



ACA Coverage Expansions: Measuring and Monitoring Churn at the State Level

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1. Introduction

For years, state policymakers have been concerned about the effects of people cycling between Medicaid or the Children’s Health Insurance Program (CHIP) and uninsurance due to temporary changes in eligibility. Known as “churning,” the phenomenon of moving in and out of Medicaid/CHIP coverage carries health and financial risks to individuals and families, as well as increased program costs.^{1,2} By providing new avenues for Americans to obtain health coverage, such as expanded Medicaid programs and subsidized private health coverage, the Patient Protection and Affordable Care Act (ACA) is expected to address some of the most negative effects caused by periods of uninsurance as people churn in and out of Medicaid/CHIP.

While new options for health coverage will bring clear benefits, such as reduced financial risk and improved access to health care, to many people who might otherwise go uninsured, these innovations also create the potential for a different type of churn. Substantial numbers of people will continue to experience shifts in income or family composition, causing them to churn between Medicaid/CHIP and other forms of coverage. Tax credits to reduce premium costs will make alternative health coverage more affordable for many of these people, but they will face new challenges. For example, the qualified health plans these new churning individuals will be able to purchase through insurance exchanges will likely have different benefits, creating transitions that could disrupt beneficiaries’ continuity of care, with potential health and financial implications. Churning between Medicaid/CHIP and health insurance exchange coverage is a particular concern as states consider what policies are needed to best align these two coverage sources.

It will be important for state policymakers to understand both types of churn under the new health reform environment, including its implications for public programs and individuals, as well as policy options for addressing the consequences of churn. Because many details of churn are dependent on the demographic characteristics of states’ populations (e.g., income and age) and states’ policy decisions (e.g., whether to expand their Medicaid programs) it will be helpful for states to monitor levels and project the amount and types of churn they can expect under various scenarios.

2. Literature summary

To understand the issues of churn under the ACA, with its new potential for churn between Medicaid/CHIP and private coverage available through exchanges, it's helpful to understand how the challenges are similar to and different from traditional churning between Medicaid/CHIP and uninsurance. This paper focuses primarily on churn involving Medicaid rather than CHIP because of recent changes to Medicaid programs. However, churn involving CHIP programs also occurs, and the issues of churn should be similar for both Medicaid and CHIP. Among the top reasons churn historically has been of concern to policymakers are: 1) the negative health and financial implications of churn for individuals and families, 2) the added costs of churn to Medicaid programs, and 3) the substantial prevalence of churn.

Churn Prior to the ACA

Research into pre-ACA churn between Medicaid/CHIP and uninsurance has found the phenomenon to be common among both adults and children. There are multiple reasons that people historically cycled in and out of Medicaid/CHIP programs, including:

- “Drop-out,” in which an eligible person is disenrolled in a program for administrative reasons, such as lapses in completing paperwork during the re-enrollment process,
- Obtaining insurance through other, non-Medicaid/CHIP sources, such as employer-sponsored insurance or private coverage, and
- Loss of eligibility through increased income or other life-event changes, such as marriage or aging out of a program.^{3(p62)}

While some of these reasons for being disenrolled from Medicaid/CHIP could be considered positive and thus aren't typically considered as part of churn, such as gaining employer-sponsored coverage or purchasing private coverage after recovering from a temporary drop in income, other ways may signal reasons for concern. For example, a person with income that normally qualifies for Medicaid could work a few extra hours on a temporary basis, causing him to lose Medicaid eligibility for a short time, or a person who remains eligible could experience trouble with re-enrollment paperwork, losing coverage during the lapse in enrollment. Pre-ACA research has found that 43 percent of adults and 26 percent of children who enrolled in Medicaid were disenrolled within 12 months.⁴ Of particular interest to those concerned with churning, 17 percent of adults and 28 percent of children had re-enrolled within six months after disenrolling, while 49 percent of adults and 43 percent of children remained uninsured,

and 34 percent of adults and 29 percent of children had obtained another form of coverage, such as direct-purchase or employer-sponsored insurance.⁴

The prevalence of cycling between Medicaid and uninsurance means the phenomenon impacts large numbers of individuals and families, putting them at risk for substantial health care costs during periods without insurance. Research has found that periods of uninsurance during churn can aggravate health conditions when people avoid or delay treatment, leading to exacerbated health conditions with higher costs, such as increases in preventable hospital admissions for conditions (e.g., asthma, diabetes and hypertension).^{5,6}

In addition to the negative health effects and financial implications for individuals, churning also increases expenditures for Medicaid programs, both through costs of care and administrative costs. Research has found that monthly expenditures for Medicaid beneficiaries decrease as individuals spend more time in the program, but gaps in care can cause those gains to be lost when people lose access to the routine care that was helping them manage their health.^{7,8} When people churn back into Medicaid/CHIP, their costs increase compared to the period before their lapse in coverage.⁹ The administrative processes of disenrolling and re-enrolling Medicaid beneficiaries experiencing churn also can be costly. Research has estimated the cost to re-enroll a single child in New York's Medicaid and CHIP programs to be \$280, and it has been estimated that California spends \$120 million annually to re-enroll children in its Medicaid program.^{2,10}

KEY TERMINOLOGY

Churn under the ACA: Churn is a change of enrollment in Medicaid or subsidized coverage within 12 months, a typical time period for regular changes to coverage (e.g., Medicaid re-certification or the approximate period from beginning of one open-enrollment period to the next). This could be a single change of enrollment or multiple changes in enrollment, both of which would raise the risk that individuals who churn would face discontinuity of care as they transition between coverage types.

Churn Under the ACA

Health reforms have changed the context for churn by providing enhanced access to health insurance in two ways:

- An expansion of Medicaid coverage to more people, including an increase in the income-eligibility limit to 138 percent of federal poverty guidelines (FPG)ⁱ in 27 states,¹¹ and
- Subsidies to defray some of the cost of private coverage obtained through newly created health insurance exchanges.

Since passage of the ACA, court decisions have generated limitations and uncertainty about how these provisions will be applied in states. A 2012 decision by the U.S. Supreme Court made Medicaid expansion optional for states, and only about half of the states have chosen to expand their Medicaid programs.¹¹ Federal appeals courts also have issued conflicting rulings about whether the ACA allows subsidies for coverage obtained through the federally facilitated health insurance exchange, raising the possibility that future court decisions could limit subsidies to plans purchased through state-based exchanges. However, currently, subsidies are available to eligible people in all states. The subsidies created by the ACA begin at 138 percent of FPG in states that expand their Medicaid programs and 100 percent of FPG in states that do not expand their Medicaid programs, and they end at 400 percent of FPG nationwide.

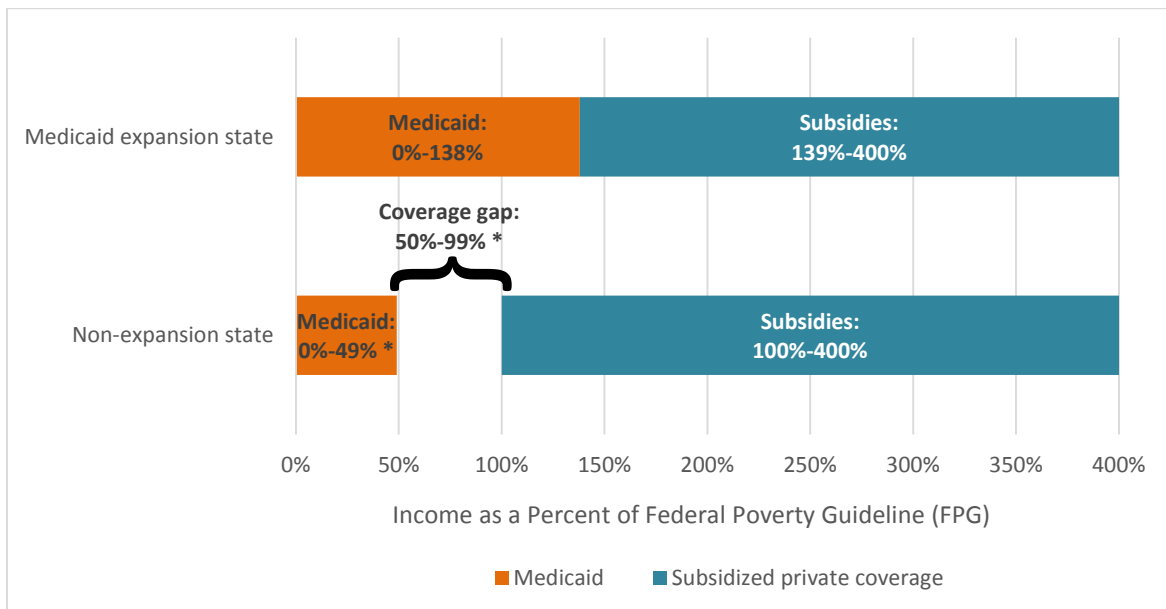
Because of these new coverage options, the historical challenges of churn between Medicaid and uninsurance are evolving, affecting the prevalence of churn, the ways in which churn impacts individuals and families, and the effects of churn on existing public programs, such as Medicaid and CHIP. The ACA is expected to reduce the number of uninsured individuals, but some people will continue to experience the challenges of traditional churn between Medicaid and uninsurance, especially in states that chose not to expand their Medicaid programs. And in many states, the newly created form of churn between Medicaid and exchange-based private coverage will introduce novel challenges.

The most pronounced differences in the types and prevalence of churn are likely to be seen between those states that do and do not expand their Medicaid programs. In states that do not expand their Medicaid programs, people will experience a “coverage gap” between these states’ traditional Medicaid eligibility thresholds and eligibility for subsidized private coverage. Figure 1 illustrates the difference in eligibility thresholds between Medicaid expansion and non-expansion states, including the coverage

ⁱ The ACA sets eligibility for expanded Medicaid to reach 133 percent of FPG. However, that threshold is based on modified adjusted gross income (MAGI), which provides a 5 percentage point income disregard, effectively increasing the income-eligibility threshold to 138 percent of FPG⁵⁴.

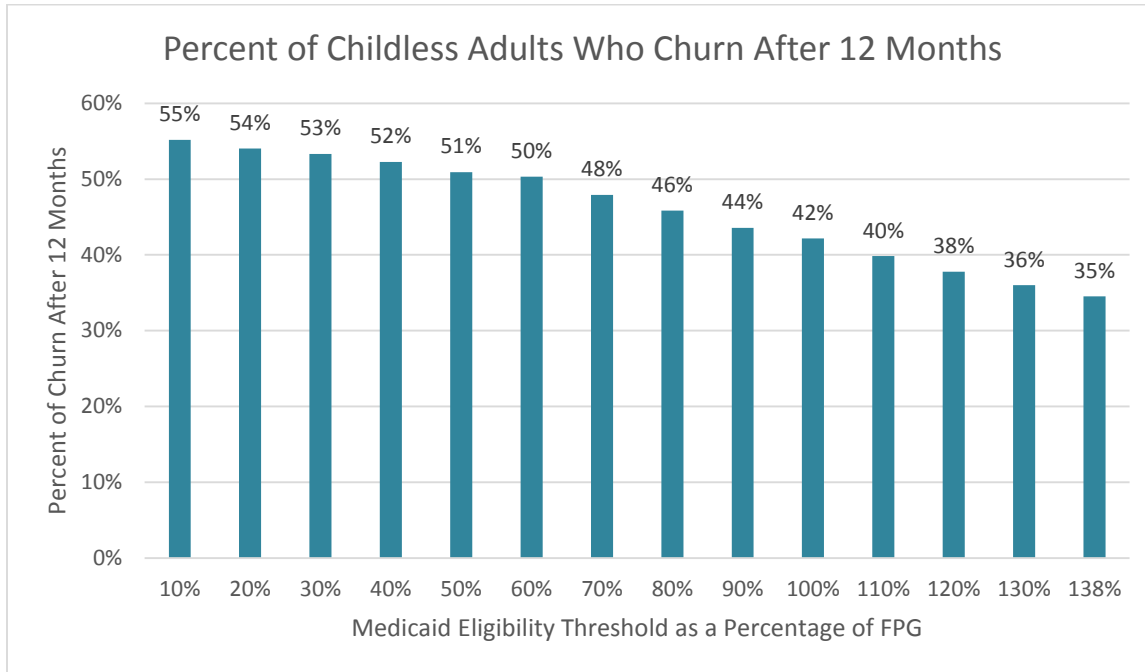
gap, which varies by state but is shown based on the 100 percent of FPG eligibility threshold for coverage subsidies in non-Medicaid expansion states and the median Medicaid eligibility threshold of 49 percent for parents in non-Medicaid expansion states.¹² Without new options for affordable coverage, people in this coverage gap are likely to continue churning between Medicaid eligibility and uninsurance at pre-ACA levels. By raising Medicaid income-eligibility limits to 138 percent of FPG, states that chose to expand their Medicaid programs will see many people who previously would have churned into uninsurance shift directly into eligibility for premium tax credits at 139 percent of FPG. In addition to seeing a change in the type of churn, Medicaid expansion states should see reductions in the prevalence of churn. Research has found that increasing the Medicaid income-eligibility limit reduces churn because there is more room for movement within the income eligibility limit before one exceeds it.^{7,13} Figure 2 illustrates how churn decreases as Medicaid income-eligibility thresholds increase.

