Inventory of State Health Workforce Data Collection

HWTAC
Health Workforce Technical Assistance Center

Center for Health Workforce Studies
School of Public Health
University at Albany, State University of New York

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September 2019

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PREFACE

This report was prepared by the Health Workforce Technical Assistance Center (HWTAC) staff, including Morgan Clifford and David Armstrong, with layout design by Matthew Allegretti.

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Health Workforce Technical Assistance Center

BACKGROUND

The Health Workforce Technical Assistance Center (HWTAC), under a cooperative agreement with the National Center for Health Workforce Analysis (NCHWA), provides technical assistance to states and organizations engaged in health workforce planning. In the last decade, there has been growing interest in developing health workforce data collection and monitoring systems in states. This is especially the case today, as health reform initiatives are implemented in nearly every state. An ongoing project of HWTAC is to conduct a survey of states to learn more about their health workforce data collection and analysis efforts. This report describes findings to date from a survey of states about data collection on health workforce supply and demand, as well as the educational pipeline. For more detailed information about health workforce data collection activities taking place around the country, including contact information for the organizations responsible for collecting the data, please visit the Health Workforce Data Collection Inventory (http://www.healthworkforceta.org/resources/state-health-workforce-data-collection-inventory/).

METHODS

An online survey about health workforce data collection in US states was developed in the fall of 2014 and pilot tested in early 2015. Invitations to complete the online survey were sent to all primary care offices, state nursing workforce centers, and other groups believed to be engaged in health workforce data collection. HWTAC staff followed up with non-respondents. The survey is ongoing and the state inventory is continually being updated as more responses are received.

FINDINGS

Since the survey was launched, 49 organizations in 36 states have responded, indicating that they collect health workforce data. This number is expected to grow as organizations continue to respond to the survey. All responding organizations reported collecting health workforce supply data (eg, demographic, educational, and practice characteristics of health professionals). Fewer organizations reported collecting data on health workforce demand (eg, employer recruitment and retention difficulties) or the health workforce educational pipeline (eg, graduation rates and trainee/graduate characteristics). This report summarizes key findings from the survey related to data collection efforts in these 3 areas.

Health Workforce Supply Data

Organizations in 36 states collect health workforce supply data.

Figure 1. States Where Health Workforce Supply Data Collection Has Been Reported
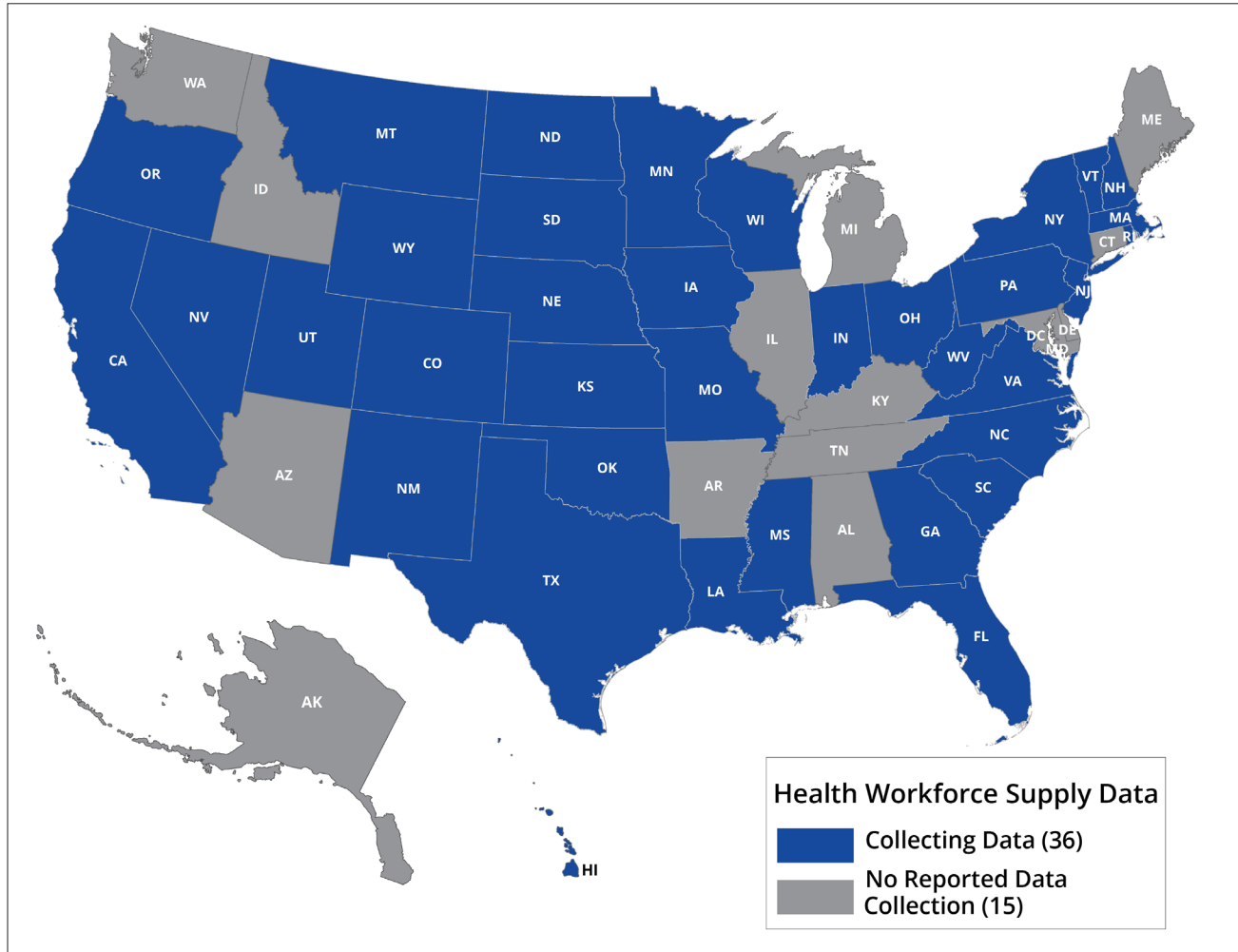
State-level health workforce supply data collection are most likely to target physicians (32 states), nurse practitioners (NPs) (27 states), registered nurses (RNs) (26 states), and dentists (26 states).

