

What can large public surveys tell us about the dementia care workforce?

A brief review of health workforce data sources

AWARD Network
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Objectives

- To identify data sources that capture counts and characteristics of the US health workforce.
- To understand the limitations of existing data sources in connecting health workforce to dementia or Alzheimer's care.
- To inspire ideas on how to leverage existing data sources to examine the health workforce caring for patients living with dementia or Alzheimer's.

Starting Points to Consider

- We often rely on data not specific to the health workforce
- To date, we rely on workforce data not specific to dementia care, but rather data that are organized by specific settings or specific segments of the workforce
- Workforce caring for people living with dementia (PLWD) is broad and not well-defined
 - Long-term services and supports plays a key role
- Unpaid caregivers providing support for PLWD are often not captured in workforce data
- Data connecting worker characteristics to patient outcomes is hard to come by, but increasingly improving

Many public survey sources with workforce data

Repeated cross-sectional surveys

- [American Community Survey \(ACS\)](#)
- [National Health Care Surveys](#)
 - [National Post-Acute and Long-Term Care Study \(NPALS\)](#)
 - Formerly National Study of Long-Term Care Providers (NSLTCP)
 - Others: National Ambulatory Medical Care Survey (NAMCS) National Hospital Ambulatory Medical Care Survey (NHAMCS)
- [National Sample Survey of Registered Nurses \(NSSRN\)](#)
- [Occupational Employment and Wage Statistics \(OEWS\)](#)

Longitudinal/panel surveys

- [Current Population Survey \(CPS\)](#)
- [Health and Retirement Survey \(HRS\)](#)
- [Panel Survey of Income Dynamics \(PSID\)](#)
- [National Longitudinal Survey of Youth \(NLSY\)](#)
- [Survey of Income and Program Participation \(SIPP\)](#)

Other sources with workforce data

Public administrative data sources

- [National Plan and Provider Enumeration System](#)
- [CMS Provider Data Catalog](#)
 - Data from Physician Compare, for example
- [Provider of Services File](#)
- State licensure data

Private/restricted data sources

- American Medical Association Masterfile
- Health insurance claims data
- Electronic Health Record data
- Many more...

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See charts of the latest data. These are updated with each new issuance of data.

See charts of the latest data. These are updated with each new issuance of data.



Comparing of health workforce-related data available from three national data sources

	ACS	CPS	OEWS
Sample	Households	Households	Employer
Sample size	~3.5M	~60K	1.2 million
Frequency	Annual	Monthly with ASEC supplement on occ/ind; complex panel (4 mo on, 8 mo off, 4 mo on)	Bi-annual
Time lag	Approx 2 yrs	Approx 3-4 months	Approx 1.5 years
Variable examples	Demographics, self-reported health, form of transportation, occupation, industry, income (self & HH)	Demographics, occupation, industry, hours worked, hourly wages, detailed income in ASEC, insurance status	Hours, wages
Workforce codes	Census crosswalked to NAICS/SOC	Census crosswalked to NAICS/SOC	NAICS/SOC – intersection only available nationally and not at state level

BLS Occupational Codes



Standard Occupational Classification

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The 2018 Standard Occupational Classification (SOC) system is a [federal statistical standard](#) used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 867 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 459 broad occupations, 98 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties, and in some cases skills, education, and/or training, are grouped together. General questions concerning the SOC may be sent by [email](#) or faxed to 202-691-6444. To sign up to receive email notifications when the SOC webpages are updated with new information, enter your email address on the Subscriptions page under the "About SOC" tab.