Figure 1: Program Eligibility Thresholds in Medicaid Expansion vs. Medicaid Non-Expansion States



* Because eligibility for Medicaid varies by state according to different eligibility categories, the income thresholds for coverage gap also will vary by state and by eligibility categories. The Medicaid coverage gap threshold in Figure 1 uses the median Medicaid eligibility threshold of 49 percent of FPG for parents in non-expansion states.¹² Among non-expansion states, only Wisconsin provides Medicaid coverage to childless adults.¹⁴

Figure 2: Reduction in Churn as Income-Eligibility Thresholds Increase



From Fried and Sonier, 2013.¹³

The newly created category of Medicaid-exchange churn will introduce new challenges for those cycling between eligibility categories. While the financial and health risks to people churning into private coverage should be less severe than churning into uninsurance, people who churn from Medicaid to private coverage will experience barriers similar to those faced by other people moving from one health insurance plan to another. Switching between insurance plans can introduce financial barriers, such as increased co-pays and deductibles, as well as barriers to accessing care if beneficiaries must switch doctors if their provider networks change or medications if their new plans have different drug formularies. Research has found that changes in health coverage can negatively impact access to care, with barriers such as delays in receiving treatment, even if people don't experience a gap in coverage.¹⁵ While this reduced access to care should be transitory, waning as beneficiaries learn to navigate the coverage switch, it has the potential to negatively affect individuals' health during the interim period, especially for people who churn frequently.

Although some negative impacts to individuals and families should be reduced as new churn between coverage sources begins to replace traditional churn into uninsurance, churning will continue to impose

administrative costs as people cycle in and out of Medicaid programs. Each time a person churns in or out of a Medicaid program, resources are spent to enroll or disenroll that person, and costs of care may increase if beneficiaries' health is negatively impacted during transition periods when people face barriers to accessing care. The advent of health insurance exchanges and premium tax credits also creates new administrative costs. Health insurance exchanges where churners may obtain private coverage will incur administrative costs as they determine eligibility for tax credits and enroll people in health plans. Additionally, private insurers also will face new administrative costs as they enroll and disenroll people churning between Medicaid and private coverage.

KEY TERMINOLOGY	
Medicaid-Uninsurance Churn	<p>A change from Medicaid to being uninsured, or from being uninsured to Medicaid coverage.</p> <p>Medicaid-uninsurance churn occurred before the ACA, and is expected to continue at some level in all states. Research suggests it will be most prevalent in states that have not expanded their Medicaid programs.</p>
Uninsurance-Exchange Churn	<p>A change from being uninsured to subsidized exchange coverage, or from subsidized exchange coverage to being uninsured.</p> <p>Churn between uninsurance and exchange coverage will likely be most prevalent in Medicaid non-expansion states, due to the coverage gap between income-eligibility thresholds for Medicaid and subsidies for private coverage.</p>
Medicaid-Exchange Churn	<p>A change from Medicaid coverage to subsidized exchange-based coverage, or from subsidized exchange-based coverage to Medicaid.</p> <p>Churn between Medicaid and subsidized exchange-based coverage will be an issue primarily in states that expand their Medicaid programs, creating a point at 138 percent of FPG, where people's program eligibility will change.</p>

Options for Addressing Churn Impact

Because of concerns about the effects of churn, literature on the topic also has discussed policy options that states could implement to reduce its impact. Some of the options are designed to reduce the

prevalence of churning, and other policies are designed to smooth the transitions that will occur when people switch from Medicaid to private coverage. While not intended as an exhaustive list or an extensive discussion of the issues surrounding each option, the examples below are meant to illustrate some reasons states may want to estimate churn under different policy scenarios:

Continuous-Eligibility Policies

One proposed method for reducing the number of people who churn is to implement continuous-eligibility policies. The ACA instituted a 12-month certification period for Medicaid, which should reduce the number of eligible beneficiaries who are disenrolled from the program because of lapses in their re-enrollment paperwork, especially in states that used a six-month certification period before the ACA. Continuous eligibility would take this idea a step further by providing Medicaid beneficiaries with 12 months of continuous coverage regardless of any temporary changes to income that would typically cause churning. The federal government has allowed 12 month continuous-eligibility for children in Medicaid and CHIP since 1997, which more than 30 states have implemented to some extent for one or both programs.^{16,17} Research has found that states with 12 month continuous-eligibility policies for children achieve higher levels of coverage continuity, which reduces churn out of Medicaid.¹ The Medicaid and CHIP Payment and Access Commission has recommended that Congress extend 12 month continuous eligibility to adults, as well as children, and the Centers for Medicare & Medicaid Services (CMS) have issued guidance on how states could use Section 1115 waivers to extend continuous eligibility to adults.^{16,18} While this option may reduce administrative costs of disenrolling and re-enrolling churners, the ultimate effect of increasing enrollment would likely increase the costs of care.¹⁹

Continuous-eligibility Policy Example: New York

In 2014, New York became the first state to receive approval from the Centers for Medicare & Medicaid Services to provide 12-month continuous eligibility for Medicaid beneficiaries that fall under the ACA's Modified Adjusted Gross Income (MAGI) eligibility methodology, including newly eligible adults, parents and caretakers, pregnant women, children younger than 19 or 20 who are full-time students, and children ages 19 or 20 who are living with their parents.^{20,21} Once enrolled, individuals in these groups will remain eligible for Medicaid for 12 months, with limited exceptions (e.g., if a beneficiary becomes incarcerated or was erroneously deemed eligible for Medicaid).²⁰ Because CMS anticipates that implementing continuous eligibility for adults will result in a 2 percent increase in enrollment, it will reduce its Federal Matching Assistance Percentage (FMAP) to New York for this new continuous

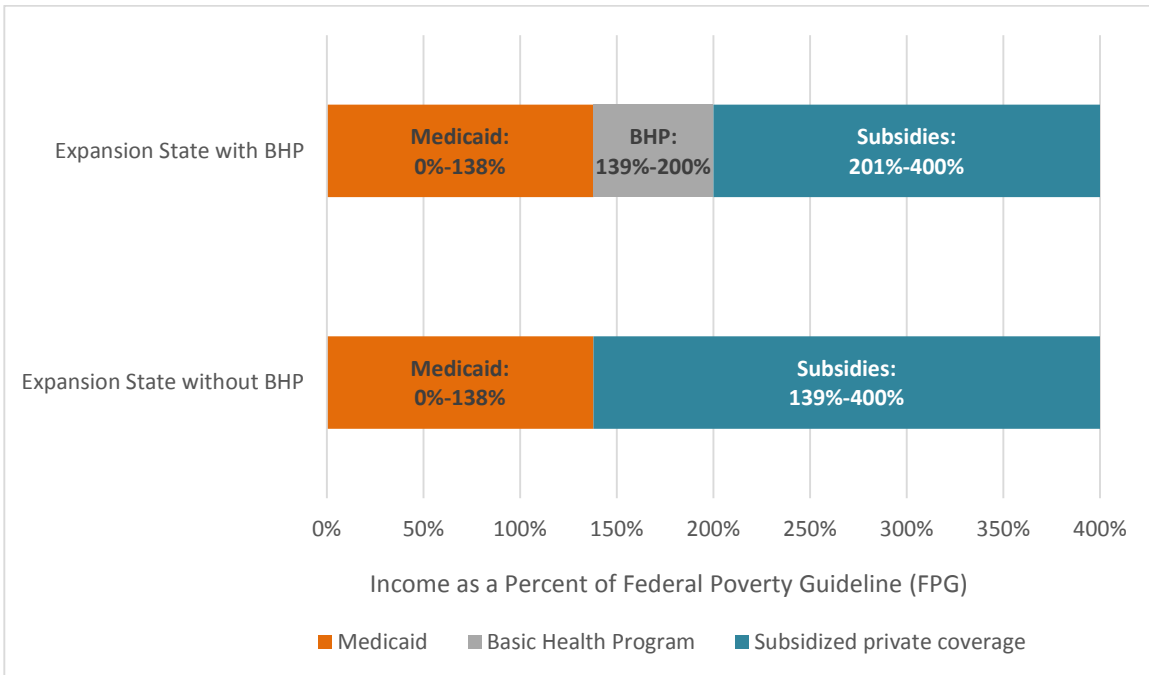
eligibility group, paying 97.4 percent at the enhanced FMAP rate, while 2.6 percent will be matched at the regular FMAP rate²⁰.

A state interested in implementing a 12-month continuous eligibility policy like New York's may wish to project the number of people who would be affected and how much their Medicaid enrollment would increase. Because individuals with 12-month continuous eligibility for Medicaid would not lose coverage because of temporary changes in income above the 138 percent of FPG threshold, an estimate should look at the number of people who otherwise would have churned across that threshold during a 12-month period (e.g., those whose incomes started within Medicaid eligibility, then increased within 12 months beyond the Medicaid-eligibility threshold).

The Basic Health Program

The Basic Health Program (BHP) is another policy option that would affect the dynamics of churn. The ACA gives states the option to contract with commercial health plans to replace subsidized private coverage through an exchange for people with incomes from 138 percent to 200 percent of FPG with BHP coverage with benefits similar to Medicaid.¹⁹ Figure 3 shows how BHP coverage fits between Medicaid and subsidy eligibility thresholds. Implementation of this policy would likely increase total churn within a state by creating an additional point of churn at 200 percent of FPG, at which people would shift between eligibility for BHP and exchange-based coverage. However, the policy would allow states to align BHP benefits with Medicaid benefits, potentially providing a smoother transition for people churning between those eligibility categories. Additionally, by increasing the eligibility for subsidized exchange-based coverage from 138 to 200 percent of FPG, the policy would likely reduce churn in and out of exchanges.^{13,22} By replacing tax credits for people with incomes 138 percent to 200 percent of FPG, the policy also addresses a concern that inaccurate projections of income within health exchanges could leave lower-income beneficiaries with substantial amounts of money to repay at the end of the year if they received tax credits that were too large.^{22,23} However, the full effects of implementing a BHP are uncertain. For example, concerns have been raised that implementing a BHP could reduce the population size of an exchange's risk pool beyond sustainable levels.²⁴

Figure 3: Program Eligibility Thresholds in BHP Implementation vs. Standard Medicaid Expansion States



Basic Health Program Example: Minnesota

In 2013, Minnesota passed legislation to develop a Basic Health Program under the ACA.^{24,25} The state’s existing MinnesotaCare program, which provided subsidized health coverage to low-income residents before the ACA, will transition to a BHP program in 2015, when BHPs will be allowed to receive ACA funding.

