



Healthcare Regulatory
Research Institute



A ROADMAP FOR ENHANCING STATE HEALTH WORKFORCE DATA:

IMPLEMENTATION GUIDE FOR THE
CROSS-PROFESSION MINIMUM DATA SET

Developed by Veritas Health Solutions With Support Provided by
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INTRODUCTION

MAKING THE CASE FOR HEALTH WORKFORCE DATA

Access to health workforce data is essential to inform various aspects of policy and programs, such as identifying health workforce shortage areas, planning for educational programs or regulatory policy changes, forecasting employment demands, and justifying funding requests. Detailed information about the health workforce is necessary to evaluate existing programs and to plan for future needs.

Health workforce policy and planning cannot be done in a silo. The health workforce includes an array of professions, differing in training, focus and scope. Some contributions are unique, others overlap, many are synergistic. Regardless of differences or similarities, all health professions share a common mission to contribute to the health of the people and communities they serve. When the contributions of different health professions are coordinated and synergies in care achieved, patient outcomes can be improved. Consistent workforce data across health professions is needed to inform policy and planning.

WHAT HAS BEEN DONE AND WHERE ARE THE GAPS?

Health workforce data collection has been a national priority for decades. The Health Resources and Services Administration (HRSA), in collaboration with national organizations, established [minimum data set survey tools for several health professions](#) in 2013. Great care was taken to develop surveys that met the data needs of each respective profession, but unfortunately, coordination between professions to ensure alignment across surveys for data elements common to all professions did not occur. Inconsistencies in data collection strategies (questions and response options) for data elements such as demographics threaten cross profession comparison and analysis.

A CALL TO ACTION

In the face of pervasive workforce shortages, health workforce data collection has emerged as a top national and state priority. Now, more than ever before, a Cross-Profession Minimum Data Set (CPMDS) is needed to ensure consistency, where appropriate, in health workforce data. In 2022, seven national organizations came together to review existing survey tools and prepare the CPMDS to serve as a resource to the federal and state governments, organizations, and researchers seeking to collect health workforce data. Broad adoption of the CPMDS will streamline current and support future initiatives by ensuring comparability across health professions data.

ABOUT THE CPMDS

The CPMDS is a set of core questions for collecting data elements widely considered the “minimum necessary” for health workforce planning. The intent of the CPMDS is to serve as a framework for standardizing data collection across various health professions for the purpose of supporting within and between profession comparisons and analyses. As a framework, the CPMDS questions have been designed with varying levels of standardization. For example, the CPMDS provides standardized questions and response options for data elements that are consistent across the professions (example: demographics) but includes flexible questions and response options for data elements requiring customizations (example: specialty and setting). The CPMDS provides a framework upon which individual profession-specific tools can be developed.



OPPORTUNITY FOR ACTION

[Download the CPMDS tool](#), or [access the CPMDS with FAQs](#) document for additional information, context, and considerations for implementation.

ROADMAP

The CPMDS has broad application potential. Any initiatives related to health workforce data collection may benefit the structure it provides; however, states and state regulators/licensing boards are uniquely positioned to support routine health workforce data collection from licensed health professionals at the time of license application and renewal. Many states are actively engaged in or currently pursuing opportunities to do so for one or more licensed health profession. In some instances, such data collection is statutorily authorized. In fact, as of 2023 several states have enacted statutes authorizing workforce data collection from one or more licensed professions and others are considering legislative initiatives. These state-based workforce data collection initiatives directly inform government policy and planning, but they are also useful to the private sector.

TARGET AUDIENCE

This roadmap has been designed to support states and state regulators/licensing boards on implementation of the CPMDS.

TABLE OF CONTENTS

It includes useful information and actionable tools organized to support informed implementation at seven critical stages:



ROADMAP IMPLEMENTATION

USE THE CHECKLIST BELOW TO IMPLEMENT THE CPMDS IN YOUR STATE.

- IDENTIFY HOW CPMDS CAN FILL GAPS IN STATE WORKFORCE DATA**

Explore what information is currently captured from health professionals in your state during the licensing process.

 - Corresponding Roadmap pages: [6-7](#)
 - Corresponding Tools and Resources: Explore the Health Workforce Technical Assistance Center's [Health Workforce Data Collection Inventory](#), the [supplemental resource on national health workforce data sources](#), and complete [Tool A: Understanding Your State Licensing Data](#)

- DETERMINE REGULATORY STRUCTURE AND DATA COLLECTION AUTHORITIES**

A first step toward expanding data collection is understanding the current environment within your state for occupational regulation, administrative resources, and current data collection authorities.

 - Corresponding Roadmap page: [9-12](#)
 - Corresponding Tools & Resources: Explore [this review](#) of other state's statutory authority for data collection and complete [Tool B: State Occupational Regulation & Administrative Resources](#).

- SELECT THE DATA COLLECTION STRATEGY THAT WORKS FOR YOUR STATE**

Use the decision matrix tool to determine your state's profession of interest, understand existing authorities, and appropriate next steps by profession.

 - Corresponding Roadmap pages: [13-14](#)
 - Corresponding Tools & Resources: [Tool C: Professions, Authority & Action](#)

- FINALIZE CPMDS QUESTIONS FOR IMPLEMENTATION**

Once you've determined your next step for each profession, the profession-specific survey tools must be prepared. Explore the considerations and resources listed on the links below to develop these surveys, then implement the surveys according to your state's preferred data collection modality.

