitals and health systems in selected regions of the Bay Area had a stronger response rate than hospitals and health systems in the San Diego and Imperial counties’ region. More than 80% of survey respondents were located in urban locations and approximately 20% in rural locations. This is similar to the overall urban/rural distribution of the CHA membership (see Table 1).

Approximately 65% of responding hospitals had between 100 and 399 occupied beds. This is similar to the overall membership of CHA, although responding hospitals and health systems in the 200-399 bed size range were slightly over-represented, whereas responding hospitals in the 50-99 bed size range were slightly under-represented (see Table 2).

Surveyed Occupations
The following 14 occupations were included in the Allied Health Workforce Survey. According to hospitals and health systems statewide, these allied health positions are the most difficult to fill and are critical when it comes to health care delivery.

- Clinical Laboratory Scientist (CLS)
- Medical Laboratory Technician (MLT)
- Radiologic Technologist
- Computed Tomography (CT) Technologist
- Positron Emission Tomography (PET) Technologist
- Cardiovascular & Interventional Radiology (CVIR) Technologist
- Magnetic Resonance Imaging (MRI) Technologist
- Ultrasound Technologist
- Nuclear Medicine Technologist
- Pharmacist
- Pharmacy Technician
- Physical Therapist
- Physical Therapy Assistant
- Respiratory Therapist

<table>
<thead>
<tr>
<th># of Occupied Beds</th>
<th>Survey Respondents (%)</th>
<th>Total CHA Membership (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer than 50</td>
<td>12.2</td>
<td>13.9</td>
</tr>
<tr>
<td>50 – 99</td>
<td>11.4</td>
<td>15.9</td>
</tr>
<tr>
<td>100 – 199</td>
<td>25.2</td>
<td>26.1</td>
</tr>
<tr>
<td>200 – 399</td>
<td>39.8</td>
<td>31.6</td>
</tr>
<tr>
<td>400 or more</td>
<td>11.4</td>
<td>12.4</td>
</tr>
</tbody>
</table>

* Excludes facilities where number of total occupied beds is unknown.

* Excludes facilities where rural vs. urban/suburban status is unknown.
Critical Roles: California’s Allied Health Workforce
California Hospital Association Allied Health Workforce Survey | Report of Key Findings

Why are these occupations so critical?
When most people think about the health care workforce, they think about doctors and nurses who provide care directly to patients. There are many health care professionals, however, working at the bedside and behind the scenes to provide laboratory, imaging and other critical services needed to diagnose and treat patients.

CLSs, for example, are an integral part of the health care team. These professionals conduct a wide range of diagnostic assessments, from simple blood tests to genetic testing, to help physicians determine treatment plans. Workforce shortages in the clinical laboratory can cause delays in diagnosis and increase patients’ length of stay. The current CLS shortage in California is projected to grow more serious in the next five years due to a significant number of pending retirements.

Imaging professionals, like radiological technologists and diagnostic sonographers, use X-rays, MRIs and ultrasound equipment to help health care providers view inside the human body. The advanced technology used in diagnostic imaging has enabled physicians to diagnose and treat patients quickly and efficiently. However, health care providers are challenged to find enough qualified technical professionals to capture these images, especially in the special imaging modalities, such as CVIR.

Respiratory therapists evaluate, treat and care for patients with breathing or other cardiopulmonary disorders.⁴ Respiratory therapists provide complex therapy and are vital in caring for patients with respiratory illnesses or who may be on life support in intensive-care units of hospitals.

The occupations described here, along with the others included in the survey, make up the support system for health care delivery. Workforce shortages or skill gaps in these professional areas impact hospital efficiencies and threaten timely access to care.

Key Findings

FTEs by Occupation
According to the survey results (111 respondents in this case), the five largest non-nursing health care professions, based on FTEs, are respiratory therapist, pharmacist, pharmacy technician, radiological technologist and CLS. These five occupations accounted for roughly three-quarters of all FTEs reported (76%) (see Figure 1).

Among surveyed occupations, respiratory therapists are the largest group in terms of workforce size, with 111 hospitals reporting 3,584 total full-time equivalent positions.

