

STUDY BRIEF

Recommendations for Monitoring Access to Care among Medicaid Beneficiaries at the State-level

PRESENTED TO:

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Study Background & Objectives

This report presents the findings of a study entitled “Developing a System for Measuring Access to Care for Medicaid Beneficiaries,” sponsored by the Office of the Assistant Secretary for Planning and Evaluation (ASPE) and U.S. Department of Health and Human Services (HHS), under contract (Task Order No. HHS23337020T, Contract No. HHSP23320095647WC) to NORC at the University of Chicago. ASPE is undertaking the project in partnership with the Center for Medicaid and CHIP Services at the Centers for Medicare and Medicaid Services (CMS).

Project Objectives

ASPE initiated this project to address department-wide interest in a federal-level system to measure and track access to care for Medicaid beneficiaries. With the passage of the Affordable Care Act (ACA), several new policies will go into effect in 2013 and 2014 that may affect access to care for Medicaid beneficiaries, including an increase in Medicaid’s primary care payments and Medicaid expansion and increased enrollment. ASPE and CMS are interested in measuring baseline data and creating a system to monitor the impact of these policies on access to care for Medicaid beneficiaries.

The goal of the project is to provide guidance and recommendations for ASPE, CMS, and states to create a better system of collecting and utilizing data in order to understand access at the state-level for Medicaid beneficiaries. The project was designed to address the following objectives:

- Determine the data sources and indicators that currently exist to measure access to care for Medicaid beneficiaries at the state-level
 - ▶ Assess how well the data sources perform across four key dimensions: timeliness, relevance, accuracy, and accessibility
 - ▶ Identify indicators that can be used to monitor access to care for Medicaid beneficiaries within a state over time and access to care indicators which can be used to make comparisons across states
- Identify new opportunities and challenges for continuous tracking of Medicaid beneficiaries’ access to care in the future

Project Methods

To address the project objectives, NORC collaborated with ASPE and CMS to conduct an environmental scan and convene a Technical Expert Panel (TEP). The environmental scan included a review of relevant published literature and white papers. NORC also reviewed survey and administrative data sources which can be used to measure Medicaid beneficiaries’ perceptions of access to care, provider reports of access to care, and realized access to care. These data sources were identified through consultation with federal and non-federal experts and were selected for further discussion by the TEP if they met the criteria of including access to care measures, collecting data from all fifty states and the District of Columbia, and

collecting data on a regular basis. NORC summarized findings from the environmental scan in a briefing book that was provided to all TEP members and referenced throughout the TEP meeting.

The TEP was convened at HHS's Humphrey Building in Washington, DC, on Wednesday, June 6, 2012. There were sixteen panelists in attendance, including directors of two state Medicaid programs; experts from Federal government agencies, such as CMS and the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC); researchers from organizations like Urban Institute, SHADAC, Mathematica Policy Research, and the Kaiser Family Foundation; and other leaders from private industry. In addition to these panelists, the meeting was attended by federal stakeholders from various divisions within ASPE and CMS. The full list of panelists and stakeholders in attendance is included in Appendix A.

After the meeting, NORC developed an online feedback tool to better assess panelists' opinions regarding potential indicators and data sources for monitoring Medicaid beneficiaries' access to care. The tool asked respondents to rate the relevance of different indicators of access, organized by consumer perceptions, provider reports, and realized access. Next respondents were asked to rate the accuracy, relevance, timeliness, accessibility, and overall importance of potential data sources. Lastly, respondents answered open-ended questions to provide additional information pertinent to developing a system to monitor Medicaid beneficiaries' access to care at the state-level.

Framework for Monitoring Access

In order to measure, understand, and track access to care issues from multiple perspectives, ASPE and CMS approach access using three domains:

- **Consumer Perceptions of Access:** What does the person or family enrolled in Medicaid experience? Can they access primary care and specialty care? Do they have a usual source of care? Do they confront barriers in gaining access to care?
- **Provider Reports on Access:** What do providers report regarding access to care for Medicaid beneficiaries at their practice?
- **Realized Access:** What services are beneficiaries actually using? What are the characteristics of the providers serving Medicaid beneficiaries?

ASPE and CMS consider all three domains important. The objective is to identify data sources and indicators that provide a relatively complete picture of access in each of these three domains at the state-level.

Findings for Potential Data Sources for State-level Medicaid Access

Several data sources for measuring access to care for Medicaid beneficiaries were considered as potential sources for constructing access indicators. The primary criteria for selecting data sources included coverage of all states (even if current sample sizes do not permit state-level estimates) and the presence of access-related variables. There are other quality data sources examining access issues for Medicaid

beneficiaries, including state-specific surveys,¹ initiatives to collect data from Medicaid Managed Care Organizations (MCOs) using the Health Plan Employer Data and Information Set (HEDIS) and the Consumer Assessment of Health Plans Survey (CAHPS),² and monitoring beneficiary satisfaction through customer service inquiries and complaints. These efforts are essential resources for individual states to monitor access questions during ACA implementation. However, these data collection efforts are not conducted consistently and are not comparable across states, so they were not included for consideration in this project.

To facilitate the review of potential data sources, NORC and the TEP applied four criteria:³

- *Accuracy*: relates to the closeness between estimated and true (unknown) values
- *Relevance*: refers to the idea that the data collection program measures concepts that are meaningful and useful to data users
- *Timeliness*: refers to the length of the data collection’s production time; it can also refer to the frequency of data collection
- *Accessibility*: refers to the ability of data users to obtain the products of the data collection program

Consumer Perceptions of Access

The TEP weighed the strengths and limitations of four data sources for monitoring consumer perceptions of access including the Behavioral Risk Factor Surveillance System (BRFSS), the National Health Interview Survey (NHIS), the National Survey on Drug Use and Health (NSDUH), and the household component of the Medical Expenditure Panel Survey (MEPS). Additional detail on these data sources is included in Appendix B. Two datasets emerged as the best choices given HHS’s needs. The BRFSS and NHIS could each be part of a system used by HHS to monitor Medicaid access at the state-level.

The **BRFSS**⁴ tracks health-related behaviors – including health risk behaviors, preventive health practices, and health care access – through a telephone survey administered in the United States each year. The key advantage of the BRFSS is that its large sample size of adults ages eighteen and older provides state-level estimates for all fifty states on an annual basis for several survey items on access to care. Its central limitations are that it does not currently ask about health insurance type (only whether someone is insured or uninsured) and it does not include data on access to care for children less than eighteen years of age. However, in 2013, BRFSS will include a question on type of health care insurance in its core questionnaire that will permit estimates of access to care for Medicaid beneficiaries at the state-

¹ An overview of the state specific surveys, including the thirteen states that regularly conduct these surveys, is available through the State Health Access Data Assistance Center (SHADAC): <http://www.shadac.org/content/state-survey-research-activity>; accessed October 1, 2012.