 - Corresponding Roadmap pages: [15-19](#)
 - Corresponding Tools & Resources: [Review the CPMDs](#), associated [CPMDs FAQ document](#), and [Profession specific surveys](#) to support CPMDs implementation. [Tools D: State Health Workforce Data Needs](#) and [E: Stakeholder Inventory](#) will highlight important considerations for survey development.

- SECURE AND DEPLOY THE RESOURCES NEEDED TO STORE, MANAGE, AND ANALYZE THE DATA**

Identify the data resources you need to prepare the data once it is collected. Determine the most appropriate approach and implementation model for data storage, management, and analysis.

 - Corresponding Roadmap pages: [20-21](#)
 - Corresponding Tools: [Review a brief](#) on collaborating with licensing bodies and the implementation models referenced on [page 20](#).

- TRANSFORM THE DATA INTO ACTIONABLE INFORMATION USING COLLABORATION TO MAXIMIZE IMPACT**

Once the data are cleaned and available, prepare a plan for reporting to maximize its impact.

 - Corresponding Roadmap pages: [22-24](#)
 - Corresponding Tools: To address individual state data needs, complete Column H on [Tool E: Stakeholder Inventory](#). To support coordinated health workforce planning potential, review the state models referenced on pages 22-24 to determine if a coordinating entity might be appropriate for your state. If there is a desire to develop a forum in your state, use [Tool E: Stakeholder Inventory](#) to consider the perspectives that could be brought to the table.

Identify how CPMDS can fill gaps in state workforce data

GOOD: DATA ARE NOT GRANULAR OR COMPREHENSIVE, BUT ARE COMPARABLE

WHAT SECONDARY HEALTH WORKFORCE DATA IS ALREADY AVAILABLE FOR YOUR STATE?

There are a number of secondary data sources that may already be available to meet a state's health workforce data needs. Many times, states find that these information sources are either not granular or sufficiently comprehensive to inform policy or planning. Check out Appendix A to explore what information might be available today from national organizations.

Using Secondary Health Workforce Data

Benefits

- Readily accessible
- Generally no-to-low cost (with some exceptions)

Challenges

- Lack of granularity
- Limited comparability between professions
- Inability to link to other data sources

BETTER: DATA ARE GRANULAR BUT NOT COMPREHENSIVE OR COMPARABLE.

WHAT PRIMARY HEALTH WORKFORCE DATA IS ALREADY AVAILABLE IN YOUR STATE?

Many states already have some level of health workforce data that is already collected and available within your state. The key to leveraging primary data is understanding 1) where the data is collected and housed, and 2) what specific information is available. The Health Workforce Technical Assistance Center is an entity that is funded by HRSA to provide technical assistance to state health workforce planning. This Center maintains a State Health Workforce Data Collection Inventory that includes information on health workforce supply or demand data. This inventory includes data collected through the licensing process, telephone interview, in-person interview, or other means.



Did you know?

36 states collect health workforce supply data, but only **28 states** collect this data as a part of the licensing process, and there are wide variations on which profession types are included.

[Learn more](#) about health workforce data that may already be collected in your state.

Using Primary Health Workforce Data from Any State-based Source

Benefits

- More robust information about your state's workforce
- State-based expertise that can support analyses

Challenges

- Information and collection strategies may vary by profession resulting in limited comparability between professions
- Information may not be linkable to other state data sources



OPPORTUNITY FOR ACTION

Explore what information is currently captured from health professionals in your state during the licensing process by visiting [Tool A: Understanding Your State Licensing Data](#) and talking with your state regulatory boards/agency.

BEST: DATA ARE GRANULAR, COMPREHENSIVE, AND COMPARABLE TO OTHER STATES.

WHAT PRIMARY HEALTH WORKFORCE DATA COULD YOU BE COLLECTING?

Given the variations in health workforce data collection between professions and between states, there has been an identified need for coordinated efforts. As described in the introduction of this toolkit, there has never before been a cross-profession tool that allows for standardization in the information that is available to support state policy.

The CPMDS tool was developed in consideration of the various state policies or programs that can be informed by health workforce data, including occupational regulation (licensure compacts, educational requirements, scope of practice), Medicaid, incentive programs, educational expansion, telehealth and more. Even if a state has health workforce data collection initiatives, the information is collected to be profession-specific and is only applicable to a single profession. State governments (both executive and legislative branches) need access to reliable information on single professions. Implementation of the CPMDS tool during the state licensing process will help address state health workforce data needs and ensure consistency and comparability of data.

Data available to support state planning must be:

- **Comprehensive** - Include all health professionals practicing in the state
- **Granular** - Has individual-level detail to support coordination with other state data sources, such as educational records, a P20W database, or Medicaid provider enrollment
- **Comparable** - States need to both have information at the profession-specific level, but also be able to report on the entire state health workforce using comparable data across professions.

Adopting the Cross-Profession Minimum Data Set Tool during State License Renewal

Benefits

- Robust information about your state's workforce
- Allows for balance between collection of profession-specific information and standardization of information available for cross-profession comparison
- Allows for linking to other state data sources
- Is relatively simple administrative implementation when built into electronic license renewal processes

Challenges

- Information is comprehensive (and to best inform state planning), requires mandatory participation - and may require authority from legislature
- Buildout of profession-specific data elements



RESOURCE CONSIDERATIONS

Collecting workforce information in conjunction with licensure processes is a “Best” practice. It is less time consuming, more cost-effective, and provides more comprehensive information than other mechanisms states may use to collect information on the workforce. That being said, it does require resources. The following sections of the document provide a framework for states considering implementation of the CPMDS within licensing processes. As you navigate your way through the roadmap, it will be important to consider, discuss and estimate the resources that would be required for your state and identify where those resources should come from (example: appropriation, administrative sources, etc.)