Vacant Positions by Occupation

Vacancies were examined by profession in two ways: 2009 vacancies as a share of reported FTEs (a vacancy rate) and absolute number of vacancies. The 2009 vacancy rate ranged from 3% to 8% for the selected allied health professions. The overall reported vacancy rate was 4.4% (total reported vacancies as a share of total FTEs for all surveyed allied health occupations). Figure 2 shows that the vacancy rate was lowest for pharmacists and pharmacy technicians and highest for physical therapists. It is important to note that in relatively small professions (in terms of total FTEs), such as CVIR and PET technologists, a small number of vacancies results in a high vacancy rate. For example, the number of PET technologists is small; one vacancy per 18 FTEs results in a vacancy rate of 5.6%.

Although physical therapists, CVIR technologists and MLTs had the highest vacancy rates, 10 of the 14 occupations surveyed have vacancy rates above the average of 4.4% for all occupations combined (see Figure 2).

The second measure of vacancies is the absolute number of reported vacancies. Table 3 shows the five occupations with the greatest number of vacancies are respiratory therapist, physical therapist, CLS, radiological technologist and pharmacist. These occupations are also five of the six largest in terms of total reported FTEs. Together, they accounted for 73% of the total number of reported vacancies.

These data, however, only present part of the picture. Vacancy rates by bed size were also analyzed in order to determine whether small or large size hospitals were impacted differently. Of the responding hospitals and health systems, 93 reported a total of 949 FTE vacancies (17 of the 111 facilities with usable FTE data did not report any vacancies at all). The smallest hospitals had the highest vacancy rates; more than 7% for hospitals with less than 100 beds. These vacancy rates were nearly twice as high as those in larger hospitals (see Figure 3 on page 6).

Impact of Vacancies

After identifying the number of vacant allied health positions, it is important to understand the impact of vacancies on hospital operations. A survey item asked hospitals to respond to the following statement of
impact: “Please rate from 1-5 the impact of vacancies in each occupation on hospital efficiencies and access to care (1 having no impact and 5 having the greatest adverse impact).” Figure 4 shows the impact score by allied health occupation.

For most of the selected allied health occupations, vacancies were viewed as having a significant impact on hospital efficiencies and access to care. Overall, pharmacist vacancies were seen as having the greatest adverse impact when vacancies exist (averaging a score of 3.75), while PET technologist vacancies were seen as having the least impact (an average score of 1.97). Data not shown here indicate that there were small differences in how respondents viewed the impact of vacancies based on the geographic location (rural vs. urban/suburban) and size of the hospital/health system. Vacancies for several of the technical occupations (CT, CVIR, PET and MRI technologist) were seen as having a greater impact at urban/suburban facilities compared to rural facilities (although all were seen as having a medium-low impact). Vacancies for CLS, radiological technologist, ultrasound technologist, pharmacist and respiratory therapist at very small facilities with fewer than 50 occupied beds (which were also rural) were seen as having a greater impact by comparison to larger facilities.

Hiring Freezes and Conversion of Employment Status

Only five facilities reported a hiring freeze of any duration; of those, two reported a year-long freeze. The others reported a hiring freeze of six months or less. Converting employees from part-time to full-time status was reported by 39 hospitals. There were a total of 171 employees who increased hours from part-time to full-time. The occupations most frequently reported as increasing hours from part-time to full-time were respiratory therapist (24 hospitals and 59 employees), CLS (15 hospitals and 23 employees) and radiological technologist (14 hospitals and 31 employees).

Employee Average Age and Projected Retirements

Across the health professions there is concern about the aging workforce and pending retirements. The CHA Allied Health Workforce Survey included two items asking about the average age of employees and the number expected to be eligible for retirement (using 62 as the age for eligibility) in the next one, three and five years for each of the selected allied health occupations.
hospitals. For almost all occupations there is a difference in the average age based on the geographic location of the facility: the rural workforce is almost uniformly older by comparison. For some occupations, the difference is marked, including pharmacist and pharmacy technician, and to a slightly lesser extent CT technologist and MRI technologist.

Table 5 illustrates retirement eligibility for the surveyed occupations. More than 2,600 allied health employees in the selected categories are expected to be eligible for retirement within the next five years; this translates to roughly 12.5% of the total number of FTEs reported by survey respondents.

Retirement eligibility figures for CLS, respiratory therapist and pharmacist indicate that there will be a significant number of vacancies in these occupations should a majority of those eligible actually retire.

