Mini-MAX User's Guide

February 15, 2012

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ACRONYMS AND ABBREVIATIONS

1115	Section 1115 waiver
1915(b)	Section 1915(b) waiver
1915(b)(c)	Section 1915(b)(c) waiver
1915(c)	Section 1915(c) waiver, also known as HCBS waiver
1931	Section 1931/Cash assistance
AFDC	Aid to Families with Dependent Children
APC	Ambulatory Patient Classification Groups
APG	Enhanced Ambulatory Patient Groups
ARRA	American Recovery and Reinvestment Act of 2009
BENE-ID	Beneficiary Identification number
BHO	Behavioral health organization
BOE	Basis of eligibility
CER	Comparative effectiveness research
CHIP	Children's Health Insurance Program
CLTC	Community-based long-term care
CMS	Centers for Medicare & Medicaid Services
CV	Coefficient of variation
CY	Calendar year
DME	Durable medical equipment
DRA	Deficit Reduction Act of 2005
DRG	Diagnosis-related group
DSH	Disproportionate share hospital
EDB	Medicare Enrollment Database

ER	Emergency room
FFS	Fee-for-service
FPL	Federal poverty level
FQHC	Federally qualified health center
GB	Gigabyte
HCBS	Home and community-based services
HIC	Medicare Health Insurance Claim number
HMO/HIO	Health maintenance organization/health insuring organization
HOA	Health Opportunity Account
ICD	International Classification of Diseases
ICF/MR	Intermediate care facility for the mentally retarded
IP	Inpatient; MAX inpatient claims file
KFF	Kaiser Family Foundation
LT	MAX long-term care claims file
M-CHIP	Medicaid-expansion Children's Health Insurance Program
MAS	Maintenance assistance status
MAX	Medicaid Analytic Extract
MFP	Money Follows the Person
MMIS	Medicaid Management Information System
MSIS	Medicaid Statistical Information System
NDC	National Drug Code
OT	Other services; MAX other services claims file
PACE	Program of All-Inclusive Care for the Elderly
PCCM	Primary care case management

PHP	Prepaid health plan
PRTF	Psychiatric Residential Treatment Facilities
PRWORA	Personal Responsibility and Work Opportunity Reconciliation Act of 1996
PS	MAX person summary file
QDWI	Qualified Disabled and Working Individual
QI	Qualified Individual
QMB	Qualified Medicare Beneficiary
RBF	Restricted Benefits Flag
ResDAC	Research Data Assistance Center
RX	Prescription drugs; MAX prescription drug claims file
S-CHIP	Separate Children's Health Insurance Program
SLMB	Specified Low-Income Medicare Beneficiary
SSA	Social Security Administration
SSI	Supplemental Security Income
SSN	Social Security Number
TANF	Temporary Assistance for Needy Families
TEP	Technical Expert Panel

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I. INTRODUCTION

The Medicaid Analytic Extract (MAX) is a research-friendly version of Medicaid administrative files, including data from all 50 states and the District of Columbia. The MAX files contain person-level data on more than 60 million Medicaid enrollees and claims data on more than 2 billion Medicaid-provided services. The sheer volume of these data implies that their use requires substantial processing. Mini-MAX has been developed to reduce the processing requirements for MAX data analyses to a level that can be performed with a high-end personal computer, thus expanding the community of individuals capable of conducting research with Medicaid data and thereby significantly increasing the amount of research conducted on the Medicaid program. Ultimately, the purpose of Mini-MAX is to make data on Medicaid enrollees and their expenditures more accessible for use in statistical and policy-oriented research.

Because a primary goal of Mini-MAX is to expand the community of researchers using Medicaid data, this User's Guide is intended to support this community's needs by providing background information on the Medicaid program, highlighting important features of the Mini-MAX files, and providing guidance to researchers about issues to be considered when conducting research with Mini-MAX.

This User's Guide includes the following chapters:

- Chapter I: Introduction
- Chapter II: Medicaid Basics
- Chapter III: The Source of Mini-MAX Data
- Chapter IV: Mini-MAX Data Elements
- Chapter V: Mini-MAX Sampling and Weighting
- Chapter VI: Practical Guidance on Conducting Analyses with Mini-MAX

The background on the Medicaid program included in Chapter II addresses eligibility groups, service coverage, waiver programs, service delivery and reimbursement methods, and other sources of state variation in Medicaid that researchers need to consider when using Medicaid data for research. In Chapter III, we describe the sources of Mini-MAX data and the processing stages through which the data pass before the Mini-MAX files are produced. This description is intended to provide background to help researchers better understand the data in the Mini-MAX files. In Chapter IV, we provide an overview of the variables included in the Mini-MAX files. We describe the sample design and weighting for Mini-MAX in Chapter V. This section will provide the background needed to use the sample file weights and calculate standard errors. Finally, in Chapter VI, we highlight important limitations of the Mini-MAX data and discuss issues to consider when designing and conducting a study with Mini-MAX.

The Appendices provide additional resources. Appendix A lists the variables included in MAX and identifies those excluded from Mini-MAX. Appendix B presents references to supplemental resources on the Medicaid program and Mini-MAX data. Appendix C includes tables displaying summary statistics from MAX and Appendix D provides sample code for common tasks in a Mini-MAX analysis. This User's Guide does not address policy and

procedures for requesting Mini-MAX data. Readers should refer to the Centers for Medicare & Medicaid Services (CMS) website for information on obtaining the Mini-MAX data files.

II. MEDICAID BASICS

Medicaid is a means-tested entitlement program that provides health care coverage to many of the most vulnerable populations in the United States, including low-income children and their parents, and the aged or disabled poor. The program was enacted in 1965 by Title XIX of the Social Security Act. Medicaid has grown to become the third-largest source of health care spending in the United States, after Medicare and employer-provided health insurance. In 2008, states reported Medicaid expenditures of over $293 billion (Borck et al. 2012). Since the 1990s, Medicaid has served more people annually than Medicare. In 2008, Medicaid covered almost 62 million people, covering just over 20 percent of the U.S. population at some point during the year and accounting for about 14 percent of total U.S. health expenditures CMS 2009).

The states and the federal government play distinct roles in operating Medicaid: the federal government sets broad guidelines and requirements for the program, which states then administer to best suit their populations' needs. As a result, each state sets its own guidelines for the types of individuals and families it will cover and the services it will offer. Thus, Medicaid differs substantially across states and this variation results in important differences in the enrollee population and service utilization across states. For example, an individual eligible in one state may not be eligible in a neighboring state. Similarly, Medicaid enrollees in one state may receive services that are unavailable in another state.

A. Overview of Eligibility Groups

To receive federal matching funds, state Medicaid programs must cover basic health services for all individuals in certain mandatory eligibility groups.

1. Mandatory Groups

The mandatory groups that state Medicaid programs must cover are:

- **Low-income children.** Children under age 6 with family income at or below 133 percent of the federal poverty level (FPL) and who satisfy certain asset requirements are eligible for Medicaid. Children between ages 6 and 19 in families at or below 100 percent of the poverty level (satisfying similar asset requirements) also are eligible.
- **Pregnant women.** Pregnant women with family income at or below 133 percent of the FPL who satisfy certain asset requirements remain eligible from the time they become pregnant through the month of the 60th day after delivery, regardless of change in family income.
- **Infants born to Medicaid-eligible pregnant women.** All infants under age one are eligible if their mothers reside in the same household and were eligible for Medicaid at the time of birth.
- **Limited-income families with dependent children.** As described in Section 1931 of the Social Security Act, individuals who meet the state's Aid to Families with

Dependent Children (AFDC) requirements, effective on July 16, 1996, are eligible for Medicaid.[1]

- **Supplemental Security Income (SSI) enrollees.** With the exception of some individuals living in 11 so-called Section 209(b) states, all individuals receiving SSI are eligible for Medicaid.[2]
- **Low-income Medicare beneficiaries.** Most low-income Medicare beneficiaries are eligible for Medicaid. Those with income below 100 percent of the FPL and assets below 200 percent of SSI asset limits are known as Qualified Medicare Beneficiaries (QMB) and receive Medicare premiums and cost-sharing payments. Medicare beneficiaries with income between 100 percent and 120 percent of the poverty level are known as Specified Low-Income Medicare Beneficiaries (SLMB), and those with income between 120 percent and 135 percent are known as Qualifying Individuals (QI). Medicaid covers Medicare Part A premiums for Qualified Disabled Working Individuals (QDWI), disabled individuals under age 65 who lost eligibility for free Part A coverage when they returned to work. SLMBs, QIs, and QDWIs qualify for assistance with Medicare premiums but not cost-sharing payments. (Many states also choose to extend full Medicaid benefits to QMBs and some SLMBs.)
- **Other.** Several other, generally small, specified populations are mandatorily eligible for Medicaid benefits, including certain working individuals with disabilities, adoption assistance and foster care children, and special protected groups that can keep Medicaid for a period of time, including families that receive 6 to 12 months of Medicaid coverage following loss of eligibility under Section 1931 due to earnings, among others (CMS 2012).

2. Optional Groups

States also have the option to cover individuals in certain additional groups who do not meet the income and resource thresholds set by the federal government for mandatory coverage.

- **Medically needy.** States may provide coverage to "medically needy" individuals—those who have incurred sufficiently high medical costs to bring their net income below a state-determined level.

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[1] Medicaid historically has been linked to welfare receipt. Although the tie between welfare and Medicaid for children and their parents was severed in 1996 by the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), some of the mandatory eligibility groups still reflect this history. Although PRWORA replaced AFDC with Temporary Assistance to Needy Families (TANF), 1996 AFDC rules still are used to determine eligibility for Medicaid. Section 1931 refers to the section of the Social Security Act that specifies AFDC-related eligibility after welfare reform. States have some flexibility in changing income and asset limits for Section 1931 coverage.

[2] Section 209(b) of the Social Security Amendments of 1972 permits states to use more restrictive eligibility requirements than those of the SSI program. These requirements cannot be more restrictive than those in place in the state's Medicaid plan as of January 1, 1972. At present, there are 11 Section 209(b) states: Connecticut, Hawaii, Illinois, Indiana, Minnesota, Missouri, New Hampshire, North Dakota, Ohio, Oklahoma, and Virginia.

- **Pregnant women.** States can cover pregnant women at a higher income threshold than that set for mandatory coverage.
- **Children,** including Medicaid expansion Children's Health Insurance Program (CHIP) children**.** States can cover children at a higher income threshold than that set for mandatory coverage. The enactment of the CHIP in 1997 provided enhanced funding for states to expand Medicaid coverage for children up to 250 percent of poverty (or higher in some circumstances).[3]
- **Institutionalized aged and disabled.** States can cover the aged and people with disabilities in nursing homes and other institutions at a higher income threshold up to 300 percent of the SSI standard.
- **Participants in 1115 waiver demonstrations**. States can apply for demonstration waivers authorized under Section 1115 of the Social Security Act to extend Medicaid coverage to groups that otherwise would not be covered, such as childless adults or higher-income adults who are parents.[4]

B. Overview of Service Coverage

Federal guidelines also establish mandatory and optional services for Medicaid programs. States must cover certain categories of services for enrollees (mandatory services) and may receive matching federal funds for other categories of services if they choose to cover them (optional services).

1. Mandatory Services

Medicaid programs must cover the following services for all enrollees who are eligible for full Medicaid benefits (MACPAC 2011):

- Inpatient hospital (excluding institutions for mental diseases)
- Outpatient hospital, including Federally Qualified Health Centers
- Laboratory and x-ray services
- Certified pediatric and family nurse practitioners
- Nursing facility services for those 21 years and older
- Early and periodic screening, diagnosis, and treatment services, including physical exams, immunizations, lab tests, and vision, dental, and hearing services for those under 21 years old
- Family planning services and supplies

[3] States also have the option to establish CHIP programs for children, either as an expansion of Medicaid (M-CHIP) or as a separate stand-alone state CHIP program (S-CHIP). S-CHIP-only enrollees are excluded from Mini-MAX because their enrollment and services are not fully reported in the data.

[4] Section 1115 waivers also are used to waive certain statutory and regulatory Medicaid provisions for research purposes and Medicaid demonstration projects.

- Physician services
- Medical and surgical services of a dentist (not routine dental care)
- Home health services for those entitled to nursing facility services under the state's Medicaid plan
- Intermittent or part-time nursing services provided by a home health agency or registered nurse (if there is no home health agency in the area)
- Home health aides
- Medical supplies and appliances for use in the home
- Nurse midwife services
- Pregnancy-related services
- 60 days postpartum pregnancy-related services

2. Optional Services

In addition to the mandatory services listed above, federal guidelines authorize states to offer a variety of additional (optional) services to Medicaid enrollees. States vary widely in the types of optional services they provide Medicaid enrollees. Allowable optional services include, but are not limited to, the following (MACPAC 2011):

- Prescription drugs
- Routine dental services
- Preventive services
- Hospice care
- Intermediate care facility services for individuals with mental retardation (ICF/MR)
- Home and community-based long-term care services (CLTC), such as personal care services
- Targeted case management services
- Care in institutions for mental diseases for enrollees 65 years of age and older
- Inpatient psychiatric hospital services for enrollees under 21 years of age

3. Benefit Restrictions

State Medicaid programs must offer services of the same duration and scope to all full-benefit Medicaid enrollees. Under federal law, a state must also pay all of the covered costs up to its reimbursement limits for all Medicaid enrollees (MACPAC 2011). Despite these general rules, there are a subset of Medicaid enrollees who may be eligible for only limited coverage. These enrollees are referred to as "restricted-benefit enrollees."

Across states, there are three primary groups of restricted-benefit enrollees. These include (1) aliens eligible for only emergency services, (2) dual Medicare and Medicaid enrollees for

whom Medicaid coverage is limited to Medicare premiums and cost-sharing, and (3) enrollees in 1115 waivers that provide only family-planning services. Nationally, these three groups of restricted-benefit enrollees accounted for about 11 percent of Medicaid enrollees in 2008 (Borck et al. 2012). The proportion of enrollees with restricted benefits varies notably across states, but almost all states have some restricted-benefit aliens and duals and about half of states maintain family planning-only waiver programs.

C. Medicaid Waiver Programs

In addition to differences in eligibility criteria and covered services, state Medicaid programs may also differ due to Medicaid waivers. As discussed above, state Medicaid programs must adhere to federal guidelines to receive federal matching funds. These guidelines require that states cover certain populations and services and also include stipulations related to service delivery and benefit packages. If states want to expand eligibility or services beyond what is allowed by federal guidelines, they must obtain a "waiver" from CMS. The following are the four main types of Medicaid waivers:

- **Section 1115 Research and Demonstration Projects.** These waivers allow states to implement demonstration projects that test policy innovations likely to further the objectives of the Medicaid program. States use these waivers for a variety of purposes, most commonly to expand Medicaid coverage to otherwise-ineligible groups and to implement delivery system changes. To receive approval, states must demonstrate that an 1115 waiver program will be budget neutral for the federal government, and the waiver must include an evaluation component. State experiments operated under 1115 waivers have included: delivery system changes, such as mandatory enrollment in managed care that apply to specific eligibility groups (such as children) or in a geographic region of the state; coverage expansions with targeted benefits for specific populations such as family-planning services for otherwise ineligible women of childbearing age or a Medicaid-expansion program(s) with benefits tailored to uninsured individuals with specific diseases or health conditions; coverage expansions with basic benefit packages for broader uninsured populations. Some 1115 waivers combine both coverage expansions and delivery system changes. In 2008, 38 states and the District of Columbia operated 1115 waivers (Borck et al. 2012).
- **Section 1915(b) Managed Care Waivers.** Section 1915(b) waivers allow states to require individuals to enroll in managed care plans for some or all of their Medicaid benefits or otherwise limit individuals' choice of provider under Medicaid. Mandatory Medicaid managed care plan benefit packages must provide, at a minimum, the benefit package covered under the regular Medicaid State Plan, but states can use cost savings from the use of managed care to add to the services covered under managed care contracts. Managed care programs operated under 1915(b) waivers include a broad range of managed care types from relatively limited programs covering only non-emergency transportation or disease management to comprehensive managed care plans offered through health maintenance organizations (HMOs).
- **Section 1915(c) Home and Community-Based Services (HCBS) Waivers.** These waivers allow states to cover long-term care services beyond the scope of those

allowed in the Medicaid benefit package and serve individuals in community settings. These services offer an alternative for people who would otherwise need institutional care. States can target these waivers to specific geographic areas within the state and to specific subpopulations of enrollees. States can also offer HCBS through their State Plans, however when offered through a State Plan these services must be available to all full-coverage Medicaid enrollees. In contrast, offering these services through a waiver allows a state to limit the population served. States must ensure budget neutrality for these waivers, in that the cost under the waiver may not exceed the cost of institutional care. Medicaid services covered under HCBS waivers can include medical services, such as skilled nursing and dental services, as well as non-medical services, such as case management, personal care, homemaker services, adult day care, respite care, and transportation. The services offered in an HCBS waiver cannot duplicate services that are provided under a Medicaid State Plan, but states can use these waivers to augment services in the State Plan by raising the amount, duration, or frequency of covered services for waiver participants. States can also use these waivers to waive certain income and resource rules and cover services in the community that would otherwise be available only in an institutional setting.

- **Concurrent Section 1915(b) and 1915(c) Waivers.** Combined Section 1915(b)/(c) waivers allow states to concurrently limit freedom of choice and provide HCBS. This means the state provides the HCBS through a managed care arrangement or through a limited number of possible providers.

In 2008, all 50 states and the District of Columbia had waiver programs. Most states maintained multiple waivers of different types. Nationally, HCBS waivers were the most utilized type of waiver, operated in 49 states in 2008 (Borck et al. 2012). Despite their large number, HCBS waivers covered disproportionately fewer Medicaid enrollees than 1915(b) or 1115 waivers in 2008. HCBS waivers typically target specific, relatively small populations, whereas 1915(b) and 1115 waivers in many states enrolled large majorities of the state Medicaid population. A comprehensive list of active waivers in each year is available in the MAX waiver crosswalk (Natoli 2011).

D. Service Delivery and Reimbursement Variation

Provider reimbursement and service delivery vary substantially within the Medicaid program.

1. Fee-for-Service

Fee-for-service (FFS) payments make up the bulk of national spending on Medicaid and accounted for 76 percent of Medicaid expenditures in 2008 (Borck et al. 2012). Very few federal rules apply to payments to FFS providers. There generally are no ceilings on provider payments, and guidelines stipulate only that payments be ‘sufficient’ to ensure ‘equal access’ for all beneficiaries.

According to the Medicaid Payment Advisory Commission, since states have considerable flexibility within federal guidelines to establish their FFS reimbursement policies, considerable variation is observed across the states (MACPAC 2011). For inpatient hospital services a majority of states (32) use some form of diagnosis related group (DRG) payment method, paying

hospitals a fixed amount per discharge with adjustment for the patient's diagnosis and for outliers. Nine states pay hospitals a fixed per diem amount per inpatient day and the remaining 5 states pay hospitals based on their reported costs. For outpatient hospital services, 22 states reimburse hospitals based on their reported costs. Eight states reimburse hospitals based on ambulatory patient classification (APC) groups and three reimburse based on enhanced ambulatory patient groups (APGs). The remaining 18 states reimburse based on an outpatient service fee schedules for hospital outpatient department services. Physician services are reimbursed under a fee schedule in all states, but these schedules vary substantially in structure and payment level.

2. Managed Care

The share of Medicaid beneficiaries enrolled in some form of managed care has been increasing for more than two decades, with nearly 83 percent of full-benefit enrollees in some form of managed care during 2008 (Borck et al. 2012). Nationally, only three states (Alaska, New Hampshire, and Wyoming) did not use any form of managed care in 2008. Medicaid managed care plans provide a defined bundle of health services in return for a fixed monthly fee from the state Medicaid program. Individuals may be enrolled in multiple types of managed care in a given month.

Medicaid administrative data categorize managed care enrollment into three general types:

- Comprehensive managed care, including HMOs, health insuring organizations (HIOs) and Programs of All-Inclusive Care for the Elderly (PACE).[5] Comprehensive managed care plans cover most health services for their enrollees. State Medicaid programs pay these plans a lump-sum monthly capitation payment to assume financial risk either for the comprehensive set of Medicaid services or a substantial subset. Categories of services that are not covered under the comprehensive managed care benefit package are referred to as 'carved-out' services. Prescription drugs, behavioral health organizations (BHOs), long-term care, and dental services are often carved-out of the comprehensive benefit packages.
- Prepaid health plans (PHPs). PHPs are risk-based plans that provide a fixed set of services for a monthly capitation payment. PHPs typically provide more limited services than comprehensive plans, and coverage varies greatly by plan. They may, for example, cover only dental care or behavioral health services. PHPs that provide behavioral health services, dental care, long-term care, and prenatal care are identified separately by the plan type field in Mini-MAX. PHPs that provide other types of

[5] Jointly funded by Medicaid and Medicare, PACE provides comprehensive care to those 55 and older, and generally allows enrollees to stay in their homes rather than be institutionalized. Similar to HMO/HIOs, PACE providers assume full financial risk for eligible beneficiaries and must provide all services covered by Medicaid and Medicare. As of October 2010, more than half of the states reported operating PACE programs, but enrollment is extremely limited. Because PACE is a comprehensive care program, enrollees often are grouped with HMO/HIO enrollees in analyses of MAX and Mini-MAX data and capitation payments for these plans are grouped with capitation payments for HMO/HIOs. However, PACE program enrollees typically have distinct characteristics relative to HMO/HIO enrollees and researchers may want to address them separately.

Medicaid services are classified as 'Other,' including, for example, PHPs that cover prescription drugs or nonemergency transportation.

- Primary care case management (PCCM) plans. PCCMs are generally the most limited managed care type in Medicaid administrative data. In PCCM programs, providers act as 'gatekeepers' to coordinate care for beneficiaries. These providers are paid a small monthly fee to provide basic care and then coordinate specialist care and other services for a Medicaid enrollee. All other services for these enrollees are typically billed using FFS reimbursement.

The growth of comprehensive managed care is significant for any analysis of Medicaid service utilization. In 2008, 50 percent of all full-benefit Medicaid enrollees were in comprehensive managed care plans, with higher rates of enrollment among children and adults than among the aged or disabled (Borck et al. 2012). Because most services provided for comprehensive managed care enrollees are covered under capitation payments, these services are missing from analyses of service utilization and expenditures that rely on FFS claims. Some states submit claims that reflect utilization of managed care services, called "encounter claims," but these claims are of unknown quality and completeness in Mini-MAX.

E. Other Sources of State-Level Variation

As described above, states have considerable flexibility in determining their Medicaid program's eligibility criteria and benefits within the broad federal guidelines. Because each Medicaid program is distinct, the composition of Medicaid enrollees, Medicaid utilization, and Medicaid expenditures varies substantially across states.

In addition to differences in program design, differences in state population demographics and socioeconomic and political environments can result in important differences in the Medicaid program across states. Relevant differences across states may include differences in:

- Income and poverty level
- Age distribution
- Racial and ethnic populations
- Incidence and prevalence of conditions/diseases (e.g., obesity and diabetes)
- Availability and participation of health care providers of different types
- Legislative and administrative policies affecting Medicaid

When conducting analyses of Medicaid across multiple states, researchers should review these potential differences and consider their implications for the study design and findings.

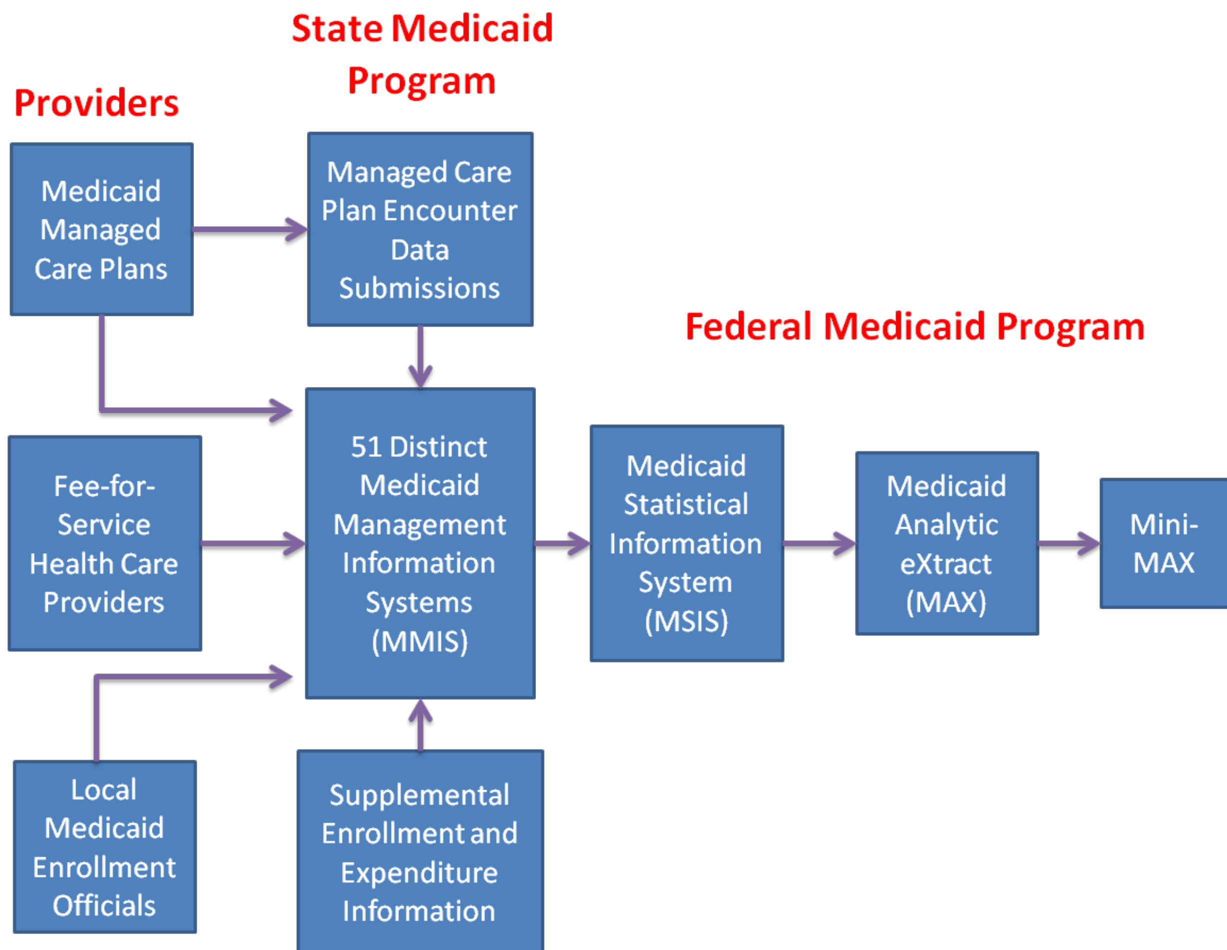
III. THE SOURCE OF MINI-MAX DATA

In this chapter, we provide an overview of the process through which MAX data are collected and developed. We also discuss the implications of this process on the content and consistency of the data included in the Mini-MAX files.