Notices

- » [How often do SOC codes change? Read More](#) »
- » [How do I find my SOC code? Read More](#) »

STANDARD OCCUPATIONAL CLASSIFICATION SYSTEMS

[2018 SOC System](#) [2010 SOC System](#) [2000 SOC System](#)

Major groups

- 00-0000 [All Occupations](#)
- 11-0000 [Management Occupations](#)
- 13-0000 [Business and Financial Operations Occupations](#)
- 15-0000 [Computer and Mathematical Occupations](#)
- 17-0000 [Architecture and Engineering Occupations](#)
- 19-0000 [Life, Physical, and Social Science Occupations](#)
- 21-0000 [Community and Social Service Occupations](#)
- 23-0000 [Legal Occupations](#)
- 25-0000 [Educational Instruction and Library Occupations](#)
- 27-0000 [Arts, Design, Entertainment, Sports, and Media Occupations](#)
- 29-0000 [Healthcare Practitioners and Technical Occupations](#)
- 31-0000 [Healthcare Support Occupations](#)
- 33-0000 [Protective Service Occupations](#)
- 35-0000 [Food Preparation and Serving Related Occupations](#)
- 37-0000 [Building and Grounds Cleaning and Maintenance Occupations](#)
- 39-0000 [Personal Care and Service Occupations](#)
- 41-0000 [Sales and Related Occupations](#)
- 43-0000 [Office and Administrative Support Occupations](#)
- 45-0000 [Farming, Fishing, and Forestry Occupations](#)
- 47-0000 [Construction and Extraction Occupations](#)
- 49-0000 [Installation, Maintenance, and Repair Occupations](#)
- 51-0000 [Production Occupations](#)
- 53-0000 [Transportation and Material Moving Occupations](#)

29-0000 Healthcare Practitioners and Technical Occupations

- 29-0000 Healthcare Practitioners and Technical Occupations
 - 29-1000 Healthcare Diagnosing or Treating Practitioners
 - 29-1010 Chiropractors
 - 29-1011 Chiropractors
 - 29-1020 Dentists
 - 29-1021 Dentists, General
 - 29-1022 Oral and Maxillofacial Surgeons
 - 29-1023 Orthodontists
 - 29-1024 Prosthodontists
 - 29-1029 Dentists, All Other Specialists
 - 29-1030 Dietitians and Nutritionists
 - 29-1031 Dietitians and Nutritionists
 - 29-1040 Optometrists
 - 29-1041 Optometrists
 - 29-1050 Pharmacists
 - 29-1051 Pharmacists
 - 29-1070 Physician Assistants
 - 29-1071 Physician Assistants
 - 29-1080 Podiatrists
 - 29-1081 Podiatrists
 - 29-1120 Therapists
 - 29-1122 Occupational Therapists
 - 29-1123 Physical Therapists
 - 29-1124 Radiation Therapists
 - 29-1125 Recreational Therapists
 - 29-1126 Respiratory Therapists
 - 29-1127 Speech-Language Pathologists
 - 29-1128 Exercise Physiologists
 - 29-1129 Therapists, All Other
 - 29-1140 Registered Nurses
 - 29-1141 Registered Nurses
 - 29-1150 Nurse Anesthetists
 - 29-1151 Nurse Anesthetists
 - 29-1160 Nurse Midwives
 - 29-1161 Nurse Midwives
 - 29-1170 Nurse Practitioners
 - 29-1171 Nurse Practitioners
 - 29-1180 Audiologists
 - 29-1181 Audiologists
 - 29-1210 Physicians
 - 29-1211 Anesthesiologists
 - 29-1212 Cardiologists
 - 29-1213 Dermatologists
 - 29-1214 Emergency Medicine Physicians
 - 29-1215 Family Medicine Physicians
 - 29-1216 General Internal Medicine Physicians
 - 29-1217 Neurologists
 - 29-1218 Obstetricians and Gynecologists
 - 29-1221 Pediatricians, General
 - 29-1222 Physicians, Pathologists
 - 29-1223 Psychiatrists
 - 29-1224 Radiologists
 - 29-1229 Physicians, All Other
 - 29-1240 Surgeons
 - 29-1241 Ophthalmologists, Except Pediatric
 - 29-1242 Orthopedic Surgeons, Except Pediatric
 - 29-1243 Pediatric Surgeons
 - 29-1249 Surgeons, All Other

