EBSA Health Outcomes Metrics

LITERATURE SCAN

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Background and Purpose

The U.S. Department of Labor's (DOL) Employee Benefits Security Administration (EBSA) seeks to identify approaches to measure the impact of its work. The objectives of EBSA and DOL's Chief Evaluation Office (CEO) for this Health Outcomes Metrics project were to better understand the current landscape, best practices, and data sources related to approaches that federal and state agencies and the insurance industry use to estimate the impacts of their health-related enforcement actions/interventions.

EBSA and CEO were interested in identifying and understanding metrics—both existing and potential—that other health regulators, the insurance industry, and the academic literature use to assess the impacts of enforcement efforts related to changes to health benefits coverage, such as expanding or enhancing benefits and addressing inappropriate restrictions on benefits.

The study aimed to address the following research questions:

- What metrics—monetary and non-monetary—are being used by academics, the insurance industry, and by other regulatory agencies to estimate the impact of changes to health benefits coverage?
- What data sources and analytical methods are used to develop these metrics?
- What specific metrics could EBSA use to measure the impact of its enforcement work?

To address the research questions and provide an understanding of health plan oversight and enforcement measurement approaches, the American Institutes for Research (AIR) designed and implemented three study components which included a literature scan, key informant interviews, and a data source review. This report presents findings from the literature scan component of the study to provide an understanding of health plan oversight and enforcement measurement approaches. Findings from the literature scan are intended to inform the approaches that EBSA could use to measure the impact of its enforcement actions and quantify corrections stemming from its investigations.

Literature Scan Findings

The literature scan findings reflect methods and data sources used by researchers, other regulatory entities/agencies, and the insurance industry to understand the impact of regulatory and enforcement actions and, more generally, to study health plans and related outcomes. The findings can serve as a starting point for EBSA as the agency considers how to develop new outcome metrics.

From the 30 relevant studies reviewed, the team identified 14 unique outcomes common throughout the studies. For each unique outcome, we identified whether they can be measured using non-monetary measures, monetary measures, or a combination of both (non-monetary and monetary). The study team organized the outcomes into four outcome categories based on the content/focus of each outcome. The four categories included: claims system/benefits management; service utilization, insurance coverage; and macro-level/long-term outcomes.

Based on the outcomes identified in this literature scan, the metrics most relevant to measuring the impact of EBSA's work were found within the three following categories:

- **Claims system/benefits management** metrics such as *Plan design changes to meet regulatory coverage requirements* as well as those related to *Enforcement actions* are relevant as they examine the most immediate results of EBSA's work.
- **Service Utilization** metrics, including rates of *Inpatient/outpatient visits* and *Access to and quality of care,* stand out due to their prevalence in the literature. They also relate to the kinds of changes EBSA's interventions can create, such as improving plan members' access to given benefits, and therefore utilization.
- **Insurance coverage** metrics, which primarily focus on capturing changes in *spending/expenditures* (medication cost changes, total/average out of pocket-spending/max, etc.), are worth further exploration because they relate directly to some of the changes that EBSA's interventions can create in plans and benefit design.

Additionally, the AIR team reviewed the studies to identify common data sources used by academics, the insurance industry, and other regulatory agencies to estimate the impact of changes to health benefits coverage. Common types of data sources found in the literature included: claims data, utilization data, complaints and grievance data, and market conduct and industry trend data.

1. Introduction

The U.S. Department of Labor's (DOL) Employee Benefits Security Administration (EBSA) seeks to identify approaches to measure the impact of its work. The objectives of EBSA and DOL's Chief Evaluation Office (CEO) for this Health Outcomes Metrics project were to better understand the current landscape, best practices, and data sources related to approaches that federal and state agencies and the insurance industry use to estimate the impacts of their health-related enforcement actions/interventions. EBSA and CEO were interested in identifying and understanding metrics—both existing and potential—that other health regulators, the insurance industry, and the academic literature use to assess the impacts of enforcement efforts related to changes to health benefits coverage, such as expanding or enhancing benefits and addressing inappropriate restrictions on benefits.

To achieve the study objectives, the American Institutes for Research (AIR) designed and implemented three study components: a literature scan, key informant interviews, and a data source review. This report presents findings from the literature scan component of the study to provide an understanding of health plan oversight and enforcement measurement approaches. Findings from the literature scan are intended to inform the approaches that EBSA could use to measure the impact of its enforcement actions and quantify corrections stemming from its investigations.

1.1. Overview of regulation and oversight of health plans

EBSA's role

One of EBSA's primary roles is in enforcing retirement and health plan compliance with the "Employee Retirement Income Security Act (ERISA) of 1974, as amended, and restoring benefits improperly withheld from plan participants" (U.S. Government Accountability Office, [GAO], 2021, Highlights). This study focuses on EBSA's work with health plans.

EBSA investigates violations related to benefit plans, including instances of wrongly denied medical claims in health plans. In 2013, the agency began to prioritize cases that would have the greatest impact on the protection of plan assets and participants' benefits.[1] With this continued focus, EBSA has identified certain national enforcement projects on which it focuses its investigative efforts, including, but not limited to, mental health parity, emergency services,

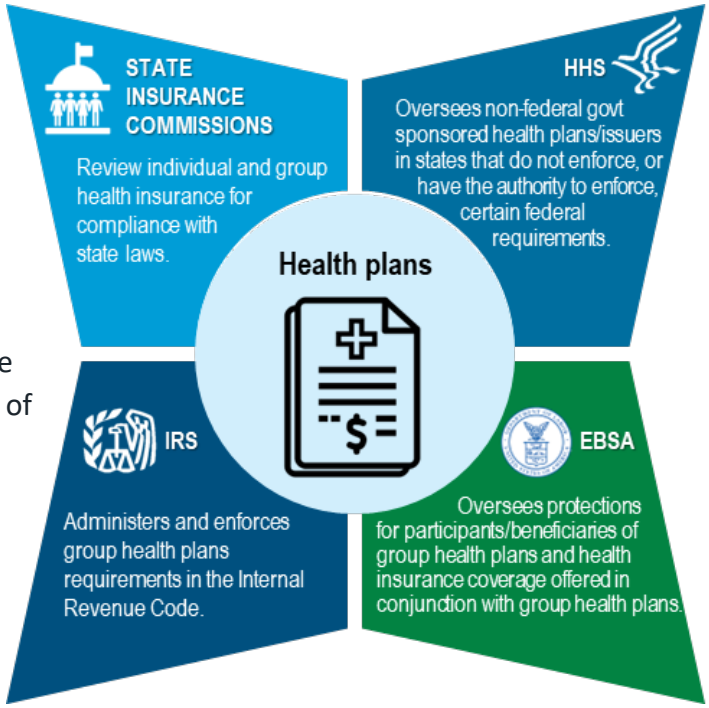
[1] See, U.S. GAO 2021.

and health service providers' self-dealing (U.S. Department of Labor [DOL], n.d., "National Enforcement Projects").[2]

Roles of other enforcement agencies

While EBSA is the agency within DOL primarily responsible for ensuring that employer-sponsored group health plans comply with the requirements in Title I of ERISA, additional health plan compliance issues are the responsibility of states and other federal entities. As shown in **Exhibit 1**, EBSA shares responsibility for the regulation and oversight of group health plans with state insurance commissions, the U.S. Department of Health and Human Services, and the Internal Revenue Service (IRS) (U.S. GAO, 2021).

Exhibit 1: Health Plan Oversight Roles by Agency[3]



The scope of this study included exploring the oversight and enforcement activities of these other organizations. Although the populations of health plans and the focus of enforcement were somewhat different, both the measures and data sources that other enforcement agencies used to measure the impact of their enforcement efforts may be relevant to EBSA and helpful in how they construct measures of their enforcement efforts.

1.2. Research Questions and Approach

This section presents the study's primary research questions and provides an overview of the approach for the literature scan which helped to address each question.

Primary research questions

The study aimed to address the following research questions:

- What metrics—monetary and non-monetary—are being used by academics, the insurance industry, and by other regulatory agencies to estimate the impact of changes to health benefits coverage?

[2] "Service Provider Self-Dealing" refers to when service providers provide services to group health plans for a fee that is often undisclosed/hidden/excessive. "Because the fees are unknown to the plan fiduciaries, the service provider is exercising discretion over plan assets, setting its own compensation and dealing with the plans' assets for its own gain, a fiduciary breach." (U.S. DOL, n.d., "National Enforcement Projects").

[3] See, U.S. GAO (2021), pg. 6 (adapted from Figure 1).

- What data sources and analytical methods are used to develop these metrics?
- What specific metrics could EBSA use to measure the impact of its enforcement work?

Extant literature scan

The purpose of the literature scan was twofold:

1. To learn about existing and new approaches to measuring outcomes related to the restoration or expansion of benefits coverage; and
2. To gather information about potential data points, data sources, and methods that could be used to measure those outcomes most relevant to EBSA.

To conduct the literature scan, the study team developed a search protocol that outlined specific terms, timeframe, and sources (see Appendix A). After conducting the initial search, the AIR team screened the literature for relevancy and identified 30 studies/reports for review. AIR conducted an in-depth review of each publication using a review form that gathered information about outcomes metrics related to enforcement activities, approaches to developing the metrics, and potential data sources.