A. Overview of Mini-MAX Data Collection and Development

MAX data are processed through several stages before the Mini-MAX files are produced. Figure III.1 displays these stages.

Figure III.1. Stages of Medicaid Data Processing



Understanding the initial inputs and the processing and data requirements for the later stages will assist researchers in understanding the data available in Mini-MAX.

B. Stage 1: States Gather Information on Enrollment, Service Utilization, and Payment

In the first stage, the state's eligibility determination unit, Medicaid providers, and health plans submit enrollment information and FFS, capitation, and encounter claims to the state Medicaid agency.

1. Enrollment Records

Local Medicaid or social service agencies determine whether individuals are eligible to enroll in Medicaid. They enter information into an enrollment system. This information includes identifying information, such as the enrollee's name, Social Security number, and date of birth. It also includes demographic information (such as gender, county of residence, and race/ethnicity); information on the basis of eligibility for Medicaid (such as low-income family, pregnancy, or disability); and information on other health insurance the enrollee holds. All of this information forms the basis for the state Medicaid enrollment database.

Researchers should understand that Medicaid enrollment information is *not* entered consistently across states. States record information about eligibility based on their own program designs and needs. For example, in many states, race information is not recorded for individuals identified with Hispanic ethnicity. Also, eligibility-related fields in a given state's enrollment system will be tailored to optional eligibility categories and special programs specific to the state. In addition to the variation in recording of enrollment information across states, within a state, there may be variation in data entry at the local level or across agencies responsible for eligibility determination. Researchers should consider this variation within and across states as they design a Mini-MAX analysis.

2. Claims Records

Also, in this initial stage, certified Medicaid service providers submit FFS claims. FFS claims include information on the Medicaid enrollees receiving the service and the service provided, such as date(s) of service, procedure codes, and the number of units of service provided. They also include information on the primary and supplemental diagnoses associated with the service and identifying information about the service provider.

A state's coding and reimbursement requirements will have important implications for the completeness and quality of the information recorded on the FFS claims. For example, on inpatient claims, the data element for diagnosis related group (DRG) may not be filled out in states that do not reimburse using a DRG-based payment system. Also, researchers should note that states often use state-specific codes to identify some procedures. In general, the quality and completeness of the information reported for a given data element will be higher if the state uses the data element to adjudicate claims.

For Medicaid enrollees enrolled in a managed care plan, claims are generated for each monthly capitation payment the state pays to the plan; these capitated payments typically are paid at the person level for each enrollee in a managed care plan.

States may or may not receive encounter data from health care organizations providing care to Medicaid enrollees under an HMO/HIO/PACE or PHP managed care contract. In general,

encounter data records include similar information to FFS claims, except the Medicaid payment amount is $0. The requirements for encounter data submissions by Medicaid managed care plans vary substantially by state and may depend on how a state uses the encounter data. States may use these records to monitor the performance of managed care plans for achieving quality and access standards for their enrollees. For example, a state might use the encounter data to assess the proportion of women giving birth who receive a postpartum care visit. Similarly, the state may use the encounter data to monitor the proportion of children receiving immunizations or well-child visits. The quality and completeness of encounter records will likely be higher in states that use their encounter data.

C. Stage 2: States Use a Medicaid Management Information Systems (MMIS) to House Their Medicaid Data

In 1972, seven years after inception of the Medicaid program, Medicaid Management Information Systems (MMIS) were established with the passage of Public Law 92-603. Under this law, all states are required to have mechanized claims processing and information retrieval systems approved by the Secretary of the Department of Health and Human Services unless this requirement is waived by the Secretary.

CMS rules require that state MMIS systems must be able to perform a variety of functions with minimal errors, including determining eligibility and enrolling eligible individuals; verifying credentials and certifying providers; adjudicating and paying claims; overseeing managed care plan operations; identifying third-party insurance coverage and ensuring that Medicaid is the last payer; minimizing fraud, abuse, and waste; submitting required reports to CMS; and other functions. Most states operate a certified MMIS.[6] Regardless of the certification, some enrollment and claims information may not be processed within the MMIS. Typical exclusions are managed care encounter data and specialized programs, such as waiver programs for which the state MMIS has not been adapted. States may also make lump-sum payments for specific types of services outside of the MMIS, such as transportation services.

Because each state has flexibility to develop its MMIS within broad guidelines, such systems vary substantially across states. States are not required to adopt standardized terminology and coding for eligibility groups, covered services, types of providers, types of plans, and other data elements. This lack of uniformity greatly complicates use of MMIS data across state systems for research and policy analysis. Because of this variability and other reasons, CMS began to require reporting from states in a more standardized format. This reporting is Stage 3 of the path to creating MAX data.

D. Stage 3: States Submit Data to CMS in Medicaid Statistical Information System (MSIS) Data Files

With the Balanced Budget Act of 1997, CMS began requiring all states and the District of Columbia to submit in a uniform format person-level data on enrollment and claims-level data on services provided to Medicaid enrollees.[7] These are known as Medicaid Statistical Information

[6] From 2005 until December 2011, Maine's MMIS was not certified.

[7] These requirements also apply to Medicaid expansions that are part of a state's M-CHIP.

System (MSIS) data. MSIS data are intended for statistical and policy analysis. The data must be submitted to CMS for each quarter of each fiscal year in a standardized format prescribed by CMS. MSIS requires that states submit five types of files each quarter: an eligibility file, and separate claims files for inpatient hospital care, long-term care, prescription drugs, and other services. These files must include all enrollees and covered services provided under Medicaid. Thus, claims for services are intended to include services delivered via FFS, encounters for services delivered via managed care plans, and monthly capitated payments states make to managed care plans. In general, for eligibility, the submission should include current enrollment, corrections, and retroactive enrollment determinations.[8] For FFS claims, the submission should include original, credit, debit, void, and resubmit claims.[9]

The creation of MSIS has three important implications for Mini-MAX data.

1. First, to follow the MSIS guidelines that lead to uniform data across the states, each state must make numerous decisions about how to adjust its MMIS data so that it may conform to MSIS data requirements. Some states have devoted considerable resources to the process while others have not. As a result, the quality and completeness of the data vary by state.

2. Second, while CMS guidelines specify that all claims and eligibility information are to be included in MSIS submissions, in practice, states are not able to comply with these guidelines consistently. In particular, encounter data submissions may be incomplete in MSIS. Some states may not require encounter data submissions from managed care plans, or submissions to the state may not be as complete as the state's FFS claims records. Similarly, encounter data submissions and waiver or other specialized program enrollment and claims data may not be fully integrated into a state's MMIS. This may result in lags in reporting, incomplete reporting, and missing data related to these programs.

3. Third, states periodically update their MMIS. When these updates occur, there may be delays in state reporting, and trends in enrollment and expenditures may reflect updates to the processing system rather than trends in the underlying Medicaid program.

The MSIS data provide CMS with a basic person-level data source on Medicaid and CHIP, but MSIS is not easily used for research and policy analysis. To address some of these limitations and make the MSIS files more research friendly, CMS enhances the files and produces MAX data. The enhancements and final MAX structure are described in the next section.

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[8] The file is called the eligibility file, but the file only includes people who enrolled in Medicaid. People who applied for Medicaid but did not enroll are excluded from the file.

[9] Specifications for MSIS data submissions are available at [https://www.cms.gov/MSIS/].

E. Stage 4: MSIS Data Are Used to Create MAX

MAX data are derived largely from MSIS data files, with a number of enhancements to make these files more research friendly.

1. Eligibility Data

On the eligibility side, MAX includes the following enhancements:

- MSIS quarterly enrollment data are combined to create a single enrollment record for each person ever enrolled in Medicaid during a given calendar year. Adjustments are made to the enrollment record to account for retrospective eligibility determination and corrections to the enrollment record.
- MAX data capture eligibility on a monthly basis from MSIS.
- State mapping to standard, uniform MSIS eligibility categories is reviewed and edited as necessary to improve consistency across states and over time.
- Partial validation of Social Security Numbers (SSNs) is conducted using the Social Security Administration's (SSA) High Group test and an indicator of the findings is added.[10]
- Enrollment records are linked to records from the Medicare Enrollment Database (EDB) to improve identification of dual enrollees and add Medicare data elements. Elements added include race/ethnicity, death date, language code, and original reason for entitlement code.
- Enrollment records are linked to SSA's Death Master File to improve date of death reporting.

2. Claims Records

On the claims side, the primary enhancements made by MAX are the following:

- MAX data reflect only services provided in a given calendar year.
- Original, adjustment, debit, void, and resubmit claims, as well as multiple interim claims for a given service, are combined into a single final claim.
- State mapping to standard, uniform MSIS service categories is reviewed and edited as necessary to improve consistency across states and over time.
- Selected demographic and eligibility data elements from the PS file are added to each service record to facilitate use of the service data.
- Based on the information reported to MSIS, new MAX types of service are created, including durable medical equipment (DME) and supplies (including home

[10] The High Group test compares each component of an SSN with information SSA releases on the range of valid values for that component of the SSN.

modifications and emergency response systems), residential care, psychiatric services, and adult day care.

- MAX prescription drug records (prescribed drugs) are linked to commercial vendor data from First Data Bank and Medi-Span to add therapeutic use for each drug, which is not possible with the National Drug Code (NDC) reported in MSIS.[11]

3. Service Utilization and Expenditures

MAX also summarizes utilization and expenditures at the person-level for several service subgroups. These include:

- 31 detailed types of service categories
- 21 categories of CLTC services
- 3 categories of managed care services

These summary measures are added to the MSIS eligibility file to create an annual person summary file.

4. MAX File Structure

The MAX file structure parallels the input files from MSIS, including the following five files for each state:

1. **Person Summary (PS) File**. Monthly enrollment information, plus annual utilization and expenditures
2. **Inpatient Care (IP) File**. Inpatient hospital claims records
3. **Long Term Care (LT) File**. Institutional care claims are records of stays in nursing homes, intermediate care facilities for the mentally retarded, mental hospitals for people 65 and older, and psychiatric inpatient facilities for people under 21
4. **Prescribed Drug (RX) File**. Claims for prescribed drugs excluding claims for provider administered injections,[12] drugs provided during an inpatient hospital stay, and drugs provided during a long-term care stay in a state that bundles drugs into its per diem rate[13]
5. **Other Claims (OT) File**. Other claims, including those for physician services, laboratory and x-rays, outpatient care, home and CLTC services, and clinic services

[11] There are license restrictions on the use of these data.

[12] Claims for injections billed as J-codes are included in the OT file.

[13] The last survey conducted on whether drug expenditures are bundled into institutional stay per-diem rates was conducted in 1999 and found that Delaware, New York, and South Dakota were the only states that bundled prescribed drugs into their nursing facility per-diem rate.

Extensive documentation on the MAX files is on the CMS MAX page, available at: http://www.cms.gov/MedicaidDataSourcesGenInfo/07_MAXGeneral_Information.asp. The information available includes the following:

- **Data availability.** Years, states, and file types currently available
- **Data dictionaries.** Detailed descriptions of file data elements, with source information and user notes
- **Data anomalies reports and tables.** Reports and tables highlighting enrollment and claims data inconsistent with other states or a given state's prior reporting
- **Validation reports.** Detailed tables of statistics from MAX prepared for each of the 50 states and the District of Columbia

Because Mini-MAX comprises a subset of MAX variables, MAX resources are likely to be useful to researchers designing an analysis using Mini-MAX.

F. Stage 5: MAX Data Are Used to Create Mini-MAX

While the potential benefits to creating a sample for MAX were long evident, the complexities of the Medicaid program, including the diversity of the populations it covers and substantial variation across states in eligibility, services covered, and program structures, indicated the need for a thoughtful design that would result in a sample with the capacity to address a broad range of research questions but require less data processing. The American Recovery and Reinvestment Act (ARRA) of 2009 provided funding to expand MAX capabilities in support of Comparative Effectiveness Research (CER). In 2010–2011, a portion of these funds were allocated to conduct a feasibility study for a national Medicaid database sample—Mini-MAX.

The CMS staff and panel of experts consulted during the Mini-MAX feasibility study focused on developing a sample that could be processed with reasonable efficiency on a personal computer. They determined that it would be feasible to create a Mini-MAX sample with a small number of files, each no larger than six gigabytes (GB), that could validly address a variety of Medicaid research questions with sufficient precision.

The design of the Mini-MAX sample file follows the recommendations of experts consulted during the feasibility study including the following features (Wenzlow et al. 2010):

- **Stratified sample design.** A stratified sample design is necessary for Mini-MAX to address a broad range of Medicaid research questions.
    - The sample is stratified by state and five eligibility groups. The first eligibility group includes all enrollees with restricted benefits. The other four groups divide the remaining enrollees by the four Medicaid eligibility groups—aged, adults, children, and enrollees eligible on the basis of disability (a total of 255 strata).
    - The sampling rate for smaller states is higher than for larger states to facilitate state-level estimates.

  - The sampling rate for enrollees eligible on the basis of being aged or disabled is higher than for the child and adult groups because of the greater variability in expenditures for the former. In addition, increasing the representation of these higher-cost groups in the sample improves the precision of expenditure estimates overall.

- **Representative of the Medicaid program.** The sample is representative of Medicaid as a whole, with very limited exclusions. Mini-MAX is not designed to address small subpopulations within Medicaid because researchers can request MAX extracts specific to these groups that can better meet the needs of a small subpopulation study.

- **File structure.** For the files to be accessible to a broad range of users, the file structure is the same as MAX—a person summary file and 4 claims files. However, in contrast to MAX, which has separate files for each state, each of the 5 Mini-MAX files includes data from all 50 states and the District of Columbia. Thus, in contrast to MAX, which has 255 files (51 x 5), Mini-MAX has only 5 files.

- **File size.** To keep the file size less than 6 GB, Mini-MAX excludes MAX data elements that are less frequently used or less reliable.

The Mini-MAX data are representative of the full MAX files, with the following three minor exceptions:

- **State Children's Health Insurance Programs (S-CHIP).** Mini-MAX does not include any data for S-CHIP only enrollees.

- **Claims not linking to enrollment information.** A small percentage of claims in MAX (about 0.5 percent) do not link to an enrollment record. These claims are excluded from Mini-MAX.

- **Variable exclusions.** Mini-MAX excludes less frequently used or redundant variables from MAX. Appendix A contains a complete list of the excluded variables.

IV. MINI-MAX DATA ELEMENTS

In this chapter, we provide background on some of the more commonly used data elements included in the Mini-MAX file. Readers should note that, since Mini-MAX is a sample file for MAX, the data elements discussed in this section are included in both the MAX and Mini-MAX files. We begin with a discussion of the data elements from the PS file and then describe data elements in the four claims files. As this discussion highlights only the more commonly used data elements in Mini-MAX, researchers should consult the data dictionary for a comprehensive list of Mini-MAX data elements. We conclude with an overview of the data elements from MAX that have been excluded from Mini-MAX.

A. Person Summary File Data Elements

In this section, we cover the more commonly used data elements in the PS file. We begin with personal identifiers and indicators of demographic characteristics and then move on to those data elements describing enrollment characteristics. We conclude with a discussion of the data elements that summarize expenditures and utilization.

1. Personal Identifier

The Mini-MAX data come with a single, unique, encrypted beneficiary identifier (BENE-ID). This identifier allows a researcher to link enrollment and claims records belonging to the same unique Medicaid enrollee in the Mini-MAX files included in a given data request. Other direct personal identifiers, such as the MSIS identifier, SSN, or Medicare's Health Insurance Claim (HIC) number, are not included on the Mini-MAX file.

2. Demographic Characteristics

Mini-MAX includes demographic data elements, such as date of birth, date of death (if applicable), gender, race/ethnicity, and county of residence. Because of underreporting of deaths in the MSIS files, supplemental data on dates of death, based on the link between MAX and the SSA Death Master File, are included in Mini-MAX. In most states, information about date of birth, gender, and county tends to be complete. However, many states do not report race completely. In many of these states, the majority of enrollees with missing race have Hispanic/Latino ethnicity.

3. Enrollment Characteristics

Eligibility for Medicaid and M-CHIP is granted on a monthly basis. As a result, individuals can become eligible or lose eligibility at any time during the year. Those enrollees who become eligible, quickly lose eligibility, and then re-establish eligibility again are known as "churners" because they cycle in and out of the program during relatively short periods of time. For this and other reasons, Mini-MAX includes monthly observations of many eligibility data elements. It is important for data users to consider the effect of eligibility turnover on their proposed analyses.

To identify monthly data elements, the suffix of the name is designated as 1 through 12, depending on the month of interest. One of the key initial steps of any study of Medicaid is to determine which Medicaid groups will be included. Researchers can use monthly uniform eligibility codes to identify specific eligibility groups.

Monthly indicators appearing in the PS file include the following:

- MAX Uniform Eligibility Code (MAX_ELG_CD_MO_#) is a code indicating the maintenance assistance status (MAS) and basis of eligibility (BOE) for each month of enrollment (for example, child eligible on the basis of poverty). In Chapter II, we discussed the mandatory and optional groups of individuals eligible for Medicaid identified by this code
- Medicare dual code (EL_MDCR_DUAL_MO_#) – A code for dual eligibility status
- Private insurance code (EL_PVT_INS_CD_#) – A code indicating whether the enrollee was covered by private insurance in the month and the coverage funding source
- Medicare beneficiary code (EL_MDCR_BEN_MO_#) – A flag indicating whether the enrollee was a Medicare beneficiary in the month
- Prepaid plan type code 1-4 (EL_PHP_TYPE_1_#) – A code indicating the type of managed care plan (including HMO, PACE, PCCM, and specific types of PHPs) in which the individual was enrolled (this data element is repeated four times for each month to identify enrollment in multiple plans in a given month)
- Restricted benefits flag (EL_RSTRCT_BNFT_FLG_#) – Code indicating the scope of benefits for which the enrollee is eligible in the month (e.g., family planning or emergency services only)
- MAX waiver type 1-3 (MAX_WAIVER_TYPE_1_MO_#) – A code indicating whether the enrollee was enrolled in a Medicaid waiver program in the month (this data element is repeated three times for each month to identify when someone is in multiple waivers in a given month)
- Child health insurance code (EL_CHIP_FLAG_#) – A code identifying whether the child was enrolled in M-CHIP in the month

The monthly indicator of state-specific eligibility group is available on the MAX file, but to reduce the Mini-MAX file size these variables are not included on Mini-MAX. Only the national Uniform Eligibility codes are available for each month on the Mini-MAX file. Mini-MAX does, however, include the annual summary measure for both state-specific (EL_SS_ELGBLTY_CD_LTST) and national Uniform Eligibility codes (EL_MAX_ELGBLTY_CD_LTST). These data elements contain the eligibility code in the most recent month during which the person had Medicaid enrollment.

4. Utilization and Expenditures

The PS file includes total Medicaid expenditures for the calendar year (TOT_MDCD_PYMT_AMT) for each enrollee. Summary variables are also created for several components of this total. First, expenditures for health care services paid on an FFS basis (TOT_MDCD_FFS_PYMT_AMT) are identified separately from premium payments for a managed care plan (TOT_MDCD_PREM_PYMT_AMT). As discussed more fully in Chapter II, Mini-MAX divides capitated managed care premium amounts into three categories: HMO/HIO/PACE, PHP, and PCCM. The data elements PREM_MDCD_PYMT_AMT_HMO, PREM_MDCD_PYMT_AMT_PHP, and PREM_MDCD_PYMT_AMT_PCCM capture the

capitated payments for these different types of managed care plans. The parallel variables PREM_PYMT_REC_CNT_HMO, PREM_PYMT_REC_CNT_PHP, and PREM_PYMT_REC_CNT_PCCM capture the total claim count for these plans.

The total FFS payment amount is divided into 31 type of service categories (for example, inpatient hospital, nursing facility, physician, and laboratory/x-ray). CMS has created standard definitions for these type of service categories. Mini-MAX also defines four additional types of services:

1. DME and Supplies
2. Residential Care
3. Psychiatric Services (excluding Adult Day Care)
4. Adult Day Care

While standard definitions for the categories exist, researchers should note that there may be inconsistencies in how states report services in the categories.

For each of the service categories, two variables exist on Mini-MAX: FFS payment amount (FFS_PYMT_AMT_#) and encounter record count (ENCTR_REC_CNT_#). Researchers should note that, although there is a summary variable for counts of encounter data records, encounter data reporting is considered incomplete for many states.[14] Three additional variables are available in MAX for each service category: FFS third-party payment amount (FFS_TP_AMT_#) and FFS claim count (FFS_CLM_CNT_#), and FFS charge amount (FFS_CHRG_AMT_#). These latter three variables are excluded from Mini-MAX to reduce the Mini-MAX file size.

MAX includes expenditure summary variables for each of the six program types (Family Planning, Rural Health Center, Federally Qualified Health Center, Indian Health Services, Home and Community-Based Care for Aged and Elderly Disabled, and Home and Community-Based Services). Within each of these program types, expenditures are broken down into the following categories of service (and the program types are differentiated from each other by the abbreviation suffix): Inpatient Hospital (IP_HOSP_PYMT_), Institutional Long Term Care (LT_PYMT_AMT_), Other Service (OT_PYMT_AMT_), Prescription Drug (RX_PYMT_AMT), and Total (TOT_PYMT_AMT_).

For CLTC services, Mini-MAX provides additional detail on the services provided. These expenditures are disaggregated into 21 standard categories. FFS payment amount (CLTC_FFS_PYMT_AMT_#) is available in Mini-MAX for each of these categories. The data elements for these categories were created and added to MAX in 2005 to accomplish two goals: (1) simplify identification of Medicaid enrollees who receive CLTC services and (2) establish a preliminary way to standardize the categorization of CLTC services across states.

[14] At the time this report was written, Mathematica was working with several states to assess the completeness of their encounter claims information as reported in MSIS.

B. Claims File Data Elements

In this section, we highlight commonly used data elements from the four claims files. We begin with a description of the types of claims in the claims files and then provide an overview of the data elements associated with enrollee and service characteristics. We conclude with a discussion of payment-related data elements.

1. Types of Claims

It is important to note that the claims files include several different types of claims. For each claim record, there is a variable indicating the type of claim (TYPE_CLM_CD). This variable identifies whether the claim is a capitated payment to a managed care plan, a FFS claim, an encounter record, or a supplemental payment. FFS claims and capitated payments compose the total expenditures for an enrollee. Researchers will want to consider which of these claims are appropriate for inclusion in their studies.

Although service use cannot be measured for comprehensive managed care and PHP enrollees without encounter data, researchers should be cautious about conducting a study that includes the encounter records in Mini-MAX. First, many states are believed to underreport encounter records for services delivered to enrollees within managed care plans. Also, the underreporting is not systematic. Some states may not report encounter records from one or more managed care plans, while others may not have encounter records available for particular types of services. In addition to underreporting of encounter records, researchers should note that, when reported, these records do not include Medicaid payment amounts—all encounter records show a Medicaid payment amount of $0.

2. Enrollee Characteristics

Each claims record includes a BENE-ID. This data element uniquely identifies a Medicaid enrollee and allows researchers to link the claims for an enrollee to that enrollee's PS file record. In MAX, basic demographic and enrollment information is included on each claims record to allow for analysis of this information without linking to the PS file. This information is excluded from the claims record in Mini-MAX to reduce the file size. However, researchers can link the Mini-MAX claims records to the Mini-MAX PS file based on BENE-ID to obtain demographic information for the enrollees represented on the Mini-MAX claims.

3. Service Characteristics

Each claims record includes data elements for the dates of service, procedure code, diagnosis code, and type of service code.

- **Dates of service.** The IP, LT, and OT files include dates for payment, service beginning, and service ending. In addition to these, the IP file includes admission date. The prescription fill date is included in the RX file.
- **Procedure code**. States are not required to report procedures according to a single coding system, so they use different systems. Mini-MAX includes a variable indicating which coding system has been used.

- **Diagnosis code**. Diagnosis codes are reported as ICD-9-CM codes. In addition to the primary diagnosis, additional diagnoses can be reported on the IP, LT and OT record.
- **Type of service code**. A uniform type of service code is listed for each claims record. These are the same uniform types of service categories for which summaries are reported in the PS file. Data users should consult the description of the variable MAX_TOS (MAX Type of Service Code) in the data dictionaries for each of the four services' files to determine which types of service are reported.

4. Payment Information

Each claim includes amounts for the Medicaid payment, the charge, and the third-party payment. For dual Medicaid and Medicare enrollees, each claim also reports Medicare coinsurance and deductible payment amounts covered by Medicaid. Charge amount and third party payment amount are included on the MAX file, but excluded from the Mini-MAX file as a result of inconsistent reporting and to reduce the file size. As noted above for encounter claims, the Medicaid payment amounts are reported as $0, but states can report the amounts plans pay to providers in the amount charge field.

C. MAX Data Elements Excluded from Mini-MAX

Some data elements included in MAX have been excluded from Mini-MAX to make the size of the Mini-MAX files accessible to individuals using high-end personal computers. These exclusions include the following:

- **Duplicative data elements.** These include data elements summarizing other data elements in the files, such as race and sex combinations and total months of eligibility. Also, eligibility data elements from the PS file that are repeated on the claims files in MAX are eliminated from Mini-MAX.
- **Rarely used data elements.** These include number of claims for each person by type of service and an adjustment code relevant only to combining claims into final action service records.
- **Unreliable data elements.** These include TANF enrollment and third-party payment and charge amounts on service records.
- **Linkage data elements.** These include plan identifiers, waiver identifiers, and state-specific eligibility groups.
- **Some identifiers.** These include SSNs and billing provider, service provider, and managed care plan identifiers.
- **Other data elements.** These include proprietary data elements from First Data Bank and Medi-Span and inpatient/long-term care summary data elements.

