

## DATA SNAPSHOT: Respiratory Therapists

Identifying and analyzing available data resources is a crucial step in assessing the supply and distribution of allied health occupations, their demographic and socioeconomic characteristics, and the adequacy of the supply to meet industry and population needs. The report *Leveraging Data to Monitor the Allied Health Workforce: National Supply Estimates Using Different Data Sources*<sup>1</sup> (the background report for this Data Snapshot) compared national estimates of the supply and characteristics of nine allied health occupations using four national data sources: the American Community Survey (ACS) and the Current Population Survey (CPS), both data from the U.S. Census Bureau; the Occupational Employment Statistics (OES) from the U.S. Bureau of Labor Statistics, and the National Provider Identifier (NPI) Registry from the Centers for Medicare and Medicaid Services' National Plan and Provider Enumeration System. Using the most recent comparable data available from these sources, this Data Snapshot summarizes the national supply size and demographic, educational attainment, and employment information for respiratory therapists.

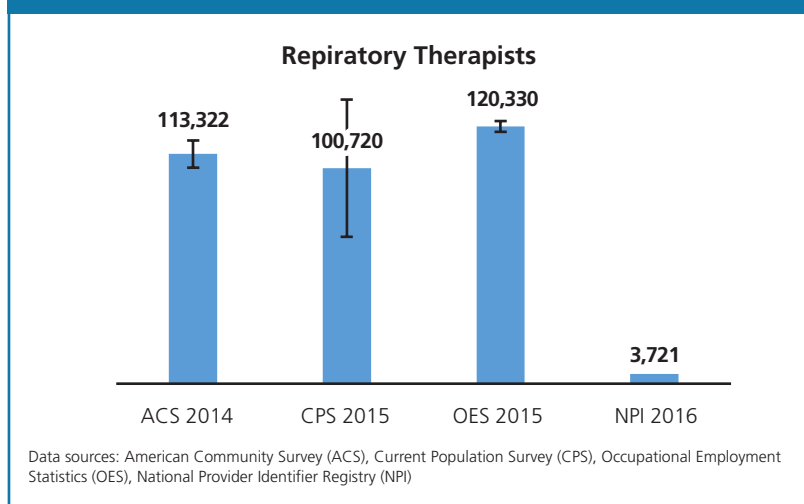
**Who are respiratory therapists?** Respiratory therapists work with individuals that have breathing problems that may be associated with chronic respiratory diseases such as asthma, chronic obstructive pulmonary disease (COPD), or pneumonia. Respiratory therapists also provide emergency care and services to individuals undergoing heart attack or shock. States except Alaska require respiratory therapists to be licensed.<sup>2</sup>

**How are respiratory therapists identified across data sources?** Respiratory therapists, in the ACS and CPS datasets, are identified by the four-digit SOC code, 3220, and in the OES dataset by the occupation code 29-1126, or could be pulled directly from the OES website, data section. In the NPI

Registry, respiratory therapists are identified using the following taxonomy codes: Respiratory Therapist, Certified - 227800000X, Critical Care - 2278C0205X, Educational - 2278E1000X, Emergency Care - 2278E0002X, General Care - 2278G1100X, Geriatric Care - 2278G0305X, Home Health - 2278H0200X, Neonatal/Pediatrics - 2278P3900X, Palliative/Hospice - 2278P3800X, Patient Transport - 2278P4000X, Pulmonary Diagnostics - 2278P1004X, Pulmonary Function Technologist - 2278P1006X, Pulmonary Rehabilitation - 2278P1005X, SNF/Subacute Care - 2278S1500X, Respiratory Therapist, Registered - 227900000X, Critical Care - 2279C0205X, Educational - 2279E1000X, Emergency Care - 2279E0002X, General Care - 2279G1100X, Geriatric Care - 2279G0305X, Home Health - 2279H0200X, Neonatal/Pediatrics - 2279P3900X, Palliative/Hospice - 2279P3800X, Patient Transport - 2279P4000X, Pulmonary Diagnostics - 2279P1004X, Pulmonary Function Technologist - 2279P1006X, Pulmonary Rehabilitation - 2279P1005X, SNF/Subacute Care - 2279S1500X.

