State-Level Health Workforce Data Collection, Analysis, and Dissemination: An Introduction

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Resource Brief, Feb. 2015

Background

With the transformation of the U.S. health care delivery system, states are more motivated to collect timely, objective, and comprehensive state-level health workforce data because policymakers and stakeholders lack the basic information needed to answer questions about the supply, demand, and distribution of health professionals. For example, states often ask[1]:

- How many health professionals do we currently have and in what settings and places do they work?
- For what types of health professions and in what settings/places will demand for their services outpace supply?
- How many nurses do we currently have and how many diploma and associate degree nurses go on to pursue an advanced degree?
- Are we retaining the health professionals that we train in our state?
- Are health professionals serving in the geographic areas, specialties, and practice settings where they are needed most?
- How can we retool our education and regulatory systems to meet the needs of a rapidly changing health care system?

This brief addresses common challenges facing states that are interested in using health workforce data to inform state health workforce policy decisions. It is relevant to states that are just beginning to collect health workforce data, as well as states that have workforce data collection efforts underway but wish to go further in using them to support policy decisions.

Starting a Data System

Opportunities

While many health profession labor markets are local, most policy levers affecting the training and deployment of health professionals can be applied at the state level. Access to basic health workforce data is essential to plan for educational programs, shape regulatory policies, identify shortage areas, forecast employment needs, and justify funding requests. Data can also be used to evaluate the impact that policy decisions have on workforce. These can be applied in reforms that focus on state mental health or Medicaid reform, or changes in medical or dental school admissions policies. Proper information about a state's current health workforce is necessary to evaluate existing programs and to plan for future needs.

Challenges

Collecting, analyzing and disseminating health workforce data is a complex task and there are several challenges to consider.

1. *Motivational:* The need for more accurate, timely, and comprehensive workforce data may appear clear, but persuading policymakers, funders, and owners of data to invest in resources (time, staff, and funding) can be a daunting task. The challenge is how to bring the right stakeholders to the table and convince them that this is a crucial activity.

2. *Organizational:* Who will be responsible for collecting the data and where will the data be housed? The answers to these questions will

[1] Fraher EP, Gaul K, Spero JC. Building State Nursing Workforce Data Systems: Three Briefs. Program on Health Workforce Research and Policy, Cecil G. Sheps Center for Health Services Research Website. http://www.shepscenter.unc.edu/workforce_product/nursing-data-system-briefs-inqri-2/. 2013. Accessed February 20, 2015.

affect the perceived objectivity of the data and analyses. Deciding where to house the data can also sometimes generate turf wars between agencies as stakeholders jockey for control of the data. Other important questions to consider are: will the collection of health workforce data be part of a legislative mandate?; how will you protect data confidentiality when it comes?; and who will be able to access the data, for what purposes, and at what cost?

3. *Analytical:* Once data has been collected, it is important to clean, analyze, and report the data in a way that is timely and useful to state policy makers. How current and accurate is it? Determining who is actively practicing in the state and where they are practicing is useful, but can be difficult depending on the quality of the data. Other useful analyses may include:


Age-sex breakdowns to help indicate whether the number of entering professionals is enough to replace those who are approaching retirement


Comparing the racial diversity of the workforce to the populations they serve


Summarizing training location to identify how many professionals were educated in the state or region


Mapping the distribution of health professionals to identify gaps in access to care

4. *Financial:* How will the development and continued operation of a state-level health workforce data system be funded?

Other Considerations

Maintain objectivity: To build trust with stakeholders, it is important to maintain objectivity on what are often contentious health workforce policy debates. Set clear boundaries between the organizations(s) collecting and reporting the data and those that are using the data for advocacy purposes. To the extent possible, house the data system under a neutral party where it will be free from political, professional, and advocacy influences.

Don't reinvent the wheel: The National Center for Health Workforce Analysis (NCHWA) and key partners have developed Minimum Data Set (MDS) guidelines.[2] The MDS is a set of basic questions that states and organizations can build upon to collect the data they need about their health workforce. Additionally, the Health Workforce Technical Assistance Center[3] (HWTAC) and the National Governors Association[4] (NGA) have been assisting various states in their health workforce data collection efforts. The HWTAC and NGA are resources for best practices and put states and organizations in contact with other states that are developing or have developed their own data systems.

Determine what data to collect: Whether developing a new data system or expanding an existing system, decisions need to be made about the:

1. Number and types of health professions from whom to collect data;
2. Frequency of data collection; and
3. Amount of data to collect about the profession.

For example, since 1979, North Carolina has collected and reported licensure data annually on 19 different health professions. New York surveys health professionals at re-registration every 2 years for physicians and every 3 years for other professions. The National Sample Survey of Registered Nurses was administered and reported on every 4 years.

These decisions will affect your analyses, results, staffing, funding, ability to answer policy questions and, fundamentally, how to set up a data system.