Table 1. Health Workforce Supply Data Collection by State and Profession

| State	CRNA	DEN	DH	LPN	MDW	NP	PA	PHA	PHY	PSY	PT	RN	SW	OTH
California			✓		✓	✓			✓			✓		
Colorado	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
Florida	✓			✓	✓	✓						✓		
Georgia							✓		✓					
Hawaii	✓			✓	✓	✓	✓		✓			✓		✓
Indiana	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Iowa	✓	✓			✓		✓	✓	✓					
Kansas		✓			✓	✓	✓		✓					
Louisiana	✓				✓	✓						✓		
Massachusetts	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓		
Minnesota	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mississippi	✓	✓	✓	✓	✓	✓	✓		✓			✓		
Missouri		✓				✓			✓					
Montana		✓							✓	✓			✓	
Nebraska	✓	✓			✓	✓	✓	✓	✓	✓	✓			
Nevada		✓							✓					
New Hampshire					✓	✓	✓		✓	✓			✓	✓
New Jersey	✓			✓	✓	✓						✓		
New Mexico	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	
North Carolina		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓
North Dakota	✓			✓	✓	✓						✓		
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oklahoma		✓							✓					
Oregon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pennsylvania		✓	✓	✓			✓		✓			✓		
Rhode Island		✓	✓						✓			✓		
South Carolina	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		
South Dakota	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓		
Texas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Utah	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Vermont	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virginia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
West Virginia									✓					
Wisconsin				✓			✓		✓			✓		
Wyoming		✓	✓	✓		✓	✓		✓	✓		✓	✓	
Total	21	26	19	23	25	27	25	17	32	15	14	26	14	9

CRNA: Certified Registered Nurse Anesthetists.
DEN: Dentists.
DH: Dental Hygienists.
LPN: Licensed Practical Nurses.
MDW: Nurse Midwives/Midwives.
NP: Nurse Practitioners.
PA: Physician Assistants.

PHA: Pharmacists.
PHY: Physicians.
PSY: Psychologists.
PT: Physical Therapists.
RN: Registered Nurses.
SW: Social Workers.
OTH: Other Health Professions.

In 18 states health workforce data collection is mandatory. In 12 of those states, data collection is mandatory for all of the professions for which data are collected. In 6 states data collection is mandatory for a subset of professions for which data are collected.