RECOMMENDED TRACK

If you are not satisfied with the health workforce information available today in your state, proceed to the next mile marker to learn more about a strategy to collect the specific data needed to support policy and planning within your state.

FAST TRACK

After completing these activities, if you are satisfied with the health workforce information available for policy and planning within your state, you can take the express lane to [Page 20](#) and learn how these data can be analyzed and used to meet state needs.

EXIT 2

More Information: Miles 2-6
KEEP RIGHT



Expressway to Mile 6
Secure and deploy the resources needed to store, manage, and analyze the data.

KEEP LEFT

EXIT  ONLY









MILE
2

Determine regulatory structure and data collection authorities

MAXIMIZING THE HEALTH WORKFORCE INFORMATION AVAILABLE TO SUPPORT STATE PLANNING REQUIRES HIGH RESPONSE FROM LICENSED PROFESSIONALS.

Implementation of the CPMDs can be accomplished through a variety of mechanisms. Some states, such as [Virginia](#), have experienced high response rates to voluntary supplemental questions administered to health professionals because the questions are embedded within the licensing process. Other states, such as [Indiana](#), have enacted statutes authorizing the collection of supplemental information at time of license renewal. Many states have pursued the passage of authorizing legislation which would enable the regulatory entity (state board or agency) to collect information directly from health professionals during renewal.

Data Collection Authority Options for State Governments

	Statutory Reference	Executive Branch Action	Summary	State Examples
GOOD		 Voluntary Response	There is no specific statutory reference to health workforce data collection. However, the executive branch (regulators) assume authority to collect data from licensees under broad statutory language or leverage current processes.	Virginia
BETTER		 Voluntary Response	Statute provides executive branch regulators with authority to capture data from licensees, but there is language that collection cannot inhibit license renewal (i.e., must be voluntary).	Utah
BEST		 Mandatory Response	Specific statute enables mandatory reporting from licensees, collected by executive branch regulators..	Indiana



OPPORTUNITY FOR ACTION

Explore what authority your state has to capture information from health professionals during license renewal through conversations with licensing boards/agency and/or legislators. If appropriate, determine next steps for obtaining the authority needed to collect this information. [View examples](#) of states with statutory authority for health workforce data collection.

WHAT ARE GOVERNING MODELS FOR OCCUPATIONAL REGULATION?

A governing model for occupational regulation is the way in which a state organizes the activities associated with regulating professions. Most states have licensing boards established by the Legislature and appointed by the Governor that perform these functions. However, the authority and responsibilities of licensing boards vary by state. The diagram below demonstrates the breadth of variation in state approaches, outlining which functions are the responsibility of a licensing board and which fall to a more centralized executive branch regulatory agency.

Fully autonomous/ independent structure for profession-specific boards

Boards hire their own staff and make administrative, disciplinary, and licensure decisions related to the profession

Centralized agency to support licensing boards/In certain functions (typically through shared administrative infrastructure)

Boards generally have decision-making authority related to licensure but the executive branch agency (sometimes referred to as an umbrella agency) may be responsible for some decisions, such as budgets, personnel, or investigations.

Centralized agency with full decision making authority

An executive branch agency (or director, commission, or council) has full authority over administrative, disciplinary, and licensure decisions. Profession-specific boards generally still exist but serve only in an advisory capacity.

HOW DOES A STATE'S GOVERNING MODEL FOR OCCUPATIONAL REGULATION RELATE TO HEALTH WORKFORCE DATA?

Implementing workforce data collection as a part of license application/renewal is seen as a best practice. Occupational regulation structures are important, as it impacts how data collection can be implemented for a profession within a state. For example, within a state with fully autonomous licensing boards, there may be variations in how licensing application and renewals occur between profession types. Conversely, states with centralized licensing agencies generally utilize the same licensing processes and software for multiple profession types. In states where the same licensing processes are utilized for multiple license types, it may be easier and more efficient to develop cross-profession data collection strategies. For states with wide variations in licensing software or processes, a single-profession approach may be more accessible.



OPPORTUNITY FOR ACTION

Check out [Tool B: State Occupational Regulation and Administrative Resources](#) to access a spreadsheet that you can save and complete for your state. This is the first step to understanding how occupational regulation intersects with administrative processes. This will be important as you explore opportunities to enhance the availability of health workforce data.

HOW IS OCCUPATIONAL REGULATION ORGANIZED IN YOUR STATE?

Once authority to collect data has been identified, state regulatory boards/agencies must determine how the data will be collected. This is an important step prior to survey design, as the outcomes of this decision have implications for what functionality may be available. Below is a list of options and considerations for implementation.