Outcome and measure categories

After reviewing the relevant studies identified through the literature scan, the study team developed a simple organizational structure to systematically track and describe the outcomes and measures identified as described below.

Outcome Categories. The study team organized the identified outcome measures into the following four categories based on the content/focus of each outcome:

- Claims System/Benefits Management: Changes to claims themselves (e.g., repayments, appeals), to the plan benefit structure (e.g., cost sharing, usage restrictions), or to the systems used to administer, process, or approve claims.
- Service Utilization (inpatient/outpatient, preventive care, etc.): Changes in how plan participants access and use services, such as an increase in the number of participants using a service for the first time or participants using a service more frequently.
- Insurance Coverage (cost/spending): Changes to the costs of medical services and prescriptions, particularly the share of costs borne by plan participants. These measures are often related to utilization measures.
- Macro-level/Long-term (health outcomes, state spending, etc.): Measures that might indirectly stem from regulatory actions or could be examined through longer-term follow-ups to the immediate impacts of enforcement.

Monetary vs. Non-monetary Measures. The study team also categorized each outcome measure by its monetary/non-monetary status. Monetary measures are those that examine costs and spending, such as the restoration of premiums to plan members. Non-monetary

measures are those that examine non-financial outcomes, such as plan design changes and service utilization.

2. Outcomes from the Literature

This section presents findings from our literature scan regarding the measurement of outcomes from enforcement related activities. These findings reflect methods and data sources used by researchers, other regulatory entities/agencies and the insurance industry to understand the impact of regulatory and enforcement actions and, more generally, to study health plans and related outcomes. The findings are intended to serve as a starting point for EBSA as the agency considers how to develop new outcome metrics.

From the 30 relevant studies reviewed, the team identified 14 unique outcomes common throughout the studies. As mentioned, these are organized into the four outcome categories shown in **Exhibit 2** below. For each unique outcome, we note whether they can be measured using non-monetary measures, monetary measures, or a combination of both (non-monetary and monetary).

Exhibit 2. Health Plan Regulation Outcome Categories from Literature Scan

Outcome Categories	Number of Studies (30)	Unique Outcomes (14)	Measure Types	
			Non-Monetary	Monetary
Claims System/Benefits Management	19	5	✓	✓
Service Utilization	17	4	✓	
Insurance Coverage	14	2	✓	✓
Macro-level/Long-term	8	3	✓	✓

Note. Studies can satisfy more than one of the four outcome categories presented above. See Section 1.2 Research Questions and Approach for definitions of outcome categories and measure types.

The remainder of this section is structured around the four outcome categories. For each category, we describe the unique outcomes identified and provide details from the literature on the outcomes' context, as well as the corresponding measures and data sources employed. In some cases, the same measures and data sources were used to address multiple outcomes. Appendix B presents the outcomes and measures identified in each literature source and Appendix C provides the full list of outcomes, measures, and data sources categorized by outcome category. Appendix D presents the literature scan bibliography.

2.1. Claims System/Benefits Management Outcomes

Claims System and/or Benefits Management outcome measures examine the changes in claims and benefit structure as well as the systems used to administer/process claims. This was the most common category of outcomes. Among the **30** studies reviewed, **19** studies measured outcomes related to Claims System and/or Benefits Management. These studies revealed five unique outcome measures related to Claims System and/or Benefits Management. **Exhibit 3**, below, offers an overview of the five unique outcome measures. The following subsections provide detailed descriptions of each outcome measure.

Exhibit 3. Claims System/Benefits Management Outcomes

Outcomes	Non-Monetary	Monetary	Measure Examples
Levels of plan enrollment/service coverage	✓		• Percentage of health plan member enrollment levels (i.e., uninsurance levels pre- vs. post-Affordable Care Act (ACA) • Percentage of members with services covered (i.e., behavioral health coverage) • Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Percentage of products with prior authorization requirements • Implementation of new policy language
Consumer experience/improvements (complaint handling, etc.)	✓		• Number of consumer complaints • Record retention and access • Issuer complaint handling/monitoring practices • Number of states with comprehensive state-based consumer protection • Number of related enforcement and administrative actions taken
Plan Design Changes to Meet Regulatory Coverage Requirements	✓		• Number of plan amendments (e.g., removal of requirements, including financial or service limits) • Percentage of members with services covered (i.e., behavioral health coverage) • Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Percentage of health plan and Insurer use of treatment limits or separate deductibles • Number of related enforcement and administrative actions taken, including forfeitures and penalties • Employer responsiveness (changes made to health plans in response to employee needs or requirements)
Enforcement Actions	✓	✓	• Number of violations of insurance codes committed • Number of referrals for enforcement action/investigations (by market analysts) • Number of consumer complaints • Number of investigations pursued • Number of investigators • Number of hours dedicated to investigations • Claim or interest payments (made to participants and plans) (i.e., amount recovered) • Number of orders made for: retroactive claim or interest payments, license terminations, or stipulations (e.g., alteration of practices, disclosure requirements)

Outcomes	Non-Monetary	Monetary	Measure Examples
Billing concerns (balance billing, surprise billing)		✓	• Number or percent of enrollees who received a surprise bill • Number of enrollees who reported billing concerns and access issues • Frequency of surprise billing • Provider's balance billed participants • State's level of coverage for Medicare cost sharing (i.e., limited, Opt-in, or comprehensive protection) • Trends in specific service use by participant or beneficiary type (e.g., qualified Medicare beneficiary [QMB] enrollees relative to Medicare-only enrollees) • Average charges from out-of-network providers • Percent or amount of claims paid/reprocessed • Participant shared frustration or fear of losing benefits

Levels of Plan Enrollment/Service Coverage

Twelve studies referenced outcomes related to changes in the level of health insurance plan enrollment and service coverage. For example, in a study examining state performance on reducing uninsurance rates among Black, Hispanic, and low-income Americans under the Affordable Care Act (ACA), researchers used data from the Behavioral Risk Factor Surveillance System (BRFSS),[4] studying percentage point changes in uninsurance before and after ACA implementation for each U.S. state and study cohort (Black, Hispanic, and low-income adults) (Lines et al., 2021, p. 493). For each study cohort, researchers "rank-ordered states according to their absolute and, separately, relative reduction in uninsurance" and then "adjusted estimates for percentage point changes" utilizing "separate multivariable logistic regression models" (Lines et al., 2021, p. 495).

Data sources for "Levels of Plan Enrollment/Service Coverage" outcomes

Examples: Behavioral Risk Factor Surveillance System (BRFSS), Survey of Income and Program Participation (SIPP), and interviews with senior health plan executives.

Another study, centered on behavioral health care, used data from the Survey of Income and Program Participation (SIPP)[5] and interviews with senior health plan executives. The study used various measures to examine the regulatory effects that implementation of the federal Mental Health Parity and Addiction Equity Act of 2008 (MHPAEA) had on health plan service coverage and management of behavioral health treatment (Hodgkin et al., 2018). Specific measures used to study these changes included: the percentage of members with behavioral health coverage, the percentage of products excluding coverage of specific diagnoses, the percentage of products covering certain specific services, types of cost sharing, and the reported percentage

[4] Per the CDC, the "Behavioral Risk Factor Surveillance System (BRFSS) is the nation's premier system of health-related telephone surveys that collect state data about U.S. residents regarding their health-related risk behaviors, chronic health conditions, and use of preventive services." https://www.cdc.gov/brfss/index.html

[5] The Survey of Income and Program Participation (SIPP), conducted by the U.S. Census, is a nationally representative longitudinal survey. It includes data on health insurance use and costs, along with income, education, health status, and other demographic information.

of products requiring prior authorization for in-network outpatient general medical and behavioral health care.

Consumer Experience/Improvements

Nine studies examined outcomes related to improvements in the user or consumer experience. The outcomes included looking at changes in the management and quality of complaint handling and monitoring practices, the number of complaints, record retention and access, levels of enforcement and administrative actions taken (also categorized as its own unique outcome, see "Enforcement Actions" section below), and the number of states with comprehensive state-based consumer protection.

Data sources for "Consumer Experience/Improvements"

Examples: Appeal and grievance systems, complaint and grievance logs, compliance data, and consumer surveys.

In a report addressing access-to-care issues among qualified Medicare beneficiaries (QMBs), researchers were interested in learning how beneficiaries perceive the billing process. By analyzing qualitative data from interviews with individual QMB enrollees, researchers found that members had unique and complex experiences, expressing "confusion," "frustration," and "fear of losing benefits" (Centers for Medicare & Medicaid Services, 2015, p. 8.) These experiences suggested that there may have been insufficient coverage for some of the needed services, especially durable medical equipment.

Another consumer-focused study looked at whether employers were "doing enough" to promote the utilization of Employee Assistance Program (EAP) services during COVID-19 (Brooks & Ling, 2020). To do this, researchers examined EAP utilization rates by demographic groups and industry type; reports of employee stress, anxiety, and depression (before and after the onset of the COVID pandemic); and changes that employers made to better align EAP services with employee needs. One study of particular interest was from Oregon's Division of Financial Regulation (Oregon Department of Consumer and Business Services, 2022). This report specifically analyzed insurer complaint-handling processes by measuring the number of consumers who called to ask about coverage of Oregon's Reproductive Health Equity Act (RHEA) services. In this Oregon study, examiners from the Division of Financial Regulation used claims data and worked with companies to conduct field and desk examinations of claims made to companies in a selected year. The study found that consumers were not provided with timely information, and some had received inaccurate information. Additionally, the report indicated that "some insurers did not use complaint data for monitoring potential claims issues." Complaint records were "often inadequate and poorly maintained," and the report noted that claim systems were often limited by system management. These systems were usually "separate from appeal and grievance systems, requiring a manual analysis of necessary changes" (Oregon Department of Consumer and Business Services, 2022, p. 9).