Figure 2. Mandatory and Voluntary Health Workforce Supply Data Collection

- Mandatory for All Professions
- Mandatory for Some Professions
- Not Mandatory
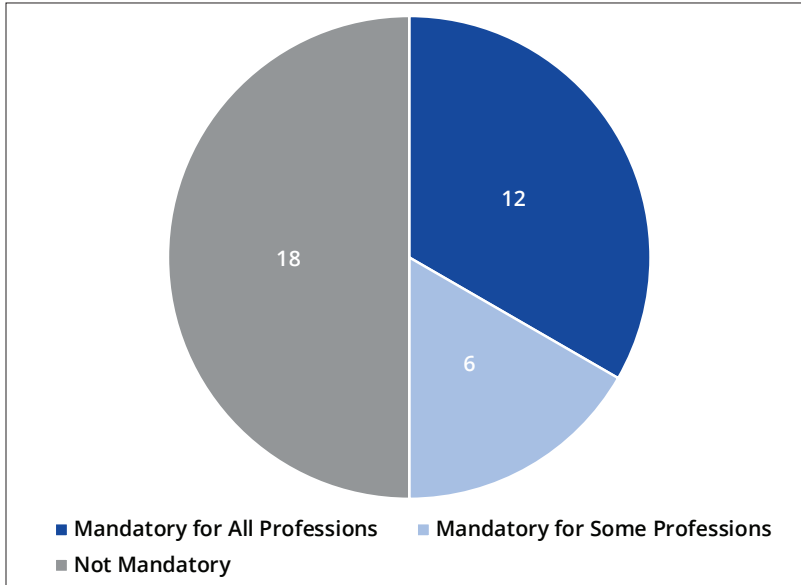
Data collection is most likely to be mandatory for the following professions: nurse practitioners (14 states), midwives (13 states), physicians (13 states), and registered nurses (13 states).

Table 2. Mandatory Health Workforce Supply Data Collection by State and Profession

State	CRNA	DEN	DH	LPN	MDW	NP	PA	PHA	PHY	PSY	PT	RN	SW
Indiana	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓
Louisianna	✓				✓	✓						✓	
Massachusetts	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Mississippi	✓	✓	✓	✓	✓	✓	✓		✓			✓	
Missouri		✓							✓				
New Hampshire					✓	✓	✓		✓	✓			✓
New Mexico	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York						✓							
North Carolina		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
North Dakota	✓			✓	✓	✓						✓	
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oregon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
South Carolina		✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Texas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vermont	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virginia											✓		
West Virginia									✓				
Wisonsin				✓								✓	
Total	10	11	10	11	13	14	10	9	13	8	8	13	7

In 28 states health workforce supply data are collected on a regular basis at the time of licensing/relicensing. In most of these states health workforce supply data are only collected through a survey that is part of the licensing/relicensing process. However, a few states report different data collection strategies for different professions. Twelve states report using a recurring survey that is not part of the licensing/relicensing process.

Table 3. Health Workforce Supply Data Collection Strategies by State

State	A survey that is part of the licensing process	A survey that is not part of the licensing process	Telephone interviews	In-person interviews
California	✓	✓		
Colorado	✓	✓		
Florida	✓			
Georgia		✓		
Hawaii	✓			
Indiana	✓			
Iowa			✓	
Kansas	✓			
Louisiana	✓			
Massachusetts	✓			
Minnesota	✓			
Mississippi	✓			
Missouri	✓	✓		
Montana	✓	✓	✓	✓
Nebraska		✓		
Nevada	✓	✓	✓	
New Hampshire	✓			
New Jersey	✓			
New Mexico	✓			
New York	✓	✓		
North Carolina	✓			
North Dakota	✓			
Ohio	✓			
Oklahoma		✓		
Oregon	✓			
Pennsylvania	✓			
Rhode Island		✓		
South Carolina	✓			
South Dakota	✓			
Texas	✓			
Utah		✓		
Vermont	✓			
Virginia	✓			
West Virginia		✓		
Wisconsin	✓			
Wyoming			✓	
Total	28	12	4	1

The most frequent supply variables collected are practice characteristics (34 states), demographic characteristics (32 states), and education background (32 states). Thirty states report collecting data on health professionals in all 3 of these categories.