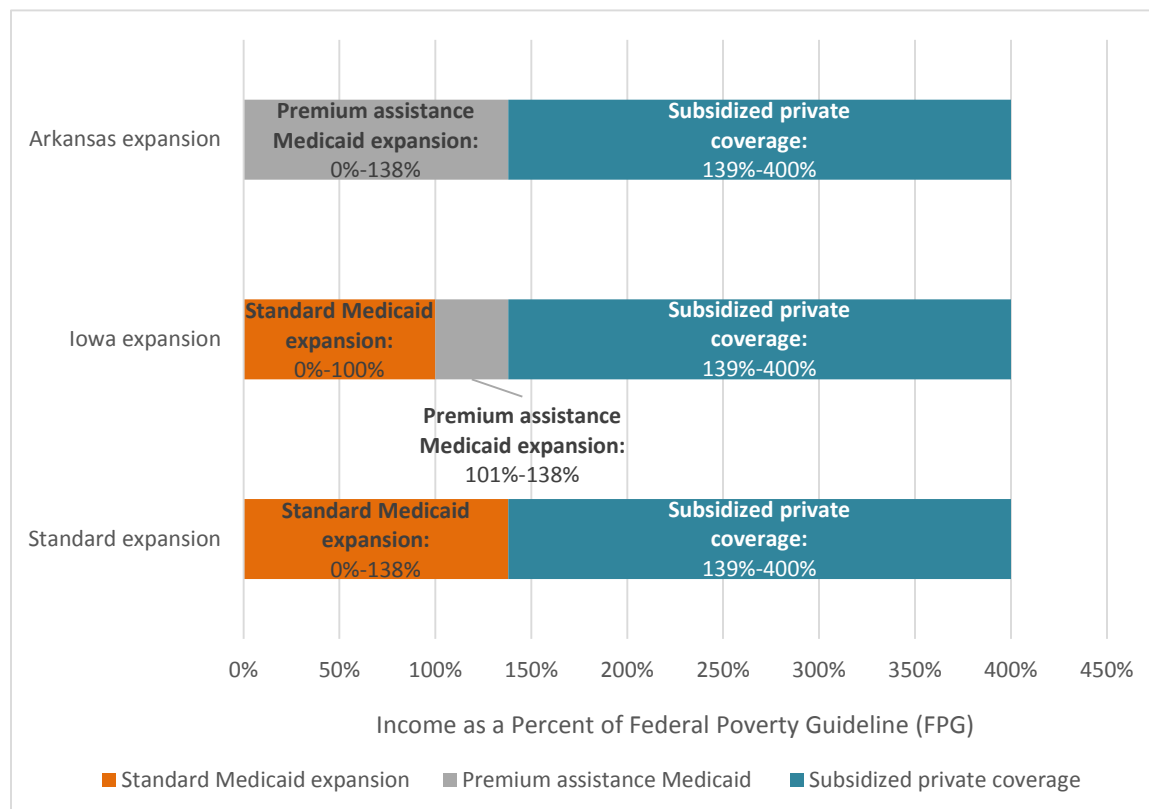
Legislation transforming the program into a BHP includes aspects that potentially could smooth the effects of that churn on individuals. For example, the law aims to provide some continuity for people churning between BHP and Medicaid coverage by requiring that health plans that contract with the state to provide MinnesotaCare also participate in the state’s Medicaid program (Medical Assistance).²⁵ Additionally, legislation requires that MinnesotaCare plans follow geographic areas that match those in the Medical Assistance program.²⁵ However, because eligibility shifts from Medical Assistance to MinnesotaCare at 138 percent of FPG, people will continue to churn at this threshold under the BHP implementation. And while the law establishing MinnesotaCare as a BHP also attempts to smooth transitions between the BHP and exchange-based coverage (e.g., requiring that, “to the extent possible,” beneficiaries are able to retain the same plans and providers if they churn into Medical Assistance or exchange-based coverage), the BHP creates a new churn point between MinnesotaCare and premium subsidies at 200 percent of FPG.²⁵

Because of the changes a BHP creates to income-eligibility thresholds, a state interested in producing a projection of churn under a policy similar to Minnesota’s should consider both the 138 percent of FPG point, where people would churn between Medicaid and BHP, as well as churn at the 200 percent of FPG point, where people would churn between BHP and subsidized exchange-based coverage.

Use of Health Insurance Exchanges to Smooth Transitions

A variety of options have been proposed for states looking to smooth transitions and reduce the potential of discontinuity of care for people who will churn between Medicaid and exchange-based private coverage. One suggested policy to smooth the transition of people churning between Medicaid and private coverage is to align the plans by requiring managed care plans to offer similar plans through Medicaid and health insurance exchanges.^{19,26} In another example, Delaware is requiring health plans on exchanges “to cover medical treatment and medications for new members coming from Medicaid during a transition period.”²⁷ Another policy option that could reduce the effects of churning on beneficiaries would be to expand Medicaid via a premium-assistance program, as Arkansas and Iowa have chosen to implement (see example below).²⁶ Figure 4 shows how the Arkansas and Iowa expansion options create different eligibility thresholds. By receiving premium assistance to purchase coverage available on health insurance exchanges, Medicaid beneficiaries who lose eligibility would continue to have access to the same plans through the exchange if they shift to eligibility for tax credits.²⁶

Figure 4: Program Eligibility Thresholds in Medicaid Expansion via Premium Assistance vs. Standard Medicaid Expansion



Premium Assistance Policy Examples: Arkansas and Iowa

In 2014, Arkansas and Iowa were the only two states to expand Medicaid coverage using premium assistance to purchase private coverage through health insurance exchanges. The states employed two different approaches. Arkansas uses premium assistance for adults newly eligible for Medicaid under Medicaid expansion, allowing these beneficiaries to obtain coverage by purchasing private coverage, similar to the way they would obtain subsidized private coverage through a health insurance exchange.²⁸ Iowa uses a hybrid approach of expansion, offering coverage via Medicaid managed care for newly eligible adults up to 100 percent of FPG, and offering premium assistance to obtain private exchange-based coverage for newly eligible adults with incomes from 101 to 138 percent of FPG.²⁹ These premium assistance plans have the potential to smooth transitions as people churn from Medicaid to subsidies because these individuals would have access to the same exchange-based plans.

These examples illustrate the importance of considering the specific details of policy options when preparing to conduct an estimate of churn. A state interested in estimating the effects of a policy like Arkansas' would want to consider changes in income across the 138 percent of FPG threshold, the typical point of churn between Medicaid and subsidized private coverage. However, a state interested in estimating the effects of a policy like Iowa's would want to consider changes across two thresholds: 100 percent of FPG, where people would churn between managed-care Medicaid and premium assistance Medicaid, and 138 percent of FPG, the typical point of churn between Medicaid and subsidized private coverage.

3. Strategies for Estimating Churn at the State Level

States have numerous reasons for wanting to monitor and project levels of churn, from understanding the scope and effects of churn, to designing and implementing policies to address the issue. Churn projections are especially relevant as they relate to state-level decisions that could affect the size and impact of churn, such as whether or how to expand Medicaid programs, operate state-based health insurance exchanges, or implement BHPs. States that expand their Medicaid programs are expected to see the greatest changes in their historic churn patterns, and states running their own exchanges will have opportunities to use their marketplaces to mitigate the negative effects of churn. However, the complexity of the issue requires that states consider numerous factors when designing methods to monitor and project churn, including the three main causes of churn.

Causes of Churn

While the ACA may change the number of people who churn for any specific reason, the causes of churn should remain largely the same as before health reform:

- 1) Program drop-out,
- 2) Obtaining insurance through other sources, and
- 3) Loss of eligibility because of increased income or other life-event changes.³

Program Drop-Out

As discussed earlier, the ACA includes provisions to reduce the number of Medicaid-eligible people who drop out of the program due to problems during the re-enrollment process. Before the ACA, some states required Medicaid beneficiaries to re-enroll every six months, but the health reform law extends this period to 12 months for all states. Additionally, the ACA includes efforts to streamline the re-enrollment process for beneficiaries through changes such as providing them with pre-filled re-enrollment forms. While these changes to the Medicaid re-enrollment process are expected to reduce drop-out to some extent, monitoring continued drop-out levels could help states understand how the ACA's changes have affected drop-out and further target the remaining drivers of drop-out and populations at higher risk for drop-out.

Insurance through Other Sources

Before the ACA, Medicaid beneficiaries could lose eligibility if they obtained another form of coverage, such as employer-sponsored insurance (ESI) coverage. Under the ACA, churn due to changes in ESI will continue as people change jobs, which may or may not offer ESI. Additionally, the ACA limits private coverage subsidies to individuals without an offer of affordable ESI, defined as premiums that would exceed 9.5 percent of family income or single coverage.³⁰ Because of this, some churn is also likely to occur between ESI and subsidized private coverage, as people gain or lose ESI offers, and as those offers change from being considered affordable or unaffordable.

Income Eligibility or Life Events

Especially in states that expand their Medicaid programs, churning as a result of changes in income eligibility is expected to change substantially. Not only does the ACA increase the income-eligibility level for Medicaid to 138 percent of FPG in expansion states, but it also creates a new category of exchange-based private coverage for people to churn into at 139 percent of FPG. Because income-eligibility for Medicaid and private-coverage tax credits is based on income as a percent of FPG, changes in people's income or family composition can both affect their program eligibility. For example, in a Medicaid expansion state, a family of four with an annual income of \$32,000 in 2014 would qualify for Medicaid

coverage because their income equals 134 percent of FPG. However, a variety of changes in their income, such as gaining or losing a job, or working more or fewer hours, could affect a family's eligibility. If someone in the family took a part-time job for the summer and earned an extra \$2,000, their increased income would place them above the Medicaid income-eligibility limit of \$33,152— or 138 percent of FPG — and into eligibility for private exchange-based coverage. Because FPG depends on family size, changes in family composition — such as birth or adoption of a child, a child's becoming an adult and leaving the household, and divorce or marriage — also affect eligibility. For instance, if a child in our example family left the home to live on his or her own, the family's income of \$32,000 would then exceed the Medicaid income-eligibility limit of \$27,310 for a family of three, shifting them into eligibility for exchange-based coverage.

Literature on Churn Estimates

A search for state-based estimates suggests that most states do not publish assessments of churn. However, there are some examples of state-level estimates of churn. A Massachusetts estimate of churn within the state's MassHealth (Medicaid) program and Commonwealth Care program (the state's pre-ACA subsidized coverage program) used administrative data to examine cases of people re-enrolling in the programs within 90 days of disenrolling, with estimates of the number of instances, the reported reasons for their disenrollment and their transitions across programs.³¹ A Washington state estimate used survey data to project changes in income across the eligibility categories of Medicaid (138 percent of FPG or less), BHP (139 to 200 percent of FPG), subsidized private coverage (201 to 400 percent of FPG) and ineligibility for any program (401 percent of FPG or greater).³² An estimate of churn in California used survey data to project changes in eligibility for the state's Medi-Cal (Medicaid) program and premium subsidies in the Covered California state-based marketplace.³³ Additionally, literature on the topic provides some guidance about ways states can develop methods of monitoring current levels and projecting future levels of churn.

For monitoring current levels of churn, states can use administrative data to examine patterns in ways people cycle in and out of programs such as Medicaid or health insurance exchanges. In a 2011 issue brief, a team of authors working with the Robert Wood Johnson Foundation's Maximizing Enrollment program describe measures that states could use to monitor churn in their Medicaid programs. The measures recommended in the brief fall into three categories that would allow states to produce data on: 1) basic enrollment and disenrollment figures, 2) how people transition in and out of programs, and

3) reasons that people transition out of programs.³⁴ By using existing administrative data and collecting new data to measure enrollment in these ways, states could monitor total levels of churn in and out of Medicaid and health insurance exchanges, learn what forms of coverage or uninsurance people are churning into, and understand the reasons that people are churning. This insight could help states to focus their efforts on reducing harm from churning by targeting outreach to groups most likely to churn or developing policies to reduce churn or its negative impacts.

As states develop models for projecting churn, they can look to policy research on the topic to inform their model designs. Using longitudinal survey data from the U.S. Census Bureau's Survey of Income and Program Participation (SIPP), researchers have found comparable estimates of churn under Medicaid expansion scenarios. In 2011, authors Sommers and Rosenbaum published projections of churn caused by income shifts above and below the Medicaid threshold of 138 percent of FPG. Among adults with incomes up to 138 percent of FPG, they found that 38 percent had shifted above the eligibility threshold within 12 months, and another 16 percent had shifted out of and back into eligibility.³⁵ Examining a group of adults with incomes up to 200 percent of FPG, extending beyond income-eligibility for Medicaid and into eligibility for exchange tax credits, they found that 50 percent would move eligibility categories within 12 months and that 24 percent would churn out of and back into their original income category at least once in a year.³⁵ In a 2012 article projecting income eligibility for premium tax credits available through health insurance exchanges, John Graves found that 33 percent of people who began within the Medicaid income eligibility threshold would shift eligibility categories to subsidy eligibility by the end of the year.²³ A 2013 study by Brett Fried and Julie Sonier found that 32 percent of non-elderly adults with incomes up to 138 percent of FPG shifted out of eligibility after 12 months.¹³ They also found that among those with incomes in the range eligible for health exchange tax credits, from 139 to 400 percent of FPG, 13 percent shifted into income eligibility for Medicaid after 12 months.¹³ A 2014 article by Sommers, Graves, Rosenbaum and Swartz looked at churn between Medicaid and subsidy eligibility for individual states, finding that states would each face similar levels of churn if they all were to expand their Medicaid programs.³⁶ Overall among the states, they found that "approximately half (plus or minus 5 percentage points) of adults" with incomes up to 400 percent of FPG at the beginning of the survey would experience an eligibility change between Medicaid and health exchange coverage within a year.^{36(p5)}

Limitations

The existing literature on assessing churn does carry limitations that states should consider when developing their own estimates of churn. For example, these models may overestimate churn in some cases because they do not account for people who may be ineligible to participate in Medicaid or exchanges, such as unauthorized immigrants. Additionally, there may be error in the published estimates of churn because they are based on income-eligibility and do not account for additional factors that can affect churn, such as program drop-out or coverage take-up rates.

