



## Respiratory Care Practitioners in California

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### Overview/Description of the Workforce

Respiratory care practitioners (RCPs) comprise a critical sector of the allied health care workforce. A recent survey for the American Association for Respiratory Care (AARC) estimated that there are 111,700 RCPs employed in the U.S.<sup>1</sup> Currently there are 13,660 active licensed RCPs in California.<sup>2</sup>

Respiratory care practitioners work under the direction of physicians to diagnose, treat, and manage care for patients with cardiopulmonary problems. The scope of their practice ranges from delivering temporary relief to persons with asthma, pulmonary edema, or emphysema, to providing emergency treatment for asphyxiation, heart failure, stroke, drowning, or shock.

Most RCPs (75.5%) work in a hospital setting and are key staff in critical care units and emergency rooms.<sup>3</sup> Next to nurses, RCPs are the most frequently seen health care providers at the patient bedside. In addition, RCPs are present in the emergency room for resuscitation and are always a member of response teams that rush to the side of a patient who experiences sudden cardiac arrest.

As with other allied healthcare professions, there is concern about whether there is an adequate number of RCPs. A 2000 survey indicated national vacancy rates of 5.9 percent for RCPs.<sup>4</sup> In California, the vacancy rate varies across the state but is as high as 10-15% in some areas.<sup>5</sup> In a survey of hospitals in the far northern region of California, eleven vacancies were reported with

forty-six vacancies projected in the next 1 to 3 years.<sup>6</sup>

### History of the Respiratory Care Profession

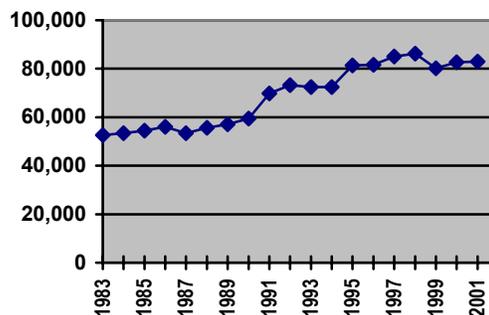
Since the early nineteenth century, physicians have prescribed oxygen therapy to patients with cardiopulmonary disorders. During the 1940s, respiratory care tasks began to be assigned to specially trained orderlies instead of nurses, because the equipment for administering oxygen had grown in sophistication and complexity. These orderlies became known as “oxygen orderlies” and were the first respiratory care practitioners.<sup>7</sup>

Oxygen orderlies eventually came to be known as inhalation therapists, and in 1946 they formed the first professional respiratory care organization: the Inhalational Therapy Association. This organization grew and evolved to the current American Association for Respiratory Care (AARC).<sup>8</sup>

### Growth of the Profession

Respiratory care is a fast-growing profession, which has been increasing over the past twenty years, as shown in Figure 1. According to Bureau of Labor Statistics (BLS) data, the profession has grown from 53,000 RCPs to over 83,000 in the past eighteen years.

**Figure 1. Supply of Respiratory Care Practitioners in the U.S. from 1983-2001<sup>9</sup>**



There are approximately 26.1 respiratory care practitioners per 100,000 people in California. This is somewhat lower than the national rate of

29.1 RCPs per 100,000 and lower than the rate in several other highly populated states.

**Table 1. Respiratory Care Practitioners per 100,000 population in 2001.**<sup>10</sup>

	<b>RCPS per 100,000</b>
California	26.1
New York	26.0
Texas	26.8
Illinois	27.2
Pennsylvania	31.6
Ohio	39.7
Michigan	32.8

Employment of respiratory care practitioners is expected to increase in the future due to the growth of the elderly population, which is expected to cause an increased prevalence of cardiopulmonary disease and respiratory ailments. Technological advances in treating victims of heart attacks, accident victims, and premature infants will also increase the demand for RCPs. RCPs with advanced cardiopulmonary and neonatal skills are expected to have the most favorable employment opportunities.<sup>11</sup>

The U.S. Department of Labor projects a 34.8% increase in job openings in respiratory care by the year 2010.<sup>12</sup> It is estimated that 29,000 additional respiratory care practitioners will be needed in the U.S. by the end of this decade. Most of the added practitioners will be needed in hospitals, but physician offices, nursing homes and other long term care facilities, home health care services, and the medical equipment industry are also expected to employ more RCPs in the future.