Table 4. Health Workforce Supply Data Collection by State and Type of Data

State	Demographic Characteristics	Education Background	Practice Characteristics	Other
California	✓	✓	✓	
Colorado	✓	✓	✓	✓
Florida	✓	✓	✓	
Georgia	✓		✓	
Hawaii			✓	
Indiana	✓	✓	✓	
Iowa	✓	✓	✓	
Kansas	✓	✓		
Louisiana	✓	✓	✓	
Massachusetts	✓	✓	✓	
Minnesota	✓	✓	✓	✓
Mississippi	✓	✓	✓	
Missouri	✓	✓	✓	
Montana	✓	✓	✓	
Nebraska	✓	✓	✓	✓
Nevada			✓	
New Hampshire	✓	✓	✓	✓
New Jersey	✓	✓	✓	
New Mexico	✓	✓	✓	✓
New York	✓	✓	✓	✓
North Carolina	✓	✓	✓	
North Dakota	✓	✓	✓	✓
Ohio	✓	✓	✓	
Oklahoma		✓	✓	
Oregon	✓	✓	✓	✓
Pennsylvania	✓	✓	✓	
Rhode Island	✓	✓	✓	✓
South Carolina	✓	✓	✓	
South Dakota	✓			
Texas	✓	✓	✓	
Utah	✓	✓	✓	
Vermont	✓	✓	✓	
Virginia	✓	✓	✓	✓
West Virginia		✓	✓	
Wisconsin	✓	✓	✓	
Wyoming	✓	✓	✓	
Total	32	32	34	10

Health Workforce Demand Data

Organizations in 16 states collect health workforce demand data.

Figure 3. States Where Health Workforce Demand Data Collection Has Been Reported
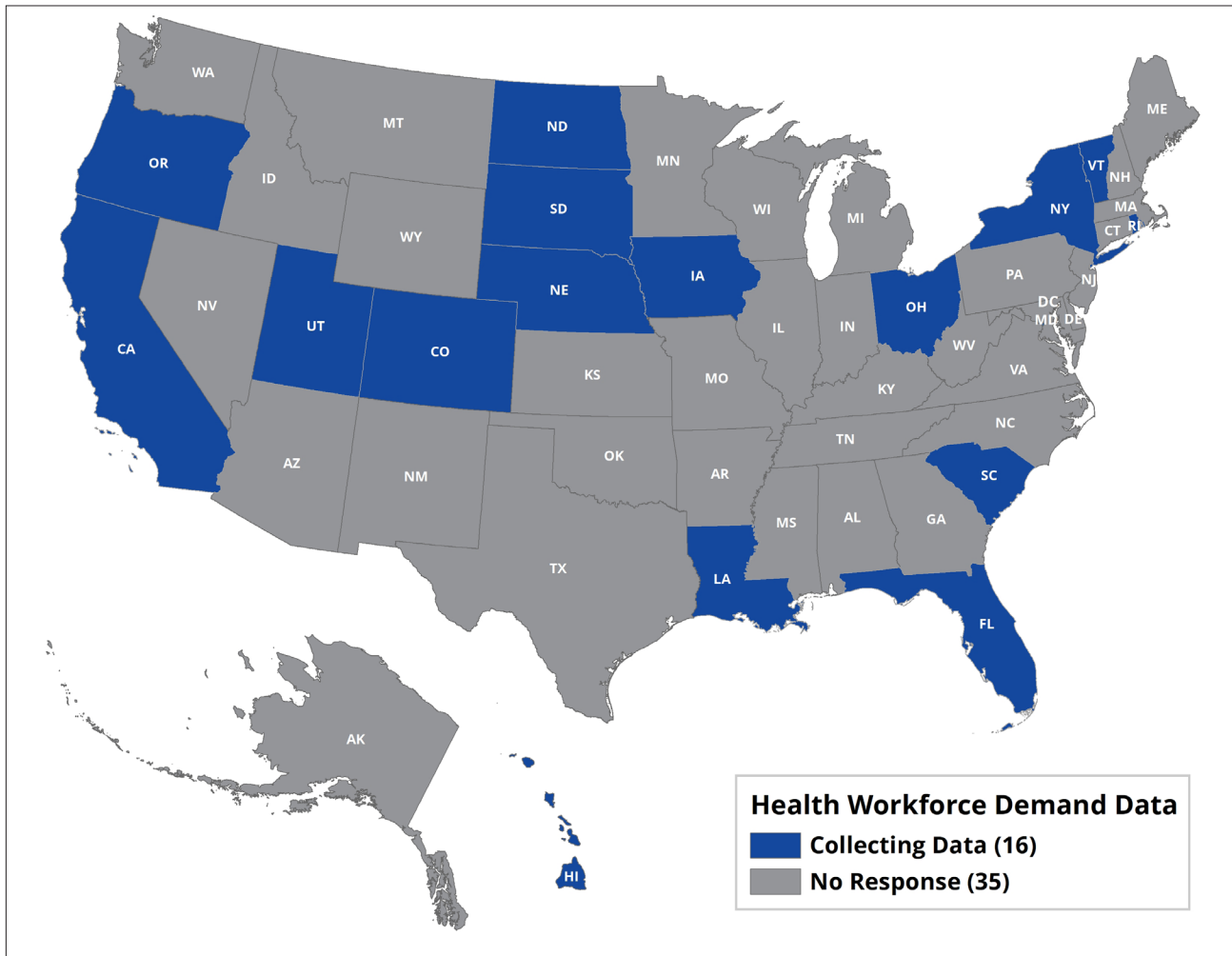
Health workforce demand data collection most frequently certified registered nurse anesthetists (10 states), nurse practitioners (10 states), physicians (10 states), and registered nurses (10 states).