² Smith et al. “The Crunch Continues: Medicaid Spending, Coverage and Policy in the Midst of a Recession, Results of a 50-State Medicaid Budget Survey for State Fiscal Years 2009 and 2010.” Report of the Kaiser Commission on Medicaid and the Uninsured, 2009.

³ “Measuring and Reporting Sources of Error in Surveys.” Working Paper 31, Prepared by the Subcommittee on Measuring and Reporting the Quality of Survey Data at the Federal Committee on Statistical Methodology (FCSM) for the Statistical Policy Office, Office of Information and Regulatory Affairs at OMB (June 2001).

⁴ Information abstracted from CDC’s About BRFSS website available at: <http://www.cdc.gov/brfss/about.htm>; accessed October 1, 2012.

level. The inclusion of the coverage type question in the core questionnaire beyond 2013 is pending funding. Continued funding to include the question on health insurance type in BRFSS is critical to track Medicaid beneficiaries' access to care (and relative access among those privately insured) and to support pre- and post-ACA analyses at the state-level. Also in 2013, a new BRFSS module on health care access will be added (see Appendix C). Currently forty-three states are planning to include this module.

Other limitations of BRFSS include concerns over state-level variation in administration and sampling design – particularly coverage of cell-phone-only households – as well as response rates, which are low in some states relative to other federally-sponsored surveys. However, design modifications made in 2011 included the use of cell phone interviewing and the proportion of interviews conducted with cell-phone-only households is expected to grow over time.⁵ Another limitation of BRFSS relates to the categorical income measure included in the survey, which yields less precise income data than other surveys. Some TEP members expressed concerns that the categorical income measure may not provide a precise, consistent measure of income or family income relative to poverty.

CDC's National Center for Health Statistics (NCHS) conducts the **NHIS**⁶ to capture information on a wide spectrum of health topics through personal household interviews. The major advantages of the NHIS are its inclusion of persons of all ages, multiple access-related items, a Medicaid-specific insurance variable, more detailed income data than the BRFSS, and a high response rate. Another advantage is that it is relatively easier to add questions to the NHIS than to BRFSS, because the former does not require approval from the states. The NHIS asks about all three types of care – preventive, primary, and specialty – and includes questions on wait times, transportation, and other financial and non-financial barriers to getting care, including mental health care.

Relevant to the inclusion of the NHIS as a data source for consumer perceptions of access is the NHIS sample augmentation and enhanced health care access and utilization questions that began in 2011.⁷ The sample augmentation permits additional estimates to be generated at the state-level and includes questions that address some of the provisions of the ACA. The NHIS sample size was increased in thirty-two states and the District of Columbia to increase the number of reliable state-level estimates that can be made on an annual basis. The largest states were not included in the sample augmentation because it was possible to produce state-level estimates with the usual NHIS sample. Using funds from the ACA, eighty-six additional questions on health care access and utilization were included on the NHIS for 2011-2013 in order to correspond with provisions of the ACA and allow for any early effects of the ACA to be assessed.⁸

The primary limitation of the NHIS is the sample size and, consequently, whether the NHIS data can be used to generate state-level estimates of access for those enrolled in Medicaid. There are two distinct sampling issues that help inform the answer to this question. The first issue is whether the survey's sample is designed to produce unbiased estimates of the state's population (i.e., whether it can be used to

⁵ Pierannunzi C, et al. "Methodologic Changes in the Behavioral Risk Factor Surveillance System in 2011 and Potential Effects on Prevalence Estimates," *MMWR*, 61 (2012): 22.

⁶ Information abstracted from CDC's "About NHIS" website available at: http://www.cdc.gov/nchs/nhis/about_nhis.htm; accessed October 1, 2012.

⁷ http://ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHIS/2011/srvydesc.pdf

⁸ Gentleman, J. "Using the National Health Interview Survey to Monitor the Early Effects of the Affordable Care Act." Paper presented at the Joint Statistical Meetings in San Diego, CA, July 28 - August 2 2012. Abstract available at: <http://www.amstat.org/meetings/jsm/2012/onlineprogram/AbstractDetails.cfm?abstractid=306359>; accessed October 10, 2012. Full paper forthcoming.

produce state-representative data). The second issue is whether the effective sample size (i.e., the size of the sample after it is adjusted for complex survey design and weighting) for a specific measure produces a sufficiently precise estimate for the policy purposes needed.

The NHIS's current sample design allows for it to meet the design criteria. In 2011, the NHIS produced state-level insurance estimates for thirty-two states. In 2016 the NHIS is looking to change its sample design to produce representative estimates for even more states. The second issue of adequate precision is much harder to answer. An estimate of 15% of a population experiencing access problems in State X based on 100 effective sample size cases would have a standard error of 3.5% and a 95% confidence interval of 15%, plus or minus 7%. (An estimate of 15% based off of 50 effective sample cases would have a standard error of 5%, the same estimate with 200 effective sample size cases would have a standard error of 2.5%, and the same estimate with 400 effective sample size cases would have a standard error of 1.8%.)

Because the level of precision needed for an estimate to be policy relevant is dependent on how the estimate will be used, the decision of where to draw the line is not fixed.⁹ In making a judgment about how many cases per state are needed to achieve a level of precision for an estimate to be useful for HHS's policy assessments, NORC suggests a minimum of 100 effective sample size cases in the denominator of an estimate. This will mean that for most measures the actual number of cases needed in the state will be greater than 100. So to use the estimates from the NHIS for monitoring access to care among Medicaid enrollees, NORC recommends using only states that currently have adequate NHIS sample to be state representative if the number of Medicaid beneficiaries for any given measures is over 100 in the denominator of the estimate. A potential solution that would allow estimates to be generated for all fifty states is to use two- or three-year averages. Access to the NCHS-restricted data is required to conduct the necessary analyses to establish which states meet the effective sample size criteria (and a state that qualifies for one estimate on the list may not qualify for all estimates on the list). This access to the restricted data, including state identifiers, requires an application to the NCHS Research Data Center (RDC). Although minimal analyses can be conducted remotely,¹⁰ most analyses must be done onsite at an RDC. Because information on state sample sizes and population subgroups cannot be obtained without going to the RDC, determining whether these analyses are feasible has costs.

Two additional surveys were presented to the TEP for consideration as sources of indicators to measure consumer perceptions of access to care: **the household component of MEPS** and the **NSDUH**. Lack of an adequate sample size to generate state-level estimates and long lag times for release of data files limited any further consideration of MEPS. NSDUH was considered for its ability to capture subsets of Medicaid enrollees with mental illness and/or substance abuse issues, and for its questions specific to

⁹ The precision issue and whether there are enough sample cases to use the estimate for policy purposes becomes more complicated with the sub-sampling that occurs during the household interview in the NHIS. For example the interviewer asks all members of the family about their health insurance coverage (e.g., whether they are uninsured, have Medicaid or have some other type of coverage), but some other items regarding access to care are asked of only one sample adult or sample child within the household. Questions asked of only one person in the household (e.g., trouble finding a doctor) have fewer responses than questions asked of everyone in the household (e.g., health insurance coverage). The design effect will typically be smaller for estimates generated off the sample adult or child estimates than those generated off the entire family.