Plan Design Changes to Meet Regulatory Coverage Requirements

Five studies examined outcomes related to plan design changes resulting from adherence to regulatory coverage requirements (e.g., parity) or enforcement and administrative actions taken. To study this outcome, researchers analyzed changes in plan services using a number of non-monetary measures, including:

- Number of plan amendments (e.g., removal of requirements, including financial or service limits)
- Percentage of members with services covered (i.e., behavioral health coverage)
- Percentage of products including/excluding coverage of specific services or diagnoses,
- Number of violations of insurance codes committed,
- Number of referrals for enforcement actions or investigations, and
- Number of enforcement and administrative actions taken, such as forfeitures and penalties.

Additionally, the literature studying changes made to health plans in response to, for example, disclosure requirements, used measures such as the percentage of plans that have removed requirements, including financial or service limits (Goplerud, 2013).

Data sources for "Plan Design Changes to Meet Regulatory Coverage Requirements"

Examples: Compliance testing data; testimony of licensed agents; Bureau of Labor Statistics (BLS) Summary Plan Descriptions (SPDs); interviews with plan beneficiaries/participants, employers, and senior health plan executives; and questionnaires administered to plans and medical vendors.

The Goplerud (2013) study report highlighted some of the difficulty with assessing health plan compliance with requirements, specifically with non-quantitative treatment limitations (NQTLs).[6] The study also examined how employers and health plans made substantial changes to their plan designs to comply with MHPAEA and the Interim Final Rule (IFR). According to the researchers, it is difficult to assess compliance "from document reviews and self-report from employers and plans" (Goplerud, 2013, p. 52).The researchers assessed NQTLs through a detailed review of plan documents and responses from an extensive questionnaire administered to plans' mental health (MH)/substance use disorder (SUD) and medical/surgical vendors. To assess plan responses, they also conducted interviews with health plan representatives responsible for their plan's compliance. Their analyses "uncovered numerous areas of concern," such as plans using more stringent precertification and utilization management controls, inconsistent network management

[6] "Non-quantitative treatment limitations (i.e., limits not expressed numerically that otherwise limit the scope or duration of benefits). NQTLs include but are not limited to medical management standards; prescription drug formulary designs; standards for provider admission to participate in a network; determination of usual, customary, and reasonable (UCR) amounts; requirements for using lowercost therapies before a plan will cover more expensive therapies; and conditional benefits based on completion of a course of treatment." (Goplerud, 2013, p. 2).

processes, and lower provider reimbursement rates for MH/SUD than for medical/surgical conditions (Goplerud, 2013, p. 52).

Enforcement Actions

Four studies looked at outcomes related to the requirements of Enforcement Actions themselves, focusing on the process of identifying and correcting specific non-compliance.

These studies examined compliance violations, financial penalties, claim payments made, fines issued, and other administrative actions. Although the "number of enforcement actions" is a measure utilized in the "Plan Design Changes to Meet Regulatory Coverage Requirements" outcome, we included Enforcement Actions as its own unique outcome because it encompasses a number of potentially relevant measures and data sources.

Data sources for "Enforcement Actions"

Examples: Complaint and grievance logs; EBSA's Enforcement Management System (EMS) case tracking database; the Employee Retirement Income Security Act of 1974 (ERISA) Data System (EDS) Database; Mercer's National Survey of Employer-Sponsored Health Plans; Interviews with enforcement agency officials; Interviews with other entities (insurance agencies, National Association of Insurance Commissioners [NAIC]).

The measures used to study enforcement action outcomes included a mix of non-monetary and monetary aspects. Some of the non-monetary measures were the number of complaints or disputed claims, violations of insurance codes committed, referrals for enforcement actions and investigations pursued, orders made for retroactive claims or interest payments, license terminations**,** and stipulations. The monetary measures were the amount of interest payments made to participants and/or plans, as well as the amount recovered from orders made for those payments. Below, we describe example methods and data sources used from one study.

To understand how EBSA manages its enforcement process, researchers in one study analyzed the number of investigations pursued and their outcomes (i.e., monetary recoveries). To do so, they drew on data from EBSA's Enforcement Management System (EMS) case tracking database and took steps to assess the reliability of trend data. To better understand the enforcement activities, researchers also conducted interviews with those knowledgeable about the data, such as national and regional agency officials, managers, benefits advisors, and investigators. Specific measures included the number of investigators and the number of hours dedicated to investigations. Data sources for this study had a particular emphasis on the review of case documentation and reports, which included EBSA Form 5500 data (U.S. GAO, 2021).

It is important to note that two studies we reviewed pointed to concerns about using complaint data for monitoring potential claims issues or non-compliance. A 2022 marketwide compliance report by the Oregon Division of Financial Regulation highlighted that "complaint records were often inadequate and poorly maintained" (Oregon Department of Consumer and Business Services, 2022). Similarly, stakeholders from several consumer advocacy groups who were

interviewed by the General Accounting Office (GAO) reported that, "complaints are not a reliable indicator of the extent of noncompliance because consumers may not know about MH/SUD parity requirements or may have privacy concerns related to submitting a complaint" (U.S. GAO, 2019, Highlights and p. 33).

Billing Concerns

Two studies focused on outcomes related to billing issues, particularly billing and surprise billing, in the context of state policies. These studies employed measures such as provider's balance billed amount to participants, a comparison of service utilization between different beneficiary types (e.g., QMB only, QMB Plus, and Medicare-only),[7] and charges from out-of-network providers.

Data sources for "Billing Concerns"

Examples: Consumer surveys (e.g., Center for Insurance Policy and Research of the National Association of Insurance Commissioners [CIPR/NAIC] Consumer Health Insurance Knowledge and Experience Survey), Medicaid & Medicare enrollment and claims data, state policy documents, and interviews with beneficiaries/participants.

For example, to better understand access to care and instances of inappropriate billing among QMBs, researchers in one study identified and recruited interview participants (QMB enrollees with known payment or access issues) from local community-based organizations and independent living centers to ask about their recent challenges with billing, the appeals process, and getting needed care. Researchers used systematic data coding methods to code broad themes that arose from participants' responses to questions regarding service and program coverage, such as "When did you first realize there was a problem with the bill?" "How long did you wait before you paid the bill?" and "What was the most important piece of information that would have helped your with your billing problem?" (Centers for Medicare & Medicaid Services, 2015, pp. 27–28).

Another study examined the frequency of billing issues among respondents in states with and without consumer surprise billing protections (i.e., prior to the federal No Surprises Act [NSA]).[8] Researchers used responses from the Consumer Health Insurance Knowledge and Experience Survey, which was fielded by the Center for Insurance Policy and Research (CIPR) of (NAIC). Over 2,000 adult participants, recruited through SurveyMonkey's Audience Panel ("a diverse online population"), were asked specific questions about their experience with surprise billing, including their interpretation of the term (Zhang et al., 2022, pp. 4 and 10).

[7] "Multivariate logistic regression methods were used to compare differences in the probability of using various services between QMBs and Medicare-only enrollees in states with lesser-of pay policies for physician services against those differences in states with 'full' payment policies for physician services. This approach allowed for the controlling of the remaining differences between QMB enrollees and acuity-matched Medicare-only beneficiaries. Utilization was analyzed in three categories. Outpatient setting analyses included office visit services, hospital outpatient services, and mental health services. Inpatient and institutional settings included hospital inpatient services and skilled nursing facility services. Finally, 'access to care' indicators included ER visits and hospitalizations for ACSCs" (Centers for Medicare & Medicaid Services, 2015, p. 50).

[8] "Federal legislation designed to end the most common types of surprise out-of-network billing" (see Zhang et al., 2022, p. 4).

Summary of Relevant Insights for EBSA: Claim Systems/Benefits Management Outcomes

Claim Systems and/or Benefits Management outcome measures examine the changes in claims and benefit structure as well as the systems used to administer/process claims. Below, we summarize the specific outcome measures and data sources that stand out in this category as especially relevant to the work of EBSA as they represent the most immediate results of EBSA's regulatory work. Outcome measures of enforcement actions use information EBSA already collects and could provide insight on changes in some kinds of insurance plan activities that result directly from regulators' interventions.

- The most relevant outcomes for EBSA in this category are likely those related to **Enforcement Actions.** The following measures and data sources may be of interest to EBSA when considering how to construct measures:
  - **Measures:** Number of referrals for enforcement actions, number of investigations pursued, number of investigators, and number of hours dedicated to investigations, among others.
  - **Data sources:** EBSA's Enforcement Management System (EMS) case tracking database, Interviews with enforcement agency officials
- Other potentially relevant measures in this category include changes to plan designs to comply with a requirement (i.e., percentage of products including/excluding coverage of specific services or diagnoses).
- Additionally, **consumer experience/improvements** examined complaint handling/monitoring practices by measuring the number of consumer complaints among other metrics. However, as noted in two studies, consumer complaints may not be a reliable indicator since consumers are not always aware of requirements or open to submitting a complaint.
- Some studies examined consumer experience outcomes in relation to actions including changes made to plan design (whether prompted by legislation or regulatory actions) and improvements/fixes made to complaint handling systems that are in line with some of the regulatory interventions that EBSA can take.

