**Interventional Pulmonology**

**Labor Market Information Report**

Prepared by the San Francisco Bay Center of Excellence

December 2017

# Recommendation

Based on all available data included in this report, it is recommended that Foothill College pursue this proposed new program in Interventional Pulmonology. Since the proposed new program will be targeting incumbent respiratory therapists and since the coursework will be online, the demand could be as high as 17,000 workers, which is the number of currently employed respiratory therapists in the state. The Bay region currently has 3,440 respiratory therapists who would be the pool of potential students for this program in the region.

This report also provides student outcomes data on employment and earnings for the TOP code 1210.00 -Respiratory Care/Therapy. It is recommended that this data be reviewed to better understand how student outcomes for these programs compare to student outcomes in the Bay region for all programs and the state on TOP Code 1210.00.

# Introduction

Interventional Pulmonology is a new field. Foothill College has piloted advanced training for Respiratory Therapists to teach these advanced interventional pulmonology skills with 30 students in the pilot who are incumbent workers from multiple hospitals. The proposed new certificate program will be an 18 unit, 9 month long on-line training with a clinical placement.

This report profiles Respiratory Therapists, who could advance in their career by acquiring Interventional Pulmonology skills. The report is for the 12 county Bay Region and the state, for a proposed new online training program.

* **Respiratory Therapists (SOC 29-1126)**: Assess, treat, and care for patients with breathing disorders. Assume primary responsibility for all respiratory care modalities, including the supervision of respiratory therapy technicians. Initiate and conduct therapeutic procedures; maintain patient records; and select, assemble, check, and operate equipment.

*Entry-Level Educational Requirement:* *Associate Degree*

*Training Requirement:* *None*

*Percentage of Community College Award Holders or Some Postsecondary Coursework:* 65%

# Occupational Demand

### Job Postings in California and Bay Region

**Table 1. Employment Outlook for Respiratory Therapists in the State and Bay Region**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Occupation |  | 2016 Jobs | 2021 Jobs | 5-Yr Change | 5-Yr % Change | 5-year Openings | Annual Openings | 10% Hrly Wage | Median Hrly Wage |
| Respiratory Therapists | State | 17,007 | 18,260 | 1,253 | 7% | 4,024 | 5,329 | 1,066 | $26.82 |
| Bay  | 3,440 | 3,655 | 215 | 6% | 811 | 1,067 | 213 | $31.26 |

*Source: EMSI 2017.4***Bay Region** includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 2. Number of Job Postings for Respiratory Therapists for latest 12 months (Nov. 2016 – Oct. 2017)**

|  |  |  |
| --- | --- | --- |
| Occupation | State | Bay Region |
| Respiratory Therapists | 1,778 | 535 |

*Source: Burning Glass*

**Bay Region** includes Alameda, Contra Costa, Marin, Monterey, Napa, San Benito, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano and Sonoma Counties

**Table 3. Top Job Titles for Respiratory Therapists (29-1126) for latest 12 months (Nov. 2016 – Oct. 2017)**

|  |  |  |
| --- | --- | --- |
| Common Title | State | Bay Region |
| Respiratory Therapist | 1,033 | 326 |
| Respiratory Care Practitioner | 422 | 101 |

*Source: Burning Glass*

# Industry Concentration

**Table 4. Industries Posting Jobs for Respiratory Therapists in the State (Dec 2016 – Nov 2017)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Industry – 3 Digit NAICS (No. American Industry Classification) Codes | Jobs in Industry (2016) | Jobs in Industry (2021) | % Change (2016-21) | % in Industry (2016) |
| Hospitals (622) | 10,632 | 10,957 | 3% | 62.2% |
| Local Government (903) | 1,975 | 2,065 | 5% | 11.6% |
| Ambulatory Health Care Services (621) | 1,443 | 1,849 | 28% | 8.7% |
| Nursing and Residential Care Facilities (623) | 1,228 | 1,437 | 17% | 7.3% |
| State Government (902) | 785 | 926 | 18% | 4.7% |
| Health and Personal Care Stores (446) | 276 | 311 | 13% | 1.6% |
| Rental and Leasing Services (532) | 240 | 241 | 0% | 1.4% |