¹⁰ Additional information on the NCHS and Census RDC procedures is available on the website available at: <http://www.cdc.gov/rdc/index.htm>; accessed December 9, 2012.

mental health and substance abuse. However, the relatively small number of Medicaid beneficiaries¹¹ included at the state-level limits the extent to which NSDUH can be utilized for subgroup analyses and for generating estimates for low-prevalence conditions. Additionally, there is no known formal process for access to restricted data to attain state-level identifiers for NSDUH respondents.

Provider Reports of Access

The TEP weighed the strengths and limitations of three data sources for monitoring provider reports of access, including the National Ambulatory Medical Care Survey (NAMCS), the National Ambulatory Medical Care Survey – Electronic Medical Records/Electronic Health Records Mail Survey (NAMCS-EMR), and the SK&A provider survey. (Additional detail on these data sources is included in Appendix B.) Given current designs and limited understanding of the design and methods of the SK&A survey, the NAMCS and NAMCS-EMR emerged as the recommended datasets for measuring provider reports of access for the Medicaid population.

Conducted annually by NCHS, NAMCS¹² gathers data from office-based physicians to provide information on the provision and use of ambulatory medical care services in the U.S. The main advantage of NAMCS is that it includes several provider-reported items on access to care for Medicaid patients, including whether the provider is accepting new patients and new Medicaid patients, policies for same-day appointments, and the percent of provider revenue from Medicaid. Additionally, the survey includes items on the use of mid-level providers such as physician assistants and nurse practitioners. The main limitations of NAMCS are the limited sample size (although it was increased to 15,590 office-based physicians and 6,336 community health center providers in 2012) and that data are restricted with state identifiers only available through the NCHS RDC. State-level estimates are only available for the thirty-four largest states in 2012 and 2013. For previous years and for smaller states, a potential solution is to use two- or three-year averages.

Funded by the Office of the National Coordinator for Health Information Technology (ONC) and conducted by NCHS, NAMCS-EMR¹³ is a supplemental mail survey to the NAMCS that explores the adoption of electronic medical records (EMRs) or electronic health records (EHRs) among providers. Since 2008, the NAMCS-EMR has been mailed to physicians who are eligible for NAMCS but who were not selected in the regular NAMCS sample. Beginning in 2010, the sample was designed to produce state-level estimates and the sample size was increased to 10,301. The NAMCS-EMR includes several of the same access measures as the NAMCS. Like NAMCS, data use is restricted, with state identifiers only available through the NCHS RDC.

¹¹ The 2011 NSDUH sample included 14,303 respondents who reported having Medicaid or CHIP coverage. Sample size data for 2010 and 2011 are available at: http://www.samhsa.gov/data/NSDUH/2k11MH_FindingsandDetTables/2K11MHDetTabs/NSDUH-MHDetTabsSect3pe2011.htm#Tab3.4N; accessed December 9, 2012.

¹² Information abstract from CDC's "About NAMCS" website, available at: http://www.cdc.gov/nchs/ahcd/about_ahcd.htm; accessed October 1, 2012.

¹³ Information abstracted from CDC's NAMCS participant website, available at: http://www.cdc.gov/nchs/ahcd/namcs_participant.htm, accessed October 1, 2012.

The company **SK&A**¹⁴ manages a database with information on over two million healthcare practitioners. Every six months, SK&A's full time, in-house research associates make calls to providers to verify names, titles, phone numbers, and fax numbers. Supplemental information is gathered, including items on access, such as whether the physician is accepting new patients with varying types of insurance. The potential advantages of the SK&A data are the timeliness of data (six month data collection cycles and monthly data updates) and the large sample size used to generate state-level estimates. However, access to the data is limited by cost, and public documentation does not allow researchers to fully assess the survey methods and full questionnaire. The TEP members were largely unaware of the survey and unable to assess its suitability for HHS's needs.

Realized Access

The environmental scan outlined several sources of claims and administrative data for Medicaid enrollees, which were discussed by the TEP. The TEP focused primarily on MSIS and the enhancements and extensions under development in the Transformed Medicaid Statistical Information System (T-MSIS). (Additional detail on these data sources is included in Appendix B.) Utilization of HCUP data sources was not considered in detail because not all states participate and because access to the state data must be purchased through a central distributor. MSIS emerged as the recommended dataset for measuring realized access, with the caveat that there is a need for more complete understanding of the causes and implications of state-level variations in the data.

MSIS was identified as the main data source for monitoring realized access. However, there are several limitations and caveats to using MSIS for cross-state comparisons. Variation in benefit packages, program design, percent of the Medicaid population with fee-for-service (FFS) coverage, and data coding and reporting make cross-state comparisons challenging. Additionally, because it is expected that most newly eligible Medicaid beneficiaries will be enrolled in managed care plans, the lack of data on managed care Medicaid beneficiaries is a significant issue. In the short term, the use of MSIS for monitoring access will hinge on ASPE's and CMS's ability to engage with MSIS data experts to understand and control for state-level effects in the measures. Until these issues are identified and better understood, other types of comparisons may improve understanding and monitoring of access issues at the state-level, including: 1) comparing access for different eligibility populations across states; 2) comparing access within a given state across different eligibility groups over time; and 3) using a normative benchmark for care (e.g., are diabetic Medicaid enrollees meeting guidelines for visits and services?). As the data are utilized for monitoring access and the issues hindering state-level comparisons are identified, long-term solutions can be established to improve standardized reporting and to develop a fuller understanding of the factors that account for differences among states.

A recent report published by Mathematica Policy Research¹⁵ raises concerns about the completeness, reliability, and usability of encounter data in MAX, which is a set of annual person-level data files derived from MSIS. The report's findings indicate that MSIS may not be able to provide consistent

¹⁴ Information abstracted from SK&A's data website, available at: <http://www.skainfo.com/acquire.php>, accessed October 1, 2012.

¹⁵ Jessica Nysenbaum, Ellen Bouchery, and Rosalie Malsberger. "[The Availability and Usability of Behavioral Health Organization Encounter Data in MAX 2009.](#)" *MAX Medicaid Policy Brief #14*. Mathematica Policy Research, December 2012, Document No. PP12-107..

measures on Medicaid beneficiaries' service utilization in the near future. The TEP concluded that improving this measure should be a priority area for the T-MSIS system.

