

## Inventory of State Health Workforce Data Collection



Center for Health Workforce Studies  
School of Public Health  
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**June 2018**



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## PREFACE

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This report was prepared by the Health Workforce Technical Assistance Center (HWTAC) staff, including Morgan Clifford and David Armstrong, with layout design by Morgan Clifford. The Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services (HHS) supports HWTAC under grant number U81HP30838.

Established to support the efforts of HRSA's National Center for Health Workforce Analysis (NCHWA), HWTAC provides technical assistance to states and organizations that engage in health workforce planning. HWTAC conducts a number of initiatives each year designed to provide assistance with health workforce data collection, analysis, and dissemination. HWTAC is based at the Center for Health Workforce Studies (CHWS) at the School of Public Health, University at Albany, State University of New York (SUNY), and was formed as a partnership between CHWS and the Cecil G. Sheps Center for Health Services Research at the University of North Carolina.

The views expressed in this report are those of HWTAC and do not necessarily represent positions or policies of the School of Public Health, University at Albany, SUNY, HRSA, NCHWA, or the University of North Carolina.

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## SUGGESTED CITATION

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## BACKGROUND

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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. As one of its projects, HWTAC is conducting 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 HWTAC website at [www.healthworkforceta.org](http://www.healthworkforceta.org).

## METHODS

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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

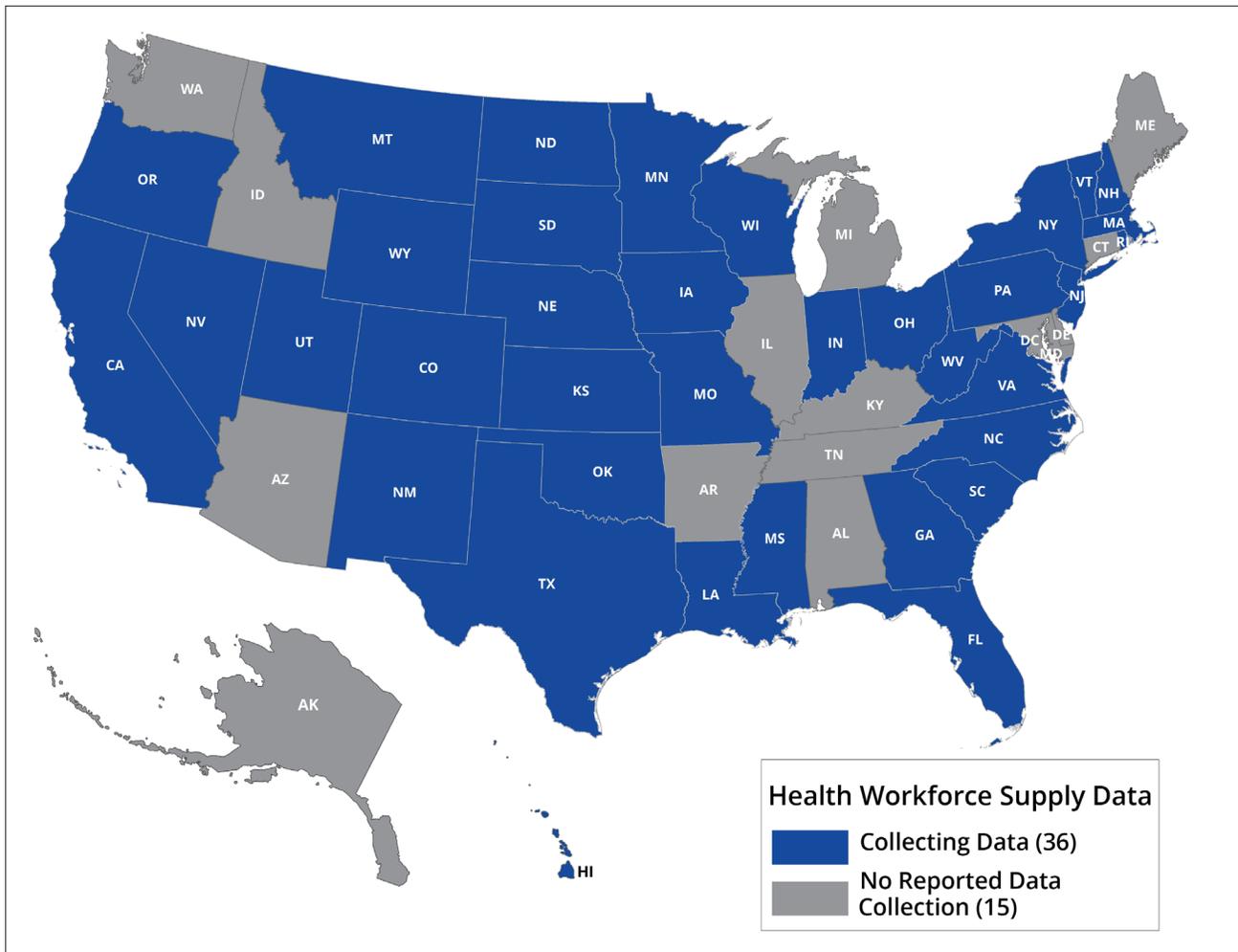
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Since the survey was launched, 49 organizations in 36 states have responded, indicating that they collect health workforce data. This number is expected to grow as organizations continue to respond to the survey. All responding organizations reported 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) [27 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	22	26	20	24	25	27	25	17	32	14	15	27	14	19

