Health Insurance Exchanges – How Economic and Financial Modeling Can Support State Implementation

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The enactment of the Patient Protection and Affordable Care Act (ACA) in March 2010 has heightened the need for state-level data and analysis to support health policy decisions. Although this need is not new, the scale of changes and range of decisions that states must make about implementation of the law make it more important than ever that state policymakers have good information upon which to base implementation decisions, and to help understand and evaluate the impact of those decisions.

This brief addresses some of the issues that states will need to consider in making decisions about the health insurance exchanges that are a central part of ACA's health insurance coverage strategy. Specifically, it discusses the issues that states will face in making decisions about how to structure health insurance exchanges[1] and health insurance markets. It is impossible to consider these issues in a vacuum, however—in order to make these decisions, policymakers will need a more comprehensive picture of how the ACA is likely to affect health insurance coverage in their states. They will also need to be able to compare different policy options in terms of their impact on coverage, cost (both costs to the state and overall health care costs), insurance premiums, and access to care.

The U.S. Department of Health and Human Services (HHS) has awarded grants to states for planning activities related to the health insurance exchanges. Many states are planning to use part of this funding for quantitative analysis to help answer the types of questions that policymakers will have about the impact of the ACA and the estimated impacts of different options for the health insurance exchanges in their states. This issue brief provides an overview of the decisions that states will need to make with regard to the goals, data sources, and methods for these analyses.

Planning Ahead: Establishing the Scope of the Analysis

No matter how complex the data and methods used to model the impact of the ACA and the policy options related to the health insurance exchange, states will need to start by defining a clear set of questions to be answered. Examples include:

- How many people will be covered by which type of insurance (individual, small group, large group, public coverage), as well as who will remain uninsured for various reasons? Are there specific population groups of interest that should be analyzed separately (e.g., by age, income, race/ethnicity)?
- How does the affordability and adequacy of coverage vary by type of insurance, and how will this change under the ACA?
- What impact will the ACA have on the state budget? For example, how will costs to the Medicaid program for people who are newly eligible compare to costs for those who would be eligible under current state law?

Specific to states' health insurance exchange planning efforts, several questions are likely to be of interest. Because interest in different options for structuring an exchange will vary by state, the goals and scope of analysis will vary as well. Potential questions that states might wish to address include:

- What is the potential size of the exchange, in terms of the number of people who may enroll either as individuals or through small employer groups? How does the size of these two groups compare to each other?
  - Of those who could potentially purchase coverage through the exchange, how many are likely to do so and how will this vary among the policy options being considered?
  - How would a state decision to implement a basic health plan for

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The SCI strategy focuses on three key elements to build the policy making and technical capacity of the states:

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- Offers responsive policy and technical assistance to improve state policymakers' ability to make informed policy decisions.

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About SHADAC

The State Health Access Data Assistance Center, or SHADAC, is an independent health policy research center located at the University of Minnesota School of Public Health. SHADAC is a resource for helping states collect and use data for health policy, with a particular focus on monitoring rates of health insurance coverage and understanding factors associated with uninsurance. SHADAC is funded by the Robert Wood Johnson Foundation. For more information, visit www.shadac.org.

people with family incomes between 138 percent[2] and 200 percent of federal poverty guidelines affect enrollment in the exchange?

  - For small businesses, states may choose to limit participation in the exchange to businesses with 50 or fewer employees until 2016. How will this decision affect the number of people with coverage through the exchange, and the cost of coverage purchased through the exchange?
  - States may also choose to combine their nongroup and small group insurance markets. What impact will this decision have on coverage and costs across the entire market, and how will it affect enrollment in coverage through the exchange?

- With the implementation of the public program expansions, changes in market rules (e.g., no denial of coverage based on pre-existing conditions and no rescission of coverage) and the penalties and incentives for both individuals and employers to purchase private insurance coverage that are included in ACA, who will gain coverage? What does this population look like in terms of demographics, health status, and health costs compared to people who are currently covered? How will premiums be affected?
- States may choose to collaborate with other states to form multi-state exchanges, or may choose to establish more than one exchange within a state. How will this decision affect the options available through each exchange, likely enrollment in the exchange, and the financial viability of the exchange(s)?