Appendix A lists all the MAX data elements and identifies those data elements excluded from Mini-MAX along with the associated reason for exclusion.

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V. MINI-MAX SAMPLING AND WEIGHTING

In this chapter, we describe the design of the Mini-MAX sample and explain the use of sample weights. In Section A, we review the development of the sample design and discuss the design's key features. In Section B, we address the sample weights.

A. Sample Design

After presenting an overview of the Mini-MAX sample, we discuss the key elements of the design and the statistical properties of the sample.

1. Overview

From the beginning, Mini-MAX was conceived as a five percent (or 1 in 20) sample of MAX records, and the feasibility study for a national Medicaid sample focused on the strengths and limitations of a sample of that magnitude. CMS has produced a five percent sample of Medicare records for a number of years, and the Medicare sample guided the thinking about Mini-MAX. Medicaid enrolls about 50 percent more people than Medicare, so a five percent sample of Medicaid enrollees would be about 50 percent larger than a five percent sample of Medicare enrollees. Sample size, more so than the sampling rate, determines the statistical properties of a sample, along with the cost of processing the data. However, a strong case can be made that, from the standpoint of potential users, a Medicaid sample file *should* be larger than a Medicare sample file because of features that distinguish Medicaid from Medicare. Unlike Medicare, which has national coverage rules and is administered by the federal government, Medicaid is designed to serve a number of distinct subpopulations and is administered by the states. States have substantial flexibility, within broad federal guidelines, to define eligibility for these subpopulations and establish what benefits they will provide. Medicaid researchers thus have a more compelling need to look below the national level at individual states, and even subpopulations within states. In the end, a five percent overall sampling rate became the cornerstone of the Mini-MAX design.

The feasibility study did not address whether particular types of records should be excluded from Mini-MAX, but in early meetings to discuss development of the sample design, Mathematica staff determined that two types of records contained in MAX should be excluded from Mini-MAX. Both of the following exclusions are consistent with the analytical approach typically used for MAX data:

- **Records with claims but no enrollment data.** The feasibility study recommended that the sample be stratified by the four eligibility groups, but claims cannot be classified by BOE without enrollment data. These records thus would have to be assigned to a separate stratum if they were included. Given the limited analytical value of such records, as well as their small number, we elected to exclude such records from selection into Mini-MAX.
- **Children enrolled in CHIP without being enrolled in Medicaid.** Children enrolled in CHIP through S-CHIP are not enrolled in Medicaid, although they may move into Medicaid if a factor affecting their eligibility changes. We elected to exclude from Mini-MAX any children who were enrolled only in S-CHIP during the year. In addition to falling outside of the four eligibility groups, only about half of S-CHIP

enrollees currently are represented in MAX, which limits the analytic value of their data. While a majority of the states that have S-CHIP programs submit their S-CHIP records to MSIS, most of the states with the largest S-CHIP enrollments do not.

For calendar year 2008, there were 63.8 million MAX PS records (Table V.1). Records with S-CHIP enrollment only numbered 1.1 million, while records with claims but no enrollment numbered 0.8 million. After excluding these records, the MAX records eligible for selection into Mini-MAX—those with any Medicaid enrollment during the year—totaled 61.9 million.

Table V.1. MAX Records by Medicaid Enrollment, 2008

Type of Record	Number of Records	Percent of Total
Total MAX records, 2008	63,842,647	100.00
Persons ever enrolled in Medicaid in 2008	61,913,685	96.98
Persons enrolled only in S-CHIP in 2008	1,102,930	1.73
Claims with no enrollment data	826,032	1.29

While the overall sampling rate for Mini-MAX was fixed at five percent, the resemblance to the Medicare samples ends there. The Medicare samples are drawn without stratification, using subsets of SSNs that occur on five percent of Medicare records. If a record has one of the designated SSNs, it is selected. For the Mini-MAX sample, stratification is considered an essential part of the design. The purpose of stratification is to control the composition of a sample, rather than leave the composition to chance. This can mean simply ensuring that the representation of key subgroups in the sample is consistent with their representation in the population. Without stratification, the sample counts for subpopulations could deviate from their expected values because of the randomness of sample selection.[15] If a sample is sufficiently large (and five percent of 62 million Medicaid enrollees is indeed a large sample), stratification may not be necessary to ensure that the sample's representation of key subgroups reflects the population. With a sample size in the millions, the odds that key subpopulations will end up with samples that deviate more than marginally from their expected shares are exceedingly low.

However stratification also may be applied to *change* the relative sizes of particular subgroups in the sample—in particular, to increase the sample sizes for small subpopulations while reducing the sample sizes for much larger subpopulations. Such "oversampling" of small subpopulations may be done to improve the statistical precision of comparisons across subpopulations or estimates within subpopulations. Selective oversampling also may be used to increase the precision of estimates of key variables for the population as a whole if small subpopulations account for disproportionate shares of these variables or exhibit especially wide variation (for example, expenditures distributed over a broad range).

[15] For example, if a subpopulation represents 10 percent of the population, and we draw a sample of 10,000 from the population, then the expected sample count for the subpopulation is 1,000, but the actual sample count for a given random sample could be higher or lower.

In developing the sample design for Mini-MAX, we stratified by state and the BOE for Medicaid. Stratification along both dimensions was recommended by the technical expert panel (TEP) that Mathematica convened to help assess the feasibility of developing a sample from MAX data (Wenzlow et al. 2010). Below, we discuss the rationale and provide details on implementation for these two dimensions of stratification in turn, followed by a review of how the design of the sample enhances its ability to support estimates of characteristics of the Medicaid population.

2. Stratification by State

Table V.2 lists the states in order of their Medicaid enrollment in 2008, from smallest to largest. The largest state, California, had more than twice the Medicaid enrollment of the next largest state, New York, and more than 100 times the Medicaid enrollment of the two states with the lowest enrollment, North Dakota and Wyoming. If all of the states were sampled at a uniform five percent rate, North Dakota and Wyoming would end up with fewer than 4,000 Mini-MAX records, while California would have more than 500,000. Underscoring the difference in size between the smallest and largest states, a five percent sample of California's Medicaid population would exceed the total Medicaid enrollment in each of the two smallest states by more than seven times.

If Mini-MAX were to be used solely for cross-state or state-level analysis, then the most appropriate sample design would involve drawing equal-sized samples from all 50 states and the District of Columbia (the "51 states" hereafter). With such a design, each state's sample would number 60,700 records—derived by dividing 3.1 million records (five percent of 61.9 million) by 51. Actually, Mini-MAX must support national as well as state estimates and, given the availability of MAX for researchers who want to conduct state-level analysis, national-level estimates could prove especially popular among Mini-MAX users. Recognizing the wide range of potential applications of Mini-MAX, the TEP recommended that smaller states be sampled at higher rates than larger states but that larger states still be given numerically larger samples.

To implement this recommendation, we sampled the smallest states at a rate of 20.0 percent (or four times the overall average sampling rate of 5 percent) and California at 3.0 percent. Sampling rates for the remaining states fell between these two values. The 14 states with Medicaid enrollment between one million and 2.5 million were sampled at the national average rate of 5 percent. The four states besides California with Medicaid enrollment in excess of 2.5 million were sampled at a rate of 4.5 percent. The remaining states, which had Medicaid enrollment between 100,000 and one million, were sampled at rates between 15.0 percent and 5.5 percent. State sample sizes ranged from just under 15,000 for North Dakota to nearly 326,000 for California. The median sample size was 44,514 (Oklahoma), and 35 states had samples that ranged from half to twice that large. In other words, most of the state samples fell within a relatively narrow range.

Table V.2. Sampling Rates and Sample Sizes by State: Mini-MAX Sample Design

State	Total Medicaid Enrollees	Mini-MAX Sampling Rate	Comparative Sample Sizes: With 5% Sampling Rate	Comparative Sample Sizes: With Mini-MAX Rates
United States	**61,913,685**	**0.050**	**3,095,682**	**3,095,638**
North Dakota	74,633	0.200	3,732	14,927
Wyoming	78,139	0.200	3,907	15,628
Montana	110,489	0.150	5,524	16,573
Alaska	127,790	0.140	6,390	17,891
South Dakota	134,253	0.140	6,713	18,795
New Hampshire	150,501	0.130	7,525	19,565
Vermont	171,664	0.125	8,583	21,458
District of Columbia	172,321	0.125	8,616	21,540
Delaware	197,291	0.115	9,865	22,688
Rhode Island	213,478	0.110	10,674	23,483
Idaho	229,408	0.105	11,470	24,088
Hawaii	243,986	0.100	12,199	24,399
Nebraska	264,933	0.095	13,247	25,169
Nevada	277,596	0.095	13,880	26,372
Utah	297,858	0.090	14,893	26,807
Maine	356,546	0.080	17,827	28,524
Kansas	358,828	0.080	17,941	28,706
West Virginia	403,443	0.075	20,172	30,258
Iowa	496,433	0.065	24,822	32,268
Oregon	533,443	0.065	26,672	34,674
New Mexico	561,762	0.065	28,088	36,515
Connecticut	562,169	0.065	28,108	36,541
Colorado	581,888	0.065	29,094	37,823
Mississippi	740,200	0.055	37,010	40,711
Arkansas	766,658	0.055	38,333	42,166
Oklahoma	809,349	0.055	40,467	44,514
Minnesota	825,263	0.055	41,263	45,389
Kentucky	897,940	0.055	44,897	49,387
Maryland	898,938	0.055	44,947	49,442
South Carolina	915,681	0.055	45,784	50,362
Alabama	916,430	0.055	45,822	50,404
Virginia	947,906	0.055	47,395	52,135
Missouri	1,073,088	0.050	53,654	53,654
Wisconsin	1,104,941	0.050	55,247	55,247
Indiana	1,137,841	0.050	56,892	56,892
New Jersey	1,150,972	0.050	57,549	57,549
Washington	1,193,923	0.050	59,696	59,696
Louisiana	1,203,515	0.050	60,176	60,176
Tennessee	1,512,449	0.050	75,622	75,622
Massachusetts	1,570,304	0.050	78,515	78,515
Arizona	1,604,081	0.050	80,204	80,204
Georgia	1,732,419	0.050	86,621	86,621
North Carolina	1,781,048	0.050	89,052	89,052
Michigan	2,026,820	0.050	101,341	101,341
Ohio	2,199,104	0.050	109,955	109,955
Pennsylvania	2,224,698	0.050	111,235	111,235
Illinois	2,650,265	0.045	132,513	119,262
Florida	3,096,697	0.045	154,835	139,351
Texas	4,375,057	0.045	218,753	196,878
New York	5,093,922	0.045	254,696	229,226
California	10,865,324	0.030	543,266	325,960

3. Stratification by Basis of Eligibility (BOE)

The TEP recommended stratifying by the four major BOE groups—aged, disabled, child, and adult—with higher sampling rates for groups eligible on the basis of being aged or disabled, which are smaller than the child and adult subpopulations but have much heavier utilization of health care and thus incur higher expenditures for the Medicaid program.[16] To these four strata we added a fifth—persons eligible only for restricted benefits. To create this fifth stratum, we removed all persons eligible only for restricted benefits from the other four strata. Their relative numbers and the benefits for which they qualified vary by state, but their average expenditures tended to be lower than those of enrollees eligible for full benefits. In Alaska in 2008, there were just over 300 enrollees with restricted benefits, but California had 3.5 million, which exceeded the number of enrollees in three of the four eligibility groups with full benefits in the state. The large number of enrollees with restricted benefits in California and selected other states, and the limited services for which they qualified (most of those in California were eligible only for family planning services), meant that we could allot more samples to other types of enrollees—which had more analytic value—by sampling restricted beneficiaries at lower rates.

Nationally, nondisabled children with full benefits were the most numerous subgroup among Medicaid enrollees, accounting for 30.0 million of the 61.9 million persons who were ever enrolled in 2008 (Table V.3). Nondisabled adults with full benefits were the second largest subgroup, with 11.7 million enrollees. Most of the 7.0 million enrollees with restricted benefits also were adults. Enrollees eligible on the basis of disability with full benefits numbered 9.0 million, while the aged totaled 4.2 million. Thus among full-benefit enrollees, children were three times as numerous as enrollees with disabilities and more than seven times as numerous as aged enrollees. These relative numbers varied by state, however. In Vermont, for example, adults were nearly as numerous as children.

Table V.4 compares the five subpopulations with respect to annual Medicaid expenditures—in total and by source. Enrollees eligible on the basis of disability and with full benefits accounted for $131.7 billion, or 45 percent of the $293.2 billion total. Together, aged and child enrollees with full benefits accounted for somewhat less than enrollees with disabilities, at $61.9 billion and $58.5 billion respectively. Adult enrollees with full benefits generated an additional $36.6 billion in expenditures, while enrollees with restricted benefits only accounted for the remaining $4.5 billion. Enrollees eligible on the basis of disability dominated FFS expenditures for inpatient, prescription drug, and all other services except long-term care; in this category of expenditures, the aged accounted for more than half of the total. Children accounted for the largest share of HMO expenditures, followed by adults and enrollees with disabilities.

[16] The aged are 65 and older, while the disabled are generally under 65 (they convert to aged at 65). The child and adult subpopulations exclude the disabled, and children are defined as under 19 in most states.

Table V.3. Population Counts of 2008 MAX Records Eligible for Selection into Mini-MAX

State	Total	Full-Benefit Enrollees				Restricted Benefits
		Aged	Disabled	Child	Adult	
United States	**61,913,685**	**4,183,255**	**8,981,834**	**30,014,300**	**11,728,895**	**7,005,401**
Alabama	916,430	34,606	184,239	446,665	70,047	180,873
Alaska	127,790	7,120	16,415	76,710	27,239	306
Arizona	1,604,081	63,532	139,129	692,766	535,315	173,339
Arkansas	766,658	46,284	109,295	433,742	53,151	124,186
California	10,865,324	761,969	1,173,795	3,969,465	1,423,353	3,536,742
Colorado	581,888	45,805	83,969	337,804	88,066	26,244
Connecticut	562,169	50,931	62,945	291,618	134,255	22,420
Delaware	197,291	6,734	18,266	82,163	66,788	23,340
District of Columbia	172,321	9,747	37,820	81,519	38,324	4,911
Florida	3,096,697	228,048	470,934	1,557,166	549,033	291,516
Georgia	1,732,419	70,485	264,294	994,335	273,757	129,548
Hawaii	243,986	21,325	25,043	113,029	81,877	2,712
Idaho	229,408	12,124	34,147	145,335	28,915	8,887
Illinois	2,650,265	133,602	345,485	1,481,223	633,667	56,288
Indiana	1,137,841	66,321	135,397	658,031	230,427	47,665
Iowa	496,433	34,312	70,539	236,604	114,804	40,174
Kansas	358,828	28,809	63,993	200,007	50,124	15,895
Kentucky	897,940	61,768	194,046	440,489	136,442	65,195
Louisiana	1,203,515	64,167	177,827	700,285	143,627	117,609
Maine	356,546	27,572	54,244	132,058	104,998	37,674
Maryland	898,938	40,841	130,452	502,323	153,194	72,128
Massachusetts	1,570,304	141,954	253,603	508,249	418,386	248,112
Michigan	2,026,820	126,332	309,761	1,077,968	420,236	92,523
Minnesota	825,263	86,618	117,788	395,267	178,427	47,163
Mississippi	740,200	39,512	143,045	367,051	86,948	103,644
Missouri	1,073,088	87,342	189,902	598,234	170,679	26,931
Montana	110,489	8,104	19,882	60,145	20,433	1,925
Nebraska	264,933	21,401	35,167	162,095	42,781	3,489
Nevada	277,596	15,048	33,004	155,053	50,644	23,847
New Hampshire	150,501	11,759	21,983	89,922	20,432	6,405
New Jersey	1,150,972	108,088	186,500	591,833	223,635	40,916
New Mexico	561,762	16,449	63,132	322,534	116,492	43,155
New York	5,093,922	396,782	747,285	1,959,476	1,813,435	176,944
North Carolina	1,781,048	149,169	285,728	946,781	291,135	108,235
North Dakota	74,633	7,150	9,912	38,393	15,810	3,368
Ohio	2,199,104	138,443	342,403	1,168,441	473,410	76,407
Oklahoma	809,349	55,023	110,523	490,796	104,621	48,386
Oregon	533,443	37,524	75,604	257,051	106,844	56,420
Pennsylvania	2,224,698	201,674	526,887	1,003,571	391,540	101,026
Rhode Island	213,478	16,443	43,127	96,235	51,765	5,908
South Carolina	915,681	66,720	152,051	477,200	143,787	75,923
South Dakota	134,253	6,963	16,588	83,481	20,458	6,763
Tennessee	1,512,449	55,243	332,925	751,038	300,886	72,357
Texas	4,375,057	316,491	526,363	2,716,924	539,762	275,517
Utah	297,858	13,236	38,252	164,094	74,909	7,367
Vermont	171,664	9,212	22,196	65,547	63,718	10,991
Virginia	947,906	73,789	146,898	531,143	129,762	66,314
Washington	1,193,923	74,871	172,461	655,056	180,584	110,951
West Virginia	403,443	22,912	101,771	191,174	58,868	28,718
Wisconsin	1,104,941	59,194	155,821	465,631	270,454	153,841
Wyoming	78,139	3,707	8,998	50,580	10,651	4,203

Table V.4. Medicaid Expenditures for the Nation ($1,000s) by Source and Eligibility Group, 2008

		Full-Benefit Enrollees				
Source of Expenditures	Total	Aged	Disabled	Child	Adult	Restricted Benefits
Total expenditures	293,154,494	61,857,403	131,674,615	58,515,909	36,561,393	4,545,172
Inpatient FFS expenditures	33,895,166	1,759,274	16,463,710	7,435,113	6,069,320	2,167,749
Prescription drug FFS expenditures	24,303,484	762,081	14,702,716	5,039,197	3,435,458	364,032
Long-term care FFS expenditures	62,290,586	37,497,211	23,364,072	1,288,670	105,671	34,963
All other FFS expenditures	103,714,600	16,599,646	57,901,807	18,727,277	8,523,852	1,962,017
HMO expenditures	60,475,668	4,502,070	15,739,962	23,215,024	17,006,686	11,925
Other managed care expenditures	8,474,990	737,121	3,502,348	2,810,628	1,420,406	4,486

With their high aggregate expenditures and small numbers, the aged and those with disabilities incurred much higher costs per enrollee than either children or adults. Per-capita expenditures for aged enrollees were $14,787 in 2008, while those for enrollees eligible on the basis of disability were only marginally lower, at $14,660 (Table V.5).[17] By contrast, per-capita expenditures for adults and children were $3,117 and $1,950, respectively. Enrollees with restricted benefits had per-capita expenditures of just $649. Expenditures varied over a wide range by state, but in many states the expenditures for aged and enrollees with disabilities were similar to each other, as were those for children and adults. In no state (besides Maine, where the claims data in MAX are incomplete for 2008) did per-capita expenditures for children and adults approach those for individuals eligible on the basis of being aged or disabled. Per-capita expenditures for enrollees with restricted benefits were generally below $500, but in 11 states they exceeded $1,000, with the District of Columbia having the highest, at $8,503. In five of these states, enrollees with restricted benefits only had higher per-capita costs than children, and in two of these states their per-capita costs exceeded those of adults as well. Excluding Maine, California had the lowest per-capita expenditures overall, at just above $3,000, and was among the lowest for every subgroup. The District of Columbia had the highest overall, at $9,750, followed by New York, at $8,279.

While state sample size has a direct effect on the precision of sample estimates, how we distribute the sample across the five subgroups also affects precision. For any given measure, there is an optimum distribution of each state's sample across the five subgroups. This optimum allocation maximizes the precision of the estimated statistic (minimizes its sampling error). The allocation formula takes into account the variability of the measure within each eligibility group (or stratum) and the size of the stratum population. Larger samples are allocated to strata with greater dispersion on the measure of interest and larger populations.

[17] Per-capita expenditures refer to expenditures per enrollee and were calculated by dividing total expenditures by the corresponding number of enrollees.

Table V.5. Total Expenditures Per Capita by Eligibility Group, 2008[a]

State	Total	Full-Benefit Enrollees				Restricted Benefits
		Aged	Disabled	Child	Adult	
United States	**4,735**	**14,787**	**14,660**	**1,950**	**3,117**	**649**
Alabama	3,682	19,568	8,047	2,108	3,066	322
Alaska	7,648	20,742	23,251	3,971	5,262	290
Arizona	4,759	12,346	16,300	2,453	4,583	2,478
Arkansas	4,306	16,074	12,865	2,030	2,694	1,025
California	3,012	8,819	13,379	1,469	1,870	510
Colorado	5,024	15,944	15,530	1,795	2,603	2,026
Connecticut	6,932	28,965	27,752	1,507	1,719	212
Delaware	5,894	28,205	22,300	2,603	5,040	649
District of Columbia	9,750	29,700	25,536	2,819	4,002	8,503
Florida	4,062	12,278	11,956	1,608	2,719	518
Georgia	3,974	14,707	10,216	1,870	4,344	766
Hawaii	4,257	11,765	13,564	1,680	3,145	249
Idaho	5,508	17,918	18,787	1,892	4,376	369
Illinois	3,763	10,156	14,461	1,578	1,977	525
Indiana	4,464	17,221	16,490	1,658	2,592	340
Iowa	5,359	17,399	18,755	1,873	2,446	411
Kansas	6,143	17,306	16,683	2,224	3,599	822
Kentucky	5,662	16,054	11,765	2,625	4,552	489
Louisiana	4,210	14,150	14,039	1,599	3,525	310
Maine[b]	591	125	1,791	288	685	5
Maryland	6,416	24,604	21,700	2,439	3,883	1,554
Massachusetts	5,653	16,947	14,550	3,083	2,841	106
Michigan	3,460	11,179	9,201	1,403	2,887	265
Minnesota	7,723	16,953	26,330	2,909	3,578	327
Mississippi	4,183	18,193	9,619	1,739	3,655	434
Missouri	5,019	12,519	12,535	2,376	2,841	212
Montana	5,935	20,261	13,311	2,470	3,813	236
Nebraska	5,634	16,174	17,640	2,436	3,062	60
Nevada	4,076	13,040	15,442	1,966	1,883	1,062
New Hampshire	6,294	20,705	17,614	2,791	3,140	228
New Jersey	6,733	19,885	19,286	2,026	3,388	1,153
New Mexico	4,890	14,136	17,810	2,660	4,354	576
New York	8,279	25,481	26,923	2,294	3,853	2,607
North Carolina	5,082	11,522	14,399	2,186	3,771	477
North Dakota	7,398	24,987	24,079	2,233	3,051	252
Ohio	5,594	22,036	16,843	1,707	3,058	543
Oklahoma	4,192	11,766	12,861	2,029	2,957	389
Oregon	4,821	14,379	13,603	2,024	4,203	604
Pennsylvania	5,978	16,458	11,199	2,518	3,905	229
Rhode Island	7,394	21,550	18,155	2,880	3,079	772
South Carolina	3,948	9,473	10,217	1,888	3,481	363
South Dakota	5,004	18,627	17,119	2,179	3,485	727
Tennessee	4,099	15,886	8,847	1,862	3,182	275
Texas	3,925	10,254	12,794	2,091	2,227	1,114
Utah	3,841	9,996	14,045	1,820	2,032	3,195
Vermont	5,333	18,753	15,966	2,967	2,918	721
Virginia	5,523	12,782	16,230	2,453	4,219	868
Washington	4,194	13,937	12,550	1,681	3,628	389
West Virginia	5,298	18,976	11,003	2,063	3,061	281
Wisconsin	4,226	20,827	11,529	1,465	3,028	904
Wyoming	6,612	26,530	24,803	2,679	4,624	2,466

[a] Per capita expenditures refer to expenditures per enrollee and were calculated by dividing total expenditures by the corresponding number of enrollees.

[b] Maine was unable to report its inpatient, long-term care, and other services claims accurately, as it did not have a fully functional MMIS. Maine's total expenditures per capita thus reflect only prescription drug services.

In developing the state sample allocations by eligibility group, we calculated optimum allocations for a number of different measures of expenditures and enrollee characteristics, with the intent of averaging them. Based on our findings, however, we chose to use a single measure—total expenditures—as the basis for allocating the state samples. Total expenditures are applicable to all states and subgroups, whereas individual sources of expenditures have more limited relevance, which distorts the allocations. Even with total expenditures, we found it necessary to address some anomalies in the data—including excessive per-capita expenditures for restricted benefits in a handful of states and the limited expenditure data provided by Maine. In each case, we substituted data from other states to produce the final allocation.[18]

Table V.6 shows the actual percentage distribution of state Medicaid populations by eligibility group and restricted benefit status (derived from Table V.3), and Table V.7 shows the percentage distributions we obtained by optimizing the sample with respect to total expenditures. Comparing the two tables, we see that with the optimum allocations, the aged share of the sample is nearly doubled relative to the actual distribution of enrollees, while the disabled share is tripled. Conversely, the child share is reduced by more than a third, while the adult share is cut in half. The share allotted to enrollees with restricted benefits is reduced by nearly three-quarters.

We report final sample counts by state and eligibility group in Table V.8, and in Table V.9 give the sampling rates obtained by dividing these sample counts by the population counts reported in Table V.3. Enrollees eligible on the basis of disability with full benefits were sampled at a rate of 14.9 percent, or nearly three times the national average rate of 5.0 percent. Aged enrollees with full benefits were sampled at a rate of 9.5 percent, or nearly twice the national average rate. Children with full benefits were sampled at a rate of 3.2 percent, and adults with full benefits were sampled at 2.5 percent, or just half of the national average rate. Finally, enrollees with restricted benefits were sampled at just 1.3 percent—well below the national average rate.

Differences among the states are striking in some places, but the most extreme sampling rates were confined to the smallest states, where rates were comparatively high overall.