SURVEY ADMINISTRATION OPTIONS

		Licensing Software	Cloud-based Survey Tool (such as Qualtrics)	Paper Survey Tool
BEST	Within License Application/ Renewal Steps, Before Submitting	✓	✗	
BETTER	Immediately After Application/ Renewal, On Licensing Website	✓	✓	
GOOD	Administered Electronically at Some Other Point in Time, Using Regulatory Contact Info	✗	✓	
GOOD	Administered via Mail at Some Other Point in Time, Using Regulatory Contact Info	✗	✓	✓

COMPARING SURVEY ADMINISTRATION OPTIONS

STATE LICENSING SOFTWARE

Most states and regulatory entities have adopted electronic processes for licensing (either as 100% adoption or the majority of licenses). Many questions are asked of licensees during standard regulatory process (such as contact information and disciplinary or legal action). In many instances, licensing software can be modified to include CPMDS questions. In some states, this could be done internally within the executive branch; others rely on software vendors to make changes which may accrue additional cost.

Licensing software may be limited in terms of functionality when considering using this software for surveying (for example, branching logic and skip patterns are generally not accessible). However, despite this limitation, surveys can be designed to capture the most applicable information using simple question styles (such as radio buttons, open text fields, and drop-down options). The CPMDS tool was designed using simple question styles to be easily adopted within state licensing software.

Because data collection during the licensing process would be a state function and would directly support state policy and planning, leveraging state licensing software for survey implementation is considered a best practice. This approach yields maximum survey response over other methods. Additionally, collecting this data through the regulatory platform communicates the use case directly to the licensee, providing confidence that the information provided will adhere to the same confidentiality and data privacy provisions as other responses within the licensing process.

EXAMPLE OF APPEARANCE OF LICENSURE SURVEY DURING RENEWAL PROCESS

Online License Renewal

Health Professions Survey

	Question	Answer
<p>MENU</p> <p><u>Demographics</u></p> <p>Education</p> <p>Employment</p> <p>Finish</p>	1. What is your sex?	<input type="text" value="Please Choose"/>
	2. What is your race? Mark one or more boxes.	<input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian/Pacific Islander <input type="checkbox"/> White <input type="checkbox"/> Some Other Race
	3. Are you of Hispanic, Latino/a, or Spanish origin?	<input type="text" value="Please Choose"/>
	4. What is your birth year?	<input type="text"/>
	5. What is your highest level of education?	<input type="text" value="Please Choose"/>
	6. Where did you complete the education program/degree that first qualified you for this license?	<input type="text" value="Please Choose"/>

(Note: for online programs, please select the location where this program was housed)

Select the data collection strategy that works for your state

COMPARING SURVEY ADMINISTRATION OPTIONS

CLOUD-BASED SURVEY TOOL

Cloud-based survey tools (such as Qualtrics, RedCap, or Survey Monkey) were created specifically to administer surveys. The functionality of these tools generally greatly exceeds that of licensing software and of paper surveys, allowing for skip patterns and branching logic so that the respondent only receives the questions that directly pertain to their response.

Cloud-based surveys can be used in addition to CPMDS questions administered during the licensing process to gather more detailed information from respondents. For example, a state may implement the CPMDS as “minimum necessary” data elements that are captured during the licensing process. However, there may be specific areas of interest, such as average wages by specialty or geographic region, or understanding issues surrounding provider participation in Medicaid. The state could administer a separate, voluntary cloud-based survey to licensees (either to a subset of licensees based on CPMDS response, or to all licensees) that gathers more specific information on these or other targeted topics of interest. This minimizes burden that additional questions may have on licensees and protects the state from having to modify the CPMDS survey after initial implementation (which may require additional staff or licensing vendor costs), while at the same time ensuring information is available to address targeted issues.

PAPER SURVEY TOOL

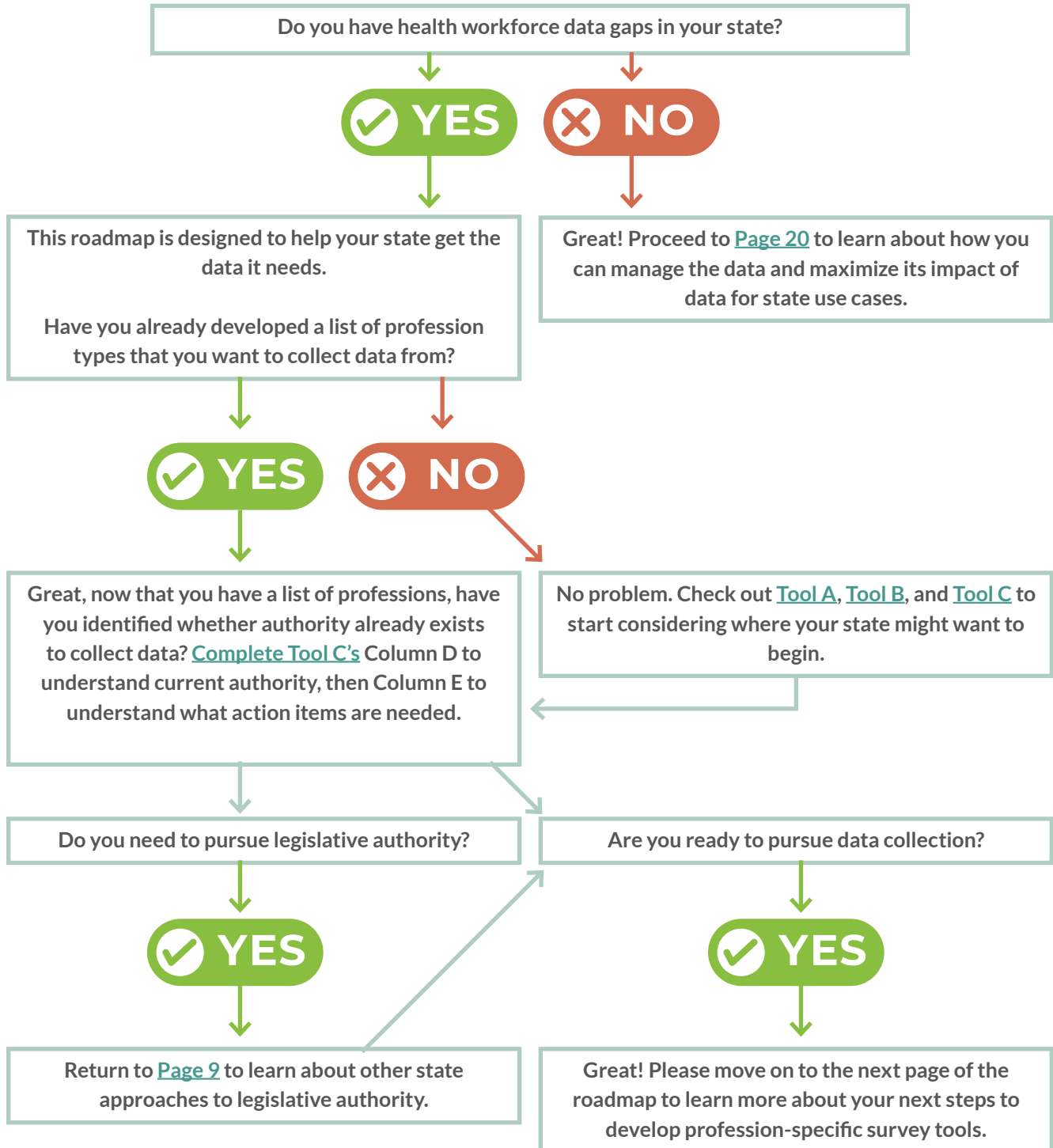
Although most states have transitioned to electronic licensing, many states still offer a paper option for licensing applications. In instances where paper applications are permitted, licensure surveys could be provided as a part of the application package to increase response rate (if licensure surveys are only provided electronically, there may be a small subset of licensees that apply or renew on paper who would be excluded from the survey).