31-0000 Healthcare Support Occupations

- 31-0000 [Healthcare Support Occupations](#)
 - 31-1100 Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides
 - 31-1120 Home Health and Personal Care Aides
 - 31-1120 [Home Health and Personal Care Aides](#)
 - 31-1130 Nursing Assistants, Orderlies, and Psychiatric Aides
 - 31-1131 [Nursing Assistants](#)
 - 31-1132 [Orderlies](#)
 - 31-1133 [Psychiatric Aides](#)
 - 31-2000 Occupational Therapy and Physical Therapist Assistants and Aides
 - 31-2010 Occupational Therapy Assistants and Aides
 - 31-2011 [Occupational Therapy Assistants](#)
 - 31-2012 [Occupational Therapy Aides](#)
 - 31-2020 Physical Therapist Assistants and Aides
 - 31-2021 [Physical Therapist Assistants](#)
 - 31-2022 [Physical Therapist Aides](#)
 - 31-9000 Other Healthcare Support Occupations
 - 31-9010 Massage Therapists
 - 31-9011 [Massage Therapists](#)
 - 31-9090 Miscellaneous Healthcare Support Occupations
 - 31-9091 [Dental Assistants](#)
 - 31-9092 [Medical Assistants](#)
 - 31-9093 [Medical Equipment Preparers](#)
 - 31-9094 [Medical Transcriptionists](#)
 - 31-9095 [Pharmacy Aides](#)
 - 31-9096 [Veterinary Assistants and Laboratory Animal Caretakers](#)
 - 31-9097 [Phlebotomists](#)
 - 31-9099 [Healthcare Support Workers, All Other](#)

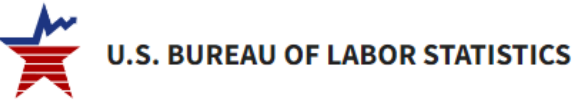
BLS Industry Codes

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Bureau of Labor Statistics

North American Industry Classification System (NAICS) at BLS

- [Implementation Schedule for 2022 NAICS at BLS](#)
- [Industries at a Glance](#)
- [Industry Finder](#)
- [SIC Search](#)
- [BLS NAICS Background Papers](#)

Background

For over 60 years, the Standard Industrial Classification (SIC) system served as the structure for the collection, presentation, and analysis of the U.S. economy. An industry consists of a group of establishments primarily engaged in producing or handling the same product or group of products or in rendering the same services. The SIC system was developed in the 1930s at a time when manufacturing dominated the U.S. economic scene. Over the years, there were numerous revisions to the SIC system, reflecting the economy's changing industrial composition. Despite these revisions, the system received increasing criticism about its ability to handle rapid changes in the U.S. economy. Developments in information services, new forms of health care provision, expansion of services, and high-tech manufacturing are examples of industrial changes that could not be studied under the SIC system.

Introducing NAICS

Developed in cooperation with Canada and Mexico, the North American Industry Classification System (NAICS) represents one of the most profound changes for statistical programs focusing on emerging economic activities. NAICS uses a production-oriented conceptual framework to group establishments into industries based on the activity in which they are primarily engaged. Establishments using similar raw material inputs, similar capital equipment, and similar labor are classified in the same industry. In other words, establishments that do similar things in similar ways are classified together. NAICS was introduced in 1997 and is periodically revised to reflect changes in the industrial structure of the U.S. and North American economy.