[2] See http://bhpr.hrsa.gov/healthworkforce/data/minimumdataset/index.html

[3] http://www.HealthWorkforceTA.org

[4] http://www.nga.org/cms/center/health

Determine data collection method: How you collect data depends on the partners, stakeholders, and funding. Most established data systems draw on one of the following mechanisms:

- Licensure System: Data are collected when health professionals apply for their initial license and when they renew. This is one of the most efficient and cost-effective methods to collect data. Some questions are mandatory, others are optional. The organizational structure of the licensing boards—whether they operate independently or are housed under the umbrella of state government—will present different opportunities and barriers to collecting and sharing data. *Examples: North Carolina, South Carolina, Virginia*
- Surveys: Data are collected through periodic surveys, either in conjunction with the licensure process or as a separate effort. This method requires more staff time and money, and response rates may vary, but this is a good option if licensure data are unavailable. *Examples: New York, Wisconsin*
- Continuous Monitoring: Data collection begins with a list of all licensees in one or more professions. From there, states track individuals through surveys, news clipping services and other methods to determine practice status, practice setting, and other characteristics. This method can be costly, especially for states with many health professionals, but it may provide more up-to-date information. *Examples: Iowa, Nebraska*

Other secondary data sources that can be used to enumerate the workforce in a specific state include the National Provider Identification (NPI) file, the American Medical Association (AMA) Physician Masterfile, the US Bureau of Labor Statistics, and the Census Bureau's American Community Survey, among others. Additionally, all-payer claims databases can also be used to enumerate the health workforce in select states, but there are significant limitations. It is important to understand the primary sources, costs, and limitations of each data set.

Relationships Matter: Good working relationships and trust between stakeholder groups are crucial to the initial and continued success of a health workforce data system. Stakeholders are a data system's audience, champions, and funders. They help identify research and policy questions and provide financial support. They utilize, promote, and help contextualize the data, and can point out issues that need to be addressed.

Building and maintaining strong relationships requires strong leadership and communication. Third-party facilitation can help groups work together and overcome barriers to collaborating. Additionally, relationships can solidify through funding opportunities. For example, state health care workforce development planning and implementation grants awarded by the Health Resources and Services Administration (HRSA) in 2010[5] required a link to the state's departments of commerce and/or labor. For many states, this was an opportunity to create new partnerships and expand their body of work.

Maintaining a Data System

Once a health workforce data system is in place, keeping it going requires continuous effort. Results must be produced, and documentation must be completed to support a case for continued funding.

Opportunities

Leverage results and relationships: States with existing data systems have data to show as fruits of their labor, and they have begun to form solid

[5] Affordable Care Act: State Health Care Workforce Planning Grants. Health Resources and Services Administration Website. https://grants3.hrsa.gov/2010/Web2External/Interface/FundingCycle/ExternalView.aspx?&fCycleID=70332C9D-C405-4199-BFE2-78FBF3C52CD3&txtAction=View+Details&submitAction=Go&ViewMode=EU. Accessed February 20, 2015.

relationships with stakeholders. It is valuable to leverage these tangible results and relationships when it comes time to secure additional and/or sustained funding.

Opportunities for expansion: States with established data systems covering a small number of health professions can expand their system to include additional professions or collect additional information on their professions. As health care professionals work in teams, it is advantageous to collect data on multiple health professions to depict a more complete picture of the workforce in a particular state.

Data sharing: States that have more well-developed data systems have been able to successfully navigate data sharing challenges and other obstacles. They may be able to share information about developing data use agreements, and about developing policies on filling data requests and providing analytic files for additional research purposes.

Challenges

Regardless of whether a data system has been recently established or has been in operation for decades, states still face a number of challenges maintaining and advancing their data systems.

Funding: Relatively fixed infrastructure costs are required to maintain a data system, in order to continue collecting and cleaning data. Variable analysis costs are also needed in order to compile the data and disseminate them in a meaningful way. Expanding a data system to answer more complex questions and develop more useful tools requires additional resources.

There is often a lack of funding for the collection and analysis of data to inform policy. Foundations are often geared to fund initiatives that show more tangible results. Stakeholders who require data may be persuaded to fund the analysis costs to meet their specific needs, but they frequently are not willing or able to fund the fixed infrastructure costs.

Developing research and policy agendas: Developing a research agenda requires a deeper understanding of health workforce issues and health policy. Developing a policy agenda is a fine line to walk; those that are perceived to have crossed the line to advocacy can lose the trust of their stakeholders and can lose their funding as well. Sometimes it may be better for outside entities to drive policy, while states provide the data upon which they can make recommendations.

Capacity and priorities: Once planners and policy makers learn that health workforce data are available for analysis, requests may come pouring in. It can be difficult to prioritize or refuse requests, particularly if they are coming from the state legislature, current funders, or potential future funders. One option to manage incoming requests is to establish a fee structure and develop consistent protocols for filling data requests.

Conclusions

Collecting, analyzing, and disseminating health workforce data is a valuable service to states and to other stakeholders. Policy decisions can be made based on valid data rather than anecdotal evidence.

Regardless of whether a state is struggling to develop a data system or has one already established, there are both opportunities and challenges.

The Health Workforce Technical Assistance Center (HWTAC) is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) under grant number U81HP26492, a Cooperative Agreement for a Regional Center for Health Workforce Studies, in the amount of $1,820,048. This content and conclusions are those of HWTAC and should not be construed as the official position or policy of, nor should any endorsements be inferred by HRSA, HHS or the U.S. Government.