The **T-MSIS** was identified as a potential data source when more states report data after 2013. The T-MSIS offers several advantages over the MSIS, such as the inclusion of the National Provider Identifier (NPI); more timely access to the data (within sixty days); integrated databases (including provider and managed care files); and a more robust infrastructure, including automated data validation and analytic reporting. Currently, twelve states are using T-MSIS as part of Phase I. Phase II will add another four states by the end of 2012 and Phase III will add the remaining thirty four by the end of 2013.¹⁶

Recommended Indicators of Access for Medicaid Beneficiaries

Understanding the need for HHS to assess access for the Medicaid population in the near term, NORC developed several indicators that can be used immediately while progress continues toward longer-term recommendations for indicators. Based on the findings from the environmental scan and TEP discussions, NORC selected measures identified by the TEP as high-priority indicators of access for Medicaid enrollees which can be operationalized using current data sets in all states, or at least a majority of states.

Even accounting for the limitations described in the findings section, a set of indicators can be constructed for all three facets of access: for consumer perceptions using BRFSS and NHIS, for provider reports using the NAMCS-EMR,¹⁷ and for realized access using MSIS. These measures can be used immediately to establish baseline levels of access for the Medicaid population at the state-level. These indicators are included in Exhibit 1 and additional detail on constructing the measures is available in Appendix D.

¹⁶ James Gorman. "T-MSIS Pilot Overview." Presented at Medicaid Enterprise Systems Conference (MESCC), August 2012. Available at: http://www.mesconference.org/wp-content/uploads/2012/08/Monday_TMSIS_Gorman.pdf; accessed December 9, 2012.

¹⁷ These measures can also be assessed for the largest thirty-four states using the 2012 NAMCS once the data are available.

Exhibit 1. Recommended Indicators by Data Source

Consumer Perceptions: BRFSS	Consumer Perceptions: NHIS	Provider Reports: NAMCS-EMR	Realized Access: MSIS
<i>Major Limitation: Before 2013 there is no Medicaid specific measure and beyond 2013 it is unknown if there will be a specific measure of Medicaid coverage. Income is only measured categorically. Does not include data on children under 18.</i>	<i>Major Limitation: State estimates only available for 32 largest states and a smaller number of states are likely to have an adequate effective sample size for the Medicaid enrolled population. Access to state data is limited to NCHS RDC.</i>	<i>Major Limitation: Access to state-level identifiers limited to NCHS RDC.</i>	<i>Major Limitation: Limited understanding of state-level variation and ability to make cross-state comparisons. Largely limited to Medicaid Fee For Service.</i>
% of low-income adults with access to a usual source of care	% of Medicaid population with a usual source of care	% physicians accepting new patients (by primary care providers and specialists)	% eligible FFS beneficiaries with at least one service
% of low-income adults who forewent receiving care because it was unaffordable	Type of usual source of care	% physicians accepting new Medicaid patients (by primary care providers and specialists)	% eligible FFS beneficiaries with at least one ambulatory care visit
% of low-income adults without a preventive care visit in the last 2 years	% with Medicaid coverage that delayed medical care due to cost	% of physician patient population with Medicaid/CHIP (by primary care providers and specialists)	% eligible FFS beneficiaries with at least one specialty care (aggregate) visit
	Interval since last doctor visit	% physician revenue from Medicaid (by primary care providers and specialists)	% eligible FFS beneficiaries with at least one specialty care (specific) visit
	% who experienced trouble finding a general doctor or provider	% physicians accepting new Medicaid patients in practices with mid-level providers (e.g., NP, PA) (by primary care providers and specialists)	Number of participating providers (using NPI)
	% with Medicaid coverage who were not accepted as new patients		Number and range of FFS beneficiaries served per provider
	% with Medicaid coverage who visited doctors' offices that did not accept their form of health insurance		
	% with Medicaid coverage who delayed getting medical care because they could not get an appointment soon enough		

These indicators can be stratified to examine access to care issues for different types of Medicaid beneficiaries. It should be acknowledged that stratifying the sample by demographic or other variables will exacerbate the sample size issues. However, the Exhibit 2 includes recommendations for potential stratifying variables when the state sample size permits.

Exhibit 2. Potential Stratifying Variables by Data Source

Data Source	Stratifying Variables
BRFSS	Race, ethnicity, age, gender, categorical household income, insurance coverage, state, MSA
NHIS	Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence
NAMCS & NAMCS-EMR	Physician Characteristics: State, race, ethnicity, age, gender, physician type (MD, DO), specialty group, employment Practice Characteristics: Office setting, practice ownership, practice size, solo, MSA
MSIS	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible

Long-Term Recommendations to Improve the Data Infrastructure for State-level Assessments of Medicaid Access

The data sources currently available for measuring state-level access to care for Medicaid beneficiaries reveal several limitations for developing a robust system for monitoring access. There are several high-priority measures which the TEP identified that lack state-based estimates, and each of the existing survey sources for measuring consumer perceptions at the state-level have limitations. However, even if these state measures existed, there is no population household survey that has access measures for both adults and children which can be used to derive estimates in all fifty states and the District of Columbia. Current surveys provide access data that are robust only for healthy adults and for children in the thirty-two states made possible by 2011 NHIS sample augmentation (selected states), and only when the effective sample size of the Medicaid population is sufficient to provide precise estimates for policy analysis. There are many causes for concern, including access issues for subpopulations (such as people with disabilities and racial and ethnic minorities) and the inability to perform sub-state analysis. The ability of the data products to produce reliably comparable state estimates will be a challenge for surveys (due to sample design and sample size) and administrative data collected by the states (due to differences in data collection practices and definitions across states). Funding and infrastructure for data linkage work is insufficient to support current needs (e.g., the ability to link survey data with administrative records data—, such as linking provider surveys with provider characteristics information from administrative data, or linking household surveys with corresponding administrative data). Finally, T-MSIS implementation is not currently taking place in all states, and many states still contribute to MSIS only.

To improve the quality of the recommended indicators, several enhancements to existing data sources can be pursued. Additional funding for BRFSS will be required to include the question on type of health insurance coverage beyond 2013. Additionally, working with states to better understand what the data represent, given differences in sampling, survey administration, and periodicity of some questions, will provide additional insight into understanding variability in access to care issues across the states. The potential exists to add access questions to the American Community Survey (ACS), and some TEP members and their organizations were already considering suggestions. The TEP did not seriously consider the ACS as a data source because it was not perceived to have access measures, although it does have health insurance and income data with large annual state sample sizes. NCHS should be supported in

its efforts to enhance the sample design of the NHIS to improve the survey's ability to make state estimates by 2016. Work could also be conducted with NCHS to explore the possibility of long-term support for increasing the sample size of NAMCS.