Health workforce demand data is collected on a regular basis in 14 states.

Table 5. Health Workforce Demand Data Collection by State and Profession

State	CRNA	DEN	DH	LPN	MDW	NP	PA	PHA	PHY	PSY	PT	RN	SW
California	✓			✓	✓	✓	✓	✓				✓	✓
Colorado		✓							✓				
Florida	✓			✓	✓	✓						✓	
Hawaii							✓		✓				
Iowa	✓	✓			✓		✓		✓				
Louisiana	✓			✓	✓	✓						✓	
Nebraska							✓	✓	✓		✓		
New York	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Dakota	✓			✓	✓	✓						✓	
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oregon	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Rhode Island									✓				
South Carolina	✓			✓	✓	✓						✓	
South Dakota	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	
Utah												✓	
Vermont						✓	✓		✓				
Total	10	6	4	9	9	10	9	6	10	2	5	10	3

Health workforce demand data are most likely to be collected for hospitals (10 states) and nursing homes (8 states).

Table 6. Health Workforce Demand Data Collection by State and Setting

State	Community Health Centers	Home Health Agencies	Hospitals	Nursing Homes	Physician Offices	Other
California			✓			
Colorado	✓					
Florida		✓	✓	✓		✓
Hawaii						✓
Iowa	✓		✓		✓	✓
Louisiana		✓	✓	✓		
Nebraska						✓
New York	✓	✓	✓	✓		
North Dakota			✓	✓		
Ohio	✓	✓	✓	✓	✓	✓
Oregon		✓	✓	✓		✓
Rhode Island	✓			✓	✓	
South Carolina			✓			
South Dakota						✓
Utah	✓	✓	✓	✓	✓	
Vermont					✓	
Total	6	6	10	8	5	7

The most frequently collected demand data are on vacancies (11 states), recruitment difficulty 10 (states), and turnover (9 states). In 2 states, information is also collected on retention difficulties.

Table 7. Health Workforce Demand Data Collection by State and Type of Data

State	Vacancies	Turnover	Recruitment Difficulty	Retention Difficulty	Other
California	✓	✓	✓		
Colorado	✓	✓	✓	✓	
Florida	✓	✓	✓		
Hawaii					✓
Iowa	✓	✓			✓
Louisiana	✓	✓	✓		
Nebraska	✓		✓		✓
New York	✓	✓	✓	✓	✓
North Dakota	✓	✓	✓		
Ohio					✓
Oregon	✓	✓	✓		
Rhode Island					✓
South Carolina			✓		✓
South Dakota					✓
Utah	✓	✓	✓		
Vermont	✓				
Total	11	9	10	2	8

Health Workforce Educational Pipeline Data

Organizations in 21 states collect information about the health workforce educational pipeline.