In some states, paper surveys have been utilized outside of the licensing process and on an ad hoc basis. In general, this occurs when the information is being captured from another party within the state, such as the state Primary Care Office (to support the state’s shortage designation processes) or external researchers.

In general, paper surveys yield low response rates and are not recommended due to a myriad of factors (inaccuracies in mailing address information, administrative burden on licensees, and costs associated with mailing and data entry).

DETERMINING THE PATH FORWARD FOR YOUR STATE

DO YOU HAVE HEALTH WORKFORCE DATA GAPS IN YOUR STATE?



Finalize CPMDS questions for implementation

CPMDS: A FRAMEWORK FOR A CUSTOMIZABLE STATE APPROACH

The CPMDS tool was developed to provide structure for common data elements across professions. Although some of the questions were able to be fully standardized across all health profession types, other questions may have standardized question language, but response options may vary slightly or completely across profession types. Below are the three categories of survey questions you may find in the CPMDS.

- Both Question and Response Options are Fully Standardized Across All Professions
 - What: These questions include standardized language for both the question text and response options. These questions and response options are applicable to any and all profession types.
 - Why: Any and all responses to these questions would be comparable.

- Question Text is Standardized; Response Options are Semi-customized for Each Profession
 - What: These questions include 1) standardized language for the question and 2) response option **categories** which are common across professions.
 - Why: Semi-customized implementation of response options aligning with common categories will enable cross profession comparisons while providing profession specific information.

- Question Text is Standardized, Response Options are Fully Customized for Each Profession
 - What: These questions include 1) standardized language for the question and 2) fully customized response options by profession.
 - Why: A common question format would ensure that future within-profession comparisons are supported regardless of the various response options.

Question Style	Count of Data Fields
Both Question and Response Options are Fully Standardized Across All Professions	6 + 2 supplemental
Question Text is Standardized; Response Options are Semi-customized for Each Profession	6 + 1 supplemental
Question Text is Standardized, Response Options are Fully Customized for Each Profession	4 +2 supplemental



OPPORTUNITY FOR ACTION

As you are working through this step, check out the [CPMDS](#) and the associated [CPMDS FAQ](#) document.

QUICK IMPLEMENTATION: JUMPSTARTING DATA COLLECTION USING STANDARDIZED QUESTIONS

Although the CPMDS tool was developed to support customization, many of the key data elements were developed to capture some of the most basic and critical data elements in a standard fashion from all health profession types. If customization of certain data elements (through the development of profession-specific survey tools) is too heavy of a lift, a state could begin by implementing six of the data elements as is. These six data elements have both standardized questions and standardized response options across all health professions.

Additionally, although customization would provide greater granularity to the six questions with semi-customizable response options, those questions could also be implemented as is.

WHICH CPMDS DATA ELEMENTS HAVE FULLY STANDARDIZED QUESTIONS AND RESPONSES?

- Sex
- Race/Ethnicity
- Age/Year of Birth
- Telehealth
- Hours/Week
- Hours/Week in Direct Patient Care

Optional Supplemental Questions

- Gender
- Year Completed Education

DEVELOPING PROFESSION-SPECIFIC TOOLS— BEGINNING WITH CUSTOMIZABLE RESPONSES

For the questions that have semi-customizable or fully customizable response options, there is an opportunity to develop response options that suit state needs.