2.2. Service Utilization Outcomes

Seventeen studies included outcome measures related to *service utilization.* Across the studies, we identified four unique outcomes within this category, all of which are non-monetary. **Exhibit 4** provides an overview of the outcome measures within the service utilization category. These include unique outcomes such as inpatient/outpatient visits, the use of specific behavioral or preventive health services (e.g., smoking cessation or supportive therapies), access to and quality of care outcomes, and the use of Employee Assistance Program (EAP) services (highlighted in one study in particular).

Exhibit 4. Service Utilization Outcomes

Outcomes	Non-Monetary	Monetary	Measure Examples
Inpatient/ outpatient visits	✓		• Trends in specific service use by participant or beneficiary type (e.g., qualified Medicare beneficiary [QMB] enrollees relative to Medicare-only enrollees) • Trends of expenditures • Intensity of use rate • Rates of outpatient services (number of Office Visit Services, Hospital Outpatient Services, and Mental Health Services (i.e., Emergency Department [ED] services, ambulatory care) • Rates of inpatient and institutional services (Hospital Inpatient Services and Skilled Nursing Facility Service) • Rates of ED services and Hospitalizations for Ambulatory Care-Sensitive Conditions (ACSC)
Behavioral and preventive health services	✓		• Level of smoking cessation services received and smoking behavior by insurance status
Access to and quality of care	✓		• Demographics by health insurance status • Subgroup analysis • Rates of uninsurance (percentage of those lacking a usual source of care) • Rates of non-group private coverage • Rates of Emergency Department services and Hospitalizations for ACSC
Employee Assistance Program (EAP) use	✓		• Employer provisioning of EAP • EAP utilization rate by employees and perceptions of EAPs by industry • Total EAP activity rate (calls, training, website visits, referrals, etc.) • Differences in key indicators before and after the pandemic (employee well-being, etc.)

Inpatient/Outpatient Visits

Eleven studies examined outcomes related to the use of services, specifically inpatient/outpatient visits. These studies measured rates of outpatient services (such as the number of Office Visit Services, Hospital Outpatient Services, and Mental Health Services used). They also measured rates of inpatient and institutional services (such as Hospital Inpatient Services and Skilled Nursing Facility Services), as well as rates of emergency department (ED) services and hospitalizations for Ambulatory Care-Sensitive Conditions (ACSCs), which as one study suggested, are "potential downstream indicators of limited access to care" (Centers for Medicare & Medicaid Services, 2015, p. 17).

Data sources for "Inpatient/ Outpatient Visits"

Examples: Medicare and Medicaid enrollment and claims data, MarketScan data (from Truven Health MarketScan Commercial Claims and Encounters database), samples of people with plan and patient expenditures, member eligibility data, and administrative datasets (member eligibility files and "book of business" file).

These studies used outcomes such as increases in the intensity of use rate,[9] time trends of expenditures, and trends in specific service use (e.g., comparing use by beneficiary type), to examine service use changes associated with the implementation of federal parity laws. A common data source for studies measuring specific service use was the Truven Health MarketScan Database.[10, 11]

With this data, researchers studying increased service use associated with the mental health parity law among children with autism spectrum disorder examined the quantities of specific services used in a given calendar year, both before and after the implementation of parity. Researchers identified the use of inpatient or outpatient mental health services and psychotropic medications "using well-established algorithms based on ICD-9 diagnostic codes and mental health–specific procedure codes" (Stuart et al., 2017, p. 7).

Behavioral Health and Preventive Services

Studies that specifically focused on outcomes related to behavioral health and preventive services, including supportive therapies, examined measures such as health insurance status by demographics and changes in enrollee behaviors, such as the receipt of smoking cessation services and smoking behaviors.

Data sources for "Behavioral Health/Preventive Services"

Examples: Study survey of substance use disorder (SUD) program treatment clients; nationally representative survey of commercial health plans focusing on behavioral health services (administered to executive-level directors).

Studies that measured behavioral health and preventive service outcomes relied heavily on survey data to do so. For example, researchers in one study used a survey they developed and administered to a recruited sample of SUD treatment program clients (including residential, methadone maintenance, and outpatient clients) to examine whether living in a Medicaid-expanded state or having health insurance was associated with receipt of smoking cessation services or smoking behaviors among SUD treatment clients. The survey included questions about smoking behaviors, screenings, and receipt of related services (Yip et al., 2020).

[9] "Intensity of use" rate was described in one study in this way: "For intensity of use, outcomes focused on the number of units of specific services used in a month among the subset of individuals who used that type of service at least once during the month. We examined the number of mental health inpatient days in the month among mental health inpatient service users. On the outpatient side, outcomes were the number of psychotherapy visits among users, the number of medication management visits among users, and the total number of outpatient mental health visits among users" (Huskamp et al., 2018, pp. 218–219).

[10] The Truven Health MarketScan Research Database includes "health insurance claims and encounters for employees and their dependents from approximately 100 large employers and health plans in the United States, which cover approximately fifteen to twenty-two million enrollees per year. Nearly all of these employers self-insure and thus are not subject to state insurance mandates. The data include inpatient, outpatient, and pharmacy claims with information on diagnoses, procedures, and payments" (Stuart et al., 2017, pp. 338–339).

[11] IBM Corporation acquired Truven Health Analytics on February 18, 2016, and merged it with IBM's Watson Health unit. In 2022, IBM spun-off their Watson Health division into Merative. MarketScan is now a product of Merative but throughout this brief the study team refers to the database using the vendor referenced in the literature.

Access to and Quality of Care

Data sources for "Access to and Quality of Care"

Examples: Interviews with beneficiaries/participants; Medicaid and Medicare enrollment and claims data; National Health Interview Survey (NHIS) data; and data from the Behavioral Risk Factor Surveillance System (BRFSS) national telephone survey.

Studies measured changes in access to and quality of care as a result of the kinds of actions similar to EBSA interventions. While many academic studies focused on global changes in access (e.g., as a result of the implementation of a new piece of legislation), these measures could potentially be adapted to plan-level estimates as plan designs change and more benefits are made available to a plan's members. Studies analyzing outcomes related to *access to and quality of care*, before and after ACA implementation, looked at the association between expanded insurance coverage and improvements in access. Common measures used for this outcome included changes in rates of uninsurance (the percentage of those lacking a usual source of care) and rates of non-group private coverage. These studies drew on quantitative data sources, such as Medicaid and Medicare enrollment and claims data, and data from the National Health Interview Survey (NHIS) which is a Centers for Disease Control and Prevention (CDC) survey of U.S. households. These studies also utilized qualitative data sources, such as interviews with beneficiaries and participants, to further measure and understand access to and quality of care issues.

One report that focused specifically on QMBs used measures such as rates of emergency department services and hospitalizations for Ambulatory Care Sensitive Conditions (ACSCs) to indicate potentially limited access to care (Centers for Medicare & Medicaid Services, 2015, p. vii). To estimate the association between the ACA, health insurance coverage, and access to care among women of reproductive-age and pregnant women, one study used pre-policy and post-policy data from the National Health Interview Survey (NHIS) to compare changes in insurance status and affordability of care. The sample data included all female respondents and a subset of pregnant women but "because of the small sample of pregnant women in the NHIS," researchers also conducted a sensitivity analysis utilizing a less detailed but larger data set from the Behavioral Risk Factor Surveillance System (BRFSS) (Daw and Sommers, 2019, p. 566).

Employee Assistance Program (EAP) Use

One study examined outcomes related to plan members' use of EAP services. This outcome overlaps with the 'consumer experience improvements' outcome, but we categorized EAP use as its own unique outcome because of the distinct measures used in the study.

Data sources for "Employee Assistance Program (EAP) Use" outcomes

Examples: Data from various surveys (the Employee Mental Health Perception Survey; Human Resource Leadership Survey; and Workforce Readiness Survey of Services Firms); employer surveys (e.g., the International Foundation of Employee Benefit Plans); and government employer or nationwide pulse surveys (the Florida Employee Assistance Program Utilization Report; the Centers for Disease Control and Prevention (CDC) Anxiety and Depression Household Pulse Survey; and World at Work COVID-19 Response Survey).

The study examined key indicators of employee well-being, including differences in EAP utilization rates and employee perceptions and use of EAPs by industry, as well as total EAP activity rates, such as calls, training, website visits, and referrals. To measure employer and employee use of EAP benefits before and after the COVID-19 pandemic, the study used national, regional, and state data sources, including the State of Florida Employee Assistance Program Utilization Report and the CDC Anxiety and Depression Household Pulse Survey. For the perception measures, the study used secondary sources, such as the Employee Mental Health Perception Survey, the Human Resource Leadership Survey, and the Workforce Readiness Survey of Services Firms. The study highlighted that there "remains a lack of standardization of utilization measures and metrics across the industry" for reporting on use of EAP benefits (Brooks & Ling, 2020, p. 9).