Modeling Approach

Planning ahead for the ways in which the state needs to use the analysis results will inform decisions about the modeling approach, how the model is constructed, and the data sources that are most appropriate to use. For states that hire contractors to do this work, it will be important to have a clear statement of the project scope and needs in order for potential vendors to estimate the budget. If a state's request for proposals (RFP) is vague about the project scope, vendors may respond to this uncertainty by submitting a higher budget than they would for a more clearly defined project; in addition, lack of clarity about the project scope might be an obstacle to completing the analysis in a timely way.

Estimating the impact of the ACA on health insurance coverage is not as simple as estimating how many people are uninsured and how many of these people will gain public or private coverage as a result of the law. The shift from uninsurance to public or private coverage is just one of many types of shifts that are likely to happen under the law—people may also shift from public coverage to employer coverage, individually-purchased coverage, or uninsured status. Likewise, people who currently have employer or individual coverage may shift to another source of coverage or become uninsured. In other words, estimates of the impact of the ACA need to take account of the interaction of a number of complex changes that will be taking place over the next several years.

The complexity of the modeling process chosen to estimate these impacts will likely vary across states. Some states may choose a spreadsheet modeling approach, which essentially models impacts for different groups of people based on averages for the group (for example, by assuming that 50 percent of people who are currently eligible but not enrolled in public programs will choose to enroll). This type of model can range in complexity from very basic to very detailed. Other states may choose a microsimulation modeling approach, which models the impacts of policy changes at an individual person (and employer) level, and then aggregates these individual impacts to estimate the overall impact of a policy change.

Factors and tradeoffs that states should consider in choosing a modeling approach include:

- **Time**—how much time is available to do the analysis? For states that are planning to make decisions about the exchange during their 2011 legislative session, it may be challenging to contract for and/or complete a very complex analysis in a timely way.
- **Resources**—in addition to being much more time-intensive, a more complex modeling approach will also be more expensive.
- **Personnel**—for states that choose a microsimulation modeling approach, it is likely that most (if not all) will need to contract out this work. In many cases, the contracting process will add to the amount of time needed to complete the project.
- **Ability to adapt for future needs**—another consideration will be the state's ability to use the modeling work performed for planning the health insurance exchange as a foundation for future modeling. In most cases, states do not have direct access to the models built by consulting firms, and so future add-on work will require additional money for contracting.

A recent report from the Maryland Health Care Reform Coordinating Council provides an example of a spreadsheet modeling approach to estimating the impact of health reform on the state budget.[3] Colorado and Minnesota provide two additional examples of states that have used microsimulation approaches to model the impact of health reform proposals in recent years.[4]

Establishing a Baseline

Regardless of the type of modeling approach chosen, it will be important to start by establishing a baseline scenario that describes what will happen in the future without policy change.[5] The

impact of policy options being evaluated should be measured against the baseline.[6] Creating the baseline involves several important decisions that are likely to influence the end result. For example, determining the time horizon for the model will be important, and projections about future population growth, demographic composition, and economic characteristics (e.g., employment, income distribution) will all be important issues to consider in building a model that is as accurate as possible. States that contract out the modeling should ask questions and be involved making these decisions.

Another important attribute of a good modeling analysis is transparency. The model output should be detailed enough so that it is easy to see the impact of changing assumptions—for example, in addition to showing net effects (e.g., reduction in number of uninsured), the model should also show the shifts between sources of coverage (e.g., uninsured to employer coverage, employer coverage to uninsured) that resulted in that net impact. The model's assumptions, as well as the evidence on which they are based, should be explicit, and the model should be tested for sensitivity to alternative assumptions. In addition, descriptions of the model results and the modeling process should include a discussion of the limitations of the analysis.

Inputs to the Model

In general, states have shown a strong preference for using state-specific data to model health policy changes. However, there is no clearly preferred single source of data for modeling the impact of health policy decisions at the state level.[7] One commonly used source of data about state-level health insurance coverage is the Annual Social and Economic Supplement to the Current Population Survey (CPS), conducted by the U.S. Census Bureau each year between February and April. However, this data source has limitations for use in state-level modeling. For example, sample size is an issue, particularly for smaller states. The American Community Survey (ACS) conducted by the Census Bureau is another potential source of state-level data for modeling health insurance coverage. Data on health insurance coverage are available from the ACS beginning in 2008. Because it is new, states may be less familiar with this data source, but its sample size is much larger than the CPS in every state and allows for sub-state analysis (e.g., regions or counties within a state).