Source: <https://www.bls.gov/bls/naics.htm>

Service-Providing Industries

- Trade, Transportation, and Utilities
 - Wholesale Trade (NAICS 42)
 - Merchant Wholesalers, Durable Goods (NAICS 423)
 - Merchant Wholesalers, Nondurable Goods (NAICS 424)
 - Wholesale Electronic Markets and Agents and Brokers (NAICS 425)
 - Retail Trade (NAICS 44-45)
 - Motor Vehicle and Parts Dealers (NAICS 441)
 - Furniture and Home Furnishings Stores (NAICS 442)
 - Electronics and Appliance Stores (NAICS 443)
 - Building Material and Garden Equipment, Tools, and Supplies Stores (NAICS 444)
 - Food and Beverage Stores (NAICS 445)
 - Health and Personal Care Stores (NAICS 446)
 - Gasoline Stations (NAICS 447)
 - Clothing and Clothing Accessories Stores (NAICS 448)
 - Sporting Goods, Hobby, Book, and Music Stores (NAICS 449)
 - General Merchandise Stores (NAICS 451)
 - Miscellaneous Store Retailers (NAICS 452)
 - Nonstore Retailers (NAICS 454)
- Professional and Business Services
 - Professional, Scientific, and Technical Services (NAICS 54)
 - Management of Companies and Enterprises (NAICS 55)
 - Administrative and Support and Waste Management and Remediation Services (NAICS 56)
 - Administrative and Support Services (NAICS 561)
 - Waste Management and Remediation Services (NAICS 562)
- Education and Health Services
 - Educational Services (NAICS 61)
 - Health Care and Social Assistance (NAICS 62)
 - Ambulatory Health Care Services (NAICS 621)
 - Hospitals (NAICS 622)
 - Nursing and Residential Care Facilities (NAICS 623)
 - Social Assistance (NAICS 624)
- Leisure and Hospitality
 - Arts, Entertainment, and Recreation (NAICS 71)
 - Performing Arts, Spectator Sports, and Related Industries (NAICS 711)
 - Museums, Historical Sites, and Similar Institutions (NAICS 712)
 - Amusement, Gambling, and Recreation Industries (NAICS 713)
 - Accommodation and Food Services (NAICS 72)
 - Accommodation (NAICS 721)
 - Food Services and Drinking Places (NAICS 722)

The ambulatory health care services subsector consists of these industry groups:

- Offices of Physicians: NAICS 6211
- Offices of Dentists: NAICS 6212
- Offices of Other Health Practitioners: NAICS 6213
- Outpatient Care Centers: NAICS 6214
- Medical and Diagnostic Laboratories: NAICS 6215
- Home Health Care Services: NAICS 6216
- Other Ambulatory Health Care Services: NAICS 6219

The hospitals subsector consists of these industry groups:

- General Medical and Surgical Hospitals: NAICS 6221
- Psychiatric and Substance Abuse Hospitals: NAICS 6222
- Specialty (except Psychiatric and Substance Abuse) Hospitals: NAICS 6223

The nursing and residential care facilities subsector consists of these industry groups:

- Nursing Care Facilities: NAICS 6231
- Residential Mental Retardation, Mental Health and Substance Abuse Facilities: NAICS 6232
- Community Care Facilities for the Elderly: NAICS 6233
- Other Residential Care Facilities: NAICS 6239

Census Occupational & Industry Codes

An official website of the United States government [Here's how you know](#) ▾



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Within Guidance for Data Users

[Code Lists & Crosswalks](#)

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Industry and Occupation Code Lists & Crosswalks

2017 Census Industry Code Lists (Derived from the 2017 NAICS)

- [X](#) [Census 2017 Industry Code List with Crosswalk \[<1.0 MB\]](#)
- [X](#) [User's Guide to American Community Survey Published Industry](#)
- [X](#) [2018 ACS PUMS and 2018 SIPP Public Use Industry Code List \[<](#)