Summary of Relevant Insights for EBSA: Service Utilization Outcomes

- **Service Utilization** outcome measures primarily focus on measuring non-monetary changes in a population's access to and use of specific services. Below we highlight some of the measures and data sources that stand out from this category due to their prevalence in the literature and because they relate to some of the kinds of changes EBSA's interventions can create, such as improving plan members' access to given benefits, and therefore utilization.
- **Inpatient/outpatient visits** and **Access to and quality of care** outcomes were commonly found in the literature and used similar measures and data sources, including:
  - **Measures** included rates of outpatient services (specifically number of office visits, Emergency Department (ED) services and hospitalizations for ambulatory care or mental health services); rates of inpatient services, such as institutional and skilled nursing facilities; and rates of uninsurance or non-group private coverage. Additionally, trends of specific service use were also examined by subgroups, such as by participant or beneficiary type and other demographics.
  - **Data sources** included large data sets, such as Medicaid and Medicare enrollment and claims data, and market scan data sets like Truven Health MarketScan Commercial Claims and Encounters database; as well as other administrative data sets from private health plans (e.g., Optum enrollees member eligibility data). To further identify issues of access, some studies also used national survey data such as the Behavioral Risk Factor Surveillance System (BRFSS) national telephone survey data and National Health Interview Survey (NHIS) data.
- The other two outcomes, **Behavioral health/preventative services** and **Employee Assistance Program (EAP) use**, provide some ideas for measures and data sources that could be used to identify a narrower view of changes in specific types of programs or services. These measures include service use by employer industry type, or by total activity rate (which for the EAP included number of referrals for the program services and number of traffic/visits to the program website).

2.3. Insurance Coverage (Cost/Spending) Outcomes

We reviewed **14** studies that specifically mentioned outcomes related to Insurance Coverage costs, with a particular emphasis on monetary measures. As shown in **Exhibit 5**, we identified two unique outcomes within this category: (1) spending/expenditures and (2) coverage related to medications, pharmacy costs, and barriers.

Exhibit 5. Insurance Coverage (Cost/Spending) Outcomes

Outcomes	Non-Monetary	Monetary	Measure Examples
Spending/Expenditures		✓	• Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Health-related expenditures by or on behalf of individuals • Out-of-pocket spending/max • Co-payments/deductible costs • Total spending/expenditures (insurer and out-of-pocket)
Medication/Pharmacy Costs/Barriers	✓	✓	• Average/annual/total medication spending • Number of pharmaceutical claims • Delay in getting or not filling prescription drugs • Changes in brand name drug prices after start of discount program

Spending/Expenditures

Spending/expenditure outcomes are primarily monetary or related to spending. They are measured by tracking health-related expenditures by or on behalf of individuals, including out-of-pocket spending/maximums, co-payments/deductible costs, and total spending/expenditures (insurer and out-of-pocket).

Data sources for "Spending Expenditures"

Examples: Data on plans (Enrollee-Level External Data Gathering Environment (EDGE)); claims data from private health plans (IBM Health Analytics MarketScan Commercial Database); Truven Health MarketScan data; Current Population Survey data.

Several studies used these measures to analyze changes in spending/expenditures as a result of implementation of regulatory coverage requirements. Similar to the previously mentioned study on SUD treatment services (Goplerud, 2013), the 2018 study titled "Mental Health Spending and Intensity of Service Use Following Federal Parity for Individuals Diagnosed with Eating Disorders" also used Truven Health MarketScan data. The study examined whether implementation of the MHPAEA was associated with changes in mental health utilization and spending among individuals diagnosed with eating disorders (Huskamp et al., 2018).

Medication/Pharmacy Costs and Barriers

A few studies related to spending/expenditures, which used both monetary and non-monetary measures, focused specifically on outcomes related to medication/pharmacy costs and barriers. Example measures include average, annual, or total medication spending; the number of

pharmaceutical claims made; and barriers including delays in getting or not filling prescriptions; and the cost of or changes in brand-name drug prices.

A 2012 GAO report, entitled *Medicare Part D Coverage Gap: Discount Program Effects and Brand-Name Drug Price Trends*, looked at trends in brand-name drug prices after the start of a discount program in 2011. To identify price changes, GAO used Centers for Medicare & Medicaid Services (CMS) Part D data from 2007 to 2011 to track prices for high-expenditure brand-name prescription drugs used by those beneficiaries in, and those who did not reach, the coverage gap. In addition, they also conducted interviews with CMS officials, Medicare Plan D sponsors, drug manufacturers, and pharmacy benefit managers (PBMs) to study how prices changed before and after the start of the discount program. Another study, examining the MHPAEA's impact on mental health service use and spending among children, utilized claims data from three national insurers. For this study, "medication spending included the sum of the insurer and out-of-pocket portions of pharmacy claims" (Kennedy-Hendricks et al., 2018, p. 3).

Data Sources for '*Medication/ Pharmacy costs/barriers*'

Examples: Centers for Medicaid & Medicare Services (CMS) Part D data (for drug price tracking); CMS documents; interviews with CMS officials and Medicare Plan D sponsors, drug manufacturers, and pharmacy benefit managers (PBMs); prescription fill records; and pharmacy claims data from private health plans (IBM Health Analytics MarketScan Commercial Database).

Summary of Relevant Insights for EBSA: Insurance Coverage Outcomes

Insurance Coverage outcome measures primarily focus on monetary changes in spending, and changes in medication costs/barriers. While this category of outcome measures is not new to EBSA, we have highlighted specific measures and data sources that consistently appeared in the literature and may be worth further exploration because they relate directly to some kinds of changes that EBSA's interventions can create in plans and benefit design.

- **Measures:** The total or average amount of out of pocket-spending/max, amount of co-payments/ deductibles, percent of products including/excluding coverage of specific services or diagnoses, as well as a more drilled-down view of total expenditures by a specific beneficiary type, specific service, or medication.
- **Data sources:** Data on plans (Enrollee-Level External Data Gathering Environment (EDGE)), claims data including from private health plans (e.g., Truven Health MarketScan Claims and Encounters database), as well as data from prescription fill records, as well as data from population surveys, and study data obtained from interviews with benefit managers and plan sponsors.

2.4. Macro-Level/Long-Term Outcomes

Seven studies specifically mentioned *Macro- Level/Long-Term* outcomes related to federal and state spending and revenue, health trajectory, and disparities by demographics, such as race, gender, and disability. These are not necessarily outcomes that EBSA can, or tries to, directly affect, but they may be long-term effects of EBSA's enforcement activities.

We identified three unique outcomes within this category, two non-monetary and one monetary, as shown in **Exhibit 6**.

Exhibit 6. Macro-Level/Long-Term Outcomes

Outcomes	Non-Monetary	Monetary	Measure Examples
Health Outcomes/Trajectory	✓		• Mortality rate levels • Work-life balance behaviors and environmental exposures
Disparities by Demographics (race, gender, disability, etc.)	✓		• Plan enrollment levels • Rates of uninsurance • Health-related expenditures by or on behalf of individuals • Absolute per capita expenditure gap by race (White-Black) • Differences in health care use (i.e., underuse or overuse)
Federal/State Economic Impacts (revenue, spending, etc.)		✓	• Plan enrollment levels • State's spending (share of uncompensated care costs) • State's Gross Domestic Product (GDP)/gross output (including state and local tax revenue, number of jobs created, and employment rate levels)

Health Outcomes/Trajectory

Three studies looked at long–term health outcomes, such as mortality rates.

Data sources for "Health Outcomes/Trajectory"

Examples: Medicare claims data; employment administrative data; data on exposure behaviors during work life; Health and Retirement Survey (HRS) data; and National Death Index (NDI) data.

As an example, one study looked at mortality rates, work-life balance behaviors, and environmental exposures, as well as clinical data obtained during medical appointments to calculate health trajectory outcomes for populations over 65. For this proof-of-concept paper, researchers investigated the concordance of employment-based health insurance claims with subsequent Medicare insurance claims. To calculate these measures, the study used a number of data sources, including Medicare claims datasets and employer's administrative data of a large cohort of manufacturing workers, as well as data on exposure behaviors during the work life (including biometric indicators), the Health and Retirement Survey (HRS) in the United States, and data from the National Death Index (NDI) (Mokyr Horner & Cullen, 2015).

Disparities by Demographics

Three studies further examined disparities in health outcomes by demographics, such as race, gender, and disability. The study team identified plan enrollment levels, rates of uninsurance (the percentage of those lacking a usual source of care), health-related expenditures by or on behalf of individuals, the absolute per capita expenditure gap by race, and differences in health care use (i.e., underuse or overuse) as measures used to calculate disparities in health care access.

Data sources for "Disparities by Demographics"

Examples: Survey of Income and Program Participation (SIPP) data; data from the Behavioral Risk Factor Surveillance System (BRFSS) national telephone survey.

A cross-sectional analysis that used six decades of national data to look at long-term trends in disparities, *Trends in Health Care Use Among Black and White Persons in the US, 1963-2019,* measured visit rates and total health care expenditures using "representative surveys of health care use and related expenditures by and on behalf of non-Hispanic Black and non-Hispanic White individuals" (Dickman et al., 2022, p. 1). The study identified trends through utilizing "4 count-based measures of use: visits to ambulatory medical practitioners, visits to dentists, visits to emergency departments, and hospital use (measured as inpatient days)" and then "tabulated total health expenditures, including all out-of-pocket and third-party payments (e.g., insurance payments) by and on behalf of Black and White survey respondents" (Dickman et al., 2022, p. 4).