While the ACA's expansion of Medicaid and creation of insurance exchanges provide new health coverage options for many Americans, these options are not universally available to all U.S. residents. For example, unauthorized immigrants are not eligible to obtain coverage through health insurance exchanges, nor are they eligible to receive full Medicaid benefits. Although legal permanent residents may obtain coverage through exchanges and are eligible for subsidized coverage, most face a five-year waiting period before they are eligible to participate in Medicaid. Because research has found that these groups can comprise a substantial portion of the uninsured, estimates that do not exclude ineligible individuals such as unauthorized immigrants may overestimate churn, especially in states with large populations of unauthorized individuals.³⁷

By using income-eligibility to estimate churn, the existing literature also is limited in its ability to account for other factors that can affect churn. For example, these income-eligibility estimates would miss churn that occurs due to program drop-out, when people do not re-enroll because of administrative barriers or other factors, despite remaining eligible. Additionally, income-eligibility estimates of churn that examine monthly changes in income assume that beneficiaries always disenroll if their incomes temporarily increase above the eligibility threshold one month, potentially overestimating actual churn if people sometimes fail to report temporary increases in income. Income-eligibility estimates may also overestimate churn if they don't consider take-up rates of Medicaid and exchange coverage among eligible people. For example, an income-eligibility estimate of churn would count a person whose income rose from 120 percent of FPG to 150 percent of FPG as churning into subsidized exchange coverage, even if that person never used the exchange and instead moved from Medicaid to uninsurance. Because income-estimates of churn do not account for whether an individual has access to ESI, they also may overestimate the amount of churn between Medicaid and health insurance exchanges. For example, an estimate based exclusively on income-eligibility would count a person

whose income rose from 100 to 150 percent of FPG as churning from Medicaid to exchange-based coverage. However, estimates have demonstrated that nearly half of people in the 139 to 300 percent of FPG range report having ESI.³⁸

A Framework for Measuring and Projecting Churn

Because of the complexity of churn and the various policy reasons states may be interested in the topic, there are several steps that states should take into consideration when preparing to produce estimates of churn. States should:

1. Precisely define the type and scope of churn that is relevant to their focus, considering the purpose of their estimate.
2. Identify a model for estimating churn according to their purpose and determine what data they need to conduct their analysis.
3. Select a data source that provides the information they need to produce the estimate.

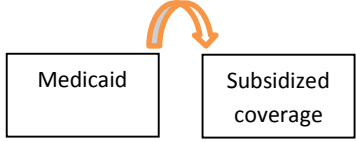
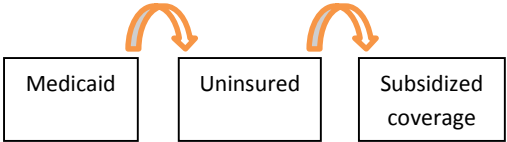
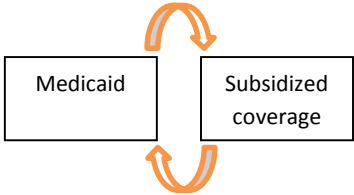
Defining Churn

The evolving nature of churn under health reform makes it important for states to precisely define the specific purpose of the estimates they want to produce. More specifically, states should consider:

- Which precise definitions of churn are most appropriate for their policy questions (e.g., a one-way shift in coverage, or a two-way loop out of coverage and back into it)
- Whether they want to produce an estimate of their current experiences with churn or projections of churn under different policy options (e.g., implementing a BHP, expanding Medicaid coverage or instituting continuous eligibility policies)
- What types of churn they are interested in estimating (e.g., churn between Medicaid and uninsurance, or Medicaid and exchange-based private coverage)

Carefully defining a working definition of churn for developing an estimate is important because the phenomenon can be separated into distinct components, each with different policy implications. People often use the broader term of “churn” to refer to a variety of facets of the phenomenon. For example, a particular estimate may be focused on churn only between certain types of coverage (e.g., Medicaid and exchange coverage) or on churn in certain directions (e.g., a one-way shift in coverage, or a two-way loop out of coverage and back into it). To help with the process of selecting a precise definition of churn

for the purpose of producing an estimate, this paper proposes conceptual definitions to divide the issue into distinct components.

KEY TERMINOLOGY		
Term	Description	Illustration
One-way shifting	A one-way shift from a coverage type to another coverage type (e.g., from Medicaid coverage to subsidized exchange-based coverage).	
Two-step shifting	A two-step shift starting in one coverage category, shifting to another category, and ending in a third category (e.g., from Medicaid coverage to uninsurance, then from uninsurance into subsidized coverage).	
Two-way looping	A two-way loop in coverage, in which a person starts in one coverage category, shifts to another category and returns to the original category (e.g., from Medicaid to subsidized coverage, then back to Medicaid coverage).	

Developing a Model

When developing a model for estimating churn, states should first consider their key analytic questions. These questions should be driven by the policy issues the estimate will be used to investigate, such as the overall size of churn in a state, who is more likely to churn, and what the impacts or causes of churn are. Examples of analytic questions pertinent to churn under the ACA include:

Scope of churn

- How prevalent is churning within the population?
- When does churn occur (i.e., does churn occur seasonally)?
- What is the directionality of churn (i.e., do people tend to churn into or out of Medicaid more often)?

Characteristics of churners

- Who is more likely to churn?
 - How often do people of different ages churn?
 - Do people in certain income ranges churn more often?
 - Are people in rural or urban areas more likely to churn?
 - Do people of certain racial or ethnic backgrounds churn at different rates?
 - How often do people with chronic conditions churn?

Causes of churn

- What are the key drivers of churn?
 - Are people churning because of temporary changes in household income?
 - Are changes in household composition (e.g., marriage or divorce, birth or adoption of a child) causing churn?
 - Are people churning because of difficulties encountered while navigating the coverage renewal process?

Effects of churn

- What are the impacts of churn?
 - Are people experiencing disruptions in access to care?
 - Do certain types of churn have greater effects on health care costs?

Once states have identified their analytic questions, they should determine the types of data they need to answer those questions. Much of the recent interest in churn has focused on the effect of income changes, especially how the new income-eligibility categories for Medicaid expansion and premium tax credits could affect churn. Because eligibility for Medicaid and premium tax credits is dependent on family income as a percentage of FPG, the core of an income eligibility estimate of churn should be a method for identifying changes in both household income and family composition over a period of time. States should consider their policy reasons for producing the estimate when determining their time-period for the estimate, allowing them to observe changes in both income and family composition that fit their established time frames. For example, a state interested in whether a person will remain eligible for Medicaid at the 12-month recertification period would want to consider income eligibility at an initial enrollment and income 12 months later. However, a state considering a continuous-eligibility policy to reduce administrative costs associated with frequent Medicaid churning may want to use data

on income for each month in a 12-month period. The analytic questions also should drive the other variables included in a churn estimation model. For example, a model designed to determine who is more likely to churn should include relevant demographic characteristics, such as age, sex, race, ethnicity and income, while a model designed to determine the impacts of churn should include variables on cost of care and access to care.

In creating a model for projecting churn, states also should consider methods for addressing the interaction of multiple factors that could affect churn. Changes in family composition and household income are likely to be related in many cases. For example, a household's income may drop temporarily while parents take time off from work after the birth of a child. A model to estimate churn should be designed to avoid double-counting circumstances such as these as two separate instances of churn. Because access to other coverage types could affect churn between Medicaid and exchanges, states may also want to consider their rates of employer-sponsored coverage and direct-purchase private coverage when developing models for estimating churn. Additionally, states may consider using data on historic Medicaid drop-out rates, although this information may not be available, and rates of drop-out may change under the ACA due to changes in the recertification process.

4. Possible Data Sources for Churn Estimates

This section discusses potential data sources for producing estimates of churn, potential uses and limitations of data sources, and details of the data sources that should be considered when producing estimates. As states look for sources of data, they should consider:

- The types of estimates they want to produce (i.e., monitoring or projecting)
- Which data are available from different sources (e.g., family composition, income, race/ethnicity, age, costs of care)
- Characteristics of data sources (e.g., survey or administrative data, sample size, timeliness, etc.)

There are numerous potential data sources that states could use for producing estimates of churn. None of these data sources is perfect for all types of estimates, and the strengths and weaknesses of data sources will leave some better suited to particular uses. When preparing to produce an estimate of churn, states should consider the relative pros and cons of the available data sources to select the one best suited to the purpose of their estimates. In general, the types of data sources available for

estimates of churn can be categorized into population survey data and administrative data. For a side-by-side comparison of the main survey and administrative data sources, see Appendix I. Each of these types of data sources has characteristics that distinguishes it from the other and that could make it better suited to certain situations or certain types of estimates. Within these categories, the individual data sources also have unique characteristics that may enable or preclude certain types of churn estimates, both of which are described below.

Survey Data

The survey data sources described in this paper can be used to produce estimates of churn by examining changes in individuals' self-reported coverage over time or by examining changes in their income eligibility for Medicaid and subsidized exchange coverage over time.

Estimates of churn based on changes in income-eligibility are possible because eligibility for both Medicaid and subsidy programs is determined based on people's income as a percent of FPG — a function of their household income and family composition. The ability of longitudinal surveys to detect changes in a person's income eligibility is useful because it can tell if a person loses eligibility for a program, as well as if a person shifts into eligibility for a different program or loses eligibility for all programs. For example, if a survey respondent's income started at 250 percent of FPG, and it dropped three months later to 100 percent of FPG, the data would indicate that the respondent began with eligibility for premium subsidies and later shifted to eligibility for Medicaid. This income-eligibility data in longitudinal surveys allows them to be used for projecting the prevalence of churn and number of people who churn, as well as the directionality of churn. Depending on the covariates available in the survey data, it also could be used to estimate the characteristics of people more or less likely to churn. However, using income eligibility for the basis of the estimate also creates limitations. These survey data sources would not support estimates of the other causes of churn (i.e., drop-out and obtaining other coverage), and they would not account for people who are eligible for coverage but who do not churn because they do not enroll. Lastly, income-eligibility estimates would not support estimates of the impacts churn may have on individuals (e.g., effects on health care access and costs).

Similarly, data from a state-representative survey that includes self-reported information on coverage type (e.g., Medicaid, exchange-based coverage, employer-sponsored coverage) could be used to develop an estimate of churn. Individuals' self-reported coverage should reflect their decisions to take-

up coverage or intentionally drop-out of coverage, unlike income-eligibility estimates. However, the accuracy of this churn estimate would be dependent on the reliability of data on self-reported coverage type, which is uncertain due to recent substantial changes in the health insurance market and new or revised survey questions designed to capture information to reflect new coverage options.

KEY TERMINOLOGY	
Income-eligibility estimate	<p>An estimate of churn based on individuals' changes in program <i>eligibility</i>, which is calculated using data on changes in household income and family composition.</p> <p>Eligibility estimates based exclusively on income don't account for other factors that affect program eligibility, such as immigration status or availability of employer-sponsored coverage.</p>
Enrollment estimate	<p>An estimate of churn based on program <i>enrollment</i>, which could use administrative data on program enrollment or survey data on self-reported program enrollment.</p> <p>Enrollment estimates differ from income-eligibility estimates because they account for non-eligibility factors that affect churn, such as program drop-out and coverage take-up.</p>

The sections below provide an overview of specific surveys that could be used to estimate churn, including the advantages and disadvantages of each. For a summary of the data available in each source, see Appendix II. For technical specifications of the sources, see Appendix III.