Several states also conduct their own population health insurance surveys. These surveys, because they tend to have more in-depth information about health insurance coverage and related issues such as health status and use of services, may also be a promising source of data for modeling the impact of policy changes.

In addition to survey data, state Medicaid enrollment and claims data are likely to be useful data sources for modeling the impact of ACA and policy options being considered by states. State-level information on the private health insurance market (for example, employer offer rates, take-up of coverage, prevalent benefit designs, and premium levels) will also be an important input. In some states, this information might be available through existing reporting from health plans and health insurance companies. The Medical Expenditure Panel Survey Insurance Component (MEPS IC) is another potential source of state-level data on employer coverage, with annual estimates available for all 50 states and the District of Columbia. In addition, some states conduct their own surveys of employers about health insurance coverage offer, take-up, premiums, benefit levels, and employer/employee contributions.

For states that have an all-payer claims database (APCD) in place,[8] this data source could be helpful in understanding differences in utilization and cost of care—including out of pocket costs—for people covered by public versus private insurance. States could also use information about out of pocket costs from the Medical Expenditure Panel Survey Household Component (MEPS HC) conducted by the Agency for Healthcare Research and Quality, although these estimates are not published at the state level.

Actuarial Analysis

The impact of the ACA on private health insurance premiums will be important to consider as an input to the model, because individuals' and employers' decisions about purchasing or offering coverage depend on cost. The impact of the law on private health insurance premiums will depend on: 1) the impact of changes to insurance rules (e.g., eliminating lifetime and annual limits on coverage, establishing an essential benefit design to serve as a floor for determining compliance with the individual mandate); and 2) how the characteristics of people who will gain private coverage under the law vary from those of people who currently have coverage (for example, if they are healthier on average, premiums will be lower than they otherwise would be). Similarly, people who gain coverage through public programs are likely to have different characteristics than the populations that are currently covered, and it will be important to take this into account in estimating the impact of the ACA.

An actuarial analysis of how the different policy options being considered will affect per person costs in public programs and/or private insurance would be a useful input to the economic modeling process. This analysis would be particularly important for policy options that fundamentally restructure markets—such as combining the small group and nongroup markets, or expanding the definition of "small employer" eligibility to purchase coverage in the small group market. As with the other components of the modeling, states should ask questions about the sources of data being used for the analysis, the assumptions being made, and the limitations. For example, how representative are the claims data being used for the analysis, and are the data specific to the state being analyzed? What does the analysis assume about the benefit

design, and what does it assume about the cost impact of required changes to benefits under the ACA (e.g., removal of annual and lifetime benefit limits)? What does the analysis assume about the cost trend over time? How sensitive are the results to alternative assumptions?

Financial Modeling of the Exchange

The ACA requires the health benefits exchange to implement and administer a number of operational and administrative functions. For example, under Section 1311—Affordable Choices of Health Benefit Plans, some of the specific tasks identified include:

- Provide for a toll-free telephone hotline;
- Develop a system for eligibility determination, verification, and enrollment;
- Certify, recertify, and decertify health plans as qualified health plans (QHPs);
- Maintain an internet website through which enrollees and prospective enrollees of QHPs may obtain standardized comparative information on such plans; and
- Make available by electronic means a calculator to determine the cost of health coverage after the application of any premium tax credit and cost sharing reduction.

In addition, Section 1313—Financial Integrity requires an exchange to keep an accurate accounting of all activities, receipts, and expenditures, and submit annually to the Secretary of HHS a report of such accounting. Other provisions include an annual audit by the Secretary of HHS and the development of a system of internal control to ensure the safeguarding of assets and to allow for protections against fraud and abuse.