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.

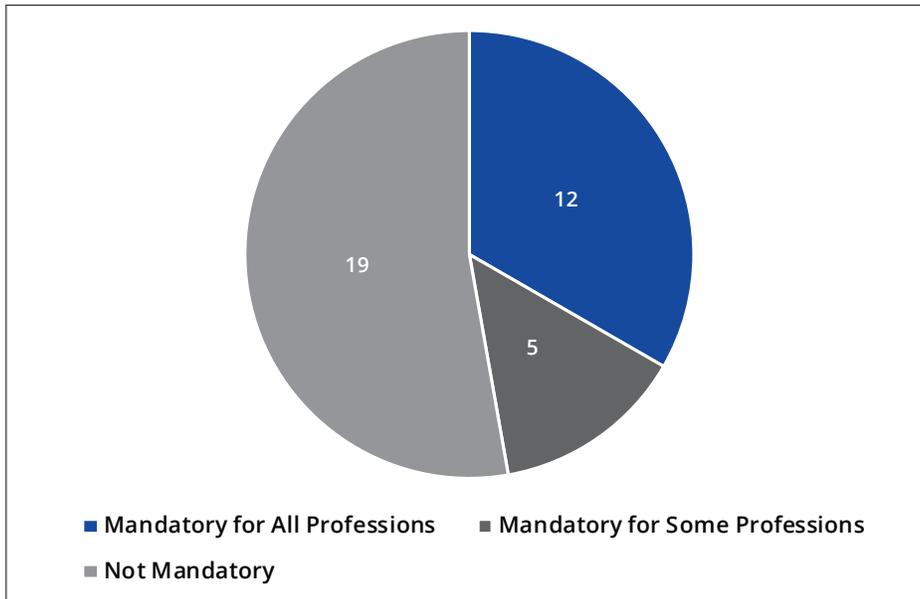
RN: Registered Nurses.

SW: Social Workers.

OTH: Other Health Professions.

In 17 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 5 states data collection is mandatory for a subset of professions for which data are collected (Missouri, New York, Oregon, Rhode Island, and Virginia).