Continued support for the development, deployment, and adoption of T-MSIS will facilitate the measurement of Medicaid access in the future. Furthermore, CMS is developing additional datasets and systems which will complement T-MSIS. For example, the MACPro system is a new online system designed to facilitate submission of state applications to amend existing state plans or waivers, propose new options under the Medicaid and CHIP programs, and submit key administrative information. MACPro will modernize the CMS and state information exchange by offering an electronic workflow to CMS reviewers as well as our state partners. MACPro will be the official system of record for these submissions and changes. MACPro will be implemented in phases with the first release in early 2013. Additional Medicaid authorities will be included in future releases with all authorities incorporated into MACPro in 2014. MACPro will provide important contextual data to better utilize T-MSIS data by:

- Enabling states to share program information with each other for benchmarking purposes
- Providing structured data about a state's program which can be used to compare state programs and can be integrated and analyzed with expenditure data and granular operational data

Additional, long-term improvements could take the form of data linkage opportunities, sample size expansion, and the creation of surveys that specifically examine Medicaid access. Additional ways to work with the Census Bureau should be explored in order to improve researcher access to linked administrative and survey data within a secure working environment and ultimately to increase the utility of these linked data for health policy analysis. There is general agreement that many of the data sources contain the necessary access variables, but there is a need to expand the sample size of the NHIS and NAMCS. To provide a more robust understanding of consumer perceptions of access, a survey targeting Medicaid beneficiaries could be developed to facilitate state comparisons and attain the power to compare beneficiaries by key sub-populations (e.g., racial/ethnic minorities, disability status). The development of a state-based Medicaid Consumer Assessment of Healthcare Providers and Systems (CAHPS) could also be considered to support measurement of consumer assessments of Medicaid.

Additionally, TEP members and stakeholders recommend that ASPE and CMS continue working closely with states, not only in the development of the measures, but also once measures are in place. In an ideal system, HHS would share a report with each state that shows its data compared to national averages. When indicators are far outside the mean or moving in the wrong direction, HHS could engage with the states to determine the potential causes (e.g., data analysis issues, data interpretation issues, reporting issues, or programmatic/policy issues). This would not only improve understanding of the access issues, but also have the potential to improve claims data. As noted by one TEP member, "Data used is data improved."

Appendix A. TEP Meeting Attendance

Panelists

Panelist	Institutional Affiliation
Maggie Anderson	North Dakota Medicaid Director
Deborah Bachrach	Manatt Counsel, Healthcare Transaction & Policy
Dave Baugh	Mathematica Policy Research Senior Researcher
Kathleen T. Call	State Health Access Data Assistance Center (SHADAC) Professor, University of Minnesota School of Public Health
Stephen Cha	Center for Medicaid and CHIP Services (CMS) Medical Director
William Clark	Center for Medicare and Medicaid Innovation (CMS) Director, Division of Research on State and Special Populations
Robin A. Cohen	National Center for Health Statistics (NCHS) Senior Statistician, Division of Health Interview Statistics
Kim Elliott	Arizona Medicaid Administrator for Clinical Quality Management
Janet Freeze	Center for Medicaid and CHIP Services (CMS) Director, Division of Reimbursement & State Financing
James Gorman	Center for Medicaid and CHIP Services (CMS) Director, Information Analysis and Technical Assistance
John Holahan	Urban Institute Director, Health Policy Center
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Appendix B. Summary Information on Key Data Sets for Measuring Access to Care for Medicaid Enrollees

Summary Information on Data Sources for Consumer Perception

	BRFSS	NHIS	MEPS – Household Component	NSDUH
Sponsor	A partnership between CDC and State Health Departments with CDC providing a core level of support in every state	NCHS	AHRQ	SAMHSA
Target Population	Adults (non-institutionalized)	Households (civilian, non-institutionalized)	Households (civilian, non-institutionalized)	Individuals 12 or older (civilian, non-institutionalized)
Sample Frame	Random Digit Dialing to telephone numbers (landline only through 2010) and landline and Cell beginning with the 2011 BRFSS data file to be released in the summer of 2102	Address Based Sample Frame developed by the Census with oversamples of Blacks, Hispanics, and Asians	NHIS	Address-based sampling using a national sample frame developed by RTI for SAMHSA
Data Collection Mode	CATI	CAPI	CAPI	CAPI & ACASI
Response Rate	54.6 (2010, 50-state median)	82.0% (2011, Household Module)	57.2% (2009, full-year file)	74.7% (2010)
Survey Period	Throughout the year	Throughout the year	Panel over 2-yr period	Throughout the year
Sample Size	Approx. 350,000 persons (only one individual interviewed per HH)	Approx. 35,000 households containing 87,500 individuals	In 2009, 13,875 households containing 34,920 individuals	Approx. 70,000 persons
State Estimates	All 50 states and DC, and many large counties and large Metropolitan areas	States are not identified on Public Use File, but direct estimates are derived by NCHS for the largest 30 states preferably using Cross year pooling	No	States not identified in Public Use data but SAMHSA does release small area estimates for a pre-defined set of cross-tabulations
Years	Since 1984, annually	Since 1957 and annually since 1962	Since 1996	Since 1988, annually
Data Lag	4-6 months	6 months for full data, early release analytic reports available sooner	2 Years	9 months

	BRFSS	NHIS	MEPS – Household Component	NSDUH
Relevant Measures	Usual Source of Care and Unmet Need; Cancer Screenings obtained	Usual Source of Care, Visits, and Unmet Need, Medical Costs Burden (2011). Includes FFS vs. MC Medicaid.	Usual Source of Care, Visits, Unmet need (including dental and Rx), Patient Experience, and Costs.	Visits and Mental Health Costs
Limitations	No specific measure of Medicaid coverage and income data is not precisely measured	Cannot provide state-level estimates for all states by year. Also sample size of Medicaid recipients selected as sample adult or sample child within many states will be small	Small sample size within states and the data lag time is longer	There is no established process for gaining access to states identifiers (e.g., the NHIS allows access through the Census Bureau RDC and NCHS RDC system)

Source: Dataset websites and SHADAC

Summary Information on Data Sources for Provider Reports

Provider Reports on Access	NAMCS	NAMCS-EMR	SK&A Physician Access
Sponsor	NCHS	NCHS	SK&A
Target Population	Non-Federal employed office-based physicians primarily engaged in direct patient care	Non-Federal employed office-based physicians primarily engaged in direct patient care	Practicing physicians at medical offices
Sample Frame	AMA and AOA lists within PSUs	NAMCS	AMA-based, with additional cleaning and verification
Data Collection Mode	In-person PAPI (majority using Census field staff)	Mail	Phone
Response Rate	65.4% (2007)	61% (2011)	Unavailable
Survey Period	Year round	Feb-June (2011)	Year round
Sample Size	In 2012, 15,590 office-based physicians and 6,336 community health center providers	In 2010, 10,301 office-based, non-Federal physicians	740,000 practicing physicians at medical offices
State Estimates	Designed to produce estimates for the largest 34 states with 2012 sample size increase	Since 2010, designed to produce state-level estimates	Yes
Years	Annually since 1989	Annually since 2008	N/A
Data Lag	Approx 12 months	Approx 12 months	Updated files available daily
Relevant Measures	New patient acceptance, Medicaid patient acceptance, % revenue from Medicaid, NPI	New patient acceptance, Medicaid patient acceptance, % revenue from Medicaid (2011)	New patient acceptance, Insurance plans accepted, NPI