QUESTIONS WITH SEMI-CUSTOMIZABLE RESPONSE OPTIONS

Education level is an example of a data element that could have semi-customized responses. There are standardized categories of education level presented within the CPMDS. However, not all categories would apply for all profession types. Additionally, it may be appropriate to obtain an additional level of detail on education categories for certain profession types.

WHICH CPMDS DATA ELEMENTS HAVE SEMI-CUSTOMIZED RESPONSES?

- Highest Level of Education
- Where Completed Education
- Employment Status
- Future Employment Plans
- Employment Type/Arrangement
- Position Type/Role

Optional Supplemental Questions

- Qualifying Education



NO RESOURCES? NO WORRY.

If developing profession-specific tools is too heavy of a lift, a state could begin by implementing 12 of the questions as is (those with standard responses or flexible responses). Although not customized to the profession, responses to these questions as is would provide a baseline level of information to support planning.

Below is the current CPMDS question for education, and some considerations for state implementation.

CPMDS QUESTION:

What is your highest level of education?

SINGLE SELECT

- High school diploma (or equivalency)
- Some college, no degree
- Technical/Vocational Certificate
- Associate Degree
- Bachelor's Degree
- Master's Degree
- Post-graduate training
- Professional/Doctorate Degree
- Postdoctoral training

EXAMPLES

- It would be inappropriate to include “high school diploma” as an option for “highest education” for professions whose minimum education for profession entry includes post-secondary education, such as peer support workers. Conversely, it may not be appropriate to include “high school diploma” (or responses A-G) for a medical license.
- A profession may desire to track specific educational options within a given category. For example, instead of simply including “Professional/Doctorate Degree,” Medicine may be interested in replacing this response option with “Doctor of Medicine (MD)” or “Doctor of Osteopathic Medicine (DO).” Both of these response options would be mappable to (and fall under the common category of) “Professional/doctorate degree,” but may provide greater granularity for state planning.

QUESTIONS WITH FULLY CUSTOMIZABLE RESPONSE OPTIONS

Specialty is an example of a data element that varies widely between profession types. Specialty (which is sometimes referred to as “field” or “area of practice” by some professions) is a critical data element for all health professions. However, due to wide variations, it is not possible to standardize response options across all health profession types.

Below is the current CPMDS question for specialty, and some considerations for state implementation.

CPMDS QUESTION:

- A. Which of the following best describes the specialty/field/area of practice in which you spend most of your professional time?”
SINGLE RESPONSE
[FLEXIBLE RESPONSE OPTIONS BY PROFESSION]

WHICH DATA ELEMENTS HAVE FULLY CUSTOMIZED RESPONSES?

- State/Jurisdiction of Licensure
- Specialty
- Practice Location (State and Zip)
- Setting Type
- (Optional Supplemental Question) Practice Location (Street Address and City)
- Patient Panel Characteristics

EXAMPLES:

- The specialty options for physicians will vary widely from the specialty options for dentists. A profession-specific lens will be critical to ensure the options provided for specialty (and other data fields within this category) are appropriate.

CONSIDERATIONS:

- There may be instances where the response options developed for these fields could cut across various profession types. For example, it may be appropriate to align most of the specialty and setting response options for dentists and dental hygienists. Similarly, it may be appropriate to align physician assistant and advanced practice registered nurses for some fields.
- State data needs should drive the response options included. This will be of utmost importance for profession types that are included in state [health professional shortage area designation](#) activities. The specialties and settings must align with federal criteria in order for your state to use these data to qualify for those opportunities. Your state primary care office can provide insight on those specific data needs.



CUSTOMIZING RESPONSE OPTIONS AND CONSIDERING ADDITIONAL AREAS OF INTEREST

If a state is interested in developing profession-specific surveys using the CPMDS framework, there are various considerations that should be taken into account during the development process.

1 REVIEW PROFESSION-SPECIFIC SURVEY TOOLS THAT HAVE ALREADY BEEN DEVELOPED.

Many resources exist that contain profession-specific data elements. A review of existing surveys can provide direction and insight as to which response options could be included. Profession-specific workforce surveys may exist through HRSA, professional trade associations, or regulatory associations. A reference guide for previous profession-specific data efforts can be found in [Supplemental Resources: National Health Workforce Data Sources](#)

2 IDENTIFY SPECIFIC STATE DATA NEEDS TO ENSURE ALIGNMENT WITH RESPONSE OPTIONS.

There are likely a number of initiatives within a state/jurisdiction that would benefit from workforce data. During the profession-specific survey development and finalization process, identification of those initiatives and consultation with points of contact will ensure the response options align with information necessary to support state activities. [Tool D: State Health Workforce Data Needs](#) contains a list of common state initiatives related to the health workforce and corresponding state government perspectives.

3 CONSIDER ADDITIONAL QUESTIONS, AND APPROPRIATENESS OF INTEGRATION OF THESE QUESTIONS, WITHIN REGULATORY SURVEY OR THROUGH ALTERNATIVE DATA COLLECTION MECHANISMS.

The CPMDS has been designed to support collection of the minimum necessary information to support state planning for the health workforce. Questions seeking to collect additional information of interest should be carefully considered prior to incorporation into profession specific tools. For example, a state agency, such as Medicaid, may recommend including additional questions about Medicaid participation to support targeted assessments and planning. Additional data elements could be included within the state profession surveys, or could be included in a separate supplemental survey administered to the workforce. Trade-offs such as survey length, response rate, and intended audience should be considered.