In California, respiratory care is the ninth fastest growing occupation with an expected 37.5% growth rate between 2000 and 2010.<sup>13</sup>

### Work/Practice Patterns

The primary practice of respiratory therapy is to evaluate, treat, educate and rehabilitate patients who have difficulty breathing as a result of heart or lung disorders.<sup>14</sup> The most common conditions RCPs treat are asthma, bronchitis, lung cancer, stroke, cystic fibrosis, premature birth, birth defects, and emphysema.

RCPs perform a number of diagnostic, treatment, and life support procedures including:<sup>15</sup>

- administering life support
- mechanical ventilation for individuals who cannot breathe independently
- administering medications in aerosol form
- monitoring patient response to therapy
- obtaining blood specimens to analyze levels of oxygen and carbon dioxide
- maintaining a tracheostomy or intubation tube
- measuring lung capacity
- obtaining and analyzing sputum specimens and chest x-rays
- interpreting test data
- assessing indicators of respiratory dysfunction
- performing stress tests
- studying disruptive sleep patterns, and
- conducting chronic respiratory disease management and smoking cessation programs

### Demographics

Respiratory care practitioners are predominantly female, although the profession includes a higher proportion of males than several other allied health professions. As in many health professions, there is an overrepresentation of non-Hispanic whites and an underrepresentation of minority groups, particularly Hispanic/Latino and Asian/Pacific Islander. Data on the race and ethnicity of RCPs in California is not available but may be more representative of the population of the state.

**Table 2. Race/Ethnicity of Respiratory Care Practitioners and the U. S. population from 1983-2001.**<sup>16</sup>

	<b>RCPs</b>	<b>Population</b>
<b>Race/Ethnicity</b>		
White, Non-Hispanic	81.8%	74%
Hispanic/Latino	4.6%	10%
Black, Non-Hispanic	9.7%	10%
Asian/Pacific Islander	2.4%	4%
Other	1.5%	2%
<b>Gender</b>		
Male	37.8%	48%
Female	62.2%	52%

## Age

The average age of RCPs in the U.S. is 40. On average they have 14 years of experience and have worked for their current employer for the previous 9 years.<sup>17</sup>

## Wages

Nationally, the average annual salary of a respiratory care practitioner in a staff position is \$34,700. RCP average annual salaries in the Western region are \$6,000 higher, reflecting the higher cost of living in the region. Supervisor RCPs on average make \$9,000 more per year than staff RCPs nationwide.

**Table 3. RCP National Average Annual Salaries<sup>18</sup>**

	RCP Salary (CA, HI, OR, WA, AK)	RCP Salary (U.S.)
<b>Staff</b>	\$40,900	\$34,700
<b>Supervisor</b>	\$49,200	\$43,700

Table 4 displays average salaries in California for certified RCPs and for registered RCPs. As will be explained below, registered RCPs are more advanced practitioners.

**Table 4. RCP Annual Average Salaries in California.<sup>19</sup>**

RCP Annual Salary	California
<b>Certified RCP</b>	\$40,000-\$50,000
<b>Registered RCP</b>	\$50,000-\$65,000

## Education and Training

In 2000, the National Board for Respiratory Care mandated that applicants for the CRT examination have a minimum of an associate degree from a respiratory therapy education program.<sup>20</sup> The NBRC's CRT examination is accepted by all states that license respiratory therapists as evidence of competency at entry level. The impact of this change was that programs not offering an associate degree either closed or affiliated with educational institutions that awarded an associate or higher degree. Nearly all educational programs now prepare their students for advanced level practice, which makes them eligible to sit for the NBRC's Registered

Respiratory Therapist (RRT) examination. Students graduating from the very few programs that offer only the entry level education have fewer options in their career path. Many employers prefer to hire graduates from advanced level programs particularly as supervisors, managers, clinical coordinators or educators.<sup>21</sup>

The respiratory care curriculum consists of courses in human anatomy and physiology, chemistry, physics, and microbiology, as well as technical courses in procedures, equipment, and clinical applications.<sup>22</sup> Both entry level and advanced programs include laboratory and clinical components. Advanced practice programs prepare therapists to more thoroughly assess and quantify their patient's cardiopulmonary status, provide appropriate respiratory care by applying patient care protocols, and evaluate the medical and cost effectiveness of the care they provide.<sup>23</sup>