In summary, the exchange is tasked with a broad scope of obligations and responsibilities that will require careful operational and financial planning by states. Not only will the exchange need to be administratively efficient, especially to compete effectively in the small group market, but as a result of the requirement to be self sustaining in 2015, will need to make a number of key operational and financial decisions early in the planning and development process that will affect the long-term viability of the exchange. Therefore, it is in the best interest of state policymakers and administrators of the exchange to research and develop the most comprehensive database possible on which to base such decisions.

Unlike a typical governmental unit, in which an expense budget is developed and managers of the unit must manage to a known target, exchanges will be confronted with a classic start-up issue: incurring significant expenses while dealing with an uncertain revenue stream. This balance will be especially acute in the early stages, as enrollment may ramp up less slowly than estimated while at the same time the "burn rate" on cash has already been committed. Therefore, while solid budgeting discipline, strong vendor negotiation, and expense management should be a core competency, exchanges will also need to develop additional expertise and data sources for revenue forecasting.

Exchange Revenue: To begin to build a framework to assess the financial needs (revenue and expenses) of an exchange, states should plan on leveraging the same source data that will provide input into the policymaking process. For example, the micro-simulation model noted above, that assesses the potential number of individual and small employers that will purchase or offer health insurance through the exchange, will be an essential building block for determining the expected size of the exchange. As the cost of exchanges are extremely sensitive to scale, the range of potential enrollee take up through the exchange is a critical early data point for financial modeling. Not only the absolute number of potential enrollees, but the timing of the ramp up of enrollees will need to be developed for budgeting and financial modeling. The number of people that may enroll through the exchange will be an ongoing guidepost for future decision-making, and will greatly influence not only the revenue forecasts but also impact modeling for expense estimates, and the assessment of the IT infrastructure needs of the exchange.

Another critical data element for revenue forecasting will be the average monthly premium yield of exchange enrollees. As most exchanges will likely be generating a significant percentage of their revenue through a premium assessment, developing a model that quantifies the expected premium levels will be critical. A significant amount of the data necessary to inform this part of the financial modeling can be developed by integrating the micro-simulation and population flow models used to determine the potential size of the exchange to survey data from state insurers and performing actuarial studies and analysis on this combined dataset. Examples of the types of data that will be necessary for states to model the expected premium level of exchange enrollees, and therefore average expected revenue yields, include: (a) relative size of the non-group and small group market; (b) expected premium levels of each market segment; (c) average group size of small employers; (d) average age of the market segments or relative size of the rating age bands; (e) income level of enrollees; and (f) estimated take up by actuarial value tier.

In bringing together the potential size of the exchange with the average expected premium yield of exchange enrollees, states can perform robust sensitivity analysis on the assessment level necessary to yield certain revenue amounts. This revenue modeling will be iterative, informed not only by the build-up of the estimated administrative budget (see below), but also the level of the assessment policymakers believe will be tolerated in the local markets.

Exchange Expenses: In addressing the expense side of the financial equation, early spending will be primarily on IT infrastructure and related expenses, salary

and benefits for full time staff, consulting and professional support, and communications and outreach. For example, states will need to develop a thorough assessment, and possible procurement, on a wide range of IT systems and processes which include: (a) eligibility determination, verification, and enrollment; (b) customer call center and a consumer toll-free hotline; (c) consumer-friendly website to compare QHPs, plan designs, premium rates and possibly other information on the network adequacy and quality of plans and quality/efficiency ratings of providers; (d) premium billing and premium tax credit tracking and reconciliation; (e) financial accounting; and (f) management reporting and data warehousing. States will have significant data needs due to the level of transparency required by the ACA, including initiatives such as the implementation of risk adjustment, which will require claims-paid data extracts from carriers; they will need to plan budget forecasts accordingly. States that have an all-payer claims database might wish to consider whether this source of data can be used or adapted for this purpose, in order to reduce reporting burden and minimize costs to both the state and insurance carriers.

As the hiring of permanent staff will likely lag the level of effort necessary in the start-up phase of the exchange, there may be an early reliance on consulting and staff augmentation support. Communications and outreach will be a necessary spending category in order to communicate broadly and effectively with a wide-range of constituents and stakeholders. For each spending category, states will need to bring best practices to the procurement of such resources and ensure they are building scalability and flexibility into the negotiation and implementation of such contracts.