4. Statistical Properties of the Sample

As explained previously, the purpose of stratification with differential sampling rates by state and eligibility group was to improve the analytic usefulness of the Mini-MAX sample for within-state and comparative cross-state research. We can measure the improvement relative to a uniform five percent sample from each state by comparing state estimates of total Medicaid expenditures; we also can compare alternative designs as to the amount of error introduced by sampling.

[18] For six states, we substituted the standard deviation of total expenditures among restricted-benefit enrollees in six other states that had similar standard deviations for the other four strata and similar distributions of enrollees across all five strata. For Maine, which has no data on total expenditures in MAX, we substituted Vermont's sample allocation.

Table V.6. Distribution of State Medicaid Populations by Eligibility Group and Restricted Benefit Status (%)

State	Full-Benefit Enrollees				Restricted Benefits
	Aged	Disabled	Child	Adult	
United States	**6.76**	**14.51**	**48.48**	**18.94**	**11.31**
Alabama	3.78	20.10	48.74	7.64	19.74
Alaska	5.57	12.85	60.03	21.32	0.24
Arizona	3.96	8.67	43.19	33.37	10.81
Arkansas	6.04	14.26	56.58	6.93	16.20
California	7.01	10.80	36.53	13.10	32.55
Colorado	7.87	14.43	58.05	15.13	4.51
Connecticut	9.06	11.20	51.87	23.88	3.99
Delaware	3.41	9.26	41.65	33.85	11.83
District of Columbia	5.66	21.95	47.31	22.24	2.85
Florida	7.36	15.21	50.28	17.73	9.41
Georgia	4.07	15.26	57.40	15.80	7.48
Hawaii	8.74	10.26	46.33	33.56	1.11
Idaho	5.28	14.88	63.35	12.60	3.87
Illinois	5.04	13.04	55.89	23.91	2.12
Indiana	5.83	11.90	57.83	20.25	4.19
Iowa	6.91	14.21	47.66	23.13	8.09
Kansas	8.03	17.83	55.74	13.97	4.43
Kentucky	6.88	21.61	49.06	15.20	7.26
Louisiana	5.33	14.78	58.19	11.93	9.77
Maine	7.73	15.21	37.04	29.45	10.57
Maryland	4.54	14.51	55.88	17.04	8.02
Massachusetts	9.04	16.15	32.37	26.64	15.80
Michigan	6.23	15.28	53.19	20.73	4.56
Minnesota	10.50	14.27	47.90	21.62	5.71
Mississippi	5.34	19.33	49.59	11.75	14.00
Missouri	8.14	17.70	55.75	15.91	2.51
Montana	7.33	17.99	54.44	18.49	1.74
Nebraska	8.08	13.27	61.18	16.15	1.32
Nevada	5.42	11.89	55.86	18.24	8.59
New Hampshire	7.81	14.61	59.75	13.58	4.26
New Jersey	9.39	16.20	51.42	19.43	3.55
New Mexico	2.93	11.24	57.41	20.74	7.68
New York	7.79	14.67	38.47	35.60	3.47
North Carolina	8.38	16.04	53.16	16.35	6.08
North Dakota	9.58	13.28	51.44	21.18	4.51
Ohio	6.30	15.57	53.13	21.53	3.47
Oklahoma	6.80	13.66	60.64	12.93	5.98
Oregon	7.03	14.17	48.19	20.03	10.58
Pennsylvania	9.07	23.68	45.11	17.60	4.54
Rhode Island	7.70	20.20	45.08	24.25	2.77
South Carolina	7.29	16.61	52.11	15.70	8.29
South Dakota	5.19	12.36	62.18	15.24	5.04
Tennessee	3.65	22.01	49.66	19.89	4.78
Texas	7.23	12.03	62.10	12.34	6.30
Utah	4.44	12.84	55.09	25.15	2.47
Vermont	5.37	12.93	38.18	37.12	6.40
Virginia	7.78	15.50	56.03	13.69	7.00
Washington	6.27	14.44	54.87	15.13	9.29
West Virginia	5.68	25.23	47.39	14.59	7.12
Wisconsin	5.36	14.10	42.14	24.48	13.92
Wyoming	4.74	11.52	64.73	13.63	5.38

Table V.7. Allocation of State Samples by Eligibility Group and Restricted Benefit Status Based on Total Expenditures (%)

	Full-Benefit Enrollees				
State	Aged	Disabled	Child	Adult	Restricted Benefits
United States	**12.75**	**43.40**	**31.39**	**9.57**	**2.89**
Alabama	11.67	55.18	27.38	3.23	2.54
Alaska	10.58	31.07	47.15	11.18	0.02
Arizona	6.19	33.78	34.71	23.48	1.84
Arkansas	13.03	40.18	39.41	2.86	4.52
California	13.43	42.57	24.61	7.79	11.61
Colorado	15.95	38.85	37.21	7.16	0.82
Connecticut	20.89	39.24	32.44	7.20	0.23
Delaware	12.28	40.63	22.35	21.18	3.56
District of Columbia	12.94	54.35	23.85	8.17	0.69
Florida	14.06	40.84	33.81	8.77	2.52
Georgia	8.86	44.89	33.33	10.17	2.76
Hawaii	25.51	39.49	18.27	16.21	0.52
Idaho	10.28	38.98	42.57	7.75	0.42
Illinois	6.43	31.56	47.88	13.29	0.84
Indiana	14.35	45.79	31.82	6.04	2.00
Iowa	11.54	46.63	27.67	13.22	0.93
Kansas	10.95	45.90	37.34	4.77	1.05
Kentucky	13.41	46.25	30.18	8.47	1.68
Louisiana	10.45	50.10	30.79	7.30	1.37
Maine[a]	10.87	34.98	33.49	19.87	0.80
Maryland	10.10	39.50	36.75	9.62	4.02
Massachusetts	21.52	48.83	15.38	11.92	2.35
Michigan	14.26	36.71	31.82	15.69	1.52
Minnesota	15.87	45.61	29.97	7.74	0.81
Mississippi	12.81	47.23	31.83	6.27	1.86
Missouri	10.82	44.18	40.47	4.33	0.20
Montana	11.37	42.04	35.32	11.17	0.10
Nebraska	8.02	21.80	64.78	5.29	0.11
Nevada	9.76	35.51	47.14	6.01	1.56
New Hampshire	13.02	35.89	44.31	6.58	0.21
New Jersey	18.40	44.50	29.99	6.26	0.85
New Mexico	5.54	38.14	44.58	9.88	1.86
New York	14.89	53.00	14.84	14.55	2.73
North Carolina	16.46	39.93	32.55	10.11	0.95
North Dakota	17.74	38.24	32.89	10.89	0.24
Ohio	13.34	45.76	34.15	6.21	0.55
Oklahoma	8.69	45.29	39.13	6.01	0.88
Oregon	16.82	40.73	27.59	11.91	2.95
Pennsylvania	22.90	47.94	18.36	9.91	0.89
Rhode Island	15.13	54.17	24.39	4.97	1.35
South Carolina	13.34	40.95	33.15	10.64	1.92
South Dakota	7.11	34.31	49.36	8.32	0.90
Tennessee	7.58	57.94	23.16	10.42	0.89
Texas	9.93	37.97	43.90	4.54	3.66
Utah	6.54	31.01	49.88	10.69	1.88
Vermont	10.87	34.98	33.49	19.87	0.80
Virginia	13.76	40.05	38.40	5.27	2.52
Washington	7.43	58.48	25.35	5.99	2.75
West Virginia	11.98	47.25	34.93	4.73	1.11
Wisconsin	11.60	50.94	21.78	11.37	4.31
Wyoming	7.81	33.71	46.68	8.37	3.43

[a] Vermont's allocation was substituted for that of Maine, which lacked data on total expenditures; see the text.

Table V.8. Sample Counts for Mini-MAX Sample[a]

State	Full-Benefit Enrollees					Restricted Benefits
	Total	Aged	Disabled	Child	Adult	
United States	**3,095,641**	**397,230**	**1,341,248**	**973,287**	**294,652**	**89,224**
Alabama	50,404	5,881	27,812	13,803	1,630	1,278
Alaska	17,898	1,893	5,558	8,436	2,000	11
Arizona	80,204	4,964	27,095	27,841	18,832	1,472
Arkansas	42,167	5,496	16,942	16,618	1,207	1,904
California	325,960	43,770	138,757	80,219	25,385	37,829
Colorado	37,824	6,033	14,696	14,074	2,710	311
Connecticut	36,540	7,634	14,337	11,852	2,632	85
Delaware	22,688	2,787	9,217	5,071	4,806	807
District of Columbia	21,540	2,787	11,708	5,138	1,759	148
Florida	139,351	19,597	56,906	47,120	12,223	3,505
Georgia	86,621	7,671	38,880	28,867	8,813	2,390
Hawaii	24,399	6,225	9,635	4,457	3,956	126
Idaho	24,087	2,476	9,390	10,255	1,866	100
Illinois	119,262	7,670	37,636	57,105	15,847	1,004
Indiana	56,892	8,165	26,052	18,101	3,437	1,137
Iowa	32,267	3,725	15,046	8,929	4,266	301
Kansas	28,706	3,143	13,176	10,718	1,369	300
Kentucky	49,387	6,624	22,841	14,907	4,185	830
Louisiana	60,176	6,286	30,150	18,526	4,392	822
Maine	28,523	3,100	9,976	9,552	5,668	227
Maryland	49,442	4,995	19,528	18,172	4,758	1,989
Massachusetts	78,514	16,900	38,336	12,077	9,359	1,842
Michigan	101,341	14,456	37,203	32,242	15,897	1,543
Minnesota	45,389	7,204	20,704	13,601	3,511	369
Mississippi	40,712	5,214	19,230	12,960	2,551	757
Missouri	53,655	5,807	23,703	21,715	2,324	106
Montana	16,573	1,885	6,967	5,854	1,851	16
Nebraska	25,169	2,019	5,487	16,304	1,331	28
Nevada	26,372	2,575	9,366	12,433	1,586	412
New Hampshire	19,566	2,547	7,022	8,669	1,287	41
New Jersey	57,549	10,591	25,609	17,259	3,603	487
New Mexico	36,514	2,022	13,928	16,277	3,608	679
New York	229,226	34,123	121,486	34,017	33,347	6,253
North Carolina	89,051	14,656	35,559	28,983	9,007	846
North Dakota	14,927	2,648	5,708	4,909	1,626	36
Ohio	109,955	14,664	50,310	37,549	6,826	606
Oklahoma	44,513	3,867	20,160	17,419	2,674	393
Oregon	34,674	5,832	14,121	9,568	4,130	1,023
Pennsylvania	111,235	25,471	53,322	20,427	11,021	994
Rhode Island	23,483	3,552	12,720	5,728	1,167	316
South Carolina	50,362	6,718	20,624	16,697	5,357	966
South Dakota	18,796	1,336	6,448	9,278	1,564	170
Tennessee	75,622	5,732	43,817	17,517	7,882	674
Texas	196,877	19,543	74,760	86,435	8,930	7,209
Utah	26,808	1,753	8,313	13,371	2,866	505
Vermont	21,458	2,332	7,505	7,186	4,264	171
Virginia	52,134	7,174	20,881	20,021	2,745	1,313
Washington	59,696	4,434	34,912	15,133	3,575	1,642
West Virginia	30,258	3,625	14,297	10,570	1,430	336
Wisconsin	55,247	6,408	28,144	12,032	6,284	2,379
Wyoming	15,627	1,220	5,268	7,295	1,308	536

[a] To protect privacy, state counts representing fewer than 11 people were recoded to 11 for the state count and associated totals.

Table V.9. Mini-MAX Sampling Rates by State and Eligibility Group

	Full-Benefit Enrollees					
State	Total	Aged	Disabled	Child	Adult	Restricted Benefits
United States	**0.050**	**0.095**	**0.149**	**0.032**	**0.025**	**0.013**
Alabama	0.055	0.170	0.151	0.031	0.023	0.007
Alaska	0.140	0.266	0.339	0.110	0.073	0.013
Arizona	0.050	0.078	0.195	0.040	0.035	0.008
Arkansas	0.055	0.119	0.155	0.038	0.023	0.015
California	0.030	0.057	0.118	0.020	0.018	0.011
Colorado	0.065	0.132	0.175	0.042	0.031	0.012
Connecticut	0.065	0.150	0.228	0.041	0.020	0.004
Delaware	0.115	0.414	0.505	0.062	0.072	0.035
District of Columbia	0.125	0.286	0.310	0.063	0.046	0.030
Florida	0.045	0.086	0.121	0.030	0.022	0.012
Georgia	0.050	0.109	0.147	0.029	0.032	0.018
Hawaii	0.100	0.292	0.385	0.039	0.048	0.046
Idaho	0.105	0.204	0.275	0.071	0.065	0.011
Illinois	0.045	0.057	0.109	0.039	0.025	0.018
Indiana	0.050	0.123	0.192	0.028	0.015	0.024
Iowa	0.065	0.109	0.213	0.038	0.037	0.007
Kansas	0.080	0.109	0.206	0.054	0.027	0.019
Kentucky	0.055	0.107	0.118	0.034	0.031	0.013
Louisiana	0.050	0.098	0.170	0.026	0.031	0.007
Maine	0.080	0.112	0.184	0.072	0.054	0.006
Maryland	0.055	0.122	0.150	0.036	0.031	0.028
Massachusetts	0.050	0.119	0.151	0.024	0.022	0.007
Michigan	0.050	0.114	0.120	0.030	0.038	0.017
Minnesota	0.055	0.083	0.176	0.034	0.020	0.008
Mississippi	0.055	0.132	0.134	0.035	0.029	0.007
Missouri	0.050	0.066	0.125	0.036	0.014	0.004
Montana	0.150	0.233	0.350	0.097	0.091	0.008
Nebraska	0.095	0.094	0.156	0.101	0.031	0.008
Nevada	0.095	0.171	0.284	0.080	0.031	0.017
New Hampshire	0.130	0.217	0.319	0.096	0.063	0.006
New Jersey	0.050	0.098	0.137	0.029	0.016	0.012
New Mexico	0.065	0.123	0.221	0.050	0.031	0.016
New York	0.045	0.086	0.163	0.017	0.018	0.035
North Carolina	0.050	0.098	0.124	0.031	0.031	0.008
North Dakota	0.200	0.370	0.576	0.128	0.103	0.011
Ohio	0.050	0.106	0.147	0.032	0.014	0.008
Oklahoma	0.055	0.070	0.182	0.035	0.026	0.008
Oregon	0.065	0.155	0.187	0.037	0.039	0.018
Pennsylvania	0.050	0.126	0.101	0.020	0.028	0.010
Rhode Island	0.110	0.216	0.295	0.060	0.023	0.053
South Carolina	0.055	0.101	0.136	0.035	0.037	0.013
South Dakota	0.140	0.192	0.389	0.111	0.076	0.025
Tennessee	0.050	0.104	0.132	0.023	0.026	0.009
Texas	0.045	0.062	0.142	0.032	0.017	0.026
Utah	0.090	0.132	0.217	0.081	0.038	0.069
Vermont	0.125	0.253	0.338	0.110	0.067	0.016
Virginia	0.055	0.097	0.142	0.038	0.021	0.020
Washington	0.050	0.059	0.202	0.023	0.020	0.015
West Virginia	0.075	0.158	0.140	0.055	0.024	0.012
Wisconsin	0.050	0.108	0.181	0.026	0.023	0.015
Wyoming	0.200	0.329	0.586	0.144	0.123	0.128

We summarize the sampling error in the form of a coefficient of variation (CV). A CV expresses the standard error of a sample estimate as a percentage of the estimate. For example, a CV of one percent on an estimated mean of $1,000 implies a standard error of just $10. CVs are useful in comparing precision across estimates with different means, which is why we use them here. Furthermore, the absolute value of the CV is informative about the degree of precision. A CV below one percent is indicative of a high level of precision, whereas a CV above 10 percent begins to raise concern about the precision of an estimate; a CV of 20 percent or more indicates a low level of precision for most purposes. Some agencies flag estimates with CVs greater than 30 percent as statistically unreliable and do not publish estimates with CVs in excess of 50 percent (National Center for Education Statistics 2011).

Table V.10 compares CVs of state and national estimates of total expenditures for the Mini-MAX sample design and two alternative designs: (1) a uniform five percent sampling rate applied to all states and (2) variable state sampling rates, using the rates reported in Table V.2. Except for the five states with Medicaid enrollment in excess of 2.5 million, the CVs obtained with variable sampling rates are less than or equal to the CVs obtained with uniform five percent sampling rates, and in all but two states (Arizona and West Virginia), the CVs obtained with the Mini-MAX design are smaller than those obtained with variable state sampling rates alone. In addition, in all but one state (Arizona), the CVs obtained with the Mini-MAX design are smaller than those obtained with a uniform five percent sample, which means that, for the five largest states, the reduction in sampling error with the optimum allocation is more than sufficient to offset the effects of a reduced state sampling rate. For the two smallest states, Wyoming and North Dakota, the reduction in sampling error between the uniform five percent sampling rate and the Mini-MAX design is about two-thirds or more. A number of other small states show reductions as large as one-half. Overall, the CVs produced for the Mini-MAX sample indicate a high-level of precision for overall expenditure estimates at the state level.

B. Using Sample Weights

Because Mini-MAX is a sample, the individual observations must be weighted to develop estimates of population totals. In addition, because the states and substrata were sampled at different rates, the observations also must be weighted when calculating means or other statistics. There is a single sample weight, which should be used to prepare estimates of the population of Medicaid enrollees at any level (national, state, or for subpopulations across or within states). Weights vary by state and, within state, by the five eligibility groups, but there is no additional variation by individual enrollee. In other words, all of the sample members from the same eligibility group and state have the same weight. The weight for a given "cell" (combination of state and eligibility group) was calculated by dividing the population total for that cell by the corresponding sample count and then rounding the result to two decimal places.

Table V.11 displays the sample weights for the 255 cells. The average weight is 20, but no individual cell has a weight of 20. Across the entire sample, the weights vary from a minimum of 1.71 (for disabled enrollees in Wyoming) to a maximum of 263.76 (for enrollees with restricted benefits in Connecticut). All of the weights for enrollees eligible on the basis of disability are below 10 (the largest is 9.88 in Pennsylvania), and all of those for aged enrollees are below 18 (the largest is Illinois at 17.42). All but two of the weights for adults are in the double digits, and all but one for enrollees with restricted benefits are in the double or triple digits. Children have a handful of weights below 10 but vary up to a maximum of 57.60 (in New York).

Table V.10. CVs (%) of State and National Estimates of Total Expenditures: Mini-MAX Sample and Alternative Designs

State	Uniform Five Percent Sample	Variable State Sampling Rates	Mini-MAX Sample Design
United States	**0.20**	**0.21**	**0.18**
Alabama	1.24	1.18	0.80
Alaska	3.60	2.05	1.69
Arizona	2.01	2.01	4.37
Arkansas	1.46	1.39	1.14
California	0.56	0.74	0.49
Colorado	1.57	1.37	1.12
Connecticut	1.84	1.60	1.07
Delaware	2.58	1.64	0.94
District of Columbia	3.30	2.00	1.60
Florida	0.77	0.82	0.63
Georgia	0.92	0.92	0.67
Hawaii	2.65	1.82	1.08
Idaho	2.57	1.72	1.33
Illinois	1.12	1.18	1.02
Indiana	1.21	1.21	0.76
Iowa	1.74	1.52	1.05
Kansas	1.92	1.49	1.15
Kentucky	1.25	1.19	0.96
Louisiana	1.35	1.35	0.90
Maine	3.85	3.00	2.43
Maryland	1.34	1.28	0.99
Massachusetts	1.02	1.02	0.68
Michigan	0.86	0.86	0.69
Minnesota	1.12	1.06	0.75
Mississippi	1.49	1.42	1.07
Missouri	1.22	1.22	0.96
Montana	3.43	1.87	1.49
Nebraska	3.30	2.34	2.17
Nevada	2.90	2.05	1.61
New Hampshire	2.72	1.61	1.29
New Jersey	1.13	1.13	0.83
New Mexico	1.32	1.15	0.83
New York	0.77	0.82	0.52
North Carolina	0.92	0.92	0.72
North Dakota	4.14	1.90	1.33
Ohio	0.79	0.79	0.56
Oklahoma	1.86	1.77	1.25
Oregon	1.30	1.13	0.82
Pennsylvania	0.60	0.60	0.46
Rhode Island	2.82	1.84	1.26
South Carolina	1.28	1.22	0.96
South Dakota	3.56	2.03	1.59
Tennessee	1.23	1.23	0.88
Texas	0.64	0.68	0.52
Utah	2.93	2.13	1.80
Vermont	2.80	1.70	1.30
Virginia	1.16	1.10	0.86
Washington	2.29	2.29	1.36
West Virginia	1.91	1.54	1.58
Wisconsin	1.50	1.50	0.96
Wyoming	5.05	2.32	1.75

Table V.11. Mini-MAX Sample Weights by State and Eligibility Group

	Full-Benefit Enrollees				
State	Aged	Disabled	Child	Adult	Restricted Benefits
Alabama	5.88	6.62	32.36	42.97	141.53
Alaska	3.76	2.95	9.09	13.62	76.50
Arizona	12.80	5.13	24.88	28.43	117.76
Arkansas	8.42	6.45	26.10	44.04	65.22
California	17.41	8.46	49.48	56.07	93.49
Colorado	7.59	5.71	24.00	32.50	84.39
Connecticut	6.67	4.39	24.60	51.01	263.76
Delaware	2.42	1.98	16.20	13.90	28.92
District of Columbia	3.50	3.23	15.87	21.79	33.18
Florida	11.64	8.28	33.05	44.92	83.17
Georgia	9.19	6.80	34.45	31.06	54.20
Hawaii	3.43	2.60	25.36	20.70	21.52
Idaho	4.90	3.64	14.17	15.50	88.87
Illinois	17.42	9.18	25.94	39.99	56.06
Indiana	8.12	5.20	36.35	67.04	41.92
Iowa	9.21	4.69	26.50	26.91	133.47
Kansas	9.17	4.86	18.66	36.61	52.98
Kentucky	9.32	8.50	29.55	32.60	78.55
Louisiana	10.21	5.90	37.80	32.70	143.08
Maine	8.89	5.44	13.83	18.52	165.96
Maryland	8.18	6.68	27.64	32.20	36.26
Massachusetts	8.40	6.62	42.08	44.70	134.70
Michigan	8.74	8.33	33.43	26.43	59.96
Minnesota	12.02	5.69	29.06	50.82	127.81
Mississippi	7.58	7.44	28.32	34.08	136.91
Missouri	15.04	8.01	27.55	73.44	254.07
Montana	4.30	2.85	10.27	11.04	120.31
Nebraska	10.60	6.41	9.94	32.14	124.61
Nevada	5.84	3.52	12.47	31.93	57.88
New Hampshire	4.62	3.13	10.37	15.88	156.22
New Jersey	10.21	7.28	34.29	62.07	84.02
New Mexico	8.14	4.53	19.82	32.29	63.56
New York	11.63	6.15	57.60	54.38	28.30
North Carolina	10.18	8.04	32.67	32.32	127.94
North Dakota	2.70	1.74	7.82	9.72	93.56
Ohio	9.44	6.81	31.12	69.35	126.08
Oklahoma	14.23	5.48	28.18	39.13	123.12
Oregon	6.43	5.35	26.87	25.87	55.15
Pennsylvania	7.92	9.88	49.13	35.53	101.64
Rhode Island	4.63	3.39	16.80	44.36	18.70
South Carolina	9.93	7.37	28.58	26.84	78.60
South Dakota	5.21	2.57	9.00	13.08	39.78
Tennessee	9.64	7.60	42.87	38.17	107.35
Texas	16.19	7.04	31.43	60.44	38.22
Utah	7.55	4.60	12.27	26.14	14.59
Vermont	3.95	2.96	9.12	14.94	64.27
Virginia	10.29	7.04	26.53	47.27	50.51
Washington	16.89	4.94	43.29	50.51	67.57
West Virginia	6.32	7.12	18.09	41.17	85.47
Wisconsin	9.24	5.54	38.70	43.04	64.67
Wyoming	3.04	1.71	6.93	8.14	7.84

VI. PRACTICAL GUIDANCE ON CONDUCTING ANALYSES WITH MINI-MAX

In this chapter, we describe key issues researchers should consider when designing and conducting a study that uses Mini-MAX data. The chapter is broken into two parts. First, we identify data limitations in Mini-MAX that researchers should consider when determining whether Mini-MAX data are appropriate for their research. Second, we offer guidance on using Mini-MAX data in research. We conclude this chapter by recommending other sources of information that researchers may want to consult as they develop plans for using Mini-MAX data.

A. Limitations of Mini-MAX Data

There are some notable limitations to the information contained in MAX data. Because Mini-MAX data are derived from MAX data, these limitations exist in Mini-MAX data as well. In this section, we review important limitations of the Mini-MAX file and then conclude with a discussion on determining the suitability of Mini-MAX for addressing a particular research question.

1. Incomplete and Missing Service Use and Expenditure Data

Because Mini-MAX contains only Medicaid-paid services, it does not capture service use or expenditures during periods of non-enrollment, services paid by other payers (including Medicare), or services provided at no charge. In addition, because Mini-MAX consists only of enrollee-level information, it does not include Medicaid payments that are not linked to individuals, including, for example, prescription drug rebates received by Medicaid, Medicaid payments made to disproportionate share hospitals (DSH), Medicaid payments to CMS for prescription drug coverage for dual enrollees, and payments to states to cover administrative costs.

Service utilization information in Mini-MAX may be missing or incomplete for certain groups, particularly (1) dual enrollees in Medicaid and Medicare, and (2) enrollees in Medicaid managed care plans (either comprehensive or partial plans). Because Medicare is the first payer for services used by dual enrollees that are covered by both Medicare and Medicaid, Mini-MAX captures dual enrollee service use only if additional Medicaid payments are made on behalf of the enrollee for Medicare cost sharing or for shared services, such as home health. For enrollees in managed care plans, information in Mini-MAX is generally restricted to enrollment data, premium payments, and some service-specific utilization information. It does not include service-specific expenditures. Claims reflecting utilization of managed care services in Mini-MAX are called "encounter claims." Because encounter claims are believed to be incomplete in Mini-MAX, researchers should be cautious about using Mini-MAX data to study utilization of managed care services.