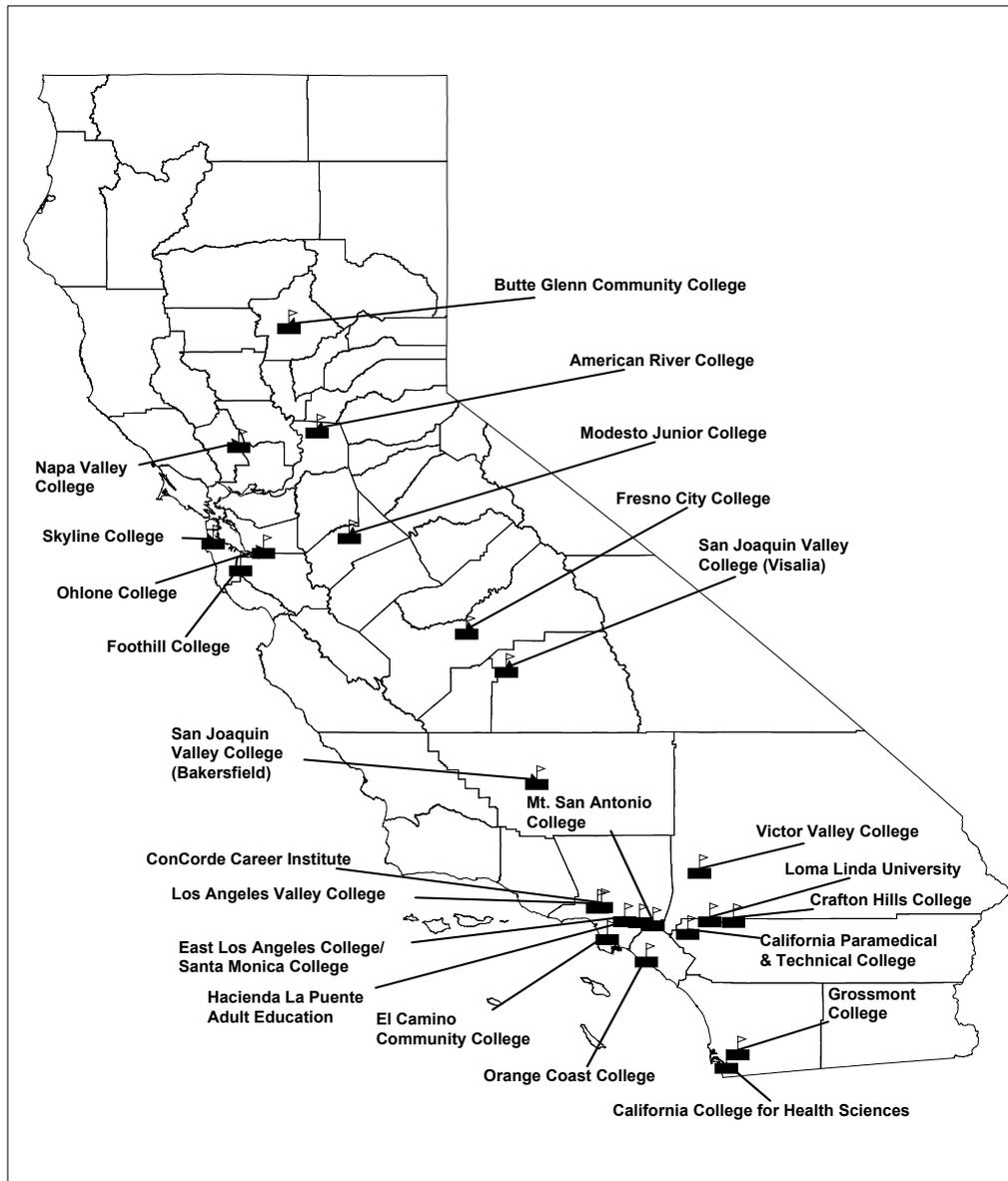
In California, two education tracks were initially developed for respiratory care practitioners: entry level and advanced level. Entry level programs were generally one year in length and were offered at private schools and community colleges.

There are twenty-three respiratory therapy programs in California at this time. Most are advanced level programs, and one offers a Bachelor's degree in Respiratory Therapy. Figure 2 displays the location of the programs in California. Most of the programs are located in Southern California and most are found in urban areas. As illustrated on the map, potential students in rural areas, and the Northern and Eastern regions of the state, have little access to local training programs.