Fixed and Variable Costs: In developing short-term budget forecasts and longer-term business plan documents, states should also clearly identify start-up costs from ongoing fixed and variable costs. Due to the availability of federal funds through 2014 to help offset states costs in setting up an exchange, states will need to carefully identify ongoing fixed and variable costs when developing their revenue forecast models. Understanding the cash flow implications when transitioning from federal grant funding to revenue generation, and how much of an exchange's current obligations are fixed or variable, will be especially critical during the start-up of operations.

Bringing It All Together: In bringing together the two separate but related financial models (revenue and expenses), states can begin to develop a clearer financial picture that will inform a number of key decisions. Like most organizations, there will most likely be a number of trade-offs confronted by the administrators of the exchange. For example, certain IT requirements may require a level of revenue not achievable, thereby necessitating a change in the technical specifications or more negotiations with a vendor. Conversely, certain operational or administrative requirements that are considered must-haves may require a higher assessment than previously considered. In either case, both sides of the financial equation will need to work together in an iterative fashion to achieve the best result. An over-reliance on revenue or expenses in the financial management of the exchange could result in poor decision-making and jeopardize the financial viability of the exchange.

Conclusion

This issue brief describes some of the issues that states will need to consider as they think about modeling the impact of the ACA in their state. Although many other considerations will no doubt play a role in the decision-making process, economic, actuarial and financial data provide a solid, fact-based foundation for the many decisions facing states about key aspects of the health insurance exchanges.

To get the most benefit out of the modeling process, states should plan ahead for the key questions that will need to be answered by the analysis, carefully weigh the tradeoffs associated with different modeling approaches and data sources, and be realistic about the limitations of the analysis. With good planning and careful execution, modeling can be an incredibly important tool for states in deciding how to set up a right-sized health insurance exchange that meets state goals and stays within budget.

About the Authors

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Since leaving the Health Connector, Mr. Holland has been assisting federal and state governments in early planning for state-based benefit exchanges, working with provider-driven organizations to maximize performance under risk-based contracts, developing payment methodologies for a Medicaid demonstration waiver program, and developing a healthcare reform business strategy for a multi-specialty physician organization.

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Endnotes

1 In this issue brief, the term "health insurance exchange" refers to both the American Health Benefit Exchanges for individually-purchased health insurance coverage and Small Business Health Options (SHOP) Exchanges for small employer groups.

2 Although the ACA sets eligibility at 133 percent FPL, it also includes a 5 percentage point disregard for income which makes the effective eligibility threshold 138 percent of poverty guidelines.

3 Maryland Health Care Reform Coordinating Council, "Interim Report," July 26, 2010. The model is described in detail in Appendix F to this report. The report is available at www.healthreform.maryland.gov/interimreport.html (accessed October 1, 2010).

4 Colorado's Blue Ribbon Commission for Health Care Reform contracted with the Lewin Group, Inc. in 2007 to model the impacts of five alternative proposals for state health reform. The report is available at www.colorado.gov/cs/Satellite/BlueRibbon/RIBB/1207055681539 (accessed October 1, 2010). In Minnesota, the Department of Health contracted with Mathematica Policy Research, Inc. in 2007 for modeling related to the establishment of a health insurance exchange and other market reforms. This report is available at www.health.state.mn.us/divs/hpsc/hep/publications/legislative/mathematicafinalreport.pdf (accessed October 1, 2010).

5 See, for example, Bowen Garrett et al., "The Cost of Failure to Enact Health Reform: 2010-2020," March 2010, www.urban.org/publications/412049.html (accessed October 1, 2010).

6 Another alternative is to analyze the impact of policy change in comparison to the current situation. If time and resources are available, it is preferable to create a baseline for future years, especially if it is important to understand impacts several years into the future (e.g., for state budget forecasting purposes).

7 The State Health Access Data Assistance Center (SHADAC) can provide technical assistance to states in considering which data sources to use, depending on the specific goals of analysis and the data available.

8 For more detail on All-Payer Claims Databases, see "All-Payer Claims Databases: An Overview for State Policymakers," State Coverage Initiatives, May 2010, www.statecoverage.org/node/2380.