2. Incomplete Information for Linking with Other Data Sources

Mini-MAX data have limitations that may prevent researchers from linking these data to other data sources. Some of these limitations include the following:

- **Personally identifiable information.** Enrollee SSNs and MSIS-IDs are reported to MSIS and included in the raw Mini-MAX data files, however these data elements typically are not provided to researchers. Most researchers receive files that have only an encrypted unique identifier (BENE-ID). Date of birth, sex, county of residence and zip code are also provided for most enrollees, but this information may be insufficient for linking with other datasets.

- **Family relationships and newborns.** There is no variable that identifies family members within Mini-MAX. Each family member is assigned his/her own BENE-ID, although services provided to newborns may be billed initially under the mother's BENE-ID until the newborn is assigned an identification number.

3. Incomplete Information for Establishing Episodes of Care

Mini-MAX data frequently are not suitable for determining episodes of care because of the difficulty of linking claims for individual services that may be part of the same episode of care. For example, there is no direct way to determine the physician visit during which a drug was prescribed. Inconsistent billing for services provided in association with a hospital inpatient stay is a common problem that limits the feasibility of using Mini-MAX to establish episodes of care. For example, physician services provided during an inpatient hospital stay will typically be in the Mini-MAX OT file. However, if the physician is an employee of the hospital, the physician service may be billed as part of the inpatient hospital stay claim found in the IP file. Similarly, emergency room (ER) visits may be in the IP file or the OT file, depending on the outcome of the ER visit. If the enrollee was admitted to the hospital following an ER visit, the claims are billed as part of an inpatient stay. If the enrollee was not admitted to the hospital, the ER claims are in the OT file.

4. Inconsistencies Between Claims and Eligibility Data

States separately submit eligibility data and the four types of claims files (IP, LT, OT, RX). Information is generally consistent across these file types but there are notable situations where inconsistencies occur. For example, some states report different managed care Plan Identification numbers in the eligibility records and capitation claims. Similarly, states may inconsistently report waiver enrollment and utilization. Each enrollee can be reported as having up to three waivers per month. Claims provided under 1915(c) waivers are generally coded as waiver claims in Mini-MAX, but it is not always possible to identify if a service was provided to an enrollee under a state Medicaid plan option or a particular waiver. In many states, there is a substantial difference between the number of waiver enrollees and the number with waiver claims. These differences may stem from underreporting of waiver claims or underreporting of enrollment.

5. Anomalous and Incomplete Data

Mini-MAX contains some anomalous and possibly incomplete or incorrect data elements. Researchers should note that data quality in Mini-MAX can vary by state, year, and data element. When developing research studies that rely on Mini-MAX data, users should consult

the Mini-MAX and MAX resources that are available on the CMS website, for information that may explain unusual patterns or known data quality problems in each state's data. CMS produces each of these resources for every year data.[19]

- **MAX Eligibility and Claims Anomaly Tables.** These tables identify anomalous reporting and known data quality errors in key Mini-MAX variables in each state. For example, Maine was unable to report its IP, LT, and OT claims in MAX for several years because it did not have a fully functional MMIS and this information is noted in the anomaly tables. These tables also identify substantial program changes in each state that may have caused shifts in reporting for key Mini-MAX variables during the year. The anomaly tables are available on the CMS website in the zip file containing the MAX data dictionary located at

https://www.cms.gov/medicaiddatasourcesgeninfo/07_maxgeneralinformation.asp.

- **MAX Validation Tables.** These tables are available for each of the 50 states and the District of Columbia. They provide statistical summary data on enrollment, utilization, and Medicaid payments. The tables track three years of MAX data to allow researchers to review trends in data for each state.

- **Waiver Crosswalks.** These tables identify the active Medicaid waivers in each state, including start and end dates for each waiver.

Some data elements are generally known to have more data quality issues than other fields. Data elements for which quality issues have been commonly identified in Mini-MAX include the following:

- **Race.** The quality of race reporting varies substantially by state and over time. Mini-MAX data allow for states to report up to five races for each enrollee, but many states report only one race per enrollee. Moreover, many states do not report race and ethnicity separately, so in these states race information is not reported for individuals with Hispanic ethnicity. MAX Eligibility Anomaly Table 3 contains statistics that indicate the completeness of race reporting in each state.

- **Diagnosis.** Multiple diagnoses codes are reported in Mini-MAX. However, researchers should be cautious in using these codes. The primary diagnosis may not be the first one listed. Similarly, diagnoses may not reflect current conditions of long-term care records. Also, in states where diagnosis is not a basis for reimbursement, diagnoses may not be reported reliably or consistently. Researchers who want to select study samples based on diagnosis should consider confirming patient diagnosis in multiple records (for example, lab tests may be done to rule out a condition), which may improve the reliability of the selection criteria.

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[19] The MAX data resources are available at: [https://www.cms.gov/MedcaidDataSourcesGenInfo/07_MAXGeneralInformation.asp].

6. Determining the Suitability of Mini-MAX for Addressing Research Questions

Researchers should also consider whether Mini-MAX is appropriate for their study. As discussed in previous chapters, Mini-MAX contains most of the key MAX variables, but it excludes some variables and was not designed to support all types of Medicaid analyses. When designing a Mini-MAX analysis, researchers will need to assess the level of precision that can be achieved using Mini-MAX for key statistics. Appendix C includes tables with summary statistics from MAX for use in these assessments and other evaluations of the suitability of Mini-MAX for addressing particular research questions. In this section, we describe limitations specific to Mini-MAX data that should be useful in determining whether the data are suitable for addressing particular research questions.

a. Data Elements and Enrollees Excluded from Mini-MAX

As discussed previously, the following MAX claims and enrollees are excluded from the Mini-MAX sample:

- **S-CHIP.** Mini-MAX does not include any data for S-CHIP only enrollees.
- **Claims not linking to enrollment information.** A small percentage of claims in MAX (about 0.5 percent) do not link to an enrollment record. These claims are excluded from Mini-MAX.
- **Variable exclusions.** Mini-MAX excludes less frequently used or redundant variables from MAX. Appendix A lists all the MAX data elements and identifies those data elements excluded from Mini-MAX along with the associated reason for exclusion.

b. Analysis of Small Subpopulations

The Mini-MAX files were not intended to support analysis of small subpopulations within Medicaid. Examples of these types of subpopulations, include (1) foster care children, (2), illnesses and conditions with low prevalence, and (3) small subpopulations within a single state.

As a general guideline, if the study population is smaller than the five percent sample of the Medicaid population included in Mini-MAX (about 3.1 million in 2008), then Mini-MAX may not be suitable for the analysis. Because Mini-MAX is a sample, estimating the standard error associated with key analysis statistics is necessary to determine if those statistics are measured precisely enough to draw conclusions. Researchers should consider whether the sample size in Mini-MAX is sufficient for developing estimates precise enough to address their particular research question. For analyses of small subpopulations, researchers may want to obtain a population-specific extract of MAX data. These population-specific extracts will be more manageable and will produce more precise estimates. The Research Data Assistance Center (ResDAC) can assist researchers with their requests for population-specific extracts of MAX data.

B. Guidance on Using Mini-Max Data

In this section, we describe key topics researchers should consider when designing and conducting a study based on Mini-MAX data. These topics are: defining the analysis

population, defining enrollment and expenditure measures, assessing the impact of known differences across states, and calculating sample estimates using the sample weights.

1. Defining the Analysis Population

Mini-MAX data include a sample of all Medicaid enrollees reported in each state. Researchers may want to focus on specific subsets of the Medicaid population in their analyses. In this section, we identify key subpopulations within Medicaid that researchers may want to exclude or separately analyze and provide information about how these groups can be identified in Mini-MAX.

a. Medicaid Eligibility Groups

The Medicaid population is diverse and varies across a number of dimensions. Researchers may want to exclude or separately report on subpopulations of Medicaid enrollees in their analyses. In Chapter II, we described the five MAS and four BOE categories. These categories generally contain distinct, standard enrollee populations across states and can be used to identify subpopulations of Medicaid enrollees for analysis. In Mini-MAX the monthly Uniform Eligibility Code (MAX_ELG_CD_MO_#) shows each enrollees' monthly MAS/BOE assignment. For example, a child who was enrolled in Medicaid under poverty-related eligibility rules in one month would have the Uniform Eligibility Code 34 in that month. Mini-MAX also contains an annual Uniform Eligibility Code for each enrollee, based on the enrollee's last assigned code during the year (EL_MAX_ELGBLTY_CD_LTST).

b. Managed Care Enrollment

Enrollment in managed care plans varies greatly across eligibility groups, states, and over time. Detailed information on service use for managed care enrollees is reported in the form of encounter data, which are not reported consistently. Researchers should identify the extent of managed care penetration for states included in their analyses to determine if they can conduct the intended analyses. Penetration of comprehensive managed care plans is of particular concern for research focused on service use, because almost all of the services provided to these enrollees are provided by the managed care plan. Statistics on enrollment in managed care by type of managed care plan are available in the MAX 2008 Chartbook (Borck et al. 2012). Additional information on enrollment in managed care can be found in MAX Eligibility Anomaly Table 9 (see link to anomaly tables at the beginning of this chapter).

Additional sources provide information on managed care enrollment penetration by state.

- **Medicaid Managed Care Enrollment Report**. CMS publishes an annual managed care report that shows managed care plan enrollment and detailed plan information as of July 1 of that year, including managed care coverage authority for each state.[20]

[20] Researchers should exercise caution when comparing statistics from these reports to MAX or Mini-MAX statistics because these reports represent enrollment as of June 30 of each year. Also, as shown in MAX Eligibility Anomaly Table 9, some plans may be reported differently in MAX and Mini-MAX than in the CMS reports.

This report can be found at [https://www.cms.gov/MedicaidDataSourcesGenInfo/04_MdManCrEnrllRep.asp].

- **Medicaid Managed Care Penetration Rates and Expansion Enrollment by State**. CMS produces tables that show annual managed care penetration rates by state as of December 31 of that year. These tables can be found at [https://www.cms.gov/MedicaidDataSourcesGenInfo/05_MdManCrPenRateandExpEnrll.asp].

- **Kaiser Family Foundation (KFF) Profile of Medicaid Managed Care Programs in 2010**. KFF profiled Medicaid managed care based on findings from a survey of Medicaid managed care programs. The profile describes state Medicaid managed care programs, state efforts to monitor access and quality, and address managed long-term care and initiatives targeting duals. This report is available at [http://www.kff.org/medicaid/8220.cfm].

c. Benefit Status

As described in Chapter II, some Medicaid enrollees receive only restricted benefits from Medicaid (restricted-benefit enrollees). The utilization and expenditures of restricted-benefit enrollees are not generally comparable to full-benefit enrollees. Researchers will need to determine if enrollees in these groups should be included in their analyses. Including these enrollees in averages and frequency distributions can skew statistical findings because they will be counted in denominators for these measures but may not have utilization or expenditures in numerators.

Medicaid benefit restrictions in a state may range from very restricted benefits that cover only a limited set of services to benefit packages that differ slightly from, but are comparable to, full Medicaid benefits. The monthly "Restricted Benefits Flag" (RBF) field in Mini-MAX can be used to identify whether an enrollee is eligible for full Medicaid benefits or whether they are eligible for only a limited set of services due to a benefit restriction. For those enrollees eligible for a limited set of services the flag identifies the category of the restriction. The RBF categories in Mini-MAX are the following:

- **Full Medicaid Benefits (RBF=1).** These enrollees are eligible for the full range of Medicaid benefits in the state.

- **Non-qualified aliens (RBF=2).** These enrollees are eligible for Medicaid coverage of emergency services only.

- **Dual Medicaid/Medicare enrollees (RBF=3).** These Medicare enrollees (sometimes called partial duals) are only eligible for limited Medicaid benefits. Medicaid covers only their Medicare premium and cost-sharing payments.

- **Pregnancy-related coverage (RBF=4).** These enrollees are eligible for Medicaid because they are pregnant and are eligible for pregnancy-related benefits.

- **Other benefits (RBF=5).** These enrollees receive restricted benefits that are not identified by any other RBF code. MAX Eligibility Anomaly Table 8 identifies the groups that receive this code in each state.

- **Family planning only enrollees (RBF=6)**. These enrollees are covered by Section 1115 waiver programs that provide only family planning-related services.
- **Benchmark equivalent benefits (RBF=7).** These enrollees are eligible for an alternative package of benchmark-equivalent coverage, as enacted by The Deficit Reduction Act (DRA) of 2005. These enrollees generally receive comprehensive coverage as well as services not in the state's standard Medicaid benefit package.
- **Money Follows the Person (MFP) (RBF=8).** These enrollees are eligible for benefits under a MFP rebalancing demonstration, as enacted by the DRA of 2005. This program allows states to develop community-based long-term care opportunities. Although MFP enrollees are eligible for full Medicaid benefits, services provided through grant funds under the MFP program are not included in Mini-MAX.
- **Psychiatric Residential Treatment Facilities (PRTFs) (RBF=A).** These enrollees receive benefits under the PRTF grant program, as enacted by the DRA of 2005. These facilities provide psychiatric and medical services to individuals under the age of 21.
- **Health opportunity account (HOA) (RBF=B).** These enrollees receive Medicaid benefits through HOAs. HOAs are generally high-deductible accounts that are set up for the enrollee to manage his/her own medical expenses.
- **Premium assistance only (RBF=W).** These enrollees receive only premium assistance toward the purchase of private health insurance. Identification of premium assistance enrollees in Mini-MAX data can be difficult and some states may maintain programs that are not identified by RBF W in Mini-MAX data.
- **Prescription drug benefits (RBF=X, Y, or Z).** These enrollees are covered under Section 1115 waivers that provide only pharmacy benefits.

MAX validation tables generally identify enrollees with RBF codes 2, 3, 6, W, X, Y, and Z as restricted-benefit enrollees because these groups are eligible for a very limited subset of the full Medicaid benefit package in the state. Enrollees with other RBF codes have a more complete set of benefits and are therefore generally identified as full-benefit enrollees. Researchers should consider including or excluding each of these groups based on their specific research questions. MAX Eligibility Anomaly Table 8 indicates which states have each of the RBF groups.

d. Dual Enrollment

Duals are aged or disabled individuals who qualify for both Medicare and Medicaid coverage. Duals are among the most vulnerable people served by Medicare and Medicaid and among the costliest users of health care in the United States (MedPAC 2011). The availability of monthly Medicare enrollment status in Mini-MAX enables researchers to conduct in-depth analyses of dual enrollment rates and service use. Because they are a large, high-cost group, researchers may want to assess duals separately or exclude them from analyses depending on their research questions.

Duals comprise a diverse group of enrollees who receive a range of Medicaid benefits. As discussed in Chapter II, there are four primary categories of duals: QMB, SLMB, QI, and QDWI.

In general, these categories are distinguished by income, with QMBs having the lowest incomes and QIs and QDWIs having the highest. Because state income eligibility criteria for the aged and disabled vary, a dual in each of these categories may qualify for cost-sharing only (restricted-benefit duals) or for cost-sharing plus full Medicaid benefits depending on their state of residence.

Mini-MAX contains each enrollee's monthly dual status in the field, "Medicare Dual Group—Monthly." These dual codes identify the type of dual coverage and whether dual status was identified in MSIS only, the Medicare enrollment database (EDB) only, or in both MSIS and EDB. A leading value of "5" in the dual code indicates that dual enrollee status was verified in the link between MAX enrollee records and the Medicare EDB. A leading value of "0" indicates that the dual status was not verified in the EDB link. A leading value of "9" indicates that dual status was unknown in the EDB link. The categories are the following:

- QMB with cost-sharing only: Code 01 or 51
- QMB and full Medicaid coverage: Code 02 or 52
- SLMB with cost-sharing only: Code 03 or 53
- SLMB and full Medicaid coverage: Code 04 or 54
- QDWI: Code 05 or 55
- QI: Code 06, 07, 56, or 57
- Other duals with full Medicaid coverage: Code 08 or 58
- Unknown dual status in MSIS: Code 09, 59, or 99

In Mini-MAX, duals are also assigned an annual dual code, based on their dual status in their last month of eligibility during the year. Each dual is assigned only one dual code for the year. Researchers may want to consider whether this code is more appropriate for their study than the monthly dual codes. Appendix D provides example programs that can facilitate selection of duals in Mini-MAX.

As noted previously in this chapter, Medicaid is considered to be the "last" payer for services provided to duals. Medicare is the primary payer for services covered by both Medicare and Medicaid, and Medicaid provides "wraparound" coverage for services not covered by Medicare (such as institutional and community-based long-term care services and some home health services). For services covered only by Medicaid, Medicaid claim records in Mini-MAX should reflect all services delivered, and Medicaid paid amounts can be interpreted like those for other beneficiaries. For services that are covered by both Medicaid and Medicare, Medicaid payment amounts in Mini-MAX claim records reflect only the coinsurance and deductible amounts that Medicaid paid after Medicare made payments up to its coverage limits. For this reason, expenditures in Mini-MAX for Medicare-covered services provided to duals will substantially understate the total cost of care for these services. They will, however, reflect the Medicaid payments made for the service.

e. Partial-Year Enrollees

As noted in Chapter IV, enrollee turnover in Medicaid is high compared to Medicare and private insurance. Enrollees can gain or lose Medicaid eligibility for a variety of reasons, including changes in income, access to other insurance coverage, family status, health status, and health care expenditures. Turnover rates vary by state, over time, and by eligibility group. Nationally, about 57 percent of Medicaid enrollees were enrolled for all of 2008. More of the aged and those eligible on the basis of disability were enrolled for the full year (74 and 80 percent, respectively) than children and adults (57 and 38 percent, respectively) (Borck et al. 2012).

Researchers should consider how this variation will impact their analysis. Some research questions require that enrollees have comparable periods of enrollment. For these questions, researchers may want to calculate a cost per month enrolled or limit the study population to those enrolled in Medicaid for the full calendar year. For other research questions, including partial-year enrollees or allowing for variations in length of enrollment may be appropriate.

Researchers can use the 12 monthly variables for the Mini-MAX uniform eligibility code (MAX_ELG_CD_MO_1- MAX_ELG_CD_MO_12) to determine whether an enrollee was eligible in a particular month or span of months. In these variables, code 00 indicates that an individual was not enrolled in Medicaid in the given month. On rare occasions the enrollment status will be unknown (value 99). Researchers should consider whether or not to classify those persons as enrollees. For some research, it may be more appropriate to classify persons with values 00 or 99 as not enrolled.

f. Coverage and Reimbursement

As noted in Chapter II, states vary in how they cover services in Medicaid, with some states opting to cover more optional services than others. In addition, states have flexibility as to how they contract for provision of services and reimburse providers for these services. Researchers may want to focus their analyses on subsets of states with certain coverage and reimbursement characteristics. These researchers may want to use The Medicaid/CHIP Environmental Scanning and Program Characteristics Database, which provides detailed information on state service coverage, co-payments, and limitations. This database is available online at [https://www.cms.gov/MedicaidDataSourcesGenInfo/16_Medicaid_CHIP_ESPC.asp].

Information on Medicaid payment and coverage is also available from the Medicaid Payment and Advisory Commission (MACPAC) March 2011 Report to the Congress on Medicaid and CHIP (see Table 2-1) (MACPAC 2011).

2. Defining Enrollment and Expenditure Measures

Specifying analytic measures in the Medicaid population can be difficult because of turnover in enrollment, as well as changes throughout the year in key enrollee characteristics, such as enrollment in managed care, MAS, and BOE. In this section, we describe some common difficulties in defining enrollment and expenditures in Mini-MAX data over time. Appendix D provides sample code for basic calculations using enrollment and expenditure data.

a. Changes in Medicaid Eligibility Status

Medicaid eligibility is not static and an enrollee's eligibility status may change over time. A Medicaid enrollee may initially obtain eligibility under one criterion and then become eligible for different benefits or coverage due to changes in family status, income, or age. These changes are reflected in Mini-MAX and can complicate researchers' efforts to identify specific subpopulations for analysis. Examples of changes in eligibility status include the following:

- Individuals with disabilities may initially be enrolled in Medicaid under poverty-related rules and then shift to categories for individuals with disabilities when their application for disability program benefits has been approved.
- Individuals who originally qualified for Medicaid as children may qualify in adult categories when they reach 18 or become pregnant.
- Individuals may not be enrolled in a waiver program when they initially enroll in Medicaid, but later may be deemed eligible and enroll.
- Individuals may be enrolled in Medicaid retrospectively. Services they received prior to application for Medicaid may be covered for a limited period.

To address these shifts in eligibility, Mini-MAX includes 12 monthly variables for MAX fields that may change over time. Variables with monthly fields include, Uniform Eligibility Code (MAX_ELG_CD_MO_1-MAX_ELG_CD_MO_12), waiver enrollment status (MAX_WAIVER_TYPE_1_MO_1-MAX_WAIVER_TYPE_1_MO_12), Medicare dual code (EL_MDCR_DUAL_MO_1-EL_MDCR_DUAL_MO_12), managed care enrollment (EL_PHP_TYPE_1_1-EL_PHP_TYPE_4_12), and RBF (EL_RSTRCT_BNFT_FLG_1-EL_RSTRCT_BNFT_FLG_12).

Annual aggregates may be useful to address some research questions. Researchers can create annual summary measures from the monthly variables by aggregating across possible combinations of monthly enrollment or indicating "ever" enrolled.

For some key variables, researchers may want to ensure that each enrollee is assigned to a single group for the year. For this purpose, the Mini-MAX file includes an annual Uniform Eligibility Code for each enrollee that is based on the enrollees' last eligibility group assignment during the year (EL_MAX_ELGBLTY_CD_LTST). There is a similar annual code for dual enrollee status. Another option for restricting each enrollee to a single uniform eligibility group is to focus on eligibility during a specified month of the calendar year (for example, January, June, or December).

b. Defining Expenditure Measures

As with any per capita analysis of expenditures, researchers will need to consider whether measuring expenditures "per enrollee" or "per service user" is appropriate for addressing their research question. In some cases, it may be appropriate for an analysis to focus on service users only, due to inconsistent or incomplete data reporting. For example, analyses of waiver expenditures may need to focus on waiver service users because in some states waiver enrollment data do not align well with waiver service users who are identified in the claims data. Researchers may also want to focus on service users when they are studying infrequently used

services. For example, ICF-MR services are used by only a small percentage of Medicaid enrollees and per-user expenditures may differ substantially from per-enrollee analyses.

Since many individuals in the Medicaid population are not enrolled for a full 12 months, normalizing expenditures, using rates per enrolled month, or using person-year equivalents may also be useful for some analyses. To calculate person-year equivalents, the sum of months of enrollment is divided by 12 (e.g., a person enrolled for 3 months counts as 3/12 or 0.25 PYE).

3. Assessing the Impact of Known Differences Across States

As discussed more fully in Chapter II, substantial differences exist in Medicaid programs across states and within states over time. Important differences to consider include:

- **Eligibility provisions.** Although all states must enroll persons in mandatory eligibility groups, states may also choose to enroll persons in federally defined optional eligibility groups. States have different policies related to valuing or disregarding income and assets and they use a range of policies for enrolling individuals and renewing Medicaid coverage. Two additional sources of variation in eligibility provisions are the use of waivers to expand Medicaid eligibility and differences across states in CHIP structure.
- **Service Coverage Provisions**. Although all states must offer mandatory services, states may choose to offer optional services. States also have different policies for limiting amount, duration, and scope of coverage, including prior authorization.
- **Payment Methods.** States have considerable flexibility with regard to reimbursing providers under FFS Medicaid. For example, states may reimburse using a fee-schedule, a bundled payment method, or cost-based method. The structure and generosity of reimbursements under FFS Medicaid varies substantially across states.
- **Demonstration Projects and Waivers.** Waivers allow states to cover individuals who are otherwise ineligible for Medicaid. Waivers also allow states to provide services in a way that differs from the federal Medicaid guidelines. Waiver programs may result in differences in the enrollee population and service utilization patterns across states.

Researchers should consider the implications of these differences for their particular study's design and findings.

4. Calculating Sample Estimates Using the Sample Weights

Mini-MAX is a stratified random 5 percent sample of Medicaid enrollees. As noted in Chapter V, the sample is stratified by state, BOE group, and restricted benefit status. Because Mini-MAX is a sample, the individual observations must be weighted to develop estimates of population totals. In addition, because the states and substrata were sampled at different rates, the observations also must be weighted when calculating means or other statistics. To calculate estimates representative of the Medicaid population, researchers should use the weight variable (SAMPLINGWEIGHT). To calculate accurate standard errors for the estimates, researchers should use statistical software capable of accounting for the stratified sampling design. Two variables are needed to capture the dimensions of the stratification when calculating standard

errors. These variables are STATE_CD and BOE_STRATA. Example code 2 in Appendix D provides an example of program code for calculating summary statistics and adjusted standard errors using PROC SURVEYMEANS in SAS.

C. Supplemental Sources

The Mini-MAX User's Guide references many reports and websites, which provide additional information about the Medicaid program and Medicaid data. We recommend that researchers who are planning to use Mini-MAX data consult the Mini-MAX variable list in Appendix A, the supplemental sources listed in Appendix B, the population tables in Appendix C, and the sample SAS code in Appendix D.