Provider Reports on Access	NAMCS	NAMCS-EMR	SK&A Physician Access
Limitations	Restricted access	Restricted access	Intended census, but unclear representativeness of survey, Unclear if data distinguish between acceptance of Medicare and Medicaid in a systematic way; Medicaid data may not be collected from physicians during repeat administrations

Source: Dataset websites and SHADAC

Summary Information on Data Sources for Realized Access

Provider Reports on Access	MSIS	T-MSIS	HRSA UDS	HCUP (SID & SEDD)
Sponsor	CMS	CMS	HRSA	AHRQ
Data Source is Inclusive of:	Medicaid eligibles and beneficiaries	Medicaid eligibles and beneficiaries	Grantees of HRSA's primary care programs	SID: hospital admissions in each state SEDD: ED discharges that do not result in an admission
Data Product Production Schedule	Quarterly	Monthly	Data reported annually in the first quarter of the year	Annually
Data Set Coverage	50 states + District of Columbia	50 states + District of Columbia	Varies (e.g., 7,900 service sites in 2009; 1,128 grantees in 2011)	SID has 44 states. SEDD has 27 states.
State Estimates	Yes	Yes	Yes	Yes
Years	Quarterly since FY 1998	Monthly starting in 2011 as pilot initiative	Annually since 2007	HCUP since 1988, SID since 1990, and SEDD since 1999
Relevant Measures	400 data elements, including: Encounter total claims count; Total Medicaid paid amount; eligibles and beneficiaries count	1,000 data elements, including new claims files on managed care, third-party liability, coordination of benefits, and provider	Health center-level data on patient demographics, services provided, staffing, clinical indicators, utilization rates, costs, and revenues of grantee health centers	SID & SEDD: payer source; diagnoses; procedures Add'l SID measures: admission and discharge status; total charges; length of stay
Limitations	Inconsistency of variables reported across states; Missing data; Interpretation of data; Broad technical issues	Currently 12 states participating	Limited coverage since only includes grantee sites.	Not all states participate

Source: Dataset websites

Appendix C. BRFSS Module on Health Care Access for 2013

Module 4: Health Care Access

- 1 Do you have Medicare? (298)
- 1 Yes
 - 2 No
 - 7 Don't know/Not sure
 - 9 Refused

Note: Medicare is a coverage plan for people age 65 or over and for certain disabled people.

- 2 Are you CURRENTLY covered by any of the following types of health insurance or health coverage plans? (299-312)

(Select all that apply)

Please Read:

- 01 Your employer
- 02 Someone else's employer
- 03 A plan that you or someone else buys on your own
- 04 Medicaid or Medical Assistance [or substitute state program name]
- 05 The military, CHAMPUS, or the VA [or CHAMP-VA]
- 06 The Indian Health Service [or the Alaska Native Health Service]
- 07 Some other source
- 88 None
- 77 Don't know/Not sure
- 99 Refused

CATI Note: If PPHF State go to core 3.2

- 3 Other than cost, there are many other reasons people delay getting needed medical care. Have you delayed getting needed medical care for any of the following reasons in the past 12 months? Select the most important reason. (313)

Please read

- 1 You couldn't get through on the telephone.
- 2 You couldn't get an appointment soon enough.
- 3 Once you got there, you had to wait too long to see the doctor.
- 4 The (clinic/doctor's) office wasn't open when you got there.
- 5 You didn't have transportation.

Do not read:

- 6 Other _____ specify
- 8 No, I did not delay getting medical care/did not need medical care
- 7 Don't know/Not sure
- 9 Refused

(314-338)

CATI Note: If PPHF State, go to core 3.4

CATI Note: If Q3.1 = 1 (Yes) continue, else go to Q4b

4a In the PAST 12 MONTHS was there any time when you did NOT have ANY health insurance or coverage?

- 1 Yes [Go to Q5]
- 2 No [Go to Q5]
- 7 Don't know/Not sure [Go to Q5]
- 9 Refused [Go to Q5]

(339)

CATI Note: If Q3.1 = 2, 7, or 9 continue, else go to next question (Q5)

4b About how long has it been since you last had health care coverage?

- 1 6 months or less
- 2 More than 6 months, but not more than 1 year ago
- 3 More than 1 year, but not more than 3 years ago
- 4 More than 3 years
- 5 Never
- 7 Don't know/Not sure
- 9 Refused

(340)

5 How many times have you been to a doctor, nurse, or other health professional in the past 12 months?

- Number of times
- 8 8 None
- 7 7 Don't know/Not sure
- 9 9 Refused

(341-342)

6 Was there a time in the past 12 months when you did not take your medication as prescribed because of cost? Do not include over-the-counter (OTC) medication.

- 1 Yes
- 2 No

(343)

Do not read:

- 3 No medication was prescribed.
- 7 Don't know/Not sure
- 9 Refused

7 In general, how satisfied are you with the health care you received? Would you say—

(344)

- 1 Very satisfied
- 2 Somewhat satisfied
- 3 Not at all satisfied

Do not read

- 8 Not applicable
- 7 Don't know/Not sure
- 9 Refused

8 Do you currently have any medical bills that are being paid off over time?

(345)

INTERVIEWER NOTE:

This could include medical bills being paid off with a credit card, through personal loans, or bill paying arrangements with hospitals or other providers. The bills can be from earlier years as well as this year.

- 1 Yes
- 2 No
- 7 Don't know/Not sure
- 9 Refused

CATI Note: If PPHF state, Go to core section 4.

Appendix D. Additional Documentation for Recommended Set of Access Indicators

Consumer Perceptions from BRFSS

Indicator: Adults who forewent receiving care because it was unaffordable

Description/Purpose: Number of adults who needed care but could not obtain it due to cost, in the last 12 months

Variable name: MEDCOST

Data sources: BRFSS 2011

Universe: Adults age 18+

Question wording: Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

Values/labels:

		Frequency	Percent	Weighted Percentage
1	Yes	63,828	12.65	16.91
2	No	439,274	87.09	82.84
7	Don't know/not sure	1,023	0.20	0.18
9	Refused	283	0.06	0.06

Potential recodes:

Stratification: Race, ethnicity, age, gender, categorical household income, insurance coverage, state, MSA

Indicator: Adults who have usual source of care

Description/Purpose: Number of adults who identify one person that they perceive as their personal doctor or health care provider

Variable name: PERSDOC2

Data sources: BRFSS 2011

Universe: Adults age 18+

Question wording: Do you have one person you think of as your personal doctor or health care provider? (If "No" ask "Is there more than one or is there no person who you think of as your personal doctor or health care provider?")