Survey of Income and Program Participation (SIPP)

The Survey of Income and Program Participation (SIPP) is a panel survey that collects longitudinal data on income and program participation for the civilian non-institutionalized population. Conducted by the U.S. Census Bureau, the survey interviews respondents at standard intervals (called waves) for panels lasting multiple years. Beginning with the 2014 panel, the SIPP was redesigned. For panels that began before 2014, respondents were interviewed at four-month intervals for a total period of around four years. The survey included a core questionnaire that was used at each wave, plus topical modules that varied depending on the wave. For the redesigned SIPP starting in 2014, respondents will be interviewed at 12-month intervals for a total period of four years using only a core questionnaire. The SIPP has undergone other changes, such as implementing an event history calendar designed to enhance

respondent recall over the extended recall period (four to 12 months). Also, though the SIPP's use of topical modules has been discontinued, some of the questions on those topics have been incorporated into the core questionnaire (e.g., immigration status). In addition to questions on monthly household income and family composition that allow the SIPP to be used for estimating income-eligibility, both the previous and revised versions of the SIPP include content on respondent coverage type (e.g., Medicaid, direct purchase, employer-sponsored coverage, uninsured) and other covariates such as demographics and participation in other public programs, such as Temporary Assistance for Needy Families and the Supplemental Nutrition Assistance Program, commonly called food stamps. The redesigned SIPP also will ask respondents whether they obtained coverage through a health insurance exchange and whether that coverage was subsidized; however, the first full year of data from the 2014 redesigned SIPP will not be available until 2015 at the earliest, and because the questions are new, the reliability of survey data on exchange coverage and subsidies is uncertain.

Because the SIPP has relatively small sample sizes for some states and the survey is designed to be nationally representative but not state-representative, there are limitations to its use for producing state estimates of churn. Research using SIPP data to produce state-level estimates has employed a method of weighting national SIPP data to individual states' particular characteristics (e.g., age, sex, income, etc.) available from a state-representative national survey, such as the U.S. Census Bureau's American Community Survey (ACS).³⁶ This method of weighting national data to state-level population characteristics retains the ability to produce estimates of income-eligibility churn between coverage types (e.g., Medicaid and subsidized exchange coverage). However, conducting an analysis of churn using self-reported coverage types from the SIPP would be problematic because of substantial state variation related to coverage types (e.g., states have different income-eligibility thresholds, as well as other categories of Medicaid coverage).

Current Population Survey (CPS)

The Current Population Survey (CPS) is designed to provide monthly data on labor force participation and unemployment for the civilian non-institutionalized population. Conducted by the Census Bureau for the Bureau of Labor Statistics, the survey also includes the Annual Social and Economic Supplement (ASEC), which is conducted once each year from February through April and collects data on income and health insurance coverage. Unlike the SIPP, the CPS would not support estimates of churn based on income eligibility because it gathers annual income data rather than monthly income data. However, like

the SIPP, the CPS has added questions to determine whether an individual obtained coverage from a health insurance exchange or received a premium subsidy. Because the CPS is designed to be state-representative, its newly revised self-reported coverage type data could be used to produce state-level estimates of churn.

There are uncertainties about using the CPS data on coverage type to produce churn estimates, however. While the revised CPS will gather data on individuals' coverage type on a monthly level, it is currently unknown whether the Census Bureau will release that data on monthly coverage status. Because the questions on health insurance exchange coverage and premium subsidies are new, the reliability of these data is uncertain. Additionally, because the CPS' questions on changes in coverage over a period of months are new, the reliability of those data are uncertain. The timeliness of the data for certain purposes also may be a limitation, depending on a state's policy questions. Because of the sample size of the CPS, the Census Bureau recommends using a two or three-year average when analyzing data for sub-populations at the state level. This means that a state may not have enough CPS data (2014, 2015 and 2016) available for estimating differences in churn patterns among different demographic groups until 2017.

Behavioral Risk Factor Surveillance System (BRFSS)

The Behavioral Risk Factor Surveillance System (BRFSS) is a survey of population health, risk factors and health behaviors for the adult non-institutionalized population. Sponsored by the Centers for Disease Control and Prevention, the survey is conducted by states with a set of core questions asked in all states, plus sets of optional questions that states may add to the core questionnaire.

In 2013, the BRFSS introduced an optional set of questions that add to the survey's limited set of questions about health care coverage and access, which 38 states and the District of Columbia have adopted. The optional questions include a question about point-in-time coverage type, and a question about whether the respondent had been uninsured at any time in the previous 12 months. The survey includes Medicaid as a coverage category, but it does not capture information on exchange-based coverage or subsidies. Because the survey does not identify changes in coverage by month, this limits the ability of BRFSS data to support estimates of churn. The survey data could identify whether individuals with current Medicaid coverage had experienced a period of uninsurance at any time in the previous 12 months, but data could not distinguish whether that period immediately preceded an

individual's enrollment in Medicaid or if the respondent had another period of coverage between his or her spells of uninsurance and Medicaid coverage.

State Surveys

An additional option for producing state-level estimates of churn would be the use of state surveys that include components on health insurance coverage. While more than 15 states conduct surveys that include questions on uninsurance or coverage type, most ask point-in-time questions about current coverage rather than questions about changes in coverage over a period of time.³⁹ Many of the state surveys that ask about point-in-time coverage also ask about any periods of uninsurance during the previous 12 months, but like the BRFSS, these surveys cannot distinguish whether the period of uninsurance immediately preceded the individual's current coverage.

Since the end of the ACA's first open enrollment period, some states have developed re-contact surveys to follow up on the coverage status of certain people, such as those who reported uninsurance in previous surveys. These re-contact surveys could play a role in helping states to identify relevant policy questions as they develop their models for estimating churn. For example, a re-contact survey may find that individuals who churn out of Medicaid eligibility aren't enrolling in exchange-based coverage because they don't know about the availability of subsidies, or it may find that people with certain characteristics (e.g., age, race, ethnicity) are more likely to remain uninsured, and thus less likely to experience churn. Because of the smaller scope of these surveys, focusing primarily on those most likely to use exchanges (e.g., the uninsured and those with direct-purchase coverage), the data from these surveys may be available more quickly than data from other surveys. However, the narrow focus of re-contact surveys on particular sub-populations would not allow the data to be generalizable to the larger population for reliable estimates of the churn.

As an example, in 2014 the Minnesota Department of Health partnered with the State Health Access Data Assistance Center (SHADAC) to survey respondents who reported having non-group coverage or being uninsured in the 2013 Minnesota Health Access Survey. This re-contact survey was designed to explore how key populations within Minnesota were affected by the ACA's provisions to provide new coverage options beginning January 1, 2014. The primary goals of the survey were to determine whether people who previously reported uninsurance obtained coverage, whether those with non-

group coverage lost or changed coverage, what types of coverage people obtained, and whether people explored obtaining coverage through the state's health insurance exchange, called MNsure.

Medical Expenditure Panel Survey-Household Component (MEPS-HC)

The Medical Expenditure Panel Survey-Household Component (MEPS-HC) is a longitudinal survey that collects data on health care use and spending for the civilian non-institutionalized population. While these data may be useful in examining the relationship between churn and health care access, utilization and costs, the survey's design limits its use for state-level estimates of churn.

Sponsored by the Department of Health and Human Services' Agency for Healthcare Research and Quality, the survey interviews respondents during five sessions over two calendar years. The survey does not support monthly income-eligibility estimates of churn because it only gathers information on respondents' income at each observation (once every four months). While the survey does ask questions about monthly coverage type, those data do not support state-level analysis because the survey is designed to be nationally representative.

Administrative Data

Using administrative enrollment data may provide some advantages over survey data. For example, because survey questions about health insurance exchanges and subsidies are new, their reliability is uncertain, whereas administrative data may provide more accurate data on enrollment. Additionally, because enrollment data would take into account coverage take-up and drop-out rates, administrative data on enrollment could reflect actual churn more closely than income-eligibility estimates, which would not account for non-eligibility causes of churn.

However, administrative data also have limitations. While enrollment data would include a built-in consideration of take-up and drop-out rates for coverage, most states' administrative data systems are not able to determine causes of disenrollment in a reliable fashion (e.g., whether people disenrolled in their programs due to drop-out or ineligibility) or reasons people may not take-up coverage they are eligible for.³⁴ Additionally, without linking separate administrative data sources, these data typically will not support estimates of the types of coverage people are churning to or from. For example, Medicaid administrative data would support estimates of churn out of the program, but the data couldn't

distinguish whether the person churned into uninsurance, exchange-based insurance, or some other type of coverage.

The sections below describe administrative data sources that could be used for churn analyses. For a summary of the data available in each source, see Appendix II. For technical specifications of the sources, see Appendix III.

Medicaid Data

To produce estimates of churn, states could use their own Medicaid administrative data, or they could use federal Medicaid administrative data sources. These sources of Medicaid administrative data would include similar information, however, they do have distinguishing characteristics:

- *Medicaid Statistical Information System (MSIS)* - The federal MSIS files are based on data reported quarterly by states, which undergo data quality reviews and validation tests. They include data on all Medicaid enrollees, with information on eligibility, personal demographics, and claims distinguished by inpatient care, long-term care, prescription drugs and all other services. A potential advantage to federal data sources that include all states, such as MSIS, is the ability to create comparisons of churn across states. Because of the diversity of implementation of the ACA among the states — such as whether and how states have expanded their Medicaid programs, and whether to develop their own insurance exchanges, rely on the federal exchange, or pursue a hybrid partnership exchange — this ability to produce cross-state comparisons may help to understand the impacts on churn of different policy options.
- *Transformed Medicaid Statistical Information System (T-MSIS)* - While not yet available, the federal T-MSIS may provide another source for Medicaid administrative data. The T-MSIS is intended to improve on the quality of MSIS data; provide additional data on eligibility, claims and new files on providers, managed care plans and additional coverage, for the purpose of pursuing third-party payment for claims; and enhance timeliness, with plans to release data monthly rather than quarterly.⁴⁰
- *Medicaid Analytic eXtract (MAX)* - The federal MAX files are created from MSIS data that have been enhanced for use in research and policy analysis. Like the MSIS file they are based on, MAX files include data on all enrollees, including eligibility, personal demographics and claims. While the MAX files' enhancements for use in research and policy analysis may make

them useful sources of data for estimating churn, the process of deriving them from MSIS data makes them less timely. For example, at the time this paper was written in 2014, the most recent available MSIS data were from 2012. By comparison, MAX data were not available for 2012. Furthermore, MAX data for 2011 were available only for 9 states, and 2010 data were available only for 36 states.

- *State Medicaid Data* - Because it is the basis for MSIS and MAX files, state Medicaid administrative data includes the same data on eligibility, personal demographics and claims for all enrollees. Depending on individual states' ability to extract the data, the state administrative files could potentially be timelier for estimates of churn. However, this state administrative data would not include the enhancements found in MAX data, and because it would not have undergone the MSIS and MAX data-quality reviews and validation tests, the reliability of these data are uncertain.

Because Medicaid administrative data is based on actual program enrollment, it could provide a more-accurate source of data for producing certain estimates of churn, such as monitoring churn in and out of Medicaid programs. However, Medicaid administrative data do have limitations. These data on their own could only provide estimates of churn within Medicaid programs, because federal administrative data and most states' administrative data do not include data on individuals' coverage before enrolling in Medicaid or after disenrolling.³⁴

Health Insurance Exchange Data

Administrative data from health insurance exchanges are a potential source of data for estimating churn in and out of subsidized private coverage. Because exchanges are responsible for determining eligibility for subsidized coverage and enrolling people in qualified health plans, they have data on all people who enroll in qualified health plans through the exchanges. These data include information on whether the person was determined to be eligible for premium tax credits, income and family composition, and personal demographics included in the coverage application form. Because health insurance exchanges are required to conduct monthly reconciliation between their records and health plans' enrollment records, administrative data from exchanges also should include information on disenrollment in qualified health plans, which would support estimates of churn out of exchange-based coverage.⁴¹ However, some exchanges experienced technical problems with the transmission of enrollment files during the first open-enrollment period, so it's uncertain whether this data is currently available in their

administrative data.⁴² Whether these data are available in formats that would readily support estimates of churn (e.g., files that include monthly changes in enrollment) also is uncertain.