Top Concerns of Hospitals Regarding Future Allied Health Workforce Supply

Survey respondents were asked to identify their top long-term concern about the allied health workforce supply from a list of five factors. Not surprising, given the data on workforce age, the top concern expressed by 58% of the respondents was the aging workforce (see Figure 5 on page 8). The impact of health reform was seen as the second most important long-term issue. It is important to note that the survey was open January through May 2010. A portion of this time pre-dated the passage of the
Critical Roles: California’s Allied Health Workforce
California Hospital Association Allied Health Workforce Survey | Report of Key Findings

Patient Protection and Affordable Care Act (ACA). A larger number of respondents may have indicated a greater concern about health care reform if data were collected during the months following the passage of ACA.

Making the Case: New Strategies Needed for Developing Allied Health Professionals

Many reports regarding the economy have focused on the health sector and the fact that it is one of the very few sectors adding jobs in today’s challenging economic climate. At the same time, conflicting reports in the media have brought attention to workforce reductions within hospitals.

It is important to note that while the absolute number of health care jobs nationwide may be increasing across the broad health sector (which includes community health centers, other clinics and private physician practices, in addition to hospitals), California hospitals have been significantly impacted by the recession. Many factors, including a changing payer mix, changes in patient volume, and a decrease in the number of elective procedures taking place due to an ailing economy, among other factors, have required hospitals to engage in cost-reduction strategies that include workforce reductions or consolidations.

These reports of workforce reductions notwithstanding, key findings from the Allied Health Workforce Survey support the need to develop some near-term, but especially long-term, strategies to increase the supply of allied health professionals, particularly in critical areas.

For example, of the top three occupations having the highest retirement eligibility figures, the CLS pending retirement numbers indicate the most immediate risk in years 2010-2015. According to the survey, 217 CLSs will be eligible for retirement in the next year. California currently graduates approximately half that number annually. Projecting beyond one year, those eligible for retirement within this profession increases to a staggering 844. This represents nearly one-third of the number of the CLS FTEs reported by respondents.

Furthermore, rural hospital respondents rated CLS vacancies as having the greatest adverse impact on hospital efficiencies and access to care, while at the same time the CLS average age was highest in rural hospitals at 50.5 years. These findings validate longstanding claims that the shortage of clinical laboratory professionals must be addressed statewide, but the findings also bring about a new urgency for focusing on the need to develop innovative solutions that will improve access to education and training for rural communities as well.

California recently implemented licensure for MLTs to help mitigate the impact of the CLS workforce shortage. In California, MLTs can perform phlebotomy and moderately complex testing, and supervise lower level laboratory workers. However, California currently has only four approved MLT training programs in operation.

Physical therapists make up a relatively smaller component of the hospital workforce. However, they have the highest vacancy rate in respondent hospitals and the second highest impact score. This is concerning because, beginning in 2015, physical therapists will be required to attain a doctorate degree (dPT) in order to become licensed in California. This could exacerbate the shortage in California because it will take students longer to become licensed. Although legislation was recently enacted allowing the CSUs to offer the DPT so current programs can continue to educate physical therapists beyond 2015, this does not address the overall need for
additional physical therapy programs statewide. Long-term solutions for addressing the need for physical therapists must be developed.

Health care will continue to be an engine of economic growth in the coming years as California’s population increases and ages. It is anticipated that the fastest growing area of health care employment will be allied health, with a projected 63 percent increase between 2010 and 2030. Between new job creation and the need to replace workers who retire or otherwise leave the field, the state will need to train nearly 1 million more allied health workers by 2030.2

Combine the challenges of an aging health care workforce, projected population growth in the state, and an increased demand not only for general health care service, but for customized consumer-driven care as well, with the onset of health care reform, and the result is a “perfect storm” that will threaten access to timely health care for California patients.