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APPENDIX A

MINI-MAX VARIABLES AND MAX VARIABLES EXCLUDED FROM MINI-MAX

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Table A.1. MAX Person Summary (PS) File Data Elements with Reason for Exclusion from Mini-MAX

MAX Data Element Name	Variable Name	Reason for Exclusion
MSIS IDENTIFICATION NUMBER	MSIS_ID	Confidentiality
STATE ABBREVIATION CODE	STATE_CD	
MAX YEAR DATE	MAX_YR_DT	
SOCIAL SECURITY NUMBER - FROM MSIS	EL_SSN	Confidentiality
SSN HIGH GROUP TEST - SSN FROM MSIS	HGT_FLAG	
SOCIAL SECURITY NUMBER FROM EXTERNAL SOURCE	EXT_SSN	Confidentiality
EXTERNAL SOCIAL SECURITY NUMBER (SSN) SOURCE	EXT_SSN_SRCE	Confidentiality
STATE CASE NUMBER	EL_STATE_CASE_NUM	Can use BENE ID for linking
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MSIS	EL_HIC_NUM	Use more reliable Medicare code
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MEDICARE	EDB_HIC_NUM	Confidentiality
BIRTH DATE	EL_DOB	
AGE GROUP CODE	EL_AGE_GRP_CD	
SEX CODE	EL_SEX_CD	
RACE/ETHNICITY CODE	EL_RACE_ETHNCY_CD	
RACE - WHITE	RACE_CODE_1	
RACE - BLACK/AFRICAN AMERICAN	RACE_CODE_2	
RACE - AMERICAN INDIAN/ALASKAN NATIVE	RACE_CODE_3	
RACE - ASIAN	RACE_CODE_4	
RACE - NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	RACE_CODE_5	
ETHNICITY - HISPANIC OR LATINO	ETHNICITY_CODE	
MEDICARE RACE/ETHNICITY CODE	MDCR_RACE_ETHNCY_CD	Use more complete Medicaid code
MEDICARE LANGUAGE CODE	MDCR_LANG_CD	
SEX-RACE CODE	EL_SEX_RACE_CD	Easily created by researchers
MEDICAID DEATH DATE	EL_DOD	
MEDICARE DEATH DATE	MDCR_DOD	
MEDICARE DEATH DAY SWITCH	MDCR_DEATH_DAY_SW	
DATE OF DEATH (FROM SSA DEATH MASTER FILE)	SSA_DOD	
RESIDENCE COUNTY CODE	EL_RSDNC_CNTY_CD_LTST	
RESIDENCE ZIP CODE	EL_RSDNC_ZIP_CD_LTST	
STATE SPECIFIC ELIGIBILITY CODE - MOST RECENT	EL_SS_ELGBLTY_CD_LTST	
MAX UNIFORM ELIGIBILITY CODE - MOST RECENT	EL_MAX_ELGBLTY_CD_LTST	
MISSING MEDICAID ELIGIBILITY DATA SWITCH	MSNG_ELG_DATA	All people will be enrollees
MONTHS OF ELIGIBILITY	EL_ELGBLTY_MO_CNT	Easily created by researchers
PRIVATE INSURANCE MONTHS COUNT	EL_PRVT_INSRNC_MO_CNT	Easily created by researchers
MEDICARE DUAL CODE - ANNUAL	EL_MDCR_DUAL_ANN	
MEDICARE BENEFICIARY MONTHS COUNT	EL_MDCR_BEN_MO_CNT	Easily created by researchers
MEDICARE ORIGINAL ENTITLEMENT REASON CODE	MDCR_ORIG_REAS_CD	
MEDICARE DUAL CODE - MONTH 1	EL_MDCR_DUAL_MO_1	
MEDICARE DUAL CODE - MONTH 2	EL_MDCR_DUAL_MO_2	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
MEDICARE DUAL CODE - MONTH 3	EL_MDCR_DUAL_MO_3	
MEDICARE DUAL CODE - MONTH 4	EL_MDCR_DUAL_MO_4	
MEDICARE DUAL CODE - MONTH 5	EL_MDCR_DUAL_MO_5	
MEDICARE DUAL CODE - MONTH 6	EL_MDCR_DUAL_MO_6	
MEDICARE DUAL CODE - MONTH 7	EL_MDCR_DUAL_MO_7	
MEDICARE DUAL CODE - MONTH 8	EL_MDCR_DUAL_MO_8	
MEDICARE DUAL CODE - MONTH 9	EL_MDCR_DUAL_MO_9	
MEDICARE DUAL CODE - MONTH 10	EL_MDCR_DUAL_MO_10	
MEDICARE DUAL CODE - MONTH 11	EL_MDCR_DUAL_MO_11	
MEDICARE DUAL CODE - MONTH 12	EL_MDCR_DUAL_MO_12	
STATE SPECIFIC ELIGIBILITY CODE - MONTH 1	SS_ELG_CD_MO_1	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 2	SS_ELG_CD_MO_2	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 3	SS_ELG_CD_MO_3	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 4	SS_ELG_CD_MO_4	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 5	SS_ELG_CD_MO_5	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 6	SS_ELG_CD_MO_6	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 7	SS_ELG_CD_MO_7	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 8	SS_ELG_CD_MO_8	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 9	SS_ELG_CD_MO_9	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 10	SS_ELG_CD_MO_10	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 11	SS_ELG_CD_MO_11	National groups available
STATE SPECIFIC ELIGIBILITY CODE - MONTH 12	SS_ELG_CD_MO_12	National groups available
MAX UNIFORM ELIGIBILITY CODE - MONTH 1	MAX_ELG_CD_MO_1	
MAX UNIFORM ELIGIBILITY CODE - MONTH 2	MAX_ELG_CD_MO_2	
MAX UNIFORM ELIGIBILITY CODE - MONTH 3	MAX_ELG_CD_MO_3	
MAX UNIFORM ELIGIBILITY CODE - MONTH 4	MAX_ELG_CD_MO_4	
MAX UNIFORM ELIGIBILITY CODE - MONTH 5	MAX_ELG_CD_MO_5	
MAX UNIFORM ELIGIBILITY CODE - MONTH 6	MAX_ELG_CD_MO_6	
MAX UNIFORM ELIGIBILITY CODE - MONTH 7	MAX_ELG_CD_MO_7	
MAX UNIFORM ELIGIBILITY CODE - MONTH 8	MAX_ELG_CD_MO_8	
MAX UNIFORM ELIGIBILITY CODE - MONTH 9	MAX_ELG_CD_MO_9	
MAX UNIFORM ELIGIBILITY CODE - MONTH 10	MAX_ELG_CD_MO_10	
MAX UNIFORM ELIGIBILITY CODE - MONTH 11	MAX_ELG_CD_MO_11	
MAX UNIFORM ELIGIBILITY CODE - MONTH 12	MAX_ELG_CD_MO_12	
PRIVATE INSURANCE CODE - MONTH 1	EL_PVT_INS_CD_1	
PRIVATE INSURANCE CODE - MONTH 2	EL_PVT_INS_CD_2	
PRIVATE INSURANCE CODE - MONTH 3	EL_PVT_INS_CD_3	
PRIVATE INSURANCE CODE - MONTH 4	EL_PVT_INS_CD_4	
PRIVATE INSURANCE CODE - MONTH 5	EL_PVT_INS_CD_5	
PRIVATE INSURANCE CODE - MONTH 6	EL_PVT_INS_CD_6	
PRIVATE INSURANCE CODE - MONTH 7	EL_PVT_INS_CD_7	
PRIVATE INSURANCE CODE - MONTH 8	EL_PVT_INS_CD_8	
PRIVATE INSURANCE CODE - MONTH 9	EL_PVT_INS_CD_9	
PRIVATE INSURANCE CODE - MONTH 10	EL_PVT_INS_CD_10	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
PRIVATE INSURANCE CODE - MONTH 11	EL_PVT_INS_CD_11	
PRIVATE INSURANCE CODE - MONTH 12	EL_PVT_INS_CD_12	
MEDICARE BENEFICIARY CODE - MONTH 1	EL_MDCR_BEN_MO_1	
MEDICARE BENEFICIARY CODE - MONTH 2	EL_MDCR_BEN_MO_2	
MEDICARE BENEFICIARY CODE - MONTH 3	EL_MDCR_BEN_MO_3	
MEDICARE BENEFICIARY CODE - MONTH 4	EL_MDCR_BEN_MO_4	
MEDICARE BENEFICIARY CODE - MONTH 5	EL_MDCR_BEN_MO_5	
MEDICARE BENEFICIARY CODE - MONTH 6	EL_MDCR_BEN_MO_6	
MEDICARE BENEFICIARY CODE - MONTH 7	EL_MDCR_BEN_MO_7	
MEDICARE BENEFICIARY CODE - MONTH 8	EL_MDCR_BEN_MO_8	
MEDICARE BENEFICIARY CODE - MONTH 9	EL_MDCR_BEN_MO_9	
MEDICARE BENEFICIARY CODE - MONTH 10	EL_MDCR_BEN_MO_10	
MEDICARE BENEFICIARY CODE - MONTH 11	EL_MDCR_BEN_MO_11	
MEDICARE BENEFICIARY CODE - MONTH 12	EL_MDCR_BEN_MO_12	
PRE-PAID PLAN MONTHS COUNT - COMPREHENSIVE MANAGED CARE PLANS	EL_PPH_PLN_MO_CNT_CMCP	
PRE-PAID PLAN MONTHS COUNT - DENTAL MANAGED CARE PLANS	EL_PPH_PLN_MO_CNT_DMCP	
PRE-PAID PLAN MONTHS COUNT - BEHAVIORAL MANAGED CARE PLANS	EL_PPH_PLN_MO_CNT_BMCP	
PRE-PAID PLAN MONTHS COUNT - PRENATAL/DELIVERY MANAGED CARE PLANS	EL_PPH_PLN_MO_CNT_PDMC	
PRE-PAID PLAN MONTHS COUNT - LONG-TERM CARE MANAGED CARE PLANS	EL_PPH_PLN_MO_CNT_LTCM	
PRE-PAID PLAN MONTHS COUNT - ALL-INCLUSIVE CARE FOR THE ELDERLY PLANS	EL_PPH_PLN_MO_CNT_AICE	
PRE-PAID PLAN MONTHS COUNT - PRIMARY CARE CASE MANAGEMENT PLANS	EL_PPH_PLN_MO_CNT_PCCM	
PRE-PAID PLAN TYPE-1 CODE - MONTH 1	EL_PHP_TYPE_1_1	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 1	EL_PHP_ID_1_1	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 1	EL_PHP_TYPE_2_1	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 1	EL_PHP_ID_2_1	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 1	EL_PHP_TYPE_3_1	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 1	EL_PHP_ID_3_1	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 1	EL_PHP_TYPE_4_1	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 1	EL_PHP_ID_4_1	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 2	EL_PHP_TYPE_1_2	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 2	EL_PHP_ID_1_2	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 2	EL_PHP_TYPE_2_2	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 2	EL_PHP_ID_2_2	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 2	EL_PHP_TYPE_3_2	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 2	EL_PHP_ID_3_2	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 2	EL_PHP_TYPE_4_2	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 2	EL_PHP_ID_4_2	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 3	EL_PHP_TYPE_1_3	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
PRE-PAID PLAN IDENTIFIER-1 - MONTH 3	EL_PHP_ID_1_3	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 3	EL_PHP_TYPE_2_3	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 3	EL_PHP_ID_2_3	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 3	EL_PHP_TYPE_3_3	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 3	EL_PHP_ID_3_3	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 3	EL_PHP_TYPE_4_3	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 3	EL_PHP_ID_4_3	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 4	EL_PHP_TYPE_1_4	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 4	EL_PHP_ID_1_4	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 4	EL_PHP_TYPE_2_4	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 4	EL_PHP_ID_2_4	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 4	EL_PHP_TYPE_3_4	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 4	EL_PHP_ID_3_4	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 4	EL_PHP_TYPE_4_4	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 4	EL_PHP_ID_4_4	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 5	EL_PHP_TYPE_1_5	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 5	EL_PHP_ID_1_5	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 5	EL_PHP_TYPE_2_5	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 5	EL_PHP_ID_2_5	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 5	EL_PHP_TYPE_3_5	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 5	EL_PHP_ID_3_5	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 5	EL_PHP_TYPE_4_5	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 5	EL_PHP_ID_4_5	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 6	EL_PHP_TYPE_1_6	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 6	EL_PHP_ID_1_6	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 6	EL_PHP_TYPE_2_6	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 6	EL_PHP_ID_2_6	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 6	EL_PHP_TYPE_3_6	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 6	EL_PHP_ID_3_6	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 6	EL_PHP_TYPE_4_6	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 6	EL_PHP_ID_4_6	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 7	EL_PHP_TYPE_1_7	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 7	EL_PHP_ID_1_7	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 7	EL_PHP_TYPE_2_7	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 7	EL_PHP_ID_2_7	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 7	EL_PHP_TYPE_3_7	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 7	EL_PHP_ID_3_7	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 7	EL_PHP_TYPE_4_7	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 7	EL_PHP_ID_4_7	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 8	EL_PHP_TYPE_1_8	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 8	EL_PHP_ID_1_8	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 8	EL_PHP_TYPE_2_8	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 8	EL_PHP_ID_2_8	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 8	EL_PHP_TYPE_3_8	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
PRE-PAID PLAN IDENTIFIER-3 - MONTH 8	EL_PHP_ID_3_8	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 8	EL_PHP_TYPE_4_8	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 8	EL_PHP_ID_4_8	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 9	EL_PHP_TYPE_1_9	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 9	EL_PHP_ID_1_9	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 9	EL_PHP_TYPE_2_9	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 9	EL_PHP_ID_2_9	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 9	EL_PHP_TYPE_3_9	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 9	EL_PHP_ID_3_9	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 9	EL_PHP_TYPE_4_9	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 9	EL_PHP_ID_4_9	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 10	EL_PHP_TYPE_1_10	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 10	EL_PHP_ID_1_10	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 10	EL_PHP_TYPE_2_10	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 10	EL_PHP_ID_2_10	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 10	EL_PHP_TYPE_3_10	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 10	EL_PHP_ID_3_10	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 10	EL_PHP_TYPE_4_10	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 10	EL_PHP_ID_4_10	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 11	EL_PHP_TYPE_1_11	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 11	EL_PHP_ID_1_11	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 11	EL_PHP_TYPE_2_11	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 11	EL_PHP_ID_2_11	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 11	EL_PHP_TYPE_3_11	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 11	EL_PHP_ID_3_11	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 11	EL_PHP_TYPE_4_11	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 11	EL_PHP_ID_4_11	Will not support linking
PRE-PAID PLAN TYPE-1 CODE - MONTH 12	EL_PHP_TYPE_1_12	
PRE-PAID PLAN IDENTIFIER-1 - MONTH 12	EL_PHP_ID_1_12	Will not support linking
PRE-PAID PLAN TYPE-2 CODE - MONTH 12	EL_PHP_TYPE_2_12	
PRE-PAID PLAN IDENTIFIER-2 - MONTH 12	EL_PHP_ID_2_12	Will not support linking
PRE-PAID PLAN TYPE-3 CODE - MONTH 12	EL_PHP_TYPE_3_12	
PRE-PAID PLAN IDENTIFIER-3 - MONTH 12	EL_PHP_ID_3_12	Will not support linking
PRE-PAID PLAN TYPE-4 CODE - MONTH 12	EL_PHP_TYPE_4_12	
PRE-PAID PLAN IDENTIFIER-4 - MONTH 12	EL_PHP_ID_4_12	Will not support linking
MEDICAID MANAGED CARE COMBINATIONS - MONTH 1	MC_COMBO_MO_1	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 2	MC_COMBO_MO_2	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 3	MC_COMBO_MO_3	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 4	MC_COMBO_MO_4	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 5	MC_COMBO_MO_5	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 6	MC_COMBO_MO_6	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 7	MC_COMBO_MO_7	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 8	MC_COMBO_MO_8	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 9	MC_COMBO_MO_9	Can use unique codes

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
MEDICAID MANAGED CARE COMBINATIONS - MONTH 10	MC_COMBO_MO_10	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 11	MC_COMBO_MO_11	Can use unique codes
MEDICAID MANAGED CARE COMBINATIONS - MONTH 12	MC_COMBO_MO_12	Can use unique codes
DAYS OF ELIGIBILITY - MONTH 1	EL_DAYS_EL_CNT_1	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 2	EL_DAYS_EL_CNT_2	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 3	EL_DAYS_EL_CNT_3	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 4	EL_DAYS_EL_CNT_4	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 5	EL_DAYS_EL_CNT_5	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 6	EL_DAYS_EL_CNT_6	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 7	EL_DAYS_EL_CNT_7	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 8	EL_DAYS_EL_CNT_8	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 9	EL_DAYS_EL_CNT_9	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 10	EL_DAYS_EL_CNT_10	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 11	EL_DAYS_EL_CNT_11	Recommend using months instead
DAYS OF ELIGIBILITY - MONTH 12	EL_DAYS_EL_CNT_12	Recommend using months instead
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 1	EL_TANF_CASH_FLG_1	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 2	EL_TANF_CASH_FLG_2	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 3	EL_TANF_CASH_FLG_3	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 4	EL_TANF_CASH_FLG_4	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 5	EL_TANF_CASH_FLG_5	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 6	EL_TANF_CASH_FLG_6	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 7	EL_TANF_CASH_FLG_7	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 8	EL_TANF_CASH_FLG_8	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 9	EL_TANF_CASH_FLG_9	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 10	EL_TANF_CASH_FLG_10	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 11	EL_TANF_CASH_FLG_11	Incomplete for most states
TEMPORARY ASSISTANCE FOR NEEDY FAMILIES FLAG - MONTH 12	EL_TANF_CASH_FLG_12	Incomplete for most states
RESTRICTED BENEFITS FLAG - MONTH 1	EL_RSTRCT_BNFT_FLG_1	
RESTRICTED BENEFITS FLAG - MONTH 2	EL_RSTRCT_BNFT_FLG_2	
RESTRICTED BENEFITS FLAG - MONTH 3	EL_RSTRCT_BNFT_FLG_3	
RESTRICTED BENEFITS FLAG - MONTH 4	EL_RSTRCT_BNFT_FLG_4	
RESTRICTED BENEFITS FLAG - MONTH 5	EL_RSTRCT_BNFT_FLG_5	
RESTRICTED BENEFITS FLAG - MONTH 6	EL_RSTRCT_BNFT_FLG_6	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
RESTRICTED BENEFITS FLAG - MONTH 7	EL_RSTRCT_BNFT_FLG_7	
RESTRICTED BENEFITS FLAG - MONTH 8	EL_RSTRCT_BNFT_FLG_8	
RESTRICTED BENEFITS FLAG - MONTH 9	EL_RSTRCT_BNFT_FLG_9	
RESTRICTED BENEFITS FLAG - MONTH 10	EL_RSTRCT_BNFT_FLG_10	
RESTRICTED BENEFITS FLAG - MONTH 11	EL_RSTRCT_BNFT_FLG_11	
RESTRICTED BENEFITS FLAG - MONTH 12	EL_RSTRCT_BNFT_FLG_12	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 1	EL_CHIP_FLAG_1	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 2	EL_CHIP_FLAG_2	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 3	EL_CHIP_FLAG_3	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 4	EL_CHIP_FLAG_4	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 5	EL_CHIP_FLAG_5	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 6	EL_CHIP_FLAG_6	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 7	EL_CHIP_FLAG_7	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 8	EL_CHIP_FLAG_8	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 9	EL_CHIP_FLAG_9	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 10	EL_CHIP_FLAG_10	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 11	EL_CHIP_FLAG_11	
CHILD HEALTH INSURANCE PROGRAM CODE - MONTH 12	EL_CHIP_FLAG_12	
MAX WAIVER TYPE CODE - 1 - MONTH 1	MAX_WAIVER_TYPE_1_MO_1	
WAIVER ID - 1 - MONTH 1	MAX_WAIVER_ID_1_MO_1	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 1	MAX_WAIVER_TYPE_2_MO_1	
WAIVER ID - 2 - MONTH 1	MAX_WAIVER_ID_2_MO_1	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 1	MAX_WAIVER_TYPE_3_MO_1	
WAIVER ID - 3 - MONTH 1	MAX_WAIVER_ID_3_MO_1	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 2	MAX_WAIVER_TYPE_1_MO_2	
WAIVER ID - 1 - MONTH 2	MAX_WAIVER_ID_1_MO_2	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 2	MAX_WAIVER_TYPE_2_MO_2	
WAIVER ID - 2 - MONTH 2	MAX_WAIVER_ID_2_MO_2	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 2	MAX_WAIVER_TYPE_3_MO_2	
WAIVER ID - 3 - MONTH 2	MAX_WAIVER_ID_3_MO_2	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 3	MAX_WAIVER_TYPE_1_MO_3	
WAIVER ID - 1 - MONTH 3	MAX_WAIVER_ID_1_MO_3	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 3	MAX_WAIVER_TYPE_2_MO_3	
WAIVER ID - 2 - MONTH 3	MAX_WAIVER_ID_2_MO_3	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 3	MAX_WAIVER_TYPE_3_MO_3	
WAIVER ID - 3 - MONTH 3	MAX_WAIVER_ID_3_MO_3	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 4	MAX_WAIVER_TYPE_1_MO_4	
WAIVER ID - 1 - MONTH 4	MAX_WAIVER_ID_1_MO_4	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 4	MAX_WAIVER_TYPE_2_MO_4	
WAIVER ID - 2 - MONTH 4	MAX_WAIVER_ID_2_MO_4	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 4	MAX_WAIVER_TYPE_3_MO_4	
WAIVER ID - 3 - MONTH 4	MAX_WAIVER_ID_3_MO_4	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 5	MAX_WAIVER_TYPE_1_MO_5	
WAIVER ID - 1 - MONTH 5	MAX_WAIVER_ID_1_MO_5	Will not support linking

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
MAX WAIVER TYPE CODE - 2 - MONTH 5	MAX_WAIVER_TYPE_2_MO_5	
WAIVER ID - 2 - MONTH 5	MAX_WAIVER_ID_2_MO_5	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 5	MAX_WAIVER_TYPE_3_MO_5	
WAIVER ID - 3 - MONTH 5	MAX_WAIVER_ID_3_MO_5	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 6	MAX_WAIVER_TYPE_1_MO_6	
WAIVER ID - 1 - MONTH 6	MAX_WAIVER_ID_1_MO_6	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 6	MAX_WAIVER_TYPE_2_MO_6	
WAIVER ID - 2 - MONTH 6	MAX_WAIVER_ID_2_MO_6	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 6	MAX_WAIVER_TYPE_3_MO_6	
WAIVER ID - 3 - MONTH 6	MAX_WAIVER_ID_3_MO_6	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 7	MAX_WAIVER_TYPE_1_MO_7	
WAIVER ID - 1 - MONTH 7	MAX_WAIVER_ID_1_MO_7	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 7	MAX_WAIVER_TYPE_2_MO_7	
WAIVER ID - 2 - MONTH 7	MAX_WAIVER_ID_2_MO_7	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 7	MAX_WAIVER_TYPE_3_MO_7	
WAIVER ID - 3 - MONTH 7	MAX_WAIVER_ID_3_MO_7	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 8	MAX_WAIVER_TYPE_1_MO_8	
WAIVER ID - 1 - MONTH 8	MAX_WAIVER_ID_1_MO_8	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 8	MAX_WAIVER_TYPE_2_MO_8	
WAIVER ID - 2 - MONTH 8	MAX_WAIVER_ID_2_MO_8	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 8	MAX_WAIVER_TYPE_3_MO_8	
WAIVER ID - 3 - MONTH 8	MAX_WAIVER_ID_3_MO_8	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 9	MAX_WAIVER_TYPE_1_MO_9	
WAIVER ID - 1 - MONTH 9	MAX_WAIVER_ID_1_MO_9	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 9	MAX_WAIVER_TYPE_2_MO_9	
WAIVER ID - 2 - MONTH 9	MAX_WAIVER_ID_2_MO_9	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 9	MAX_WAIVER_TYPE_3_MO_9	
WAIVER ID - 3 - MONTH 9	MAX_WAIVER_ID_3_MO_9	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 10	MAX_WAIVER_TYPE_1_MO_10	
WAIVER ID - 1 - MONTH 10	MAX_WAIVER_ID_1_MO_10	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 10	MAX_WAIVER_TYPE_2_MO_10	
WAIVER ID - 2 - MONTH 10	MAX_WAIVER_ID_2_MO_10	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 10	MAX_WAIVER_TYPE_3_MO_10	
WAIVER ID - 3 - MONTH 10	MAX_WAIVER_ID_3_MO_10	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 11	MAX_WAIVER_TYPE_1_MO_11	
WAIVER ID - 1 - MONTH 11	MAX_WAIVER_ID_1_MO_11	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 11	MAX_WAIVER_TYPE_2_MO_11	
WAIVER ID - 2 - MONTH 11	MAX_WAIVER_ID_2_MO_11	Will not support linking
MAX WAIVER TYPE CODE - 3 - MONTH 11	MAX_WAIVER_TYPE_3_MO_11	
WAIVER ID - 3 - MONTH 11	MAX_WAIVER_ID_3_MO_11	Will not support linking
MAX WAIVER TYPE CODE - 1 - MONTH 12	MAX_WAIVER_TYPE_1_MO_12	
WAIVER ID - 1 - MONTH 12	MAX_WAIVER_ID_1_MO_12	Will not support linking
MAX WAIVER TYPE CODE - 2 - MONTH 12	MAX_WAIVER_TYPE_2_MO_12	
WAIVER ID - 2 - MONTH 12	MAX_WAIVER_ID_2_MO_12	Will not support linking