Administrative data from health insurance exchanges could be used to produce estimates of churn in and out of subsidized coverage, however, like Medicaid administrative data, exchange data on its own would not support estimates of what forms of coverage people are churning from or to. Additionally, while exchange administrative data may be a useful source for monitoring churn in and out of subsidized coverage, if exchange-based coverage increases during the first few years, as predicted by the CBO, projections of churn based on administrative data during the first years of exchange operation may not accurately project churn in later years.⁴³ Estimates produced with exchange administrative data also face limitations because the exchanges may not have data on whether individuals disenroll from the plans they selected. Additionally, the availability of exchange data is uncertain. While data should be available for state-based exchanges, it is currently unknown whether administrative data from the federally facilitated marketplace (FFM) will be available for state estimates of churn.

5. Options for Moving Forward

In addition to utilizing data from existing sources for measuring churn, states may consider options for improving current data sources or developing new sources. While implementing some of these options may face substantial challenges, building upon current data sources could provide new data or enhance the ability for existing data to support various types of churn estimates.

- *Data linkages* — Linking data across two or more sources, such as linking two administrative data sources (e.g., Medicaid and health insurance exchange), or linking a survey data source to an administrative data source (e.g., Current Population Survey and Medicaid). This paper includes key considerations for linking Medicaid and health insurance exchange administrative data; All-Payer Claims Databases (APCD), Medicaid, and Health Insurance Exchange administrative data; and survey and administrative data.
- *Enhancements to existing data sources* — By adding new fields to administrative data or adding questions to existing survey data sources, states could supplement the information they already have available for producing churn estimates. The section below describes options for both federal and state-level survey modifications.

Data Linkages

Because each of the potential data sources for measuring churn has limitations, states may consider data linkages as a means of obtaining more complete data than is available from a single data source. For example, Medicaid administrative data alone typically could not be used to estimate churn between Medicaid and exchange-based coverage. However, linking Medicaid data with exchange data could potentially support that type of Medicaid-exchange churn analysis. To enable estimates of churn that could not be conducted with a single data source, data would have to be linked on an individual basis (e.g., link the Medicaid administrative data for person A to the health insurance exchange administrative data for person A), so an estimate could identify how individuals churn between programs.

While linkages between data sources may make certain analyses possible that could not be conducted with a single data source, there are likely to be a number of challenges associated with linking the data. Some of these challenges would be similar across different data sources, and other challenges may be unique to particular sources. These include technical challenges, data-use limitations, and challenges of coordination and collaboration:

- *Technical Challenges* — One of the issues of creating data linkages is determining a method for linking individuals across different data sources. This could be done using unique identifiers available in the different data sources (e.g., Social Security Numbers [SSN] or Protected Identification Key [PIK]). However, these types of unique identifiers may not be available for all data sources. Another option would be to link data sources using algorithms that match individuals based on multiple data points. Research has found that three characteristics commonly found in administrative and survey data (ZIP code, gender and date of birth) can differentiate 87 percent of the U.S. population, and studies linking clinical and administrative data have found similar results.^{44–46} States would have to identify a way to address data for individuals that can't be matched due to missing unique identifiers or limitations of matching algorithms. In addition to employing a method for linking data sources, states may also face technical challenges in extracting the specific data they need from administrative systems in a format they can use for linking. For example, a 2012 survey of 30 states found that 12 states used Medicaid systems 20 to 40 years old, 13 states used systems 10 to 20 years old, and many of these states reported technical limitations.⁴⁷

- *Limitations on Data Use* — States also may face challenges in their ability to link data and perform churn estimates using the data because of limitations on data use. These limitations may stem from statutory restrictions or agency policies on how data may be used and for what purposes. For example, state exchanges must comply with federal regulations related to protected health information and tax information, as well as relevant state regulations, which may be more stringent in some states.⁴⁸ These limitations may focus on different aspects of data use limitations, such as the security of data, the privacy of health-related data or how data are shared across agencies.
- *Challenges of Coordination and Collaboration* — Because data sources for measuring churn may be maintained by different agencies within a state or by agencies across state and federal governments, coordinating and collaborating between the agencies may take additional time and add complexity to the process of creating linkages. For example, during the first open enrollment period, 36 states relied on the FFM (including nine exchanges that partner with the federal government to different extents), and of the 15 state-based exchanges (including the District of Columbia), one operated as a non-profit, while four were housed within existing state agencies and 10 were run as independent quasi-governmental agencies.⁴⁹ For states in which the same agency operates its Medicaid program and exchange, there may be fewer barriers to linking the data. However, for states whose exchanges are run by independent agencies and states relying on the FFM, there may be more substantial barriers to linkages, such as coordinating across agencies to determine what data are available in their different systems and how data from the different agencies' systems may be linked, as well as developing data use agreements and procedures for securely sharing data.

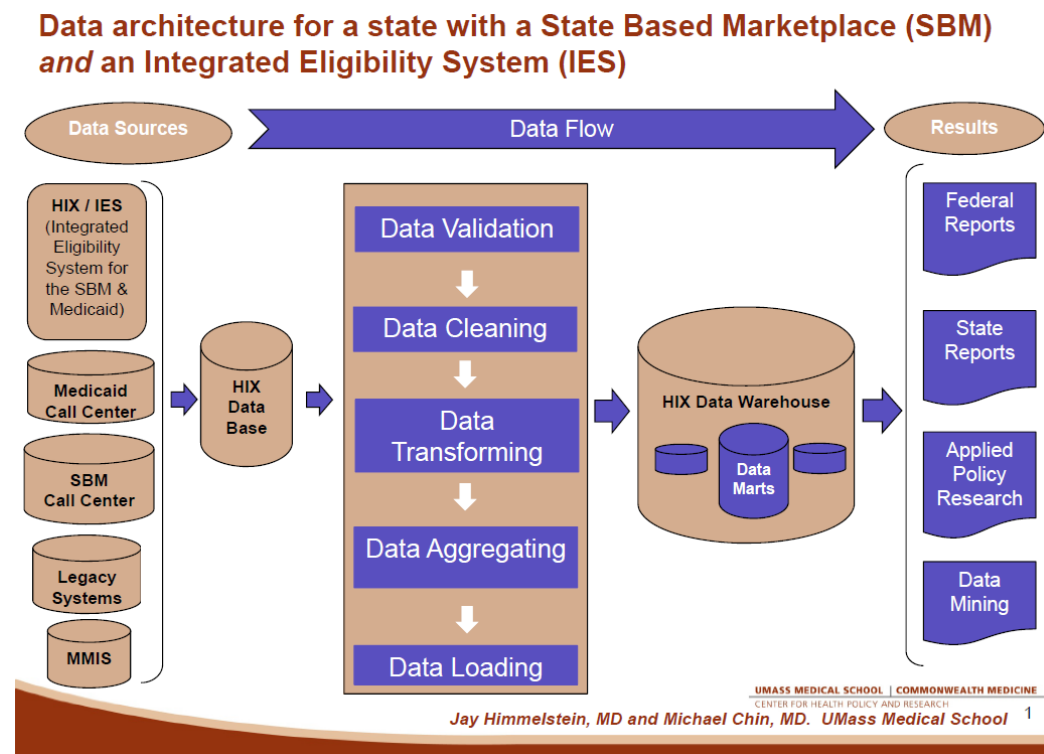
Medicaid and Health Insurance Exchange Linkages

For states interested in developing estimates of churn between their Medicaid programs and subsidized private coverage, linking Medicaid and health insurance exchange administrative data sources could allow states to produce an enrollment-based churn estimate. In addition to producing estimates of churn that also could be performed with income-eligibility estimates, such as the prevalence of churn between the two programs or the impact of churn between the two programs on health care costs, this linkage potentially could enable estimates that could only be performed with enrollment data, either administrative or self-reported survey enrollment data. For example, a state could determine whether people churning between Medicaid and subsidized private coverage experienced gaps between those

forms of coverage, although it could not determine whether people had other forms of coverage during that time.

The feasibility of developing this type of linkage is likely to vary by state, depending on the different regulations and structures that states have in place for their exchange and Medicaid data systems. It should be possible for states that operate their own health insurance exchanges to link these data with Medicaid administrative data, especially in states with a higher level of integration between the systems. This includes states that use the same IT systems for determining eligibility for Medicaid and subsidized private coverage, such as some states that received Early Innovator funding from the U.S. Department of Health and Human Services to accelerate their IT systems development.⁵⁰ Figure 5 shows an example of how a state-based exchange could integrate with Medicaid and other systems. Additionally, as part of their implementation of the ACA, many states are currently in the process of modernizing their Medicaid data systems, which could help to facilitate the tracking of individuals across the two data sources.

Figure 5: Data Architecture for a State with State Based Marketplace (SBM) and an Integrated Eligibility System (IES)



From Himmelstein, J., and Chin, M. ⁵¹

While this type of analysis should be possible in states that operate their own health insurance exchanges, it is uncertain whether it would be possible for states that have opted for the FFM. Currently, it is unclear how exchange data are communicated and shared between the federal government and the FFM states, thus making it difficult to assess the feasibility of linking FFM exchange data with state-specific Medicaid data. Depending on how federal exchange data are shared with states, it may be possible to produce estimates of churn at the state level by linking the FFM administrative data with federal Medicaid administrative data (e.g., MSIS), once both sets of data are available. However, among the Medicaid expansion states, which are expected to see the most substantial changes in churn, only 11 rely on the FFM.⁴⁹

APCD, Medicaid, and Health Insurance Exchange Linkages

All Payer Claims Databases (APCD) have been suggested as another potential source of data for churn estimates. Because these systems compile claims and enrollment data from multiple health care payers, APCDs could potentially be used to estimate churn by examining enrollment files for changes in individuals' health plans. They also could be used to estimate the effects of churn on health care costs by examining changes in claims patterns before and after episodes of churn.

There are a number of limitations to using APCDs as sources of data for estimating churn. The use of this data source for producing estimates of churn would be limited to states with APCDs. Currently, fewer than half of the states have developed or are developing APCDs⁵². While APCDs would allow estimates of the impacts of churn on health care costs for people churning from uninsurance into coverage, their focus on claims would not support estimates of the impacts on individuals who churn into uninsurance.

Another limitation of APCDs as a data source for estimating churn would be the available co-variables within the data (e.g., income, family composition, demographics, etc.), which could provide barriers to producing estimates of churn for sub-populations or for understanding the causes of churn. By linking APCD data to other data sources (e.g., Medicaid administrative data and health insurance exchange data), however, states may be able to expand their set of available variables and mitigate this limitation.

Enhancements to Existing Data Sources

Each of the sources of data described in this paper that could be used for estimating churn has limitations. Though it would not be possible for states to make enhancements to all of the possible sources of data for estimating churn, augmenting those existing survey data sources that can be readily modified could be a promising way for states to obtain data they need for specific estimates.

States interested in estimating churn may have the flexibility to modify existing surveys to gather data they need for a specific estimate. For instance, states have access to existing data from the federal surveys mentioned earlier, but states also have the option to add questions to the federal BRFSS survey.⁵³ By adding questions about changes in coverage over the previous 12 months (similar to the revised CPS), states may be able to enhance the ability of their BRFSS surveys to support estimates of churn. States also may be able to further enhance the BRFSS for churn estimates by adding questions related to specific policy matters, such as individual characteristics associated with churning, gaps in coverage, or the impacts of churn on health care costs and access.

As mentioned in the earlier section on survey data sources, more than 15 states conduct their own health surveys.³⁹ While most of these ask point-in-time questions about coverage, similarly to the BRFSS, these surveys could be modified to ask about changes in coverage over the past 12 months and about other policy relevant topics, improving their ability to support churn estimates³⁹

6. Conclusions

While the issue of churning is not new, provisions in the ACA to increase access to affordable health coverage are expected to change the dynamics of churn substantially. Because of this, there are numerous reasons that states may be interested in producing estimates of churn. For example, states may want to project the prevalence of churn under the ACA, or they may want to monitor the impacts of churn on their Medicaid programs. Additionally, states may be interested in estimating the effects of policy options that could reduce the size of churn or mitigate the effects of churn.

In developing a strategy for estimating churn, states should consider their purposes for producing an estimate. Certain approaches to estimating churn will be better suited to answering specific policy questions. For example, estimating changes in income-eligibility would allow states to project how many people could potentially churn between eligibility for Medicaid and subsidized exchange-based

coverage. Alternatively, estimates based on changes in actual enrollment could allow states to estimate the impact of churning on health care utilization and costs.