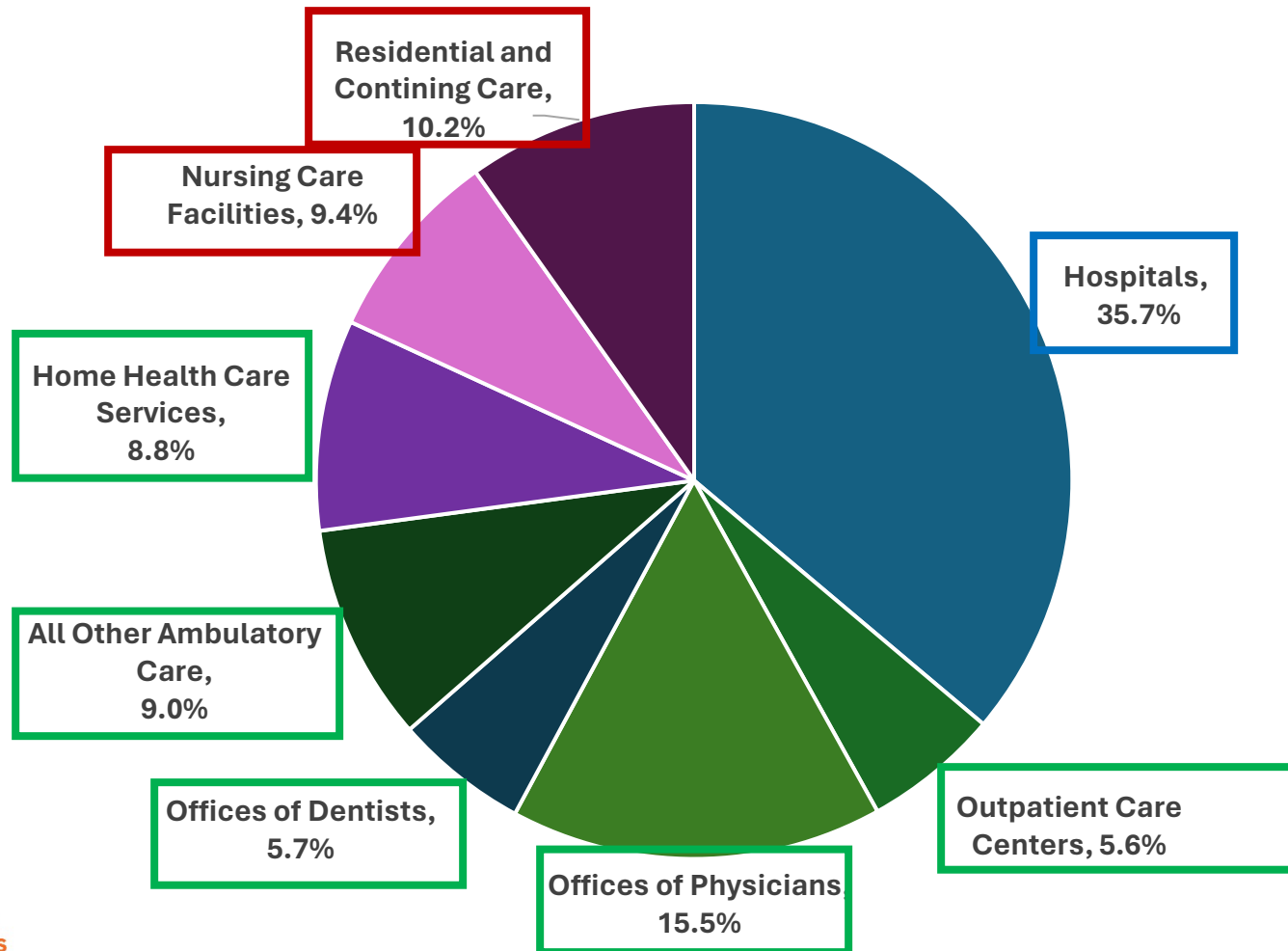
2018 Census Occupation Code Lists (Derived from the 2018 SOC)

- [X](#) [2018 Census Occupation Code List with Crosswalk \[<1.0 MB\]](#)
- [X](#) [2018 Census STEM, STEM-Related and Non-STEM related Code List \[<1.0 MB\]](#)
- [X](#) [User's Guide to American Community Survey Published Occupation Tables \[<1.0 MB\]](#)
- [X](#) [2018 ACS PUMS and 2018 SIPP Public Use Occupation Code List \[< 1.0 MB\]](#)



Source: <https://www.census.gov/topics/employment/industry-occupation/guidance/code-lists.html>