Federal/State Economic Impacts (Revenue, Spending, etc.)

Data sources for "Federal/ State Spending & Revenue"

Examples: Survey of Income and Program Participation (SIPP) data; Medical Expenditure Panel Survey (MEPS) Household Component data; American Community Survey (ACS) age and income data; and benchmark data from state publications, supplemented with other data, such as the Integrated Public Use Microdata Series and Statistics of U.S. Businesses.

To assess outcomes related to Federal and/or State Economic Impacts, studies used measures such as plan enrollment level probability, the state's share of uncompensated care costs, and the state's Gross Domestic Product (GDP)/gross output (including state tax and local revenue, number of jobs created, and employment rate levels). To assess the economic impact of the ACA on Arkansas, researchers in one 2013 study determined the reduction in spending by the uninsured population and then scaled it to Arkansas's total uncompensated care costs and calculated the state's share of these costs (Price and Saltzman, 2013). This study used a model to construct a synthetic population using demographic data from the Survey of Income and Program Participation (SIPP) and matched it to records in the Medical Expenditure Panel Survey (MEPS) Household Component, based on demographic profiles. The researchers also developed benchmark data from state publications and supplemental data from the Integrated Public Use Microdata Series, Statistics of U.S. Businesses, and the Kaiser Family Foundation, and then weighted these records using joint age and income data from the American Community Survey (ACS) in order to derive impact estimates at the county-level.

Summary of Relevant Insights for EBSA: Macro-level/Long-term

Macro-level/Long-term outcomes include **health outcomes/trajectory**, **disparities by demographics,** and **federal and state spending and revenue.** While these outcomes may be less relevant to EBSA's work, they may be of interest for applying an equity lens to the current enforcement work being done. Below we list some potentially useful measures and data sources from this category:

- **Measures:** Gaps in the following by race, geography, or other demographic category: Absolute health expenditure gap, rates of uninsurance, plan enrollment levels, health-related expenditures by and on behalf of individuals, differences in healthcare use (i.e., underuse or overuse), mortality rate, etc.
- **Data sources:** Medicare and Medicaid claims data, Survey of Income and Program Participation (SIPP) data, Behavioral Risk Factor Surveillance System (BFRSS) national telephone survey data, Medical Expenditure Panel Survey (MEPS) Household Component data – based on demographic profiles, etc.

3. Highlights from the Literature

Findings from this review highlight outcome measures of varying degrees of complexity that have been used to estimate the impacts of enforcement efforts related to changes to health benefits coverage. Of the outcomes identified, those that offer the most relevant methods of measuring the impact of EBSA's work are listed below by category. [12]

- **Claims System/Benefits Management:** EBSA's enforcement actions often directly affect claims (e.g., retroactive payments of inappropriately denied claims); claim systems (e.g., changes to claim processing rules to reflect coverage updates); and benefits management (e.g., a plan's inclusion of new or updated coverage rules).
- Plan design changes to meet regulatory coverage requirements
- Enforcement actions
- **Service Utilization:** EBSA's enforcement actions cause changes that then, in turn, cause changes in service utilization and affect access to and quality of care.
- Inpatient/outpatient visits
- Access to and quality of care
- **Insurance Coverage:** Similar to Service Utilization, these measures capture changes that happen as a direct result of EBSA's enforcement actions.
- Spending/expenditures.

[12] Specific measures and data sources identified in the literature for each outcome are presented in Appendix C: Outcome Categories: Specific Outcomes, Measures, and Data Sources.

Appendix A. Literature Scan Search and Review Protocols

Search Protocol

Sources Include, but Not Limited To):

- Federal websites: U.S. Government Accountability Office (GAO), U.S. Department of Health and Human Services (DHHS), Centers for Medicare & Medicaid Services' (CMS) Center for Consumer Information and Insurance Oversight (CCIIO), and Substance Abuse and Mental Health Services Administration (SAMSHA)
- State websites: Pennsylvania Insurance Department, Connecticut, Maryland, California, Oregon, and Massachusetts
- Industry association websites: Society of Human Resource Management (SHRM), National Association of Insurance Commissioners (NAIC), Association of Health Underwriters, ERIS Industry Committee, and American Benefits Council

Search Strings/Terms:

- (("incorrectly denied" OR "improperly denied") AND ("medical claim*" OR "health benefit*"))[13]
- ((enforce* OR ensur* OR "corrective action*") AND ("health benefit*" OR "new health benefit*" OR "medical benefit" OR "preventive service*"))
- "Consumer complaint*" AND ("health benefit*" OR "medical claim*")

Additional terms added by team: "consumer protection", ("employer-sponsored" OR "employer sponsored")

Publication timeframe: 2012–2022

Relevance: Be related to how the relevant entities (e.g., state/federal agencies, industry association, actuary organizations) do one or more of the following:

- Conceptualize outcomes related to enforcement activities, including restoring health benefits, obtaining non-monetary amendments, improvements, and reforms
- Identify issues related to improperly denied health benefits/claims to investigate
- Changes in policy related to health benefits coverage
- Member understanding or knowledge of benefits

[13] The asterisk (*) is a commonly used wildcard symbol that broadens a search by finding words that start with the same letters. For example, ensur* will find ensure, ensures, ensured, ensuring, etc.

Review Protocol

Study Information:

- Author(s)
- Full Citation
- Publication Date
- Source
- Link

General Context: Document information about the basic premise/context of the publication.

Monetary Outcomes: Use this field to document information about monetary outcome metrices used/considered, how those outcome metrics were constructed, and why those outcomes metrics were chosen.

Non-Monetary Outcomes: Use this field to document information about non-monetary outcome metrices used/considered, how those outcome metrics were constructed, and why those outcomes metrics were chosen.

Outcome Type Tags:

- Monetary
- Non-Monetary

Outcome Category Tags (added after the literature scan was completed and identified measures were categorized by topic):

- Claims System/Benefits Management
- Service Utilization
- Insurance Coverage
- Macro-level/Long-term

Data Sources: Use this field to document information on what data sources were used to create the outcome metric and/or data sources that may potentially be use for EBSA.

Approaches to Identifying Cases: Use this field to document information about how regulators/enforcement entities identify cases for investigation.

Other Notes: Use this field to document any additional relevant information.

Appendix B: Outcome Categories and Unique Measures by Literature Reference

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
Amin, K., Claxton, G., Rae, M., & Cox, C. (2022, March 24). **Out-of-pocket spending on insulin among people with private insurance**. *Peterson-KFF Health System Tracker*. https://www.healthsystemtracker.org/brief/out-of-pocket-spending-on-insulin-among-people-with-private-insurance/		• Inpatient/outpatient visits	• Spending/ Expenditures • Medication/ Pharmacy costs/ barriers	
Brooks, C. D., & Ling, J. (2020). "**Are we doing enough": An evaluation of the utilization of employee assistance programs to support the mental health needs of employees during the COVID-19 pandemic**. *Journal of Insurance Regulation*, *39*(8). https://doi.org/10.52227/23478.2020	• Consumer experience/ improvements	• Behavioral health/ preventive services • Employee Assistance Program (EAP) use		• Disparities by demographics
Centers for Medicare & Medicaid Services. (2015). **Access to care issues among qualified Medicare beneficiaries (QMB)**. https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/Downloads/Access_to_Care_Issues_Among_Qualified_Medicare_Beneficiaries.pdf	• Levels of plan enrollment/service coverage • Consumer experience/ improvements • Billing concerns	• Inpatient/outpatient visits		
Daw, J. R., & Sommers, B. D. (2019). **The Affordable Care Act and access to care for reproductive-aged and pregnant women in the United States,** 2010–2016. *American Journal of Public Health, 109*(4), 565–571. https://doi.org/10.2105/AJPH.2018.304928	• Levels of plan enrollment/service coverage	• Access to and quality of care		• Disparities by demographics
Dickman, S. L., Gaffney, A., McGregor, A., Himmelstein, D. U., McCormick, D., Bor, D. H., & Woolhandler, S. (2022). **Trends in health care use among Black and White persons in the US, 1963−2019.** *JAMA Network Open, 5*(6), e2217383. https://doi.org/10.1001/jamanetworkopen.2022.17383	• Levels of plan enrollment/service coverage	• Inpatient/ outpatient visits		
Ettner, S. L., Harwood, J., Thalmayer, A., Ong, M. K., Xu, H., Bresolin, M. J., Wells, K. B., Tseng, C.-H., & Azocar, F. (2016). **The Mental Health Parity and Addiction Equity Act evaluation study: Impact on specialty behavioral health utilization and expenditures among "carve-out" enrollees.** *Journal of Health Economics, 50*, 131–143. https://doi.org/10.1016/j.jhealeco.2016.09.009		• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures	