4 CONSULT THE EXPERTS.

In addition to consulting state personnel to provide input on profession-specific data elements, external stakeholders can also serve as profession subject matter experts. These individuals could be consulted to review and provide input on response options. A list of these external perspectives is also presented within [Tool E: Stakeholder Inventory](#) for consideration.

MILE
5

Secure and deploy the resources needed to store, manage, and analyze the data

ONCE YOU HAVE STATE HEALTH WORKFORCE DATA, WHAT DO YOU DO WITH IT?

Health workforce information is captured during the regulatory process. It is generally stored under the same parameters as regulatory data: within a database that is commonly used for compliance purposes only. In order to prepare the health workforce data for state use, three key data principles must be incorporated:

Data Storage: Building a State Health Workforce Data Library	Data Management: Transforming raw workforce data into usable information	Data Analysis: Putting workforce data into action
<p>Data are initially stored alongside broader regulatory data, but can also be incorporated within other data storage initiatives to enhance access and use. States may develop and/or contract the development of a longitudinal database to store cycles of health workforce data: A state health workforce data library.</p>	<p>Data must be transformed from raw format into usable and accessible data tables. Data management processes generally include cleaning, coding, and storing data in an accessible format. This step may require a database engineer or data analyst.</p>	<p>The data are ready to be used! In order to use the data to answer questions, support assessment, and inform policy and programming, a capacity for data analysis and reporting is required, and may include data visualization expertise. This step requires “business analytics” to help bridge the gap between the data and the analysis.</p>

WHAT RESOURCES AND PERSONNEL ARE REQUIRED?

Data Storage	Data Management	Data Analysis
<ul style="list-style-type: none"> • Database (cloud-based or in-house server) • Compliance with data privacy provisions • Personnel with database skills (database engineer, architect, or administrator) 	<ul style="list-style-type: none"> • Data governance • Data codebooks • Health Professions Surveys • Geocoding software (examples: ArcGIS or Melissa) • Personnel: Data Analyst or Engineer 	<ul style="list-style-type: none"> • Statistical software (examples: SAS, SPSS, Tableau, Power BI) • Personnel: Business Analyst, Data Analyst, Data Coordinator • Qualitative data analysis through natural language processing capacity (such as NVivo)
<p>Financial resources are likely required to support each of these major activities. Cybersecurity and data privacy measures should be taken into account to ensure data protection.</p>		

Resource: [Collaborating With Licensing Bodies in Support of Health Workforce Data Collection: Issues and Strategies. 2016.](#)

HOW DO OTHER STATES MANAGE HEALTH WORKFORCE DATA?

States vary significantly in their implementation of data-related activities. Review the implementation options below to consider what might make sense in your state.

MODEL A: DEVELOPING STATE GOVERNMENT-BASED HEALTH WORKFORCE INFORMATION CENTER

Data-related activities require significant data expertise. Some states have developed an internal expertise. For states that have pursued this model, this center may be housed within a department of health (a common superuser of workforce data due to primary care office activities associated with health professional shortage area designation activities) or regulatory agency (generally where the data originates, through the licensing process).

STATE EXAMPLES:

- [Minnesota Health Workforce Planning and Analysis Unit](#), housed within the Minnesota Department of Health
- [Texas Health Professions Resource Center](#), housed within the Texas Department of State Health Services
- [Virginia Healthcare Workforce Data Center](#), housed within the Virginia Department of Health Professions

INSIDER TIPS:

- Most states have an [Area Health Education Center](#) (AHEC). In some states, the AHEC receives state funding support. The AHEC may be an untapped health workforce data powerhouse, like it is in [South Carolina](#).
- Many states have developed a cross-governmental center to manage state data. Are there any opportunities to leverage this data expertise to tackle health workforce issues?

MODEL B: PARTNERING WITH EXTERNAL EXPERTISE TO SUPPORT STATE GOVERNMENT

Internal data expertise may not be available within your state. Many states have developed strategic partnerships with external entities to provide this data support. A memorandum of understanding and data use agreement can ensure the state's goals are met.

- [Indiana Bowen Center for Health Workforce Research and Policy](#), housed within the Indiana University School of Medicine
- [Sheps Health Workforce NC](#), housed within the University of North Carolina Chapel Hill



If a multi-profession approach feels overwhelming, consider starting with a single profession. The [Illinois Nursing Workforce Center](#) is a state initiative focused exclusively on workforce data and initiatives for LPNs, RNs, and APRNs.







OPPORTUNITY FOR ACTION

Wondering which model might make the most sense for your state? Consider what strategic strengths your state possesses. Are there any state agencies that could take on health workforce data? Any opportunities for strategic partnerships with external entities?

Transform the data into actionable information using collaboration to maximize impact

HEALTH WORKFORCE DATA REPORTING FORMATS

There are several common formats that health workforce data may take to support assessment, planning, and policy development. In order to make the greatest impact, the data has to be presented in a format that connects with the intended audience. Below are some examples of data outputs and potential corresponding use cases.

Reporting Format	Use Case
<p>Data Files</p> 	Data file transfers support states' HPSA processes. This format is also beneficial when the data question results in a list of professionals that meet certain criteria.
<p>Data tables and charts</p> 	This is a common data product with a variety of potential use cases. This format can be useful for presentation, reports, grant applications, and assessment.
<p>Maps</p> 	Depict workforce distribution across state or within specific geographies. When coupled with population data, population to provider ratios can be presented and may be useful for identifying shortages.
<p>Infographics and Visualizations</p> 	Accessible and engaging graphics that present the data in ways that are easy to understand. This format may be useful for marketing campaigns, briefs, and other materials focused on reaching broad audiences.