Depending on the purpose and strategy for developing an estimate, there are several existing data sources that states could use, including multiple forms of survey and administrative data. There is no perfect data source for producing churn estimates; the best data source for an estimate will depend on the particular questions the estimate is designed to answer. If the existing data sources do not include the specific data elements needed to produce a particular estimate, states can consider options for improving on the existing data sources. These options include linking multiple sources of data, or augmenting existing data sources by gathering additional data (e.g., adding new questions to a health survey). These options present challenges, such as technical issues related to linking data or the time needed to modify and field surveys, but they also have the potential to support estimates of churn that could not be produced otherwise.

Despite their limitations, the data sources and methods outlined in this paper present viable options for measuring and projecting churn. These types of analyses can help states to understand the causes, consequences and prevalence of churn as the phenomenon evolves as a result of the ACA. As states are presented with policy options that could reduce churn or mitigate the negative effects it historically has had on individuals and public programs, the data sources and methods described in this paper could provide states with opportunities to estimate the effects of the policies, allowing them to make informed decisions.

References

1. Ku L, Steinmetz E, Bruen BK. Continuous-eligibility Policies Stabilize Medicaid Coverage for Children and Could be Extended to Adults with Similar Results. *Health Aff.* 2013;32(9):1576-82. doi:10.1377/hlthaff.2013.0362.
2. Fairbrother G. *How Much Does Churning in Medi-Cal Cost?* Woodland Hills, CA; 2005. Available at: http://www.issueLab.org/resource/how_much_does_churning_in_medical_cost
3. Sommers BD. From Medicaid to Uninsured: Drop-out Among Children in Public Insurance Programs. *Health Serv Res.* 2005;40(1):59-78. doi:10.1111/j.1475-6773.2005.00342.x.
4. Sommers BD. Loss of Health Insurance Among Non-elderly Adults in Medicaid. *J Gen Intern Med.* 2008;24(1):1-7. doi:10.1007/s11606-008-0792-9.
5. Bindman AB, Chattopadhyay A, Auerback GM, Bindman B. Medicaid Re-Enrollment Policies and Children's Risk of for Ambulatory Care Sensitive Conditions Hospitalizations. *Med Care.* 2008;46(10):1049-1054.
6. Bindman AB, Chattopadhyay A, Auerback GM. Interruptions in Medicaid Coverage and Risk for Hospitalization for Ambulatory Care-sensitive Conditions. *Ann Intern Med.* 2008;149(12):854-861.
7. Ku L, MacTaggart P, Pervez F, Rosenbaum S. *Improving Medicaid's Continuity of Coverage and Quality of Care.*; 2009.
8. Ku L, Steinmetz E. *The Continuity of Medicaid Coverage : An Update.*; 2013. Available at: http://www.communityplans.net/portals/0/coverageyoucancounton/Continuity_of_Medicaid_Coverage_Update_4-2013.pdf
9. Hall AG, Harman JS, Zhang J. Lapses in Medicaid Coverage: Impact on Cost and Utilization Among Individuals With Diabetes Enrolled in Medicaid. *Med Care.* 2008;46(12):1219-1225.
10. Fairbrother G, Dutton MJ, Bachrach D, Newell K-A, Boozang P, Cooper R. Costs Of Enrolling Children In Medicaid And SCHIP. *Health Aff.* 2004;23(1):237-243. doi:10.1377/hlthaff.23.1.237.
11. The Henry J. Kaiser Family Foundation. Status of State Action on the Medicaid Expansion Decision, 2014. Available at: <http://kff.org/medicaid/state-indicator/state-activity-around-expanding-medicaid-under-the-affordable-care-act/>. Accessed August 18, 2014.
12. The Henry J. Kaiser Family Foundation. Medicaid Moving Forward. 2014. Available at: <http://kff.org/medicaid/fact-sheet/the-medicaid-program-at-a-glance-update/>. Accessed August 18, 2014.
13. Fried B, Sonier J. How Will Health Reform Affect Churning in States? Presented at: *AcademyHealth Annual Research Meeting, State Health Research and Policy Interest Group Meeting*; June 2013; Baltimore, MD.

14. The Henry J. Kaiser Family Foundation. Where are States Today? Medicaid and CHIP Eligibility Levels for Children and Non-Disabled Adults as of April 1, 2014. Available at: <http://kff.org/medicaid/fact-sheet/where-are-states-today-medicaid-and-chip/>. Accessed August 8, 2014.
15. Lavarreda SA, Gatchell M, Ponce N, Brown ER, Chia YJ. Switching Health Insurance and Its Effects on Access to Physician Services. *Med Care*. 2008;46(10):1055-63. doi:10.1097/MLR.0b013e318187d8db.
16. Mann C. Letter to state health officials and state Medicaid directors RE: Facilitating Medicaid and CHIP Enrollment and Renewal in 2014. 2013. Available at: <http://www.medicaid.gov/federal-policy-guidance/downloads/sho-13-003.pdf>. Accessed August 8, 2014.
17. Centers for Medicare & Medicaid Services. Continuous Eligibility for Medicaid and CHIP Coverage. Available at: <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Outreach-and-Enrollment/Continuous.html>. Accessed August 8, 2014.
18. Medicaid and CHIP Payment and Access Commission. *Report to the Congress on Medicaid and CHIP: March 2013.*; Available at: <http://www.macpac.gov/reports>
19. Buettgens M, Nichols A, Dorn S. *Churning Under the ACA and State Policy Options for Mitigation.*; 2012. Available at: <http://www.urban.org/UploadedPDF/412587-Churning-Under-the-ACA-and-State-Policy-Options-for-Mitigation.pdf>.
20. Mann C. Letter to New York RE: Approval of Amendment to 1115 Waiver. 2014. Available at: <http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Waivers/1115/downloads/ny/ny-f-shrp-ca.pdf>. Accessed August 8, 2014.
21. New York. New York State's Federal-State Health Reform Partnership Phase Out Plan. 2013. Available at: http://www.health.ny.gov/health_care/managed_care/appextension/docs/2013-10-24_phase_out_plan.pdf Accessed August 8, 2014.
22. Hwang A, Rosenbaum S, Sommers BD. Creation of State Basic Health Programs Would Lead to 4 Percent Fewer People Churning Between Medicaid and Exchanges. *Health Aff*. 2012;31(6):1314-20. doi:10.1377/hlthaff.2011.0986.
23. Graves JA. Better Methods Will be Needed to Project Incomes to Estimate Eligibility for Subsidies in Health Insurance Exchanges. *Health Aff*. 2012;31(7):1613-22. doi:10.1377/hlthaff.2011.1140.
24. Cassidy A. Basic Health Program. The Affordable Care Act Offers States Another Option Besides Medicaid and the Exchanges for Health Coverage for Low-Income Residents.; 2014. *HealthAff*. Available at: http://healthaffairs.org/healthpolicybriefs/brief_pdfs/healthpolicybrief_113.pdf.
25. A Bill for an Act Relating to Human Services; Establishing MinnesotaCare as the State's Basic Health Program. H.F. No 214. State of Minnesota H.R., 88th Session; 2013. Available at: https://www.revisor.mn.gov/bills/text.php?session=ls87&number=HF214&session_number=0&session_year=2013&version=list.

26. Howard H, Shearer C. State Efforts to Promote Continuity of Coverage and Care Under the Affordable Care Act. *J Health Polit Policy Law*. 2013;38(6):1173-81. doi:10.1215/03616878-2373184.
27. Bergal J. Churning Between Medicaid and Exchanges Could Leave Gaps in Coverage, Experts Warn. *The Washington Post*. http://www.washingtonpost.com/national/health-science/churning-between-medicaid-and-exchanges-could-leave-gaps-in-coverage-experts-warn/2014/01/05/cf858d7e-73fa-11e3-8def-a33011492df2_story.html. Published January 5, 2014. Accessed August 8, 2014.
28. Arkansas Medicaid. Arkansas Health Care Independence Program FAQ. Available at: <https://www.medicaid.state.ar.us/Download/consumer/PortalFAQs8-21-13.pdf>. Accessed August 8, 2014.
29. Iowa Department of Human Services. Iowa Health and Wellness Plan. Available at: <http://dhs.iowa.gov/ime/about/iowa-health-and-wellness-plan>. Accessed August 8, 2014.
30. Centers for Medicare & Medicaid Services. Options If You Have Job-based Health Insurance. Available at: <https://www.healthcare.gov/what-if-i-have-job-based-health-insurance/>. Accessed August 8, 2014.
31. Seifert R, Kirk G, Oakes M. *Enrollment and Disenrollment in MassHealth and Commonwealth Care.*; 2010. Available at: [http://www.maxenroll.org/files/maxenroll/resources/EnrollmentinMHandCC-final-april2%20\(2\).pdf](http://www.maxenroll.org/files/maxenroll/resources/EnrollmentinMHandCC-final-april2%20(2).pdf).
32. Institute for Health Policy Solutions. *Comparison of Graves-IHPS and Urban Institute "Churn" Estimates for Washington State.*; 2012. Available at: http://www.hca.wa.gov/hcr/me/documents/Tech_Comp_IHPS_Graves_Urbn_Inst_Churn_Model_May_2012.pdf.
33. Dietz M, Graham-Squire D, Jacobs K. *The Ongoing Importance of Enrollment: Churn in Covered California and Medi-Cal.*; 2014. Available at: http://laborcenter.berkeley.edu/pdf/2014/churn_enrollment.pdf. doi:10.1177/0022146514533086.
34. Trenholm C, Harrington M, Snyder A, Weiss AM. *Using Data to Drive State Improvement in Enrollment and Retention Performance.*; 2011. Available at: <http://www.rwjf.org/content/dam/web-assets/2011/11/using-data-to-drive-state-improvement-in-enrollment-and-retentio>.
35. Sommers BD, Rosenbaum S. Issues in Health Reform: How Changes in Eligibility May Move Millions Back and Forth Between Medicaid and Insurance Exchanges. *Health Aff*. 2011;30(2):228-36. doi:10.1377/hlthaff.2010.1000.
36. Sommers BD, Graves JA, Swartz K, Rosenbaum S. Medicaid and Marketplace Eligibility Changes Will Occur Often in All States; Policy Options Can Ease Impact. *Health Aff*. 2014;33(4):700-707.

37. Fried B, Kemmick Pintor J, Graven P, Blewett LA. Implementing Federal Health Reform in the States: Who Is Included and Excluded and What Are Their Characteristics? Forthcoming.
38. State Health Access Data Assistance Center (SHADAC). SHADAC Data Center: Coverage Type by Poverty Level, ESI for 139 - 200 percent FPG. Available at: <http://datacenter.shadac.org/>. Accessed August 8, 2014.
39. State Health Access Data Assistance Center (SHADAC). State Reform Survey Item Matrix (SRSIM). 2013. Available at: <http://www.shadac.org/content/srsim>. Accessed August 8, 2014.
40. Centers for Medicare & Medicaid Services. Background and Justification Statement for the Medicaid Statistical Information System and Transformed – Medicaid Statistical Information System. Available at: <http://www.reginfo.gov/public/do/DownloadDocument?documentID=370304&version=0>.
41. U.S. Department of Health and Human Services. 45 C.F.R. § 155.400. Available at: http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=1&SID=6e2fff933dd95876e05c32dcfa8c5f09&ty=HTML&h=L&r=PART&n=pt45.1.155#se45.1.155_1400. Accessed August 18, 2014.
42. Kliff S. Obamacare's Most Important Number: 834. *The Washington Post*. <http://www.washingtonpost.com/blogs/wonkblog/wp/2013/10/23/the-health-care-laws-most-important-number-834/>. Accessed August 19, 2014.
43. Congressional Budget Office. Updated Estimates of the Effects of the Insurance Coverage Provisions of the Affordable Care Act, April 2014.; Available at: http://www.cbo.gov/sites/default/files/cbofiles/attachments/45231-ACA_Estimates.pdf.
44. Sweeney L. k-Anonymity: A Model for Protecting Privacy. *Int J Uncertainty, Fuzziness Knowledge-based Syst.* 2002;10(5):557-570.
45. Pasquali SK, Jacobs JP, Shook GJ, et al. Linking Clinical Registry Data with Administrative Data Using Indirect Identifiers: Implementation and Validation in the Congenital Heart Surgery Population. *Amer.* 2010;160(6):1099-1104. doi:10.1016/j.ahj.2010.08.010.
46. Hammill BG, Hernandez AF, Peterson ED, Fonarow GC, Schulman KA, Curtis LH. Linking Inpatient Clinical Registry Data to Medicare Claims Data Using Indirect Identifiers. *Am Heart J.* 2009;157(6):995-1000. doi:10.1016/j.ahj.2009.04.002.
47. State Health Access Data Assistance Center (SHADAC). *State Health Access Program State Medicaid Eligibility System Survey: Report on the Modernization of State Medicaid Eligibility Systems.*; 2012. Available at: http://www.shadac.org/files/shadac/publications/SHAPSurveyReport_2012Jun.pdf.
48. Centers for Medicare & Medicaid Services. Minimum Acceptable Risk Standards for Exchanges – Exchange Reference Architecture Supplement. 2012. Available at: <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/Minimum->