Values/labels:

		Frequency	Percent	Weighted Percentage
1	Yes, only one	389,557	77.23	70.77
2	More than one	40,883	8.11	6.85
3	No	72,366	14.35	21.93
7	Don't know/Not Sure	1,062	0.21	0.28
9	Refused	540	0.11	0.16

Potential recodes: 1 AND 2 – YES; 3 – NO; 7, 8, 9 = missing

Stratification: Race, ethnicity, age, gender, categorical household income, insurance coverage, state, MSA

Indicator: Interval since last routine care visit

Description/Purpose: Length of time since adult last visited a doctor for routine care

Variable name: CHECKUP1

Data sources: BRFSS 2011

Universe: Adults age 18+

Question wording: About how long has it been since you last visited a doctor for a routine checkup? A routine checkup is a general physical exam, not an exam for a specific injury, illness, or condition.

Values/labels:

		Frequency	Percentage	Weighted Percentage
1	Within past year (anytime less than 12 months ago)	360,620	71.49	66.08
2	Within past 2 years (1 year but less than 2 years ago)	60,075	11.91	13.68
3	Within past 5 years (2 years but less than 5 years ago)	36,083	7.15	8.94
4	5 or more years ago	36,007	7.14	8.65
7	Don't know/Not sure	5,989	1.19	1.15
8	Never	5,032	1.00	1.38
9	Refused	602	0.12	0.12

Potential recodes: 3 AND 4 = More than 2 years ago; 7, 8, 9 = missing

Stratification: Race, ethnicity, age, gender, categorical household income, insurance coverage, state, MSA

Consumer Perceptions from NHIS

Indicator: Persons that delayed medical care due to cost

Description/Purpose: All persons that delayed medical care due to cost in the last 12 months

Variable name: PDMED12M

Data sources: NHIS 2011 Person file

Universe: All persons that need care and did not receive it due to cost.

Question wording: DURING THE PAST 12 MONTHS, has medical care been delayed for {person} because of worry about the cost? (Do not include dental care)

Values/labels:

		Frequency	Percent
1	Yes	9080	8.91
2	No	92718	91.01
7	Refused	26	0.03
8	Not ascertained	0	0.00
9	Don't know	51	0.05

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Interval since last doctor visit

Description/Purpose: Duration of time since last doctor's visit

Variable name: AMDLONGR

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: About how long has it been since you last saw or talked to a doctor or other health care professional about your own health? Include doctors seen while a patient in a hospital.

Values/labels:

		Frequency	Percent
0	Never	355	1.08
1	6 months or less	22130	67.03
2	More than 6 mos, but not more than 1 yr ago	4807	14.56
3	More than 1 yr, but not more than 2 yrs ago	2543	7.70
4	More than 2 yrs, but not more than 5 yrs ago	1796	5.44
5	More than 5 years ago	1056	3.20
7	Refused	21	0.06
8	Not ascertained	250	0.76
9	Don't know	56	0.17

Potential recodes: <= 1 year, 1 year and more

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adult: Usual source of care

Description/Purpose: Whether or not an adult reported having a usual source of care that they can rely on when sick or in need of medical advice

Variable name: AUSUALPL

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: Is there a place that you USUALLY go to when you are sick or need advice about your health?

Values/labels:

		Frequency	Percent
1	Yes	27494	83.28
2	There is NO place	5061	15.33
3	There is MORE THAN ONE place	348	1.05
7	Refused	10	0.03
8	Not ascertained	92	0.28
9	Don't know	9	0.03

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adults: Type of usual source of care

Description/Purpose: For adults who report a usual source of care, what type of resources do they typically rely on?

Variable name: APLKIND

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years with one or more usual place(s) to go when sick/in need of health advice

Question wording: What kind of place do you go to most often - a clinic, doctor's office, emergency room, or some other place?

Values/labels:

		Frequency	Percent
1	Clinic or health center	6835	24.55
2	Doctor's office or HMO	19539	70.18
3	Hospital emergency room	468	1.68
4	Hospital outpatient department	453	1.63
5	Some other place	320	1.15
6	Doesn't go to one place most often	218	0.78
7	Refused	3	0.01
8	Not ascertained	3	0.01
9	Don't know	3	0.01

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adults who experienced trouble finding a doctor

Description/Purpose: Number of adults who experienced trouble finding a doctor in the past 12 months

Variable name: APRVTRYR

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: DURING THE PAST 12 MONTHS, did you have any trouble finding a general doctor or provider who would see you?

Values/labels:

		Frequency	Percent
1	Yes	1109	3.36
2	No	31762	96.21
7	Refused	14	0.04
8	Not ascertained	104	0.32
9	Don't Know	25	0.08

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adults who were not accepted as new patients

Description/Purpose: Number of adults who reported not being accepted by doctors as new patients in the last 12 months

Variable name: ADRNANP

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: DURING THE PAST 12 MONTHS, were you told by a doctor's office or clinic that they would not accept you as a new patient?

Values/labels:

		Frequency	Percent
1	Yes	913	2.77
2	No	31948	96.77
7	Refused	15	0.05
8	Not ascertained	108	0.33
9	Don't Know	30	0.09

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adults who visited doctors' offices that did not accept their form of health insurance

Description/Purpose: Number of adults whose form of health care coverage was refused by a doctor's office or clinic during the past 12 months.

Variable name: ADRNAI

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: DURING THE PAST 12 MONTHS, were you told by a doctor's office or clinic that they did not accept your health care coverage?

Values/labels:

		Frequency	Percent
1	Yes	1110	3.36
2	No	31724	96.09
7	Refused	15	0.05
8	Not ascertained	110	0.33
9	Don't know	55	0.17

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Indicator: Adults who delayed getting medical care because they could not get an appointment soon enough

Description/Purpose: Number of adults who reported delaying medical care in the past 12 months because they could not get an appointment soon enough

Variable name: AHCDLYR2

Data sources: NHIS 2011 Sample Adult file

Universe: Sample adults aged 18+ years

Question wording: There are many reasons people delay getting medical care. Have you delayed getting care for any of the following reasons in the PAST 12 MONTHS? You couldn't get an appointment soon enough

Values/labels:

		Frequency	Percent
1	Yes	2013	6.10
2	No	30839	93.41
7	Refused	18	0.05
8	Not ascertained	121	0.37
9	Don't know	23	0.07

Potential recodes:

Stratification: Race, ethnicity, age, gender, family income relative to poverty, Medicaid enrollment, type of insurance coverage, state, urban/rural residence

Provider Reports from NAMCS-EMR

Indicator:	Percent of revenue from Medicaid
Description/Purpose:	Mean percentage of patient care revenue that comes from Medicaid
Variable name:	PRMAID
Data sources:	2011 NAMCS EMR Supplement MICRO DATA FILE
Universe:	Physicians practicing in an ambulatory care setting
Question wording:	At the reporting location, what percentage of your patient care revenue comes from the following ... Medicaid?
Values/labels:	-9 BLANK 0-100 Continuous
Potential recodes:	0%, 1-25%, 26-50%, 51-75%, 76%-100%; and 0%, 1-100%
Stratification:	Physician Characteristics: State, race, ethnicity, age, sex, physician type (MD, DO), specialty group, employment
Practice Characteristics:	Office setting, practice ownership, practice size, solo, MSA