Recommended Strategies

Preserve and Protect Funding for California’s Public Institutions of Higher Education

The CHA Health Workforce Coalition has examined the barriers to increasing the supply of qualified, highly skilled allied health workers for almost three years. One particular barrier has repeatedly surfaced. Funding for health science education in California’s community colleges and universities is inadequate and results in limited capacity for training health professionals. It is widely known that California’s unprecedented budget crisis is forcing policymakers to make very difficult decisions regarding funding for programs and services in the state. However, funding for California Community Colleges, CSUs and UCs must be protected. These institutions provide the bulk of accredited health profession education and training opportunities for Californians seeking a career in the allied health field. Most of these programs require a low student-to-faculty ratio and require a clinical component. The requirements mean that these programs are more costly to operate, yet serve lower numbers of students when compared to other programs, leaving them vulnerable to budget cuts. Once allied health programs are closed down, they are very difficult and expensive to revive. Long-term planning requires that budget cuts are prioritized in a way that will not cripple California’s ability to educate and train allied health workers in the coming decade when the need will be most critical.

Furthermore, these institutions prepare the most diverse populations of students in the state. Indeed, these students are representative of California’s culturally diverse patient population. It is imperative that the state preserve its investment in these institutions to ensure the creation of a culturally competent, well-qualified allied health care workforce that can meet future demand.

Protect Funding for California’s Community College Workforce Preparation Programs

The Health Workforce Initiative (HWI) is administered through the California Community Colleges Chancellor’s Economic and Workforce Development Program. The purpose of HWI is to promote the advancement of California’s health care workforce through quality education and services. This includes providing education and training programs to meet emerging demands for health care workers, determining needs, facilitating development of innovative solutions and securing resources to implement planned responses. HWI’s high-quality learning opportunities are offered to a diverse population of students and incumbent workers, and directly link education to the workplace and health care employers.3

Over the last two years, HWI has experienced significant budget cuts that have resulted in closures of several regional centers, including one center located in California’s underserved Central Valley. There is acknowledgement that in this budget climate all programs must be scrutinized closely, but it should be noted that in this time of high unemployment, programs such as HWI are vital to ensuring that educational programs are aligned with health employers’ needs so students are educated and prepared to enter into a profession where there will be opportunities for


3  California Health Workforce Initiative, http://ca-hwi.org
employment. Funding for health science education and workforce preparation programs offered by California’s institutions of higher education must become a priority for the state.

Align Programs With Industry Demand
Health science curriculum must be more closely aligned with the needs of employers. All too often, students who have completed their education enter their profession needing additional and costly on-the-job training in order to bring their skills in alignment with the demands of working in a hospital setting. Also, in order to maximize employment opportunities for new graduates, it is critical that health profession programs and funding for such programs align with the occupational demands of health employers.

Standardize Prerequisite Courses
Prerequisite courses must be standardized across the health sciences so that as students transfer from one college to another, they are not forced to retake courses they have already successfully completed at another college. Standardization of prerequisites will eliminate current barriers to certification and licensure; provide a clear pathway allowing students to progress more efficiently; and mitigate capacity issues that are so prevalent with these courses.

Improve Course Articulation Between California’s Institutions of Higher Education
Students pursuing a career in the health professions currently do not have a clear pathway for moving toward more advanced education and training within the California institutions of higher education. In addition to capacity issues that sometimes force students to seek education outside of the public post-secondary institutions, students also face many obstacles as they try to navigate from one community college district to another, from private accredited to public institutions, or on to a CSU and/or UC from a community college. Many times, due to the lack of articulation agreements between institutions, students are forced to retake classes or take additional classes to complete their education. This not only presents a barrier to completion, it is an inefficient use of resources. Articulation issues, including those that occur between private accredited and public institutions, must be addressed in order to maximize resources and efficiently educate students in the state.

Recently enacted legislation partially addresses this issue by guaranteeing student admission to a CSU if they have successfully completed the appropriate “core” units at a community college. However, much work is still needed to implement this legislation and to address transfer issues.

Develop Innovative Models for Educating and Training Allied Health Professionals
New, innovative models of educating and training health professionals must be developed, especially if we are to build a solid health workforce to serve rural and remote regions of the state. For example, technology has radically changed how all students learn and access education. Expanded, innovative use of technology can increase access to allied health education and provide opportunities for more students to pursue a career in health. This is especially true when it comes to accessing prerequisite courses, which have significant limited capacity, yet are in high demand because many are common to all the health sciences.

Technology also has the potential to address some of the clinical portions of training as well, either through simulation exercises or virtual access to clinical mentors. Innovative programs must be developed and evaluated so capacity issues and geographic barriers can be addressed. AB 2385, signed by the Governor in 2010, authorizes the establishment of innovative pilot programs for educating nurses and allied health professionals. Although the funding for these pilots has not been secured, authorizing community colleges to establish innovative pilot programs and requiring that they be evaluated for effectiveness are important steps toward developing models that can be replicated throughout the state.