## Licensure and Certification

Certification is a designation of professional status used in many health professions. It verifies that a person has the necessary expertise to perform the functions of their profession, and is granted to individuals who have passed an exam in a particular specialization, after satisfying certain educational and training prerequisites for examination in that field. Licensure is a designation of legal status, which permits licensees to practice their profession in a given state.

**Figure 2. Accredited Respiratory Therapy Programs in California:<sup>24</sup>**



Up until the 1970s most states, including California, did not regulate respiratory care practitioners. On the job training was the standard practice (and still is in some states) and graduation from a respiratory care educational program was not required for practice. In the 1980s the AARC began to concern itself with protecting the practice of respiratory care through licensing and certification after the field faced some right-to-practice challenges.<sup>25</sup> As of today, forty-three

states plus the District of Columbia and Puerto Rico require licensure, one state requires registration, one requires certification, and five do not currently require licensure, certification, or registration.<sup>26</sup>

The National Board for Respiratory Care (NBRC) was established in 1960 to evaluate the professional competence of respiratory care practitioners. It administers the Certified Respiratory Therapist Credentialing Examination,

and the Registered Respiratory Therapist Credentialing Examination.

- The Certification Examination is a written exam that covers three areas of knowledge: clinical data, equipment, and therapeutic procedures.
- The Registry Examination consists of two components: a written exam covering the application and analysis of clinical data, equipment, and therapeutic procedures, and a four-hour clinical simulation component, which consists of eleven patient management problems.<sup>27</sup>

Respiratory care practitioners who wish to pursue further specialized NBRC credentialing which may make them more attractive to potential employers can become Perinatal/Pediatric Respiratory Care Specialists, Certified Pulmonary Function Technologists, and Registered Pulmonary Function Technologists.<sup>28</sup>

In California, with the 1985 passage of the Respiratory Care Act, the California Respiratory Care Board was established with a mandate to protect consumers from unauthorized respiratory care and to license respiratory care practitioners.<sup>29</sup> The Respiratory Care Board selected the NBRC Certification Exam as its prerequisite for licensure. Applicants for licensure in California must be graduates of an accredited program and pass the exam and a criminal background check. Applicants who possess a license or certification from another state must have verification sent to the Respiratory Care Board. Foreign-trained applicants must have the Academic Credentials Evaluation Institute evaluate their institution and submit a transcript for evaluation to the Respiratory Care Board. Following licensure, every RCP must complete fifteen hours of continuing education to renew his or her license every two years.<sup>30</sup>

## **Critical Issues and Policy Concerns**

### ***Workforce Shortage***

The shortage of respiratory care practitioners is a critical issue in the healthcare workforce. Although the overall number of RCPs is not large,

the need for additional RCPs is as critical as it is for other health professions experiencing shortages.<sup>31</sup> Even before accounting for an increase in future need, there is currently a gap between the number of program graduates and open positions. The total projected national vacancies for RCPs in 2000 were 6,510,<sup>32</sup> and there were 5,572 graduates from accredited programs, according to the Committee on Accreditation for Respiratory Care (CoARC). Although the numbers for California are not available, experts in the field indicated that the number of program graduates is not sufficient to meet the number of vacant positions. One large metropolitan community in Southern California recently had 11 program graduates and 40 open positions.<sup>33</sup>

### ***Impact of the Shortage***

The impact of the shortage of RCPs is very similar to the impact of the shortage of nurses and other allied health professionals. Existing staff are stretched and stressed by providing care to a greater number of patients. Because RCPs are a crucial component of critical care teams, they have been taught to “triage” and treat the most critically ill patients first. Thus patients undergoing more routine respiratory therapy may, at times, experience longer wait times for their treatment. The use of overtime and temporary staff increases costs to the facility. Sign-on bonuses and recruitment packages merely redistribute the existing workforce and add cost as well. In the past there have been attempts to use substitute providers, particularly nurses, for respiratory care services. However, nurses receive little training in the delivery of respiratory therapy, and with the nursing shortage, this is not a viable option to address the shortage of RCPs.

### ***Challenges in Recruitment***

Interviews with experts suggest that the lack of public recognition of the respiratory care profession, pay scales that are lower than those for nurses and other allied health professionals, and competing opportunities for students all contribute to the difficulty in recruiting new students to the respiratory care profession. In the past few years, many educational program slots in California have remained unfilled. Although the economic

downturn seems to have increased enrollment in respiratory therapy programs, it is not clear whether this trend will continue.