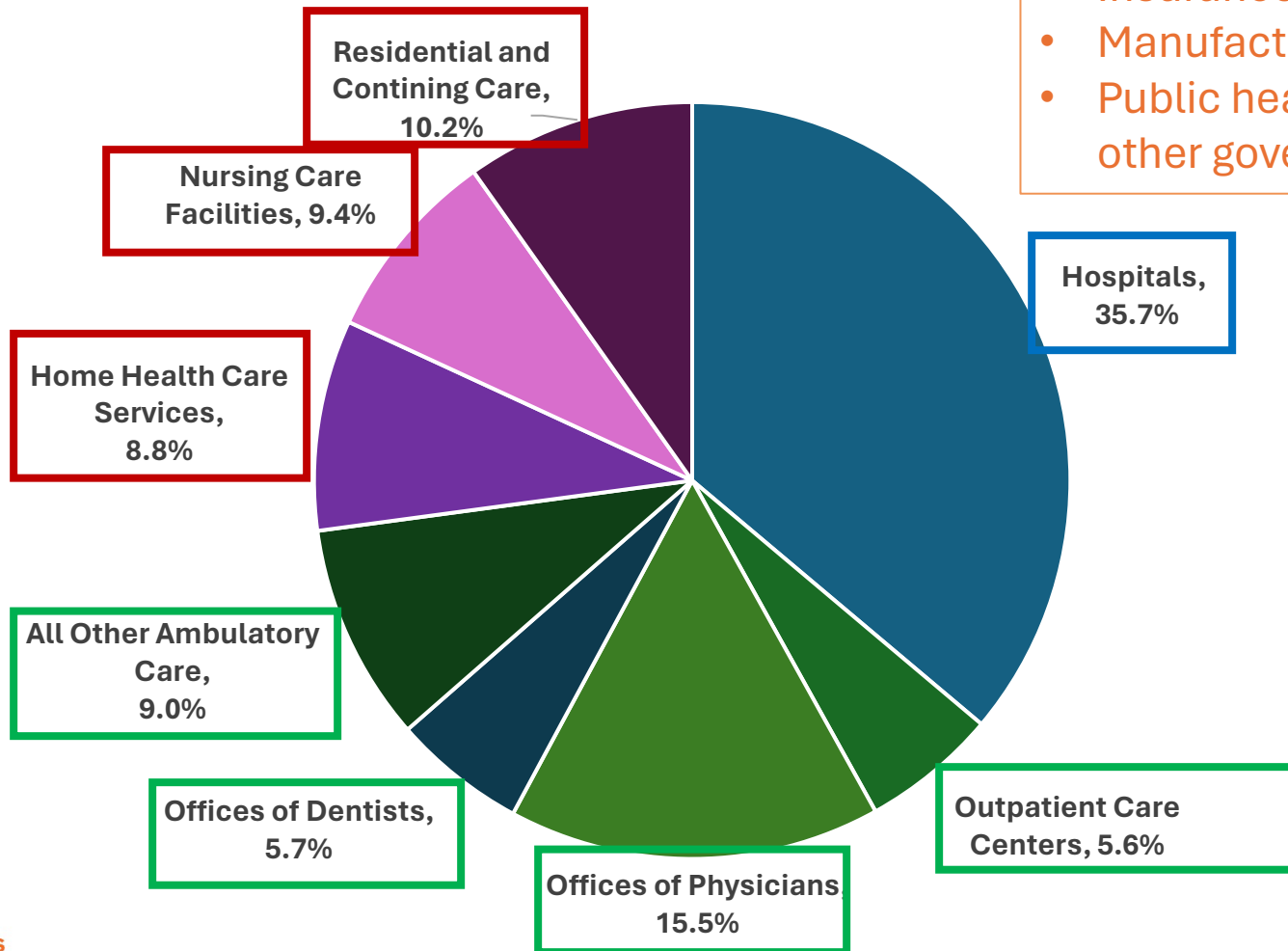
Sectors within Health Care Industry, 2022 (n=16,914,910)



Sectors within Health Care Industry, 2022

(n=16,914,910)