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
MAX WAIVER TYPE CODE - 3 - MONTH 12	MAX_WAIVER_TYPE_3_MO_12	
WAIVER ID - 3 - MONTH 12	MAX_WAIVER_ID_3_MO_12	Will not support linking
ANNUAL 1915C MAX WAIVER TYPE - MOST RECENT	MAX_1915C_WAIVER_TYPE_LTST	
RECIPIENT INDICATOR	RCPNT_IND	
TOTAL INPATIENT DISCHARGE COUNT	TOT_IP_DSCHRG_CNT	Can be created from claims
TOTAL INPATIENT STAY COUNT	TOT_IP_STAY_CNT	Can be created from claims
TOTAL INPATIENT LENGTH OF STAY (LOS), IN DAYS (FOR DISCHARGES)	TOT_IP_DAY_CNT_DSCHRG	Can be created from claims
TOTAL INPATIENT LENGTH OF STAY (LOS), IN DAYS (FOR STAYS)	TOT_IP_DAY_CNT_STAYS	Can be created from claims
TOTAL INPATIENT COVERED DAY COUNT (FOR DISCHARGES)	TOT_IP_CVR_DAY_CNT_DSCHRG	Can be created from claims
TOTAL INPATIENT COVERED DAY COUNT (FOR STAYS)	TOT_IP_CVR_DAY_CNT_STAYS	Can be created from claims
LONG TERM CARE MENTAL HOSPITAL FOR THE AGED COVERED DAY COUNT	TOT_LTC_CVR_DAY_CNT_AGED	Can be created from claims
LONG TERM CARE INPATIENT PSYCHIATRIC FACILITY (AGE < 21) COVERED DAY COUNT	TOT_LTC_CVR_DAY_CNT_PSYCH	Can be created from claims
INTERMEDIATE CARE FACILITY FOR THE MENTALLY RETARDED COVERED DAY COUNT	TOT_LTC_CVR_DAY_CNT_ICFMR	Can be created from claims
NURSING FACILITY - NF - COVERED DAY COUNT	TOT_LTC_CVR_DAY_CNT_NF	Can be created from claims
LONG TERM CARE COVERED DAY COUNT	TOT_LTC_CVR_DAY_CNT	Can be created from claims
TOTAL MEDICAID RECORD COUNT	TOT_MDCD_CLM_CNT	Questionable utility
TOTAL MEDICAID FEE-F0R-SERVICE CLAIM COUNT	TOT_MDCD_FFS_CLM_CNT	Questionable utility
TOTAL MEDICAID PRE-PAID PLAN PREMIUM PAYMENT RECORD COUNT	TOT_MDCD_PREM_CLM_CNT	Questionable utility
TOTAL MEDICAID ENCOUNTER RECORD COUNT	TOT_MDCD_ENCT_CLM_CNT	Questionable utility
TOTAL MEDICAID PAYMENT AMOUNT	TOT_MDCD_PYMT_AMT	
TOTAL MEDICAID FEE-FOR-SERVICE PAYMENT AMOUNT	TOT_MDCD_FFS_PYMT_AMT	
TOTAL MEDICAID PRE-PAID PLAN PREMIUM PAYMENT AMOUNT	TOT_MDCD_PREM_PYMT_AMT	
TOTAL MEDICAID CHARGE AMOUNT	TOT_MDCD_CHRG_AMT	Inconsistent reporting
TOTAL THIRD PARTY PAYMENT AMOUNT	TOT_MDCD_TP_PYMT_AMT	Inconsistent reporting
INPATIENT HOSPITAL RECORDS - FAMILY PLANNING	IP_HOSP_REC_FP	Questionable utility
INPATIENT HOSPITAL PAYMENTS - FAMILY PLANNING	IP_HOSP_PYMT_FP	
INSTITUTIONAL LONG TERM CARE RECORDS - FAMILY PLANNING	LT_REC_CNT_FP	Questionable utility
INSTITUTIONAL LONG TERM CARE PAYMENTS - FAMILY PLANNING	LT_PYMT_AMT_FP	
OTHER SERVICE RECORDS - FAMILY PLANNING	OT_REC_CNT_FP	Questionable utility
OTHER SERVICE PAYMENTS - FAMILY PLANNING	OT_PYMT_AMT_FP	
PRESCRIPTION DRUG RECORDS - FAMILY PLANNING	RX_REC_CNT_FP	Questionable utility
PRESCRIPTION DRUG PAYMENTS - FAMILY PLANNING	RX_PYMT_AMT_FP	
TOTAL RECORDS - FAMILY PLANNING	TOT_REC_CNT_FP	Questionable utility
TOTAL PAYMENTS - FAMILY PLANNING	TOT_PYMT_AMT_FP	
INPATIENT HOSPITAL RECORDS - RURAL HEALTH CLINIC	IP_HOSP_REC_RHC	Questionable utility
INPATIENT HOSPITAL PAYMENTS - RURAL HEALTH CLINIC	IP_HOSP_PYMT_RHC	
INSTITUTIONAL LONG TERM CARE RECORDS - RURAL HEALTH CLINIC	LT_REC_CNT_RHC	Questionable utility
INSTITUTIONAL LONG TERM CARE PAYMENTS - RURAL HEALTH CLINIC	LT_PYMT_AMT_RHC	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
OTHER SERVICE RECORDS - RURAL HEALTH CLINIC	OT_REC_CNT_RHC	Questionable utility
OTHER SERVICE PAYMENTS - RURAL HEALTH CLINIC	OT_PYMT_AMT_RHC	
PRESCRIPTION DRUG RECORDS - RURAL HEALTH CLINIC	RX_REC_CNT_RHC	Questionable utility
PRESCRIPTION DRUG PAYMENTS - RURAL HEALTH CLINIC	RX_PYMT_AMT_RHC	
TOTAL RECORDS - RURAL HEALTH CLINIC	TOT_REC_CNT_RHC	Questionable utility
TOTAL PAYMENTS - RURAL HEALTH CLINIC	TOT_PYMT_AMT_RHC	
INPATIENT HOSPITAL RECORDS - FQHC	IP_HOSP_REC_FQHC	Questionable utility
INPATIENT HOSPITAL PAYMENTS - FQHC	IP_HOSP_PYMT_FQHC	
INSTITUTIONAL LONG TERM CARE RECORDS - FQHC	LT_REC_CNT_FQHC	Questionable utility
INSTITUTIONAL LONG TERM CARE PAYMENTS - FQHC	LT_PYMT_AMT_FQHC	
OTHER SERVICE RECORDS - FQHC	OT_REC_CNT_FQHC	Questionable utility
OTHER SERVICE PAYMENTS - FQHC	OT_PYMT_AMT_FQHC	
PRESCRIPTION DRUG RECORDS - FQHC	RX_REC_CNT_FQHC	Questionable utility
PRESCRIPTION DRUG PAYMENTS - FQHC	RX_PYMT_AMT_FQHC	
TOTAL RECORDS - FQHC	TOT_REC_CNT_FQHC	Questionable utility
TOTAL PAYMENTS - FQHC	TOT_PYMT_AMT_FQHC	
INPATIENT HOSPITAL RECORDS - INDIAN HEALTH SERVICES	IP_HOSP_REC_IHS	Questionable utility
INPATIENT HOSPITAL PAYMENTS - INDIAN HEALTH SERVICES	IP_HOSP_PYMT_IHS	
INSTITUTIONAL LONG TERM CARE RECORDS - INDIAN HEALTH SERVICES	LT_REC_CNT_IHS	Questionable utility
INSTITUTIONAL LONG TERM CARE PAYMENTS - INDIAN HEALTH SERVICES	LT_PYMT_AMT_IHS	
OTHER SERVICE RECORDS - INDIAN HEALTH SERVICES	OT_REC_CNT_IHS	Questionable utility
OTHER SERVICE PAYMENTS - INDIAN HEALTH SERVICES	OT_PYMT_AMT_IHS	
PRESCRIPTION DRUG RECORDS - INDIAN HEALTH SERVICES	RX_REC_CNT_IHS	Questionable utility
PRESCRIPTION DRUG PAYMENTS - INDIAN HEALTH SERVICES	RX_PYMT_AMT_IHS	
TOTAL RECORDS - INDIAN HEALTH SERVICES	TOT_REC_CNT_IHS	Questionable utility
TOTAL PAYMENTS - INDIAN HEALTH SERVICES	TOT_PYMT_AMT_IHS	
INPATIENT HOSPITAL RECORDS - HCBS FOR DISABLED AND AGED	IP_HOSP_REC_HCBCA	Questionable utility
INPATIENT HOSPITAL PAYMENTS - HCBS FOR DISABLED AND AGED	IP_HOSP_PYMT_HCBCA	
INSTITUTIONAL LONG TERM CARE RECORDS - HCBS FOR DISABLED AND AGED	LT_REC_CNT_HCBCA	Questionable utility
INSTITUTIONAL LONG TERM CARE PAYMENTS - HCBS FOR DISABLED AND AGED	LT_PYMT_AMT_HCBCA	
OTHER SERVICE RECORDS - HCBS FOR DISABLED AND AGED	OT_REC_CNT_HCBCA	Questionable utility
OTHER SERVICE PAYMENTS - HCBS FOR DISABLED AND AGED	OT_PYMT_AMT_HCBCA	
PRESCRIPTION DRUG RECORDS - HCBS FOR DISABLED AND AGED	RX_REC_CNT_HCBCA	Questionable utility
PRESCRIPTION DRUG PAYMENTS - HCBS FOR DISABLED AND AGED	RX_PYMT_AMT_HCBCA	
TOTAL RECORDS - HCBS FOR DISABLED AND AGED	TOT_REC_CNT_HCBCA	Questionable utility
TOTAL PAYMENTS - HCBS FOR DISABLED AND AGED	TOT_PYMT_AMT_HCBCA	
INPATIENT HOSPITAL RECORDS - HCBS FOR WAIVER SERVICES	IP_HOSP_REC_HCBCS	Questionable utility
INPATIENT HOSPITAL PAYMENTS - HCBS FOR WAIVER SERVICES	IP_HOSP_PYMT_HCBCS	
INSTITUTIONAL LONG TERM CARE RECORDS - HCBS FOR WAIVER SERVICES	LT_REC_CNT_HCBCS	Questionable utility

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
INSTITUTIONAL LONG TERM CARE PAYMENTS - HCBS FOR WAIVER SERVICES	LT_PYMT_AMT_HCBCS	
OTHER SERVICE RECORDS - HCBS FOR WAIVER SERVICES	OT_REC_CNT_HCBCS	Questionable utility
OTHER SERVICE PAYMENTS - HCBS FOR WAIVER SERVICES	OT_PYMT_AMT_HCBCS	
PRESCRIPTION DRUG RECORDS - HCBS FOR WAIVER SERVICES	RX_REC_CNT_HCBCS	Questionable utility
PRESCRIPTION DRUG PAYMENTS - HCBS FOR WAIVER SERVICES	RX_PYMT_AMT_HCBCS	
TOTAL RECORDS - HCBS FOR WAIVER SERVICES	TOT_REC_CNT_HCBCS	Questionable utility
TOTAL PAYMENTS - HCBS FOR WAIVER SERVICES	TOT_PYMT_AMT_HCBCS	
DELIVERY CODE	RCPNT_DLVRY_CD	
RECIPIENT INDICATOR - MAX TOS 01	FEE_FOR_SRVC_IND_01	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 01	FFS_CLM_CNT_01	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 01	FFS_PYMT_AMT_01	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 01	FFS_CHRG_AMT_01	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 01	FFS_TP_AMT_01	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 01	ENCTR_REC_CNT_01	
RECIPIENT INDICATOR - MAX TOS 02	FEE_FOR_SRVC_IND_02	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 02	FFS_CLM_CNT_02	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 02	FFS_PYMT_AMT_02	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 02	FFS_CHRG_AMT_02	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 02	FFS_TP_AMT_02	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 02	ENCTR_REC_CNT_02	
RECIPIENT INDICATOR - MAX TOS 04	FEE_FOR_SRVC_IND_04	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 04	FFS_CLM_CNT_04	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 04	FFS_PYMT_AMT_04	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 04	FFS_CHRG_AMT_04	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 04	FFS_TP_AMT_04	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 04	ENCTR_REC_CNT_04	
RECIPIENT INDICATOR - MAX TOS 05	FEE_FOR_SRVC_IND_05	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 05	FFS_CLM_CNT_05	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 05	FFS_PYMT_AMT_05	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 05	FFS_CHRG_AMT_05	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 05	FFS_TP_AMT_05	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 05	ENCTR_REC_CNT_05	
RECIPIENT INDICATOR - MAX TOS 07	FEE_FOR_SRVC_IND_07	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 07	FFS_CLM_CNT_07	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 07	FFS_PYMT_AMT_07	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 07	FFS_CHRG_AMT_07	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 07	FFS_TP_AMT_07	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 07	ENCTR_REC_CNT_07	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
RECIPIENT INDICATOR - MAX TOS 08	FEE_FOR_SRVC_IND_08	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 08	FFS_CLM_CNT_08	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 08	FFS_PYMT_AMT_08	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 08	FFS_CHRG_AMT_08	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 08	FFS_TP_AMT_08	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 08	ENCTR_REC_CNT_08	
RECIPIENT INDICATOR - MAX TOS 09	FEE_FOR_SRVC_IND_09	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 09	FFS_CLM_CNT_09	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 09	FFS_PYMT_AMT_09	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 09	FFS_CHRG_AMT_09	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 09	FFS_TP_AMT_09	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 09	ENCTR_REC_CNT_09	
RECIPIENT INDICATOR - MAX TOS 10	FEE_FOR_SRVC_IND_10	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 10	FFS_CLM_CNT_10	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 10	FFS_PYMT_AMT_10	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 10	FFS_CHRG_AMT_10	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 10	FFS_TP_AMT_10	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 10	ENCTR_REC_CNT_10	
RECIPIENT INDICATOR - MAX TOS 11	FEE_FOR_SRVC_IND_11	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 11	FFS_CLM_CNT_11	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 11	FFS_PYMT_AMT_11	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 11	FFS_CHRG_AMT_11	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 11	FFS_TP_AMT_11	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 11	ENCTR_REC_CNT_11	
RECIPIENT INDICATOR - MAX TOS 12	FEE_FOR_SRVC_IND_12	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 12	FFS_CLM_CNT_12	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 12	FFS_PYMT_AMT_12	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 12	FFS_CHRG_AMT_12	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 12	FFS_TP_AMT_12	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 12	ENCTR_REC_CNT_12	
RECIPIENT INDICATOR - MAX TOS 13	FEE_FOR_SRVC_IND_13	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 13	FFS_CLM_CNT_13	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 13	FFS_PYMT_AMT_13	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 13	FFS_CHRG_AMT_13	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 13	FFS_TP_AMT_13	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 13	ENCTR_REC_CNT_13	
RECIPIENT INDICATOR - MAX TOS 15	FEE_FOR_SRVC_IND_15	Computable from payment amount

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 15	FFS_CLM_CNT_15	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 15	FFS_PYMT_AMT_15	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 15	FFS_CHRG_AMT_15	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 15	FFS_TP_AMT_15	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 15	ENCTR_REC_CNT_15	
RECIPIENT INDICATOR - MAX TOS 16	FEE_FOR_SRVC_IND_16	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 16	FFS_CLM_CNT_16	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 16	FFS_PYMT_AMT_16	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 16	FFS_CHRG_AMT_16	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 16	FFS_TP_AMT_16	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 16	ENCTR_REC_CNT_16	
RECIPIENT INDICATOR - MAX TOS 19	FEE_FOR_SRVC_IND_19	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 19	FFS_CLM_CNT_19	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 19	FFS_PYMT_AMT_19	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 19	FFS_CHRG_AMT_19	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 19	FFS_TP_AMT_19	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 19	ENCTR_REC_CNT_19	
RECIPIENT INDICATOR - MAX TOS 24	FEE_FOR_SRVC_IND_24	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 24	FFS_CLM_CNT_24	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 24	FFS_PYMT_AMT_24	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 24	FFS_CHRG_AMT_24	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 24	FFS_TP_AMT_24	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 24	ENCTR_REC_CNT_24	
RECIPIENT INDICATOR - MAX TOS 25	FEE_FOR_SRVC_IND_25	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 25	FFS_CLM_CNT_25	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 25	FFS_PYMT_AMT_25	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 25	FFS_CHRG_AMT_25	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 25	FFS_TP_AMT_25	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 25	ENCTR_REC_CNT_25	
RECIPIENT INDICATOR - MAX TOS 26	FEE_FOR_SRVC_IND_26	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 26	FFS_CLM_CNT_26	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 26	FFS_PYMT_AMT_26	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 26	FFS_CHRG_AMT_26	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 26	FFS_TP_AMT_26	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 26	ENCTR_REC_CNT_26	
RECIPIENT INDICATOR - MAX TOS 30	FEE_FOR_SRVC_IND_30	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 30	FFS_CLM_CNT_30	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 30	FFS_PYMT_AMT_30	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 30	FFS_CHRG_AMT_30	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 30	FFS_TP_AMT_30	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 30	ENCTR_REC_CNT_30	
RECIPIENT INDICATOR - MAX TOS 31	FEE_FOR_SRVC_IND_31	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 31	FFS_CLM_CNT_31	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 31	FFS_PYMT_AMT_31	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 31	FFS_CHRG_AMT_31	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 31	FFS_TP_AMT_31	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 31	ENCTR_REC_CNT_31	
RECIPIENT INDICATOR - MAX TOS 33	FEE_FOR_SRVC_IND_33	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 33	FFS_CLM_CNT_33	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 33	FFS_PYMT_AMT_33	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 33	FFS_CHRG_AMT_33	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 33	FFS_TP_AMT_33	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 33	ENCTR_REC_CNT_33	
RECIPIENT INDICATOR - MAX TOS 34	FEE_FOR_SRVC_IND_34	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 34	FFS_CLM_CNT_34	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 34	FFS_PYMT_AMT_34	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 34	FFS_CHRG_AMT_34	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 34	FFS_TP_AMT_34	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 34	ENCTR_REC_CNT_34	
RECIPIENT INDICATOR - MAX TOS 35	FEE_FOR_SRVC_IND_35	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 35	FFS_CLM_CNT_35	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 35	FFS_PYMT_AMT_35	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 35	FFS_CHRG_AMT_35	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 35	FFS_TP_AMT_35	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 35	ENCTR_REC_CNT_35	
RECIPIENT INDICATOR - MAX TOS 36	FEE_FOR_SRVC_IND_36	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 36	FFS_CLM_CNT_36	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 36	FFS_PYMT_AMT_36	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 36	FFS_CHRG_AMT_36	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 36	FFS_TP_AMT_36	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 36	ENCTR_REC_CNT_36	
RECIPIENT INDICATOR - MAX TOS 37	FEE_FOR_SRVC_IND_37	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 37	FFS_CLM_CNT_37	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 37	FFS_PYMT_AMT_37	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 37	FFS_CHRG_AMT_37	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 37	FFS_TP_AMT_37	Inconsistent reporting

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
ENCOUNTER RECORD COUNT - MAX TOS 37	ENCTR_REC_CNT_37	
RECIPIENT INDICATOR - MAX TOS 38	FEE_FOR_SRVC_IND_38	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 38	FFS_CLM_CNT_38	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 38	FFS_PYMT_AMT_38	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 38	FFS_CHRG_AMT_38	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 38	FFS_TP_AMT_38	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 38	ENCTR_REC_CNT_38	
RECIPIENT INDICATOR - MAX TOS 39	FEE_FOR_SRVC_IND_39	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 39	FFS_CLM_CNT_39	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 39	FFS_PYMT_AMT_39	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 39	FFS_CHRG_AMT_39	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 39	FFS_TP_AMT_39	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 39	ENCTR_REC_CNT_39	
RECIPIENT INDICATOR - MAX TOS 51	FEE_FOR_SRVC_IND_51	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 51	FFS_CLM_CNT_51	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 51	FFS_PYMT_AMT_51	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 51	FFS_CHRG_AMT_51	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 51	FFS_TP_AMT_51	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 51	ENCTR_REC_CNT_51	
RECIPIENT INDICATOR - MAX TOS 52	FEE_FOR_SRVC_IND_52	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 52	FFS_CLM_CNT_52	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 52	FFS_PYMT_AMT_52	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 52	FFS_CHRG_AMT_52	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 52	FFS_TP_AMT_52	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 52	ENCTR_REC_CNT_52	
RECIPIENT INDICATOR - MAX TOS 53	FEE_FOR_SRVC_IND_53	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 53	FFS_CLM_CNT_53	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 53	FFS_PYMT_AMT_53	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 53	FFS_CHRG_AMT_53	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 53	FFS_TP_AMT_53	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 53	ENCTR_REC_CNT_53	
RECIPIENT INDICATOR - MAX TOS 54	FEE_FOR_SRVC_IND_54	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 54	FFS_CLM_CNT_54	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 54	FFS_PYMT_AMT_54	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 54	FFS_CHRG_AMT_54	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 54	FFS_TP_AMT_54	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 54	ENCTR_REC_CNT_54	

Table A.1. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
RECIPIENT INDICATOR - MAX TOS 99	FEE_FOR_SRVC_IND_99	Computable from payment amount
FEE-FOR-SERVICE CLAIM COUNT - MAX TOS 99	FFS_CLM_CNT_99	Not critical for PS analyses
FEE-FOR-SERVICE MEDICAID PAYMENT AMOUNT - MAX TOS 99	FFS_PYMT_AMT_99	
FEE-FOR-SERVICE CHARGE AMOUNT - MAX TOS 99	FFS_CHRG_AMT_99	Inconsistent reporting
FEE-FOR-SERVICE THIRD PARTY PAYMENT AMOUNT - MAX TOS 99	FFS_TP_AMT_99	Inconsistent reporting
ENCOUNTER RECORD COUNT - MAX TOS 99	ENCTR_REC_CNT_99	
MEDICAID PAYMENT AMOUNT - CLTC 11	CLTC_FFS_PYMT_AMT_11	
MEDICAID PAYMENT AMOUNT - CLTC 12	CLTC_FFS_PYMT_AMT_12	
MEDICAID PAYMENT AMOUNT - CLTC 13	CLTC_FFS_PYMT_AMT_13	
MEDICAID PAYMENT AMOUNT - CLTC 14	CLTC_FFS_PYMT_AMT_14	
MEDICAID PAYMENT AMOUNT - CLTC 15	CLTC_FFS_PYMT_AMT_15	
MEDICAID PAYMENT AMOUNT - CLTC 16	CLTC_FFS_PYMT_AMT_16	
MEDICAID PAYMENT AMOUNT - CLTC 17	CLTC_FFS_PYMT_AMT_17	
MEDICAID PAYMENT AMOUNT - CLTC 18	CLTC_FFS_PYMT_AMT_18	
MEDICAID PAYMENT AMOUNT - CLTC 19	CLTC_FFS_PYMT_AMT_19	
MEDICAID PAYMENT AMOUNT - CLTC 20	CLTC_FFS_PYMT_AMT_20	
MEDICAID PAYMENT AMOUNT - CLTC 30	CLTC_FFS_PYMT_AMT_30	
MEDICAID PAYMENT AMOUNT - CLTC 31	CLTC_FFS_PYMT_AMT_31	
MEDICAID PAYMENT AMOUNT - CLTC 32	CLTC_FFS_PYMT_AMT_32	
MEDICAID PAYMENT AMOUNT - CLTC 33	CLTC_FFS_PYMT_AMT_33	
MEDICAID PAYMENT AMOUNT - CLTC 34	CLTC_FFS_PYMT_AMT_34	
MEDICAID PAYMENT AMOUNT - CLTC 35	CLTC_FFS_PYMT_AMT_35	
MEDICAID PAYMENT AMOUNT - CLTC 36	CLTC_FFS_PYMT_AMT_36	
MEDICAID PAYMENT AMOUNT - CLTC 37	CLTC_FFS_PYMT_AMT_37	
MEDICAID PAYMENT AMOUNT - CLTC 38	CLTC_FFS_PYMT_AMT_38	
MEDICAID PAYMENT AMOUNT - CLTC 39	CLTC_FFS_PYMT_AMT_39	
MEDICAID PAYMENT AMOUNT - CLTC 40	CLTC_FFS_PYMT_AMT_40	
PREMIUM PAYMENT INDICATOR - HMO	PREM_PYMT_IND_HMO	Computable from record count
PREMIUM PAYMENT RECORD COUNT - HMO	PREM_PYMT_REC_CNT_HMO	
MEDICAID PREMIUM PAYMENT AMOUNT - HMO	PREM_MDCD_PYMT_AMT_HMO	
PREMIUM PAYMENT INDICATOR - PHP	PREM_PYMT_IND_PHP	Computable from record count
PREMIUM PAYMENT RECORD COUNT - PHP	PREM_PYMT_REC_CNT_PHP	
MEDICAID PREMIUM PAYMENT AMOUNT - PHP	PREM_MDCD_PYMT_AMT_PHP	
PREMIUM PAYMENT INDICATOR - PCCM	PREM_PYMT_IND_PCCM	Computable from record count
PREMIUM PAYMENT RECORD COUNT - PCCM	PREM_PYMT_REC_CNT_PCCM	
MEDICAID PREMIUM PAYMENT AMOUNT - PCCM	PREM_MDCD_PYMT_AMT_PCCM	

Table A.2. MAX Inpatient Hospital (IP) File Data Elements with Reason for Exclusion from Mini-MAX

MAX Data Element Name	Variable Name	Reason for Exclusion
MSIS IDENTIFICATION NUMBER	MSIS_ID	Confidentiality
STATE ABBREVIATION CODE	STATE_CD	
SOCIAL SECURITY NUMBER - FROM MSIS	EL_SSN	Confidentiality
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MSIS	MDCD_HIC_NUM	Confidentiality
BIRTH DATE	EL_DOB	Will not support linking
SEX CODE	EL_SEX_CD	Will not support linking
RACE/ETHNICITY CODE	EL_RACE_ETHNCY_CD	Available in PS file
RACE - WHITE	RACE_CODE_1	Available in PS file
RACE - BLACK/AFRICAN AMERICAN	RACE_CODE_2	Available in PS file
RACE - AMERICAN INDIAN/ALASKAN NATIVE	RACE_CODE_3	Available in PS file
RACE - ASIAN	RACE_CODE_4	Available in PS file
RACE - NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	RACE_CODE_5	Available in PS file
ETHNICITY - HISPANIC OR LATINO	ETHNICITY_CODE	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - MOST RECENT	EL_SS_ELGBLTY_CD_LTST	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_SS_ELGBLTY_CD_MO	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - MOST RECENT	EL_MAX_ELGBLTY_CD_LTST	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_MAX_ELGBLTY_CD_MO	Available in PS file
MISSING ELIGIBILITY DATA	MSNG_ELG_DATA	Available in PS file
MEDICARE DUAL CODE - CLAIM-BASED	EL_MDCR_XOVR_CLM_BSD_CD	Available in PS file
MEDICARE DUAL CODE - ANNUAL	EL_MDCR_DUAL_ANN	Available in PS file
MSIS TYPE OF SERVICE CODE	MSIS_TOS	
MSIS TYPE OF PROGRAM CODE	MSIS_TOP	
MAX TYPE OF SERVICE CODE	MAX_TOS	
BILLING PROVIDER IDENTIFICATION NUMBER	PRVDR_ID_NMBR	Will not support linking
NATIONAL PROVIDER IDENTIFIER	NPI	Will not support linking
PROVIDER TAXONOMY	TAXONOMY	
TYPE OF CLAIM CODE	TYPE_CLM_CD	
ADJUSTMENT CODE	ADJUST_CD	Questionable utility
MANAGED CARE TYPE OF PLAN CODE	PHP_TYPE	
MANAGED CARE PLAN IDENTIFICATION NUMBER	PHP_ID	Will not support linking
MEDICAID PAYMENT AMOUNT	MDCD_PYMT_AMT	
THIRD PARTY PAYMENT AMOUNT	TP_PYMT_AMT	Inconsistent reporting
PAYMENT DATE	PYMT_DT	
CHARGE AMOUNT	CHRG_AMT	Inconsistent reporting
PREPAID PLAN SERVICE VALUE	PHP_VAL	
MEDICARE COINSURANCE PAYMENT AMOUNT	MDCR_COINSUR_PYMT_AMT	
MEDICARE DEDUCTIBLE PAYMENT AMOUNT	MDCR_DED_PYMT_AMT	
ADMISSION DATE	ADMSN_DT	
SERVICE BEGINNING DATE	SRVC_BGN_DT	
ENDING DATE OF SERVICE	SRVC_END_DT	
PRINCIPAL DIAGNOSIS CODE	DIAG_CD_1	