### ***Reimbursement***

Currently Medicare does not reimburse for RCPs to provide respiratory therapy in home care despite the high percentage of home care patients that have respiratory system diagnoses.<sup>34</sup> The profession, with support from physicians and other organizations,<sup>35</sup> wants Medicare to recognize and reimburse RCPs as home care providers. They argue that this will enhance the quality of respiratory care services delivered in the home as well as reduce the use of unlicensed personnel in operating respiratory therapy equipment. Reimbursing RCPs in private homes may also be more cost-effective. As one researcher asserted, “the savings realized by reducing an acute hospital stay by one day can easily cover the costs of providing respiratory home care for 4 to 6 weeks.”<sup>36</sup>

### **Solutions**

#### ***Increase Public Recognition of the Profession***

The respiratory care profession needs to do more to increase the visibility of the profession and provide information to prospective students describing the profession, its educational path, and career opportunities for RCPs. Respiratory therapy programs often compete with other allied health careers and may have fewer private and public resources than other professions, such as nursing, to conduct the continuous outreach efforts necessary to recruit students. Suggestions for increasing visibility within the profession include more media coverage of the role of the RCP and more direct recruiting of students who are interested in allied health but undecided on a particular profession.

#### ***Use of Protocols***

The respiratory care profession is moving toward a greater use of protocols for providing care. Protocols are a preauthorization for care or a set of standardized procedures.<sup>37</sup> Surveys conducted by AARC indicate that 60% of hospitals use protocols in at least one or two areas of care.<sup>38</sup> A

survey of U.S. hospitals indicates that 51% use protocols to some extent.<sup>39</sup>

Protocols allow RCPs to become more involved in planning and decision-making in patient care. With protocols, the RCP is directed to evaluate and plan care for a patient with a particular respiratory illness or condition or follow pre-set procedures such as in the emergency admission of asthmatic patients. The use of protocols can improve the timeliness of care and patient outcomes.<sup>40</sup> Protocols allow the intensity of respiratory care services to be increased or decreased, without delay, according to the patient’s changing acuity. This helps avoid unnecessary therapy and allows more intense therapy to be instituted before the patient’s condition deteriorates further.<sup>41</sup> RCPs in hospitals with extensive use of protocols report greater levels of job satisfaction due to a sense that their skills and knowledge are being fully utilized.<sup>42</sup> However, some physicians and hospitals do not yet endorse the use of protocols; thus their widespread adoption may encounter significant barriers.<sup>43</sup>

#### ***Chronic Disease Case Management***

There are opportunities for RCPs to utilize their knowledge and skills in an expanded role as case managers for patients with chronic respiratory conditions such as asthma or Chronic Obstructive Pulmonary Disease (COPD).<sup>44</sup> Respiratory therapists have the knowledge and preparation to educate patients, interface with other providers, and manage care in various outpatient settings. At one Kaiser Permanente facility, the use of a respiratory care case management program resulted in a significant decrease in hospital days for asthma, COPD, respiratory infections, and pneumonia.<sup>45</sup> In addition, other expanded role opportunities are in smoking cessation programs and in smoking prevention education for middle and high school students.<sup>46</sup>

#### ***Legislative Efforts to Invest in Training***

To remedy the gap between the growing need for respiratory therapists and the supply of qualified workers, AARC has joined its efforts with other health professional organizations to pursue federal legislation similar to recent legislation that secured

funding for nursing. The Allied Health Reinvestment Act, which will include scholarships, loans, outreach programs, and an educational program for recruitment and retention has been introduced at the national level.

## Summary

Respiratory Care Practitioners are an important component of California's health care workforce. They play a critical and unique role on the health care team. The profession is not well understood or highly visible to the public even though RCPs are very involved with direct patient care. There is a current shortage of RCPs that must be addressed. Projections indicate an even greater need for additional RCPs within the next decade and beyond. The visibility and attractiveness of the profession may be enhanced as it moves toward more advanced practice and patient management in acute care, emergent care, and in the management of chronic cardio-pulmonary and respiratory conditions.

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The California HealthCare Foundation, based in Oakland, is an independent philanthropy committed to improving California's health care delivery and financing systems. Formed in 1996, its goal is to ensure that all Californians have access to affordable, quality health care. For more information, visit us online at [www.chcf.org](http://www.chcf.org).



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The California Endowment, a private, statewide health foundation, was established to expand access to affordable, quality health care for underserved individuals and their communities. The Endowment provides grants to organizations and institutions that directly benefit the health and well-being of the people of California.



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