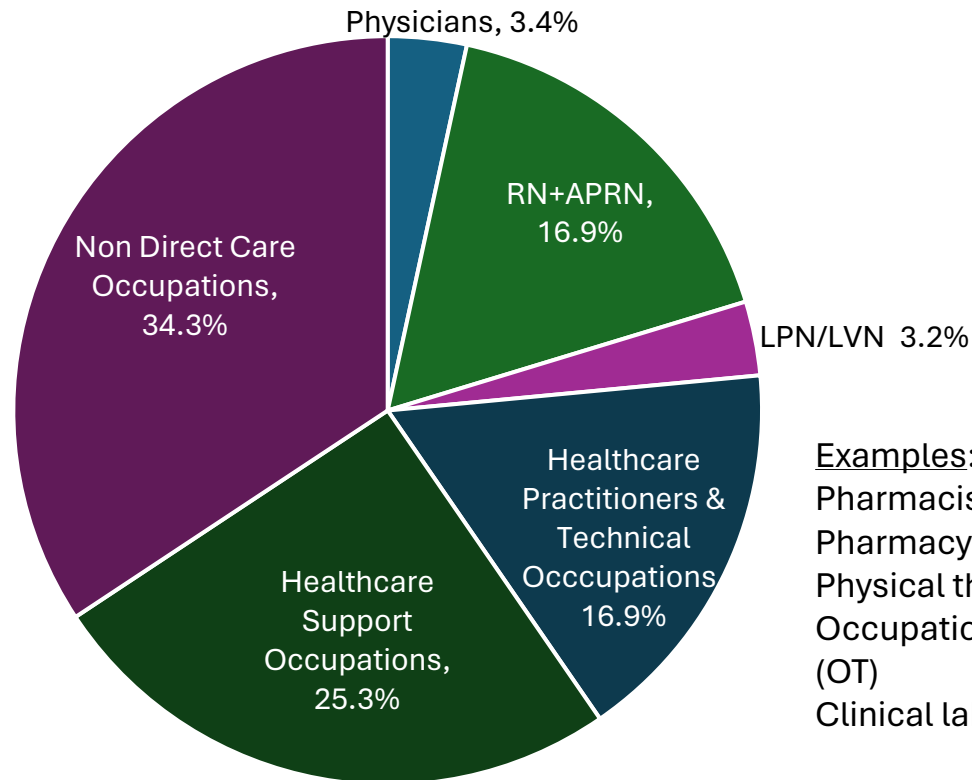
- Not captured in graph:**
- Retail pharmacies
 - Insurance companies
 - Manufacturing
 - Public health and other government



Occupations within Health Care Industry, 2022 (n=16,914,910)

Not captured in graph:

- Informal caregivers
- Workers in insurance companies
- Pharmacists & pharmacy technicians in retail settings



Examples:

Pharmacists
Pharmacy technicians
Physical therapists (PT)
Occupational therapists (OT)
Clinical lab professionals

Examples:

Nursing Assistants
Home Health Aides
Home/Personal Care Aides

Medical Assistants
Pharmacy Aides
Dental Assistants
OT/PT Assistants

Limitations to look out for

- Perspective of the survey (e.g., individual, employer, administrative)
- Type and level of detail of occupation codes
 - Accuracy in coding of occupations
- Raw versus weighted sample sizes
 - COVID had varied impact on data sources
- Geographic limitations
- Limited to no information on specific roles, tasks, or multiple occupations

Additional Readings/Links

- [Bureau of Health Workforce Resources](#)
- [Compendium of Federal Data Sources to Support Health Workforce Analysis](#)
- [Leveraging Data to Monitor the Allied Health Workforce: Building a Database for Studies of Workforce Size, Distribution and Availability](#)
- [Leveraging Data to Monitor the Allied Health Workforce: State Supply Estimates](#)
 - Interactive [workforce dashboards](#)
- [Direct Care Workforce Data Compendium](#) *COMING SOON ON AWARD NETWORK WEBSITE*



Thank You!

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