*Source: Burning Glass;*

**Table 5. Top Employers Posting Jobs for Respiratory Therapists in State and Bay Region for latest 12 months (Nov. 2016 – Oct. 2017)**

|  |  |  |  |
| --- | --- | --- | --- |
| Employer | State | Employer | Bay Region |
| Dignity Health | 177 | Dignity Health | 84 |
| Kaiser Permanente | 83 | Kaiser Permanente | 52 |
| Providence Health & Services | 62 | Lucile Packard Childrens Hospital | 28 |
| St Joseph Health System | 50 | Medtravelers | 21 |
| Apria | 45 | Sutter Health | 16 |
| The Hospitals Of Providence | 45 | Uc San Diego | 14 |
| Sutter Health | 38 | Hospital Corporation of America | 13 |
| Medtravelers | 36 | Good Samaritan Hospital | 11 |
| Scripps Health | 30 | Stanford Health Care | 11 |
| Genesis Healthcare Corporation | 28 | Apria | 8 |
| Lucile Packard Childrens Hospital | 28 | Sutter Medical Center | 8 |

*Source: Burning Glass*

# Educational Supply

In the Bay region there are five community colleges with Respiratory Care/Therapy programs, issuing 87 awards annually on TOP 1210.00. Across the state, there are a total of 20 colleges issuing Associate Degrees on TOP 1210.00 (5 colleges in the Bay Region, 2 in the Central Region, 2 in the Inland Empire, 7 in Los Angeles/Orange counties, 2 in North/Far North, 1 in the San Diego/Imperial region and 1 in the South Central region).

**Table 6. Programs in the Bay Region on TOP 1210.00 - Respiratory Care/Therapy**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| College | Sub-Region | CC Headcount | Associate Degrees | Certificates or Other Credit Awards | Total Awards |
| Foothill | Silicon Valley | 157 | 25 | 0 | 25 |
| Hartnell | Santa Cruz & Monterey | 24 | 9 | 0 | 9 |
| Napa | North Bay | 50 | 18 | 0 | 18 |
| Ohlone | East Bay | 44 | 15 | 0 | 15 |
| Skyline | Mid-Peninsula | 50 | 20 | 0 | 20 |
| **Total in Bay Region** | **325** | **87** | **0** | **87** |
| **Total State** | **1,960** | **354** | **76** | **430** |

# *Source: Data Mart and Launchboard*

NOTE: Headcount of students who took one or more courses is for 2015-16. Associate degrees and Certificates for Community Colleges is the annual average for 2014-17.

# Student Outcomes

Student Outcomes data from Launchboard is available for students who took courses on TOP Code 1210.00 -Respiratory Care/Therapy across the state

* Students who took courses on TOP 1210.00 - Respiratory Care/Therapy at Foothill College are attaining a lower rate of employment but higher wages, wage gains and percentage of students earning a living wage than those who took courses at other Bay region colleges on the same TOP code.
* For all four outcomes metrics considered, students who took courses at Bay region colleges are doing better than the state median for those students who took courses on TOP code 1210.00.

**Table 8. Four Employment Outcomes Metrics for Students Who Took Courses on TOP 1201.00 - Respiratory Care/Therapy**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  **TOP06 1210.00 Respiratory Care/Therapy** | **Bay Region (All Programs)** | **State 1210.00** | **Bay Region 1210.00** | **Foothill1210.00** | **Top College in Bay Region on 1210.00 Respiratory Care/Therapy** |
| % Employed Four Quarters After Exit | 68% | 82% | 86% | 79% | Ohlone | 95% |
| Median Earnings Two Quarters After Exit | $12,640 | $10,666 | $14,659 | $21,353 | Foothill | $21,353 |
| Median % Change in Earnings | 37% | 93% | 110% | 147% | American River | 351% |
| % of Students Earning a Living Wage | 51% | 69% | 81% | 86% | Modesto | 95% |

*Source: Launchboard*

# Skill & Certifications

Tables 7a (State) and 7b (Bay region) provides the top skills and certifications that appear to be frequently listed in job advertisements for Respiratory Therapists over the latest 12-month period.