IN ADDITION TO ANSWERING AD HOC QUESTIONS RELATED TO THE HEALTH WORKFORCE, THESE DATA CAN BE USED FOR CROSS-GOVERNMENTAL STATE PLANNING.

Many states have strategies in place to support state health workforce policy coordination, or the use of data to support state health workforce planning. The way in which states formalize these strategies varies but may include: a dedicated state health workforce entity (such a center, office, commission, or council), funding to support coordination activities, or a formal charge through state statute or rules. States that have developed this capacity generally have supported such activities through leadership of a state agency, which is done by the agency directly or in partnership with an external entity.



HEALTH & HUMAN SERVICES

Definition: States have a significant role in health and human service functions, such as administration of Medicaid and other public sector programs, public health activities, health facility regulation, and more. States vary significantly in how health and human service activities are distributed into executive branch agencies (ex: one agency that offers all health/human service activities, or two or more agencies that fulfill distinct services). Among the states with formalized health workforce policy coordination strategies, health or human service agencies most frequently lead coordination efforts.

BENEFITS TO THIS APPROACH:

- Under this strategy, population health is front and center.
- These agencies are commonly responsible for supporting state Health Workforce Shortage Area designation activities, which may ensure that any policy work done within this agency has a natural connection and foundation of health workforce data.
- If a state has state-based health workforce incentive programming, such as scholarships or loan repayment, these activities are generally housed under health and human services or public health agencies. As such, broader policy coordination activities established through formal mechanisms is a natural alignment.
- Many health care delivery and regulatory activities are within the purview of health and human services or public health agencies, including Medicaid programming, public health activities, health facility/provider licensing, and population- or program-specific initiatives such as behavioral health or long-term care.

CONSIDERATIONS:

- Health and human services agencies are frequently responsible for administration of a number of policies and programs. Care must be taken to ensure the coordination is properly valued and resourced and not lost in other initiatives.

STATE EXAMPLE:

[Georgia Board of Health Care Workforce](#)



LABOR/WORKFORCE DEVELOPMENT

Definition: States are responsible for state workforce development activities, including directing pass-through funding to support these activities and developing a state workforce plan. Some states have aligned their health workforce policy coordination activities with broader state workforce development activities to bring a labor-specific lens and see health as a workforce development industry.

BENEFITS TO THIS APPROACH:

- States are responsible with creating a state workforce plan. States with a labor/workforce development perspective leading health workforce policy coordination activities are well-positioned to contribute to the health industry section of the state workforce plan.
- The Bureau of Labor Statistics has well-established processes for supply and demand data by occupation and by industry classification. Alignment with labor/workforce development provides states with a solid data foundation to initiate health workforce policy coordination conversations and validate or provide contextual information on data findings.
- Labor/workforce development strategies (earn-and-learn programming, registered apprenticeships, upskilling, industry credentials, etc.) have historically been siloed from traditional health workforce development strategies (such as loan repayment, scholarships, regulatory policy change, etc.). States with a labor/workforce development perspective leading health workforce conversations adds new strategies to historical health workforce development strategies.

CONSIDERATIONS:

- Generally, workforce development conversations prioritize high-wage, high-demand jobs with minimal entry requirements. Although these jobs do exist in the health sector (ex. Dental assistant, dental hygienist, registered nurses), there are a number of other health occupations that fall outside of these criteria. For example, some health occupations may be high-demand, lower-wage (but critically important to population health activities), such as certified nurse aides and home health aides. Other jobs may be high-wage, high-demand, but have significant education and training requirements, such as physicians, physician assistants, and behavioral health counselors. Alignment of health workforce policy coordination activities with labor/workforce development perspective, may be helpful to identify and meet the workforce needs of the state.

STATE EXAMPLE:

[Washington Health Workforce Council](#)



OCCUPATIONAL REGULATION/LICENSING

Definition: States serve a major role in occupational regulation of the health workforce. State entities responsible for health workforce occupational regulation may serve a leading role in a state's coordination of health workforce policy and programming.

BENEFITS TO THIS APPROACH:

- States have a major role in determining entry (prohibitions, education/training, examinations, etc.) and practice (services that can be provided and those that cannot, supervision or oversight, etc.) policies.
- Policy coordination strategies that include multiple perspectives (and represent multiple occupations) could neutralize challenging profession-specific policy discussions.

CONSIDERATIONS:

- States vary significantly on how occupational regulation is structured, from a centralized agency that oversees and implements all regulatory activities to a decentralized approach which relies on independent occupational boards to conduct regulatory activities. State structuring of health workforce occupational regulation should be taken into account when determining feasibility of this approach.
- Although significant, health professions' occupational regulation is only one of the many policies related to the health workforce. Alignment with occupational regulatory entities may limit policy coordination in other spaces (ex: Medicaid, health professional shortage area activities, workforce development, etc.).

STATE EXAMPLE:

[Virginia Board of Health Professions](#)



OPPORTUNITY FOR ACTION

Thinking about what might make sense for your state? Start by making a list of the key stakeholders in your state who might provide insights into current initiatives or strategic opportunities using the [Tool E: Stakeholder Inventory Tool](#). As a bonus, these might be the same individuals who could sit on such a coordinating body and provide direction.