- [Acceptable-Risk-Standards-for-Exchanges-ERA-Supp-v-1-0-08012012-a.pdf](#). Accessed August 19, 2014.
49. The Henry J. Kaiser Family Foundation. State Decisions For Creating Health Insurance Marketplaces, 2014. Available at: <http://kff.org/health-reform/state-indicator/health-insurance-exchanges/>.
 50. The Center for Consumer Information & Insurance Oversight. States Leading the Way on Implementation: HHS Awards “Early Innovator” Grants to Seven States. 2011. Available at: <http://www.cms.gov/CCIIO/Resources/Grants/states-leading-the-way.html>. Accessed August 20, 2014.
 51. Himmelstein J, Michael C. Data Architecture for a state with State Based Marketplace (SBM) and an Integrated Eligibility System (IES). University of Massachusetts. Accessed August 28, 2014.
 52. State Health Access Data Assistance Center (SHADAC). *Making Use of All - Payer Claims Databases for Health Care Reform Evaluation*. Forthcoming.
 53. Centers for Disease Control and Prevention. BRFSS Frequently Asked Questions (FAQs). 2013. Available at: http://www.cdc.gov/brfss/about/brfss_faq.htm. Accessed August 14, 2014.
 54. State Health Access Data Assistance Center (SHADAC). ACA Note: When 133 Equals 138 - FPL Calculations in the Affordable Care Act. 2011. Available at: <http://www.shadac.org/blog/aca-note-when-133-equals-138-fpl-calculations-in-affordable-care-act>. Accessed August 8, 2014.

Appendix I

Potential Data Sources for Analyzing Churn

SURVEY DATA SOURCES

	Redesigned Current Population Survey (CPS)	Behavioral Risk Factor Surveillance System (BRFSS)	Survey of Income and Program Participation (SIPP)
Target population	Civilian non-institutionalized population	Civilian non-institutionalized adult population	Civilian non-institutionalized population
Primary focus	Survey on labor force participation and unemployment	Survey on population health, risk factors, and health behaviors	Survey to provide longitudinal data on income and program participation
Sample frame	Census 2000 sampling frame updated with new housing construction. (Census 2010 sampling frame is being phased in between April 2014 and July 2015)	Households with landline telephones, plus cell phones added in 2012	Pre-2014 SIPP: Census 2000 sampling frame updated with new housing construction SIPP beginning in 2014: National Master Address File (MAF)
Sample designed to be state representative	Yes	Yes	Yes, for 20 largest states (2008 and 2014 panels)
Survey mode	Phone and in person	Phone	Phone and in person

ADMINISTRATIVE DATA SOURCES

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Target population	Medicaid enrollees from all states	Medicaid enrollees from individual states	Applicants for private-coverage premium tax credits and unsubsidized coverage
Primary focus	Administrative enrollment and claims data for Medicaid beneficiaries	Administrative enrollment and claims data for Medicaid beneficiaries	Administrative data for determining program eligibility and enrolling beneficiaries
Designed to be state representative	Representative of Medicaid beneficiaries only	Representative of Medicaid beneficiaries only	Representative of enrollees in exchange coverage

Appendix II

Summaries of Potential Churn Data Sources

SURVEY DATA SOURCES

Types of churn estimates possible:

	Redesigned Current Population Survey (CPS)	Behavioral Risk Factor Surveillance System (BRFSS)	Survey of Income and Program Participation (SIPP)
Churn in/out of Medicaid	✓	Possibly, though estimate would be rough due to imprecision of coverage questions	✓
Churn in/out of exchanges	✓		✓
Churn between Medicaid and exchanges	✓		✓
Churn into uninsurance or ESI	✓		✓

Churn estimate based on income-eligibility or program-enrollment:

	Redesigned CPS	BRFSS	SIPP
Eligibility			✓
Enrollment	Self-reported enrollment.	Self-reported enrollment.	

Level of estimates possible:

	Redesigned CPS	BRFSS	SIPP
State-level estimates	✓	✓	If national data weighted to state characteristics

Survey design elements:

	Redesigned CPS	BRFSS	SIPP
Target population	Civilian non-institutionalized population	Civilian non-institutionalized adult population	Civilian non-institutionalized population
Primary focus	Survey on labor force participation and unemployment	Survey on population health, risk factors, and health behaviors	Survey to provide longitudinal data on income and program participation
Sample frame	Census 2000 sampling frame updated with new housing construction. (Census 2010 sampling frame is being phased in between April 2014 and July 2015)	Households with landline telephones, plus cell phones added in 2012	Pre-2014 SIPP: Census 2000 sampling frame updated with new housing construction SIPP beginning in 2014: National Master Address File (MAF)

SURVEY DATA SOURCES (CONT.)

Survey design elements (continued):

	Redesigned CPS	BRFSS	SIPP
Sample designed to be state representative	Yes	Yes	Yes, for 20 largest states (2008 and 2014 panels)
Survey mode	Phone and in person	Phone	Phone and in person
Sub-population group estimates for all states (e.g., by education, race, gender)	If 2-3 years of data are combined	Yes	No. Only possible if national data weighted to state characteristics

Policy-relevant data available:

	Redesigned CPS	BRFSS	SIPP
Age	✓	✓	✓
Gender	✓	✓	✓
Race and ethnicity	✓	✓	✓
Income	Annual income	Annual income (categorical variable)	Monthly income
Household composition	✓	✓	✓
Education level	✓	✓	✓
Access to care		✓	
Disability	✓	✓	✓
Medical conditions		Limited data on certain conditions	
Cost and utilization data		Limited data on utilization for certain preventive care	

Timeliness of data availability:

	Redesigned CPS	BRFSS	SIPP
Currently available data	First full year of data to become available in 2015	Data currently available for Medicaid-uninsurance estimates	Data currently available for income-eligibility estimates

ADMINISTRATIVE DATA SOURCES

Types of churn estimates possible:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Churn in/out of Medicaid	✓	✓	
Churn in/out of exchanges			✓ (information on disenrollment from exchange coverage may not be available)
Churn between Medicaid and exchanges	Possibly, if data linked with exchange	Possibly, if data linked with exchange	Possibly, if data linked with Medicaid
Churn into uninsurance or ESI			

Churn estimate based on income-eligibility or program-enrollment:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Eligibility			
Enrollment	✓	✓	✓

Level of estimates possible:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
State-level estimates	✓	✓	✓

Design elements:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Target population	Medicaid enrollees from all states	Medicaid enrollees from individual states	Applicants for private-coverage premium tax credits and unsubsidized coverage
Primary focus	Administrative enrollment and claims data for Medicaid beneficiaries	Administrative enrollment and claims data for Medicaid beneficiaries	Administrative data for determining program eligibility and enrolling beneficiaries

ADMINISTRATIVE DATA SOURCES (CONT.)

Design elements (continued):

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Designed to be state representative	Representative of Medicaid beneficiaries only	Representative of Medicaid beneficiaries only	Representative of enrollees in exchange coverage
Sub-population group estimates for all states (e.g., by education, race, gender)	Yes. Estimates should be possible for certain sub-populations.	Yes. Estimates should be possible for certain sub-populations.	May be possible for some sub-populations, but limited because some data would be based on optional application fields, which may not be representative.

Policy-relevant data available:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Age	✓	✓	✓
Gender	✓	✓	✓
Race and ethnicity	✓	✓	Only partial data available; comes from optional field in exchange application.
Income			✓
Household composition			✓
Education level			
Access to care			
Disability	✓	✓	✓
Medical conditions	✓	✓	
Cost and utilization data	✓ (claims data)	✓ (claims data)	

Timeliness of data availability:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Currently available data	MSIS data available from 2012. MAX data available for most states from 2010.	Possibly more timely than federal Medicaid data, but reliability uncertain.	Timeliness of data is likely to vary by state.

Appendix III

Technical Specifications of Potential Churn Data Sources

SURVEY DATA SOURCES

Core churning data:

	Redesigned Current Population Survey (CPS)	Behavioral Risk Factor Surveillance System (BRFSS)	Survey of Income and Program Participation (SIPP)
Coverage type	Monthly (availability pending Census Bureau release decision)	Point-in-time, plus whether uninsured at any time in past 12 months	Monthly
Income	Annual income	Annual income; categorical information that doesn't support calculations of FPG	Monthly income
Family composition	Yes	Yes	Yes

Data for policy questions:

	Redesigned CPS	BRFSS	SIPP
Demographics	Age, sex, race and ethnicity	Age, sex, race and ethnicity	Age, sex, race and ethnicity
Language proficiency	No	No	No
Immigration status	No	No	Yes
Education level	Yes, K-12 and post-secondary degrees	Yes, K-12 and years of post-secondary education	Yes, K-12 and post-secondary degrees
Health care costs	Premiums and out-of-pocket expenditures	No	Premiums and out-of-pocket expenditures
Access to care	No	Whether respondent has a personal doctor or health provider; whether delayed care due to cost; reasons for delaying care other than cost	No
Health and disability status	Health and disability status	Health and disability status; medical conditions, pregnancy	Health and disability status
Use of health services	No	Questions on preventive care; number of times seen health professional in past 12 months	Hospitalizations; number of medical provider visits; prescription drugs; use of care while uninsured

Sample characteristics:

	Redesigned CPS	BRFSS	SIPP
Response rate	80 percent in 2012	45.2 percent in 2012 (median state response rate for landline/cell phones combined)	<u>2014 SIPP</u> <ul style="list-style-type: none"> • Not yet available <u>Pre-2014 SIPP</u> <ul style="list-style-type: none"> • 57.3 percent for 2008 panel, Wave 11

SURVEY DATA SOURCES (CONT.)

Sample characteristics (continued):

	Redesigned CPS	BRFSS	SIPP
Sample sizes	<u>2012</u> US: 202,634 • High state: 20,468 (CA) • Median state: 3,025 (ME) • Low state: 1,780 (MT)	<u>2012</u> US: 467,333 • High state: 21, 723 (MA) • Median state: 7,878 (SD) • Low state: 3,327 (DC)	<u>2008 Panel, Wave 10</u> US: 79,321 • High state: 8,113 (CA) • Median state: 953 (SC) • Low state: 132 (WY)
Support state-level estimates	Yes	Yes	Only for the 20 largest states.
Support state-level analysis of sub-populations	Yes, but limited by state sample size; recommended to use 2- or 3-year averages	Yes	Limited by state sample size and survey design

ADMINISTRATIVE DATA SOURCES

Core churning data:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Coverage type	Medicaid enrollment only (number of days each month)	Medicaid enrollment only (number of days each month)	Medicaid eligibility, financial assistance eligibility, and current coverage type if applying for financial assistance
Income	No	Yes	Annual income
Family composition	No	No	Yes

Data for policy questions:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Demographics	Age, sex, race and ethnicity	Age, sex, race and ethnicity	Age, sex, race, ethnicity
Language proficiency	No	Primary language.	No
Immigration status	Eligibility for full Medicaid benefits is limited to citizens and legal residents who have lived in the U.S. at least 5 years.	Eligibility for full Medicaid benefits is limited to citizens and legal residents who have lived in the U.S. at least 5 years.	Yes
Education level	No	No	No
Health care costs	Claims	Claims	No
Access to care	No	No	No
Health and disability status	Disability; health conditions	Disability; health conditions	Disability; some health condition data in certain states
Use of health services	Claims	Claims	No

Data source characteristics:

	Federal Medicaid Data	State Medicaid Data	Health Insurance Exchange Data
Population	Medicaid beneficiaries in all states	All Medicaid beneficiaries for individual states	All enrollees in exchange coverage
Support state-level estimates	Only for determining churn in and out of Medicaid	Only for determining churn in and out of Medicaid	Only for determining churn in and out of exchanges
Support state-level analysis of sub-populations	Yes	Yes	Yes