Indicator:	Accepting New Patients
Description/Purpose:	Percentage of physicians currently accepting new patients into the practice
Variable name:	ACCEPTNEW
Data sources:	2011 NAMCS EMR Supplement MICRO DATA FILE
Universe:	Physicians practicing in an ambulatory care setting
Question wording:	At the reporting location, are you currently accepting new patients?
Values/labels:	-9 BLANK -8 DON'T KNOW 1 Yes 2 No
Potential recodes:	
Stratification:	Physician Characteristics: State, race, ethnicity, age, sex, physician type (MD, DO), specialty group, employment
Practice Characteristics:	Office setting, practice ownership, practice size, solo, MSA

Indicator:	Accepting New Medicaid Patients
Description/Purpose:	Percentage of physicians currently accepting new patients with Medicaid into the practice
Variable name	NMEDCAID
Data sources:	2011 NAMCS EMR Supplement MICRO DATA FILE
Universe:	Ambulatory care physicians who are accepting new Medicaid patients into practice [ACETPNEW=1]
Question wording:	From those “new” patients, which of the following types of payment do you accept? ... Medicaid?
Values/labels:	-9 BLANK -8 DON'T KNOW -7 NOT APPLICABLE 1 Yes 2 No
Potential recodes:	
Stratification:	Physician Characteristics: State, race, ethnicity, age, sex, physician type (MD, DO), specialty group, employment
Practice Characteristics:	Office setting, practice ownership, practice size, solo, MSA

Indicator:	Percent of Patients with Medicaid/CHIP
Description/Purpose:	Mean percentage patients with Medicaid/CHIP
Variable name:	PCTMCAID
Data sources:	2011 NAMCS EMR Supplement MICRO DATA FILE
Universe:	All physicians in an ambulatory setting
Question wording:	At the reporting location, what percent of your current patients have Medicaid/CHIP?
Values/labels:	-9 BLANK 0-100 Continuous
Potential recodes:	0%, 1-50%, 51% or higher
Stratification:	Physician Characteristics: State, race, ethnicity, age, sex, physician type (MD, DO), specialty group, employment
Practice Characteristics:	Office setting, practice ownership, practice size, solo, MSA

Indicator:	Access to Mid-level Providers
Description/Purpose:	Percentage of physicians accepting new Medicaid patients in practices with mid-level providers
Variable name:	MIDLEVP1
Data Sources:	2011 NAMCS EMR Supplement MICRO DATA FILE
Universe:	Ambulatory care physicians who are accepting new Medicaid patients into practice [ACETPNEW=1]
Question wording:	How many mid-level providers (i.e., nurse practitioners, physician assistants, and nurse midwives) are associated with the reporting location?
Values/labels:	-9 BLANK 0-100 Continuous
Potential recodes:	0, 1-4, 5-9, 10+, and 0, 1+
Stratification:	Physician Characteristics: State, race, ethnicity, age, sex, physician type (MD, DO), specialty group, employment
Practice Characteristics:	Office setting, practice ownership, practice size, solo, MSA

Realized Access from MSIS

Indicator:	Percent of state population who are eligible beneficiaries
Description/Purpose:	To identify proportion of population eligible for services.
Data sources:	ELIGIBLE (numerator), To be derived from an Extant source such as the American Community Survey of the Current Population Survey (denominator)
Time period:	Monthly/quarterly/annually
Universe:	All state residents.
Numerator:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Denominator:	State population count for <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible

Indicator:	Percent of eligible beneficiaries that are beneficiaries served
Description/Purpose:	To identify proportion of eligible beneficiaries that use services.
Data sources:	CLAIMSXX (numerator), ELIGIBLE (denominator)
Time period:	Monthly/quarterly/annually
Universe:	All state residents.
Numerator:	Sum of eligible beneficiaries with at least 1 month FFS eligibility AND one claim during <time period>.
Denominator:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible

Indicator:	Percent of Eligible Beneficiaries with at least one Ambulatory Care Visit
Description/Purpose:	Indicator of regular/usual treatment among target population.
Data sources:	CLAIMOT (numerator), ELIGIBLE (denominator)
Time period:	Monthly/quarterly/annually
Universe:	All eligible beneficiaries with at least 3 months FFS eligibility during <time period>.
Numerator:	Sum of ambulatory care visits (TYPE-OF-VISIT = <select>) for eligible beneficiaries with at least 3 months FFS eligibility during <time period>.
Denominator:	All eligible beneficiaries with at least 3 months FFS eligibility during <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible
Notes:	Number of visits based on claims for a unique beneficiary, provider ID and single service day. May need to combine with SPECIALTY-CODE, coding varies by state.

Indicator:	Percent of Eligible Beneficiaries with at least one Specialty Care (Aggregate) Visit
Description/Purpose:	Indicator of regular/usual treatment among target population.
Data sources:	CLAIMOT (numerator), ELIGIBLE (denominator)
Time period:	Monthly/quarterly/annually
Universe:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Numerator:	Sum of all specialty care visits (SPECIALTY-CODE=<select codes>) for eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Denominator:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible
Notes:	No standard coding for this field, state-specific.

Indicator:	Percent of Eligible Beneficiaries with at least one Specialty Care (Specific) Visit
Description/Purpose:	Indicator of regular/usual treatment among target population.
Data sources:	CLAIMOT (numerator), ELIGIBLE (denominator)
Time period:	Monthly/quarterly/annually
Universe:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Numerator:	Sum of specialty care visits (SPECIALTY-CODE=<specialty of interest>) for eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Denominator:	All eligible beneficiaries with at least 1 month FFS eligibility during <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible
Notes:	No standard coding for this field, state-specific. This variable can be repeated for all specialty codes of interest.

Indicator:	Number of Unique Beneficiaries Served Per Provider
Description/Purpose:	Indicates level of beneficiaries served by provider.
Data sources:	ELIGIBLE, CLAIMSXX (numerator), CLAIMSOT (denominator)
Time period:	Monthly/quarterly/annually
Universe:	Sum of unique beneficiaries with at least 1 month FFS eligibility AND one claim during <time period>.
Numerator:	Sum of unique beneficiaries with at least 1 month FFS eligibility AND one claim during <time period>.
Denominator:	Sum of unique providers with at least one (SERVICE CODE) during <time period>.
Type:	Continuous
Values/labels:	0 – 100%
Potential recodes:	Categories
Stratification:	Race, ethnicity, age, sex, basis of eligibility category, TANF, dual-eligible