**Table 7a. Top Skills & Certifications for Respiratory Therapists in the State (Dec 2016 - Nov 2017)**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** |
| Respiratory Therapy | 1,259 | Treatment Planning | 242 | Pediatrics | 173 |
| Advanced Cardiac Life Support (ACLS) | 527 | Therapeutic Procedures | 241 | Inspection | 167 |
| Cardiopulmonary Resuscitation | 505 | Clinical Experience | 217 | Cleaning | 147 |
| Patient Care | 496 | Respiratory Care Procedures | 211 | Repair | 141 |
| Therapy | 483 | Rehabilitation | 210 | Scheduling | 130 |
| Ventilation | 398 | Spirometry | 209 | Bronchoscopy | 120 |
| Critical Care | 328 | Electrocardiogram (EKG / ECG) | 208 | Care Plans | 110 |
| Acute Care | 309 | Life Support | 193 | Data Entry | 105 |
| Neonatal Intensive Care Unit (NICU) | 258 | Patient Treatment | 179 | Mechanical Ventilators | 97 |
| Pulmonary Function | 257 | Patient/Family Educ. & Instruction | 173 | Neonatal Resuscitation | 97 |

*Source: Burning Glass*

**Table 7b. Top Skills & Certifications for Respiratory Therapists in the Bay Region (Dec 2016 - Nov 2017)**

|  |  |  |  |
| --- | --- | --- | --- |
| **Skill** | **Latest 12 Mos. Postings** | **Skill** | **Latest 12 Mos. Postings** |
| Respiratory Therapy | 366 | Critical Care | 95 |
| Advanced Cardiac Life Support (ACLS) | 171 | Pulmonary Function | 95 |
| Patient Care | 168 | Therapeutic Procedures | 93 |
| Ventilation | 163 | Rehabilitation | 92 |
| Cardiopulmonary Resuscitation (CPR) | 157 | Treatment Planning | 91 |
| Therapy | 149 | Life Support | 87 |
| Electrocardiogram (EKG / ECG) | 110 | Cleaning | 76 |
| Clinical Experience | 96 | Patient/Family Educ. & Instruction | 73 |

*Source: Burning Glass*

**Table 8. Education Requirements in the State and in the Bay Region (Dec 2016 – Nov 2017)**

Note: 77% of records have been excluded because they do not include a degree level. As a result, the chart below may not be representative of the full sample.

|  |  |  |
| --- | --- | --- |
| **Education (minimum advertised)** | **State** | **Bay Region** |
| High school or vocational training | 0 | 0 |
| Associate Degree | 224 | 39 |
| Bachelor’s Degree or higher | 180 | 77 |

*Source: Burning Glass*

# Methodology

Occupations for this report were identified by use of skills listed in O\*Net descriptions and job descriptions in Burning Glass. Labor demand data is sourced from Economic Modeling Specialists International (EMSI) occupation data and Burning Glass job postings data. Educational supply and student outcomes data is retrieved from multiple sources, including CTE Launchboard and CCCCO Data Mart.

# Sources

O\*Net Online

Labor Insight/Jobs (Burning Glass)

Economic Modeling Specialists International (EMSI)

CTE LaunchBoard [www.calpassplus.org/Launchboard/](http://www.calpassplus.org/Launchboard/)

Statewide CTE Outcomes Survey

Employment Development Department Unemployment Insurance Dataset

Living Insight Center for Community Economic Development

Chancellor’s Office MIS system

# Contacts

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