Figure 4. States in which Health Workforce Educational Pipeline Data Are Collected

Health Workforce Educational Pipeline Data
- Collecting Data (21)
- No Reported Data Collection (30)
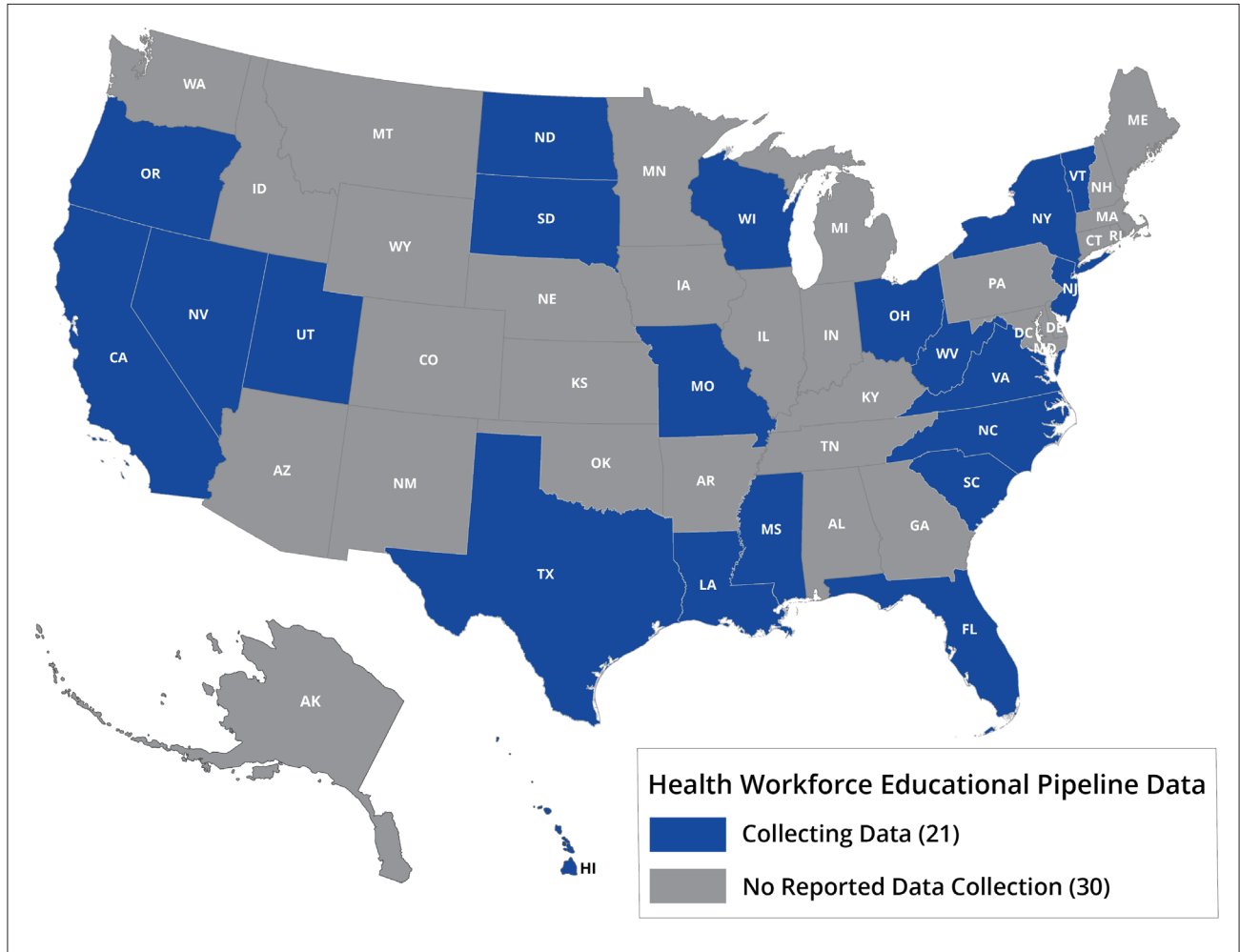
Health workforce educational pipeline data are most likely to be collected for registered nurses (17 states), physicians (14 states), licensed practical nurses (13 states), and nurse practitioners (13 states).

Educational pipeline data collection is recurring in 20 states.