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
Friedman, S., Xu, H., Azocar, F., & Ettner, S. L. (2020). **Carve-out plan financial requirements associated with national behavioral health parity. Health Services Research,** 55(6), 924–931. https://doi.org/10.1111/1475-6773.13542	• Levels of plan enrollment/service coverage	• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures	
Goplerud, E. (2013). **Consistency of large employer and group health plan benefits with requirements of the Paul Wellstone and Pete Domenici Mental Health Parity and Addiction Equity Act of 2008.** U.S. Department of Health and Human Services. https://aspe.hhs.gov/sites/default/files/migrated_legacy_files//97746/mhpaeAct_0.pdf	• Levels of plan enrollment/service coverage • Plan design changes to meet regulatory coverage requirements		• Spending/ Expenditures	
Haffajee, R. L., Mello, M. M., Zhang, F., Busch, A. B., Zaslavsky, A. M., & Wharam, J. F. (2019). **Association of federal mental health parity legislation with health care use and spending among high utilizers of services.** *Medical Care, 57*(4), 245–255. https://doi.org/10.1097/MLR.0000000000001076		• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures	
Harwood, J. M., Azocar, F., Thalmayer, A., Xu, H., Ong, M. K., Tseng, C.-H., Wells, K. B., Friedman, S., & Ettner, S. L. (2017). **The Mental Health Parity and Addiction Equity Act evaluation study: Impact on Specialty Behavioral Healthcare Utilization and Spending Among Carve-In Enrollees.** *Medical Care, 55*(2), 164–172. https://doi.org/10.1097/MLR.0000000000000635		• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures	
Hodgkin, D., Horgan, C. M., Stewart, M. T., Quinn, A. E., Creedon, T. B., Reif, S., & Garnick, D. W. (2018). **Federal parity and access to behavioral health care in private health plans.** *Psychiatric Services, 69*(4), 396–402. https://doi.org/10.1176/appi.ps.201700203	• Levels of plan enrollment/service coverage • Consumer experience/ improvements • Plan design changes to meet regulatory coverage requirements	• Behavioral health/ preventive services	• Spending/ Expenditures	

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
Huskamp, H. A., Samples, H., Hadland, S., McGinty, E., Gibson, T. B., Goldman, H. H., Busch, S. H., Stuart, E., & Barry, C. L. (2018). **Mental health spending and intensity of service use following federal parity for individuals diagnosed with eating disorders.** *Psychiatric Services, 69*(2), 217–223. https://doi.org/10.1176/appi.ps.201600516		• Inpatient/outpatient visits	• Spending/ Expenditures	
Kennedy-Hendricks, A., Epstein, A. J., Stuart, E. A., Haffajee, R. L., McGinty, E. E., Busch, A. B., Huskamp, H. A., & Barry, C. L. (2018). **Federal parity and spending for mental illness.** *Pediatrics, 142*(2), e20172618. https://doi.org/10.1542/peds.2017-2618		• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures • Medication/pharmacy costs/barriers	
Lines, G., Mengistu, K., LaPorte, M. R. C., Lee, D., Anderson, L., Novinson, D., Dwyer, E., Grigg, S., Torres, H., Basu, G., & McCormick, D. (2021). **States' Performance in reducing uninsurance among Black, Hispanic, and low-income Americans following implementation of the Affordable Care Act.** *Health Equity, 5*(1), 493–502. https://doi.org/10.1089/heq.2020.0102	• Levels of plan enrollment/service coverage	• Access to and quality of care		• Disparities by demographics
McGinty, E. E., Busch, S. H., Stuart, E. A., Huskamp, H. A., Gibson, T. B., Goldman, H. H., & Barry, C. L. (2015). **Federal parity law associated with increased probability of using out-of-network substance use disorder treatment services**. *Health Affairs, 34*(8), 1331–1339. https://doi.org/10.1377/hlthaff.2014.1384		• Inpatient/outpatient visits	• Spending/ Expenditures	
Mokyr Horner, E., & Cullen, M. R. (2015). **Linking individual Medicare health claims data with work-life claims and other administrative data.** *BMC Public Health, 15*, 995. https://doi.org/10.1186/s12889-015-2329-6	• Levels of plan enrollment/service coverage			• Health outcomes/ trajectory

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
Mulvaney-Day, N., Gibbons, B. J., Alikhan, S., & Karakus, M. (2019). **Mental Health Parity and Addiction Equity Act and the use of outpatient behavioral health services in the United States, 2005–2016.** *American Journal of Public Health, 109*(Suppl 3), S190–S196. https://doi.org/10.2105/AJPH.2019.305023		• Inpatient/outpatient visits • Behavioral health/ preventive services	• Spending/ Expenditures	
Oregon Department of Consumer and Business Services. (2009). **Testimony of Teresa Miller, before the Senate Consumer Protection and Public Affairs Committee (Insurance Division Enforcement Tools)**. Senate Consumer Protection and Public Affairs Committee. https://dfr.oregon.gov/business/reg/reports-data/Documents/legislature/2009-ins_legislation-reports_enforcement-tools.pdf	• Consumer experience/ improvements • Plan design changes to meet regulatory coverage requirements • Enforcement actions			
Oregon Department of Consumer and Business Services. (2022). **Preliminary marketwide compliance report on implementation of the Reproductive Health Equity Act.** Oregon Department of Consumer and Business Services. https://dfr.oregon.gov/healthrates/Documents/rhea-quarterly-plans/rhea-marketwide-report-2022.pdf	• Consumer experience/ improvements			
Price, C. C., & Saltzman, E. (2013). **The economic impact of the Affordable Care Act on Arkansas.** *Rand Health Quarterly, 3*(1). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4945226/	• Levels of plan enrollment/service coverage		• Spending/ Expenditures	• Health outcomes/ trajectory • Federal/state economic impacts
Stapleton, P., & Skinner, D. (2015). **The Affordable Care Act and assisted reproductive technology use.** *Politics and the Life Sciences: The Journal of the Association for Politics and the Life Sciences, 34*(2), 71–90. https://doi.org/10.1017/pls.2015.13				• Health outcomes/ trajectory
Stuart, E. A., McGinty, E. E., Kalb, L., Huskamp, H. A., Busch, S. H., Gibson, T. B., Goldman, H., & Barry, C. L. (2017). **Increased service use among children with autism spectrum disorder associated with parity law.** *Health Affairs, 36*(2), 337–345. https://doi.org/10.1377/hlthaff.2016.0824			• Spending/ Expenditures	

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
U.S. Government Accountability Office. (2012). ***Medicare and Medicaid: Consumer Protection Requirements Affecting Dual-Eligible Beneficiaries Vary across Programs, Payment Systems, and States.*** https://www.gao.gov/assets/gao-13-100.pdf	• Levels of plan enrollment/service coverage • Consumer experience/ improvements • Plan design changes to meet regulatory coverage requirements			
U.S. Government Accountability Office. (2012a). ***Children's health insurance: Opportunities exist for improved access to affordable insurance*** (GAO-12-648). https://www.gao.gov/assets/gao-12-648.pdf	• Levels of plan enrollment/service coverage • Consumer experience/ improvements	• Access to and quality of care		
U.S. Government Accountability Office. (2012b). ***Medicare Part D coverage gap, discount program effects and brand-name drug price trends*** (GAO-12-914). https://www.gao.gov/assets/files.gao.gov/assets/gao-12-914.pdf	• Levels of plan enrollment/service coverage • Consumer experience/ improvements		• Spending/ Expenditures • Medication/pharmacy cost/barriers	
U.S. Government Accountability Office. (2019). ***Mental health and substance use: State and federal oversight of compliance with parity requirements varies*** (Report to Congressional Committees GAO-20-150). www.gao.gov/assets/gao-20-150.pdf	• Plan design changes to meet regulatory coverage requirements • Enforcement actions			
U.S. Government Accountability Office. (2021). ***Enforcement efforts to protect participants' rights in employer-sponsored retirement and health benefit plans*** (GAO-21-376). https://www.gao.gov/assets/gao-21-376.pdf	• Enforcement actions			
U.S. House of Representatives Committee on Education & Labor Subcommittee on Health, Employment, Labor, and Pensions. (2022). ***Testimony of Karen L. Handorf.*** https://edworkforce.house.gov/uploadedfiles/handordkarentestimony030122.pdf	• Enforcement actions			• Federal/state economic impacts

Literature/Source	Claims System/Benefits Management Outcomes	Service Utilization Outcomes	Insurance Coverage Outcomes (Cost/Spending)	Macro-level/Long-term Outcomes
Yip, D., Gubner, N., Le, T., Williams, D., Delucchi, K., & Guydish, J. (2020). **Association of Medicaid expansion and health insurance with receipt of smoking cessation services and smoking behaviors in substance use disorders treatment.** *The Journal of Behavioral Health Services & Research, 47*(2), 264–274. https://doi.org/10.1007/s11414-019-09669-1		• Behavioral health/ preventive services • Access to and quality of care		
Zhang, H., Cude, B. J., Groshong, L., & Keith, K. (2022). **The impact of state surprise medical billing protections on consumers with employer-sponsored health insurance**. *Journal of Insurance Regulation*. https://content.naic.org/sites/default/files/the%20impact%20on%20state%20surprise%20medical%20billing%20protections%20-%20JIR1%202022.pdf	• Consumer experience/ improvements • Billing concerns			

Appendix C: Outcome Categories: Specific Outcomes, Measures, and Data Sources

Below is a table listing the measure examples and data sources discovered through activities conducted for this report.