**National estimates of respiratory therapists across data sources:** Data to estimate the supply of respiratory therapists were available in the ACS, CPS, OES, and NPPES NPI Registry. Demographic and socioeconomic data were available in ACS and CPS data, and the OES had salary data. The NPI Registry had information only on the sex of the providers. The figure shows the supply estimate of respiratory therapists from the OES was 120,330 ( $\pm 2,377$ ), from the ACS was 113,322 ( $\pm 8,695$ ), and from the CPS was 100,720 ( $\pm 31,535$ ), and from the NPI Registry was only 3,721. Because the NPI Registry represents the entire population of providers in the Registry, margins of error are not relevant. As described in the background report, lower supply estimates from the NPI Registry are to

**Estimated national supply of respiratory therapists from the ACS, OES, CPS, and NPI data sources**



be expected because they represent the providers who obtain NPIs for billing or information exchange purposes.

**Demographic and socioeconomic characteristics:** The table provides information on the demographic and socioeconomic characteristics of respiratory therapists from the ACS, CPS and OES data sources. The mean age of respiratory therapists was in the range 43.1 to 46.0 years, with a slightly older estimate from the CPS. The proportions of respiratory therapists who were women were similar in the ACS (64.0%) and the CPS (65.0%) data sources. About 56% of respiratory therapists were female in the NPI Registry (results not shown in the table). Among racial/ethnic groups, about two thirds of respiratory therapists were White, not-Hispanic (62.5 to 67.3%), and 12.5% (ACS) to 19.5% (CPS) were Black, not Hispanic. The majority of respiratory therapists were reported to be married compared, although the estimates from the ACS were higher compared to those from the CPS. About a quarter of respiratory therapists reported attaining a bachelor's degree, while about two thirds (64.5% to 66.0%) reported having attended but not completed college. The estimate for mean annual earnings, adjusted to 2015 U.S. dollars, was lowest in ACS (\$58,108) and highest in CPS (\$60,322). The mean hours worked per week was similar between the ACS and the CPS: 36.7 and 37.9 hours, respectively. Similar proportions of respiratory therapists reported working full-time in both data sources (90.1% in ACS and 90.8% in CPS).

## Demographic and socioeconomic characteristics of respiratory therapists

	ACS 2014	CPS 2015	OES 2015
Age (mean years)	43.1	46.0	--
Female	64.0%	65.0%	--
<b>Race/Ethnicity</b>			
White, not Hispanic	67.3%	62.5%	--
Black, not Hispanic	12.5%	19.5%	--
Other, not Hispanic	11.7%	9.3%	--
Hispanic	8.5%	8.7%	--
<b>Marital Status</b>			
Married	65.1%	59.0%	--
Divorce/Separated/Widowed	15.7%	28.5%	--
Single	19.2%	12.5%	--
<b>Educational Attainment</b>			
High school or less	2.8%	5.9%	--
Some college	64.5%	66.0%	--
Bachelor's degree	26.7%	25.1%	--
Master's degree or more	6.0%	3.1%	--
<b>Employment</b>			
Annual earning (mean)*	\$58,108	\$60,322	\$59,640
Usual hours worked per week (mean)	36.7	37.9	--
Full-time workers**	90.1%	90.8%	--

\* ACS 2014 earnings were adjusted to 2015 real dollar values based on the Consumer Price Index. ACS and CPS wage and salary earnings include reported income from all sources. OES wage earnings are annualized to represent a full-time average wage.

\*\*Full-time indicates 32 or more weekly work hours.

Data sources: American Community Survey (ACS), Current Population Survey (CPS), Occupational Employment Statistics (OES)

## REFERENCES:

1. Skillman SM, Dahal A, Frogner BK, Stubbs BA. Leveraging Data to Monitor the Allied Health Workforce: National Supply Estimates Using Different Data Sources. Center for Health Workforce Studies, University of Washington, Dec 2016.
2. Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition, Respiratory Therapists*. <http://www.bls.gov/ooh/healthcare/respiratory-therapists.htm> Accessed October 31, 2016.

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## SUGGESTED CITATION

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