Table 8. Health Workforce Educational Pipeline Data Collection by State and Profession

State	CRNA	DEN	DH	LPN	MDW	NP	PA	PHA	PHY	PSY	PT	RN	SW	OTH
California	✓				✓	✓						✓		
Florida	✓			✓	✓	✓						✓		
Hawaii				✓		✓			✓			✓		✓
Louisiana	✓				✓	✓						✓		
Mississippi		✓							✓					
Missouri									✓					
Nevada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
New Jersey				✓								✓		
New York									✓			✓		
North Carolina									✓					
North Dakota	✓			✓		✓						✓		
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Oregon	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
South Carolina		✓	✓	✓		✓	✓	✓	✓			✓	✓	
South Dakota	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓		
Texas	✓			✓	✓	✓						✓		✓
Utah	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		
Vermont						✓			✓			✓		
Virginia				✓								✓		
West Virginia									✓					
Wisconsin				✓			✓		✓			✓		
Total	10	7	5	13	8	13	7	6	14	4	6	17	3	2

Sixteen states report collecting educational pipeline data from education programs and 4 states report collecting educational pipeline data from individuals in training. One state reported collecting data from both education programs and individuals in training (New York).

Information about graduation rates (19 states), enrollment rates (17 states), and the demographic characteristics of trainees (15 states) are most often collected. In a few states, data are collected about trainees' post-graduation plans (5 states) and job market experiences (2 states).

Table 9. Health Workforce Educational Pipeline Data Collection by State and Type of Data

State	Graduation Rates	Enrollment Rates	Demographic Characteristics	Job Market Experiences	Post-Graduation Plans	Other
California	✓	✓	✓			
Florida	✓	✓	✓			
Hawaii	✓					
Louisiana	✓	✓	✓			
Mississippi	✓	✓	✓			
Missouri	✓	✓	✓			
Nevada	✓	✓	✓	✓	✓	
New Jersey	✓	✓	✓			
New York	✓	✓	✓	✓	✓	
North Carolina						✓
North Dakota	✓	✓	✓			
Ohio			✓		✓	
Oregon	✓	✓	✓			
South Carolina	✓	✓				
South Dakota	✓					
Texas	✓	✓	✓			✓
Vermont	✓	✓				
Virginia	✓	✓	✓			
Utah	✓	✓	✓			
West Virginia	✓	✓			✓	✓
Wisconsin	✓	✓	✓		✓	
Total	19	17	15	2	5	3

DISCUSSION

The Health Workforce Data Collection Inventory is an ongoing project. To date 47 organizations in 36 states have reported collecting health workforce data. The majority of organizations that are collecting data are state agencies and universities, nursing centers, and area health education centers (AHECs). Of the 14 states where no responses have been received, it is anticipated that some organizations are collecting data and others are planning to launch data collection efforts.

Majority of respondents ndicated that they collect health workforce supply data (46); fewer organizations report collecting health workforce demand data (18) and education pipeline data (24). While there are efforts to collect health workforce data on a wide array of health professions, the most likely professions are physicians and licensed nursing professions (eg, NPs, RNs, and LPNs).

CONCLUSION

There is growing interest and activity among states to develop health workforce data collection systems. This interest is driven in part by policy initiatives that are reshaping health care delivery and workforce demand at both the state and national levels. In order for these reforms to succeed, there is a need to better understand the distribution of the health workforce. However, information on which states are collecting data, and what types of data they are collecting is not readily available.

This HWTAC initiative aims to monitor and describe the current health workforce data collection efforts across the country. The inventory is a unique tool designed to inform states of these data collection efforts, while also helping to facilitate communication and collaboration between states.

Relevant and timely data is essential for developing effective health workforce programs and policies, which support improvements in health care delivery and health outcomes. The inventory serves as a resource for states to encourage and assist in the data collection needed to inform effective health workforce planning.

About the Authors

Morgan Clifford

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As a research support specialist of HWTAC, Ms. Clifford, among other responsibilities, maintains the State Health Workforce Data Collection Inventory, assists in the preparation of research publications, data colleciton, dissemination of research findings, and provides technical assistance to various health workforce stakeholders. Ms. Clifford holds a BA in Psychology with a minor in Law and Politics from SUNY New Paltz.

David Armstrong, PhD

Director, Health Workforce Technical Assistance Center

As director of HWTAC, Dr. Armstrong manages the day-to-day operations, disseminates information about the Center, and regularly provides technical assistance to individuals, hospitals, and various states and organizations.

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