In addition, many longstanding models of educating and training have become outdated. While perhaps effective for the traditional student, many models are not as effective for non-traditional students, such as the adult
Critical Roles: California’s Allied Health Workforce
California Hospital Association Allied Health Workforce Survey | Report of Key Findings

Learner and incumbent worker. California’s educational leaders and policymakers should give consideration to the development of training programs that take into account the needs of these non-traditional students who typically have many competing priorities, such as a full-time job and family. Educational models offering courses at night, on the weekends, during the summer and online make it possible for these students to obtain a degree or certificate in an allied health occupation, while they remain in their communities, continue to work and provide for their families.

Lastly, rapidly changing technology, shifting demands for health professionals in response to health care reform and other factors, and changes in delivery models of care require an educational infrastructure that is flexible and can respond to rapidly changing technology in both the educational and health care environments.

Alleviate Barriers Related to Clinical Training
Many allied health professions require completion of a clinical training component. The clinical requirement varies in length depending on the profession. Generally speaking, educational programs partner with hospitals and other health care providers to provide the clinical training opportunities necessary for students to obtain certification and/or licensure in a given profession. Hospitals provide clinical rotations and mentors/preceptors for the clinical training, while the educational institutions provide the curriculum and accreditation for the program.

Despite these existing partnerships, however, there are an insufficient number of clinical training opportunities to meet demand. The reasons for this may vary, but some specific issues include state approval requirements for training programs to operate, and mentor/preceptor-to-student ratio requirements.

For example, licensure as a CLS in California requires obtaining a bachelor’s degree and completion of a 12-month internship training program that has been approved by the California Department of Public Health’s Laboratory Field Services (LFS). The application process for becoming an approved training site is burdensome and antiquated. Hospitals cannot obtain the application paperwork for becoming an approved training site without personally contacting an identified individual within LFS. Instead, these documents should be easily accessible on the LFS website. Additionally, hospitals have to wait up to six months or longer for approval. These and other inefficiencies within this department should be evaluated in order to streamline the process for approving training sites and make better use of the department’s limited resources.

Conclusion
To meet the long-term demands for health care services in the state, policymakers and others must recognize the need to develop a sufficient supply of qualified, culturally competent allied health professionals. Hospitals are critical partners in developing a solid health workforce and have been doing their part to increase the number of trained nurses, physicians and allied health professionals by creating and heavily investing in workforce development partnerships. Even the most financially stressed rural hospitals having significantly limited resources contribute both financial and in-kind support to help develop the health workforce needed to serve their communities. However, as gaps in funding for education grow more severe, hospitals will not be able to increase investments to make up for these shortfalls.

Moving forward, and especially in light of health care reform, it is more critical than ever that all partners, including the state, Legislature, education and industry collaborate and coordinate effectively around planning and resources. CHA looks forward to working with policymakers and the state, as well as other health workforce partners, as solutions are developed and implemented.
Acknowledgements

CHA thanks each member of the CHA Workforce Committee, Allied Healthcare Workforce Advisory Council, Imaging Services Workgroup and Healthcare Laboratory Workforce Initiative for all their time, commitment and dedication to the Health Workforce Coalition and its mission, and the creation of this report.

Special thanks to Susan A. Chapman, PhD, RN, associate professor, University of California San Francisco (UCSF) School of Nursing, and researcher for the UCSF Center for the Health Professions, and Timothy Bates, analyst for the UCSF Center for the Health Professions, for their work in analyzing the data gathered from the Allied Health Workforce Survey. Their expertise and knowledge were essential to the development of this report.

A special thank you as well to Teri Hollingsworth and Jamila Mayers of the Hospital Association of Southern California for administering the 2010 Allied Health Workforce Survey and for their consultation as the results were analyzed. This report would not be possible without their valuable assistance and input.

The development of this report is also made possible through a grant from The California Endowment. CHA is grateful for the Endowment’s financial support of the Healthcare Workforce Coalition. For more information, please contact Cathy Martin, director, workforce, CHA Healthcare Workforce Coalition at (916) 552-7511 or camartin@calhospital.org.