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Claims System/Benefits Management Outcomes	**19**	○	○		
Levels of plan enrollment/ service coverage	12	○		• Percentage of health plan member enrollment levels (i.e., uninsurance levels pre- vs. post-Affordable Care Act (ACA) • Percentage of members with services covered (i.e., behavioral health coverage) • Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Percentage of products with prior authorization requirements • Implementation of new policy language	• Behavioral Risk Factor Surveillance System (BRFSS) national telephone survey data • Survey of Income and Program Participation (SIPP) data • Interviews with senior health plan executives • The National Association of Insurance Commissioners (NAIC) Market Conduct Annual Summary/Statement
Consumer experience/improvements (complaint handling, etc.)	9	○		• Number of consumer complaints • Record retention and access • Issuer complaint handling/monitoring practices • Number of states with comprehensive state-based consumer protection • Number of related enforcement and administrative actions taken	• Complaint and grievance logs • Appeal and grievance systems (e.g., Medicare appeal systems, Medicaid appeal systems) • Compliance data (e.g., Centers for Medicare & Medicaid Services' [CMS's] Compliance Activity Module [CAM]) • NAIC complaints data • Consumer surveys (e.g., Centers for Medicare & Medicaid Services' [CIPR]/NAIC Consumer Health Insurance Knowledge and Experience Survey)

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Plan Design Changes to Meet Regulatory Coverage Requirements	5	●		• Number of plan amendments (e.g., removal of requirements, including financial or service limits) • Percentage of members with services covered (i.e., behavioral health coverage) • Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Percentage of health plan and Insurer use of treatment limits or separate deductibles • Number of related enforcement and administrative actions taken, including forfeitures and penalties • Employer responsiveness (changes made to health plans in response to employee needs or requirements)	• Interviews with plan beneficiaries/participants • Interviews with senior health plan executives • Interviews with employers • Testimony of licensed agents • Questionnaire administered to plans' Mental Health (MH)/SUD & medical/surgical vendors • Mercer Employer Benefits Survey Data • Kaiser Family Foundation and Health Research and Educational Trust National Employer Health Benefits Survey (KFF/HRET) Data • Aon Employer Survey Data • Compliance testing data from Aon Hewitt and Milliman Inc. • Aon Hewitt's Plan Design Database (PDD) • Review of plan documents • U.S. Department of Labor (DOL) Bureau of Labor Statistics (BLS) Summary Plan Descriptions (SPDs) or summary plan provision documents • NAIC Market Conduct Annual Summary/Statement • Data from various surveys (the Employee Mental Health Perception Survey, Human Resource Leadership Survey, and Workforce Readiness Survey of Services)

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Enforcement Actions	4	⊙	⊙	• Number of violations of insurance codes committed • Number of referrals for enforcement action/investigations (by market analysts) • Number of consumer complaints • Number of Investigations pursued • Number of investigators • Number of hours dedicated to investigations • Claim or interest payments (made to participants and plans) (i.e., amount recovered) • Number of orders made for: retroactive claim or interest payments, license terminations, or stipulations (e.g., alteration of practices, disclosure requirements)	• EBSA's Enforcement Management System (EMS) case tracking database • Non-compliance plan documentation • EBSA Form 5500 Annual Return/Report Filing Enforcement Data • Employee Retirement Income Security Act (ERISA) Data System (EDS) Database • Mercer's National Survey of Employer-Sponsored Health Plans • Interviews with enforcement agency officials • Interviews with other entities (insurance agencies, NAIC) • Complaint and grievance logs
Billing concerns (balance billing, surprise billing)	2		⊙	• Number or percent of enrollees who received a surprise bill • Number of enrollees who reported billing concerns and access issues • Frequency of surprise billing • Provider's balance billed participants • State's level of coverage for Medicare cost sharing (i.e., limited, Opt-in, or comprehensive protection) • Trends in specific service use by participant or beneficiary type (e.g., qualified Medicare Beneficiary [QMB] enrollees relative to Medicare-only enrollees) • Participant shared frustration or fear of losing benefits • Average charges from out-of-network providers • Percent or amount of claims paid/ reprocessed	• Interviews with beneficiaries/participants • Consumer surveys (e.g., CIPR/NAIC Consumer Health Insurance Knowledge and Experience Survey) • State policy documents • Medicaid and Medicare enrollment and claims data

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Service Utilization Outcomes	**17**	○			
Inpatient/outpatient visits	11	○		• Trends in specific service use by participant or beneficiary type (e.g., QMB enrollees relative to Medicare-only enrollees) • Trends of expenditures • Intensity of use rate • Rates of outpatient services (number of Office Visit Services, Hospital Outpatient Services, and Mental Health Services (i.e., Emergency Department [ED] services, ambulatory care) • Rates of inpatient and institutional services (Hospital Inpatient Services and Skilled Nursing Facility Service) • Rates of ED services and Hospitalizations for Ambulatory Care-Sensitive Conditions (ACSC)	• Medicaid and Medicare enrollment and claims data • Truven Health MarketScan Commercial Claims and Encounters database • Samples of people with plan and patient expenditures • Administrative datasets from Optum enrollees (member eligibility files, specialty behavioral health claims, "book of business" file, provider supply data) • Member eligibility data (age, gender, residence state, relationship, etc.)
Behavioral health/preventive services	9	○		• Level of smoking cessation services received and smoking behavior by insurance status	• Study survey of substance use disorder (SUD) program treatment clients • Nationally representative survey of commercial health plans focusing on behavioral health services (administered to executive-level directors)
Access to and quality of care	4	○		• Demographics by health insurance status • Subgroup analysis • Rates of uninsurance (percentage of those lacking a usual source of care) • Rates of non-group private coverage • Rates of Emergency Department services and Hospitalizations for ACSC	• Interviews with beneficiaries/participants • Medicaid and Medicare enrollment and claims data • NHIS data (e.g., "sample adult" file) (a Center for Disease Control [CDC] survey of U.S. households) • BRFSS national telephone survey data

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Employee Assistance Program (EAP) use	1	●		• Employer provisioning of EAP • EAP utilization rate by employees and perceptions of EAPs by industry • Total EAP activity rate (calls, training, website visits, referrals, etc.) • Differences in key indicators before and after the pandemic (employee well-being, etc.)	• Data from various surveys (the Employee Mental Health Perception Survey, Human Resource Leadership Survey, and Workforce Readiness Survey of Services Firms) • Employer surveys (e.g., International Foundation of Employee Benefit Plans) • Government employer or nationwide pulse surveys (Florida Employee Assistance Program Utilization Report, CDC Anxiety and Depression Household Pulse Survey, and World at Work COVID-19 Response Survey)
Insurance Coverage Outcomes (Cost/spending)	**14**		●		
Spending/Expenditures	14		●	• Percentage of products including/excluding coverage of specific services or diagnoses (including cost sharing and co-payments) • Health-related expenditures by or on behalf of individuals • Out-of-pocket spending/max • Co-payments/deductible costs • Total spending/expenditures (insurer and out-of-pocket)	• Data on plans (Enrollee-Level External Data Gathering Environment (EDGE)) • Claims data from private health plans (e.g., the IBM Health Analytics MarketScan Commercial Database) • Current Population Survey • Truven Health MarketScan Commercial Claims and Encounters database • Milliman HCGs • Healthcare Cost Institute (HCCI) multipayer database
Medication/Pharmacy costs/barriers	3		●	• Average/annual/total medication spending • Number of pharmaceutical claims • Delay in getting or not filling prescription drugs • Changes in brand name drug prices after start of discount program	• CMS Part D data (for drug price tracking) • CMS documents • Interviews with CMS officials, Medicare Plan D sponsors, drug manufacturers, and pharmacy benefit managers (PBMs) • Prescription fill records • Pharmacy claims data from private health plans (e.g., IBM Health Analytics MarketScan Commercial Database)

Outcomes	Number of Studies	Non-Monetary	Monetary	Measure Examples (changes in...)	Data Source Examples
Macro-level/Long-term Outcomes (health outcomes, state spending, etc.)	7	⭘	⭘		
Health Outcomes/Trajectory	3	⭘		• Mortality rate levels • Work-life balance behaviors and environmental exposures	• CMS, Medicare health claims data • Private employment administrative data • Data on exposure behaviors during work life (sample of former manufacturing workers as test case, biometric indicators) • Health and Retirement Survey (HRS) data • National Death Institute (NDI) data
Disparities by demographics (race, gender, disability, etc.)	3	⭘		• Plan enrollment levels • Rates of uninsurance • Health-related expenditures by or on behalf of individuals • Absolute per capita expenditure gap by race (White-Black) • Differences in health care use (i.e., underuse or overuse)	• SIPP data • BRFSS national telephone survey data
Federal/state economic impacts (revenue, spending, etc.)	2		⭘	• Plan enrollment levels • State's spending (share of uncompensated care costs) • State's Gross Domestic Product (GDP)/gross output (including state and local tax revenue, number of jobs created, and employment rate levels)	• SIPP data • Medical Expenditure Panel Survey (MEPS) Household Component data – based on demographic profiles • American Community Survey (ACS) age and income data • Benchmark data from state publications, supplemented with other data (Integrated Public Use Microdata Series, Statistics of U.S. Businesses)

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