Figure 2. Mandatory and Voluntary Health Workforce Supply Data Collection



Data collection is most likely to be mandatory for the following professions: Physicians [12 states], NPs [11 states], RNs [10 states], midwives [10 states], and dentists [10 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
Louisiana	✓				✓	✓						✓	
Massachusetts	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	
Mississippi	✓	✓	✓	✓	✓	✓	✓		✓			✓	
Missouri		✓							✓				
New Hampshire									✓				
New Mexico	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New York						✓							
North Carolina		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
North Dakota	✓			✓	✓	✓						✓	
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Oregon		✓	✓				✓	✓	✓		✓		
Rhode Island												✓	
South Carolina		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	
Texas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Vermont	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Virginia											✓		
West Virginia									✓				
Total	8	10	9	9	10	11	9	8	12	5	8	10	4

In 29 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	29	12	6	1

The most frequent supply variables collected are practice characteristics (35 states), demographic characteristics (34 states), and education background (33 states). Thirty-one 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	34	33	35	10



Health workforce demand data collection most frequently targets physicians (12 states), NPs (11 states), and RNs (11 states).

Health workforce demand data is collected on a regular basis in 16 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	OTH
California	✓			✓	✓	✓	✓	✓				✓	✓	
Colorado		✓							✓					
Florida	✓			✓	✓	✓						✓		
Hawaii							✓		✓					
Iowa	✓	✓			✓		✓		✓					
Louisiana	✓			✓	✓	✓						✓		
Nebraska							✓	✓	✓		✓			✓
Nevada	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
New Hampshire									✓					
New York	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
North Dakota	✓			✓	✓	✓						✓		
Ohio	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Oregon	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
Rhode Island									✓					
South Carolina				✓	✓	✓						✓		✓
South Dakota	✓	✓	✓	✓		✓	✓	✓	✓		✓	✓		
Utah												✓		
Vermont						✓	✓		✓					
Total	10	7	5	10	10	11	10	7	12	3	6	11	4	5

Health workforce demand data are most likely to be collected for hospitals (12 states) and nursing homes (9 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					✓	✓
Nevada			✓			✓
New Hampshire	✓	✓	✓	✓	✓	✓
New York	✓	✓	✓	✓		
North Dakota			✓	✓		✓
Ohio	✓	✓	✓	✓	✓	✓
Oregon		✓	✓	✓		✓
Rhode Island	✓			✓		
South Carolina			✓			
South Dakota						✓
Utah	✓	✓	✓	✓	✓	
Vermont					✓	
Total	7	7	12	9	5	10

The most frequently collected demand data are on vacancies (12 states), turnover (10 states), and recruitment difficulty (9 states). In 5 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	✓				✓
Nevada	✓	✓	✓	✓	
New York	✓	✓	✓	✓	✓
North Dakota	✓	✓	✓		
Ohio					✓
Oregon	✓	✓	✓		
Rhode Island					✓
South Carolina				✓	✓
South Dakota					✓
Utah	✓	✓	✓	✓	
Vermont	✓				
Total	12	10	9	5	9



Health workforce educational pipeline data are most likely to be collected for RNs (16 states), physicians (15 states), LPNs (12 states), and NPs (12 states).

Educational pipeline data collection is recurring in 19 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	9	8	5	12	7	12	8	7	15	5	6	16	3	6

Eighteen states report collecting educational pipeline data from education programs and 5 states report collecting educational pipeline data from individuals in training.

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 (6 states) and job market experiences (5 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	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						✓
Utah	✓	✓	✓			
Vermont	✓	✓				
Virginia	✓	✓	✓			✓
West Virginia	✓	✓			✓	✓
Wisconsin	✓	✓	✓	✓	✓	✓
Total	19	17	15	5	6	7

## DISCUSSION

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The Health Workforce Data Collection Inventory is an ongoing project. To date 49 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.

Every survey respondent to date indicated that they collect health workforce supply data (49); fewer organizations report collecting health workforce demand data (20) and education pipeline data (24). While in some states 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

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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.



### **Morgan Clifford**

*Research Support Specialist, Health Workforce Technical Assistance Center*

As a research support specialist of HWTAC, Ms. Clifford, among other responsibilities, maintains the State Health Workforce Data Collection Inventory, provides assistance during webinars, and contributes to the content management and maintenance of the Center's website. She 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.