Table A.2. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
DIAGNOSIS CODE-2	DIAG_CD_2	
DIAGNOSIS CODE-3	DIAG_CD_3	
DIAGNOSIS CODE-4	DIAG_CD_4	
DIAGNOSIS CODE-5	DIAG_CD_5	
DIAGNOSIS CODE-6	DIAG_CD_6	
DIAGNOSIS CODE-7	DIAG_CD_7	
DIAGNOSIS CODE-8	DIAG_CD_8	
DIAGNOSIS CODE-9	DIAG_CD_9	
PRINCIPAL PROCEDURE DATE	PRNCPL_PRCDR_DT	
PROCEDURE CODING SYSTEM CODE - PRINCIPAL	PRCDR_CD_SYS_1	
PROCEDURE CODE - PRINCIPAL	PRCDR_CD_1	
PROCEDURE CODING SYSTEM CODE - 2	PRCDR_CD_SYS_2	
PROCEDURE CODE - 2	PRCDR_CD_2	
PROCEDURE CODING SYSTEM CODE - 3	PRCDR_CD_SYS_3	
PROCEDURE CODE - 3	PRCDR_CD_3	
PROCEDURE CODING SYSTEM CODE - 4	PRCDR_CD_SYS_4	
PROCEDURE CODE - 4	PRCDR_CD_4	
PROCEDURE CODING SYSTEM CODE - 5	PRCDR_CD_SYS_5	
PROCEDURE CODE - 5	PRCDR_CD_5	
PROCEDURE CODING SYSTEM CODE - 6	PRCDR_CD_SYS_6	
PROCEDURE CODE - 6	PRCDR_CD_6	
DELIVERY CODE	RCPNT_DLVRY_CD	
MEDICAID COVERED INPATIENT DAYS	MDCD_CVRD_IP_DAYS	
PATIENT STATUS CODE	PATIENT_STATUS_CD	
DIAGNOSIS RELATED GROUP INDICATOR	DRG_REL_GROUP_IND	
DIAGNOSIS RELATED GROUP	DRG_REL_GROUP	
UB-92 REVENUE CODE - 1	UB_92_REV_CD_GP_1	
UB-92 REVENUE CODE CHARGE - 1	UB_92_REV_CD_CHGS_1	
UB-92 REVENUE CODE UNITS - 1	UB_92_REV_CD_UNITS_1	
UB-92 REVENUE CODE - 2	UB_92_REV_CD_GP_2	
UB-92 REVENUE CODE CHARGE - 2	UB_92_REV_CD_CHGS_2	
UB-92 REVENUE CODE UNITS - 2	UB_92_REV_CD_UNITS_2	
UB-92 REVENUE CODE - 3	UB_92_REV_CD_GP_3	
UB-92 REVENUE CODE CHARGE - 3	UB_92_REV_CD_CHGS_3	
UB-92 REVENUE CODE UNITS - 3	UB_92_REV_CD_UNITS_3	
UB-92 REVENUE CODE - 4	UB_92_REV_CD_GP_4	
UB-92 REVENUE CODE CHARGE - 4	UB_92_REV_CD_CHGS_4	
UB-92 REVENUE CODE UNITS - 4	UB_92_REV_CD_UNITS_4	
UB-92 REVENUE CODE - 5	UB_92_REV_CD_GP_5	
UB-92 REVENUE CODE CHARGE - 5	UB_92_REV_CD_CHGS_5	
UB-92 REVENUE CODE UNITS - 5	UB_92_REV_CD_UNITS_5	
UB-92 REVENUE CODE - 6	UB_92_REV_CD_GP_6	
UB-92 REVENUE CODE CHARGE - 6	UB_92_REV_CD_CHGS_6	
UB-92 REVENUE CODE UNITS - 6	UB_92_REV_CD_UNITS_6	

Table A.2. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
UB-92 REVENUE CODE - 7	UB_92_REV_CD_GP_7	
UB-92 REVENUE CODE CHARGE - 7	UB_92_REV_CD_CHGS_7	
UB-92 REVENUE CODE UNITS - 7	UB_92_REV_CD_UNITS_7	
UB-92 REVENUE CODE - 8	UB_92_REV_CD_GP_8	
UB-92 REVENUE CODE CHARGE - 8	UB_92_REV_CD_CHGS_8	
UB-92 REVENUE CODE UNITS - 8	UB_92_REV_CD_UNITS_8	
UB-92 REVENUE CODE - 9	UB_92_REV_CD_GP_9	
UB-92 REVENUE CODE CHARGE - 9	UB_92_REV_CD_CHGS_9	
UB-92 REVENUE CODE UNITS - 9	UB_92_REV_CD_UNITS_9	
UB-92 REVENUE CODE - 10	UB_92_REV_CD_GP_10	
UB-92 REVENUE CODE CHARGE - 10	UB_92_REV_CD_CHGS_10	
UB-92 REVENUE CODE UNITS - 10	UB_92_REV_CD_UNITS_10	
UB-92 REVENUE CODE - 11	UB_92_REV_CD_GP_11	
UB-92 REVENUE CODE CHARGE - 11	UB_92_REV_CD_CHGS_11	
UB-92 REVENUE CODE UNITS - 11	UB_92_REV_CD_UNITS_11	
UB-92 REVENUE CODE - 12	UB_92_REV_CD_GP_12	
UB-92 REVENUE CODE CHARGE - 12	UB_92_REV_CD_CHGS_12	
UB-92 REVENUE CODE UNITS - 12	UB_92_REV_CD_UNITS_12	
UB-92 REVENUE CODE - 13	UB_92_REV_CD_GP_13	
UB-92 REVENUE CODE CHARGE - 13	UB_92_REV_CD_CHGS_13	
UB-92 REVENUE CODE UNITS - 13	UB_92_REV_CD_UNITS_13	
UB-92 REVENUE CODE - 14	UB_92_REV_CD_GP_14	
UB-92 REVENUE CODE CHARGE - 14	UB_92_REV_CD_CHGS_14	
UB-92 REVENUE CODE UNITS - 14	UB_92_REV_CD_UNITS_14	
UB-92 REVENUE CODE - 15	UB_92_REV_CD_GP_15	
UB-92 REVENUE CODE CHARGE - 15	UB_92_REV_CD_CHGS_15	
UB-92 REVENUE CODE UNITS - 15	UB_92_REV_CD_UNITS_15	
UB-92 REVENUE CODE - 16	UB_92_REV_CD_GP_16	
UB-92 REVENUE CODE CHARGE - 16	UB_92_REV_CD_CHGS_16	
UB-92 REVENUE CODE UNITS - 16	UB_92_REV_CD_UNITS_16	
UB-92 REVENUE CODE - 17	UB_92_REV_CD_GP_17	
UB-92 REVENUE CODE CHARGE - 17	UB_92_REV_CD_CHGS_17	
UB-92 REVENUE CODE UNITS - 17	UB_92_REV_CD_UNITS_17	
UB-92 REVENUE CODE - 18	UB_92_REV_CD_GP_18	
UB-92 REVENUE CODE CHARGE - 18	UB_92_REV_CD_CHGS_18	
UB-92 REVENUE CODE UNITS - 18	UB_92_REV_CD_UNITS_18	
UB-92 REVENUE CODE - 18	UB_92_REV_CD_GP_18	
UB-92 REVENUE CODE CHARGE - 19	UB_92_REV_CD_CHGS_19	
UB-92 REVENUE CODE UNITS - 19	UB_92_REV_CD_UNITS_19	
UB-92 REVENUE CODE - 19	UB_92_REV_CD_GP_19	
UB-92 REVENUE CODE CHARGE - 20	UB_92_REV_CD_CHGS_20	
UB-92 REVENUE CODE UNITS - 20	UB_92_REV_CD_UNITS_20	
UB-92 REVENUE CODE - 20	UB_92_REV_CD_GP_20	
UB-92 REVENUE CODE CHARGE - 21	UB_92_REV_CD_CHGS_21	

Table A.2. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
UB-92 REVENUE CODE UNITS - 21	UB_92_REV_CD_UNITS_21	
UB-92 REVENUE CODE - 21	UB_92_REV_CD_GP_21	
UB-92 REVENUE CODE CHARGE - 22	UB_92_REV_CD_CHGS_22	
UB-92 REVENUE CODE UNITS - 22	UB_92_REV_CD_UNITS_22	
UB-92 REVENUE CODE - 22	UB_92_REV_CD_GP_22	
UB-92 REVENUE CODE CHARGE - 23	UB_92_REV_CD_CHGS_23	
UB-92 REVENUE CODE UNITS - 23	UB_92_REV_CD_UNITS_23	
UB-92 REVENUE CODE - 23	UB_92_REV_CD_GP_23	

Table A.3. MAX Long Term Care (LT) File Data Elements with Reason for Exclusion from Mini-MAX

MAX Data Element Name	Variable Name	Reason for Exclusion
MSIS IDENTIFICATION NUMBER	MSIS_ID	Confidentiality
STATE ABBREVIATION CODE	**STATE_CD**	
SOCIAL SECURITY NUMBER - FROM MSIS	EL_SSN	Confidentiality
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MSIS	MDCD_HIC_NUM	Confidentiality
BIRTH DATE	EL_DOB	Will not support linking
SEX CODE	EL_SEX_CD	Will not support linking
RACE/ETHNICITY CODE	EL_RACE_ETHNCY_CD	Available in PS file
RACE - WHITE	RACE_CODE_1	Available in PS file
RACE - BLACK/AFRICAN AMERICAN	RACE_CODE_2	Available in PS file
RACE - AMERICAN INDIAN/ALASKAN NATIVE	RACE_CODE_3	Available in PS file
RACE - ASIAN	RACE_CODE_4	Available in PS file
RACE - NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	RACE_CODE_5	Available in PS file
ETHNICITY - HISPANIC OR LATINO	ETHNICITY_CODE	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - MOST RECENT	EL_SS_ELGBLTY_CD_LTST	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_SS_ELGBLTY_CD_MO	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - MOST RECENT	EL_MAX_ELGBLTY_CD_LTST	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_MAX_ELGBLTY_CD_MO	Available in PS file
MISSING ELIGIBILITY DATA	MSNG_ELG_DATA	Available in PS file
MEDICARE DUAL CODE - CLAIM-BASED	EL_MDCR_XOVR_CLM_BSD_CD	Available in PS file
MEDICARE DUAL CODE - ANNUAL	EL_MDCR_DUAL_ANN	Available in PS file
MSIS TYPE OF SERVICE CODE	MSIS_TOS	
MSIS TYPE OF PROGRAM CODE	MSIS_TOP	
MAX TYPE OF SERVICE CODE	MAX_TOS	
BILLING PROVIDER IDENTIFICATION NUMBER	PRVDR_ID_NMBR	Will not support linking
NATIONAL PROVIDER IDENTIFIER	NPI	Will not support linking
PROVIDER TAXONOMY	TAXONOMY	
TYPE OF CLAIM CODE	TYPE_CLM_CD	
ADJUSTMENT CODE	ADJUST_CD	Questionable utility
MANAGED CARE TYPE OF PLAN CODE	PHP_TYPE	
MANAGED CARE PLAN IDENTIFICATION NUMBER	PHP_ID	Will not support linking
MEDICAID PAYMENT AMOUNT	MDCD_PYMT_AMT	
THIRD PARTY PAYMENT AMOUNT	TP_PYMT_AMT	Inconsistent reporting
PAYMENT DATE	PYMT_DT	
CHARGE AMOUNT	CHRG_AMT	Inconsistent reporting
PREPAID PLAN SERVICE VALUE	PHP_VAL	
MEDICARE COINSURANCE PAYMENT AMOUNT	MDCR_COINSUR_PYMT_AMT	
MEDICARE DEDUCTIBLE PAYMENT AMOUNT	MDCR_DED_PYMT_AMT	
INSTITUTIONAL LONG TERM CARE ADMISSION DATE	ADMSN_DT	
SERVICE BEGINNING DATE	SRVC_BGN_DT	
ENDING DATE OF SERVICE	SRVC_END_DT	
DIAGNOSIS CODE - 1	DIAG_CD_1	

Table A.3. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
DIAGNOSIS CODE - 2	DIAG_CD_2	
DIAGNOSIS CODE - 3	DIAG_CD_3	
DIAGNOSIS CODE - 4	DIAG_CD_4	
DIAGNOSIS CODE - 5	DIAG_CD_5	
MENTAL HOSPITAL FOR THE AGED DAY COUNT	MDCD_CVRD_MENTL_DAY_CNT	
INPATIENT PSYCHIATRIC FACILITY (AGE < 21) DAY COUNT	MDCD_CVRD_PSYCH_DAY_CNT	
INTERMEDIATE CARE FACILITY FOR THE MENTALLY RETARDED DAY COUNT	INTRMDT_FAC_MR_DAY_CNT	
NURSING FACILITY DAY COUNT	NRSNG_FAC_DAY_CNT	
LONG TERM CARE LEAVE DAY COUNT	LT_CARE_LVE_DAY_CNT	
PATIENT STATUS CODE	PATIENT_STATUS_CD	
PATIENT LIABILITY AMOUNT	PATIENT_LIB_AMT	

Table A.4. MAX Other Services (OT) File Data Elements with Reason for Exclusion from Mini-MAX

MAX Data Element Name	Variable Name	Reason for Exclusion
MSIS IDENTIFICATION NUMBER	MSIS_ID	Confidentiality
STATE ABBREVIATION CODE	STATE_CD	
SOCIAL SECURITY NUMBER - FROM MSIS	EL_SSN	Confidentiality
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MSIS	MDCD_HIC_NUM	Confidentiality
BIRTH DATE	EL_DOB	Will not support linking
SEX CODE	EL_SEX_CD	Will not support linking
RACE/ETHNICITY CODE	EL_RACE_ETHNCY_CD	Available in PS file
RACE - WHITE	RACE_CODE_1	Available in PS file
RACE - BLACK/AFRICAN AMERICAN	RACE_CODE_2	Available in PS file
RACE - AMERICAN INDIAN/ALASKAN NATIVE	RACE_CODE_3	Available in PS file
RACE - ASIAN	RACE_CODE_4	Available in PS file
RACE - NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	RACE_CODE_5	Available in PS file
ETHNICITY - HISPANIC OR LATINO	ETHNICITY_CODE	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - MOST RECENT	EL_SS_ELGBLTY_CD_LTST	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_SS_ELGBLTY_CD_MO	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - MOST RECENT	EL_MAX_ELGBLTY_CD_LTST	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_MAX_ELGBLTY_CD_MO	Available in PS file
MISSING ELIGIBILITY DATA	MSNG_ELG_DATA	Available in PS file
MEDICARE DUAL CODE - CLAIM-BASED	EL_MDCR_XOVR_CLM_BSD_CD	Available in PS file
MEDICARE DUAL CODE - ANNUAL	EL_MDCR_DUAL_ANN	Available in PS file
MSIS TYPE OF SERVICE CODE	MSIS_TOS	
MSIS TYPE OF PROGRAM CODE	MSIS_TOP	
MAX TYPE OF SERVICE CODE	MAX_TOS	
COMMUNITY-BASED LONG-TERM CARE (CLTC) FLAG	CLTC_FLAG	
BILLING PROVIDER IDENTIFICATION NUMBER	PRVDR_ID_NMBR	Will not support linking
NATIONAL PROVIDER IDENTIFIER	NPI	Will not support linking
PROVIDER TAXONOMY	TAXONOMY	
TYPE OF CLAIM CODE	TYPE_CLM_CD	
ADJUSTMENT CODE	ADJUST_CD	Questionable utility
MANAGED CARE TYPE OF PLAN CODE	PHP_TYPE	
MANAGED CARE PLAN IDENTIFICATION NUMBER	PHP_ID	Will not support linking
MEDICAID PAYMENT AMOUNT	MDCD_PYMT_AMT	
THIRD PARTY PAYMENT AMOUNT	TP_PYMT_AMT	Inconsistent reporting
PAYMENT DATE	PYMT_DT	
CHARGE AMOUNT	CHRG_AMT	Inconsistent reporting
PREPAID PLAN SERVICE VALUE	PHP_VAL	
MEDICARE COINSURANCE PAYMENT AMOUNT	MDCR_COINSUR_PYMT_AMT	
MEDICARE DEDUCTIBLE PAYMENT AMOUNT	MDCR_DED_PYMT_AMT	
SERVICE BEGINNING DATE	SRVC_BGN_DT	
ENDING DATE OF SERVICE	SRVC_END_DT	

Table A.4. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
PROCEDURE CODING SYSTEM CODE	PRCDR_CD_SYS	
PROCEDURE (SERVICE) CODE	PRCDR_CD	
PROCEDURE (SERVICE) MODIFIER CODE	PRCDR_SRVC_MDFR_CD	
DIAGNOSIS CODE-1	DIAG_CD_1	
DIAGNOSIS CODE-2	DIAG_CD_2	
QUANTITY OF SERVICE	QTY_SRVC_UNITS	
SERVICING PROVIDER IDENTIFICATION NUMBER	SRVC_PRVDR_ID_NMBR	Will not support linking
SERVICING PROVIDER SPECIALTY CODE	SRVC_PRVDR_SPEC_CD	
PLACE OF SERVICE CODE	PLC_OF_SRVC_CD	
UB-92 REVENUE CODE	UB_92_REV_CD	

Table A.5. MAX Prescription Drug (RX) File Data Elements with Reason for Exclusion from Mini-MAX

MAX Data Element Name	Variable Name	Reason for Exclusion
MSIS IDENTIFICATION NUMBER	MSIS_ID	Confidentiality
STATE ABBREVIATION CODE	STATE_CD	
SOCIAL SECURITY NUMBER - FROM MSIS	EL_SSN	Confidentiality
MEDICARE HEALTH INSURANCE CLAIM (HIC) NUMBER - FROM MSIS	MDCD_HIC_NUM	Confidentiality
BIRTH DATE	EL_DOB	Will not support linking
SEX CODE	EL_SEX_CD	Will not support linking
RACE/ETHNICITY CODE	EL_RACE_ETHNCY_CD	Available in PS file
RACE - WHITE	RACE_CODE_1	Available in PS file
RACE - BLACK/AFRICAN AMERICAN	RACE_CODE_2	Available in PS file
RACE - AMERICAN INDIAN/ALASKAN NATIVE	RACE_CODE_3	Available in PS file
RACE - ASIAN	RACE_CODE_4	Available in PS file
RACE - NATIVE HAWAIIAN/OTHER PACIFIC ISLANDER	RACE_CODE_5	Available in PS file
ETHNICITY - HISPANIC OR LATINO	ETHNICITY_CODE	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - MOST RECENT	EL_SS_ELGBLTY_CD_LTST	Available in PS file
STATE SPECIFIC ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_SS_ELGBLTY_CD_MO	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - MOST RECENT	EL_MAX_ELGBLTY_CD_LTST	Available in PS file
MAX UNIFORM ELIGIBILITY CODE - FOR MONTH OF SERVICE	EL_MAX_ELGBLTY_CD_MO	Available in PS file
MISSING ELIGIBILITY DATA	MSNG_ELG_DATA	Available in PS file
MEDICARE DUAL CODE - ANNUAL	EL_MDCR_DUAL_ANN	Available in PS file
MSIS TYPE OF SERVICE CODE	MSIS_TOS	
MSIS TYPE OF PROGRAM CODE	MSIS_TOP	
MAX TYPE OF SERVICE CODE	MAX_TOS	
BILLING PROVIDER IDENTIFICATION NUMBER	PRVDR_ID_NMBR	Will not support linking
NATIONAL PROVIDER IDENTIFIER	NPI	Will not support linking
PROVIDER TAXONOMY	TAXONOMY	
TYPE OF CLAIM CODE	TYPE_CLM_CD	
ADJUSTMENT CODE	ADJUST_CD	Questionable utility
MANAGED CARE TYPE OF PLAN CODE	PHP_TYPE	
MANAGED CARE PLAN IDENTIFICATION NUMBER	PHP_ID	Will not support linking
MEDICAID PAYMENT AMOUNT	MDCD_PYMT_AMT	
THIRD PARTY PAYMENT AMOUNT	TP_PYMT_AMT	Inconsistent reporting
PAYMENT DATE	PYMT_DT	
CHARGE AMOUNT	CHRG_AMT	Inconsistent reporting
PREPAID PLAN SERVICE VALUE	PHP_VAL	
PRESCRIBING PHYSICIAN IDENTIFICATION NUMBER	PRES_PHYSICIAN_ID_NUM	Will not support linking
PRESCRIBED DATE	PRSC_WRTE_DT	
PRESCRIPTION FILLED DATE	PRSCRPTN_FILL_DT	
NEW OR REFILL INDICATOR	NEW_REFILL_IND	Unreliable
NATIONAL DRUG CODE (NDC)	NDC	
QUANTITY OF SERVICE	QTY_SRVC_UNITS	

Table A.5. *(continued)*

MAX Data Element Name	Variable Name	Reason for Exclusion
DAYS SUPPLY	DAYS_SUPPLY	
NATIONAL DRUG CODE FORMAT INDICATOR	NDC_FORMT_IND	Proprietary
DRUG CLASS	DRUG_CLASS_CD	Proprietary
MULTI-SOURCE CODE	MULTI_SRCE_CD	Proprietary
FILLER	FILLER3	Filler
HIERARCHICAL SPECIFIC THERAPEUTIC CLASS CODE	HIC3	Proprietary
THERAPEUTIC CLASS CODE, GENERIC	THRTPC_CLASS_CD_GENERIC	Proprietary
FILLER	FILLER4	Filler
CLINICAL FORMULATION ID	GCN_SEQNO	Proprietary
INGREDIENT LIST IDENTIFIER	HICL_SEQNO	Proprietary
HIERARCHICAL SPECIFIC THERAPEUTIC CLASS CODE SEQUENCE NUMBER	HIC3_SEQN	Proprietary
FILLER	FILLER5	Filler
MEDI-SPAN THERAPEUTIC CLASSIFICATION SYSTEM CODE	MEDISPAN_DRG_CTGRY	Proprietary
OVER-THE-COUNTER INDICATOR CODE	OVER_COUNTER_IND	Proprietary

APPENDIX B

REFERENCES TO OUTSIDE SOURCES

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CMS Website

The CMS website abounds with information on the Medicaid program and Medicaid data sources, including MSIS, MAX, and Mini-MAX. The main access point for the Medicaid section of the CMS website can be found at:

https://www.cms.gov/MedicaidDataSourcesGenInfo/01_Overview.asp.

From this overview, the most important link for a user new to MAX will be the link to core information on MAX data. This page includes an overview of MAX and links to the data dictionary, validation tables, and anomaly tables. It also gives links to the Medicaid/CHIP environmental scanning and program characteristics database (ESPC). This database provides state-specific information on Medicaid and CHIP program characteristics, including eligibility criteria, the presence of waiver programs, managed care penetration, benefit coverage, reimbursement levels, and expenditures.

This core information can be found at:

https://www.cms.gov/MedicaidDataSourcesGenInfo/07_MAXGeneralInformation.asp.

Supplemental information on Medicaid and MAX data can be found by following links from the Medicaid Overview page. Some of the available information includes the following:

- **Overview of Medicaid program.** The Medicaid at a Glance report provides an overview of the Medicaid program. The Medicaid Chartbook also gives basic information and statistics on the program.
- **State-specific program information.** Several links provide information on differences in the Medicaid program across states, as well as links to Medicaid managed care enrollment and program information, including the link "Description of State Program." The Medicaid Chartbook also provides some information on coverage differences across states.
- **MSIS regulations.** Detailed specifications for MSIS data submissions are available at: https://www.cms.gov/MSIS/.
- **Supplemental Information on MAX.** Several links give information on supplemental files developed for MAX. These include links labeled MAXEM (not released to external researchers), MAX DOD, Beta MAX, MAX Provider, and Mini-MAX.

Research Data Assistance Center (ResDAC)

CMS has contracted with ResDAC to provide assistance to academic, government, and nonprofit researchers interested in using Medicare and/or Medicaid data for their research. The ResDAC website can be found at [http://www.resdac.org/].

The website contains data dictionaries for Medicare and Medicaid data, as well as information on making a data request. ResDAC provides workshop, training, and outreach programs. Information on these programs can be found on its website, which also provides some links to Medicaid program statistics.

Kaiser Family Foundation (KFF)

KFF is a nonprofit organization conducting research and communications programs on major health issues facing the United States. KFF strives to provide a nonpartisan source of facts, information, and analysis on these issues. KFF is not associated with Kaiser Permanente or Kaiser Industries. Research materials developed by KFF can be accessed at the following two websites.

The Kaiser Family Foundation's home page at [http://www.kff.org/medicaid/index.cfm].

The Kaiser Family Foundation's State Health Facts page at

[http://www.statehealthfacts.org/].

APPENDIX C

MAX POPULATION DESCRIPTIVE TABLES

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Table C.1. Number of Medicaid Enrollees by Basis of Eligibility, Maintenance Assistance Status, and State, 2008

	Aged					
State	Total	Cash	Medically Needy	Poverty	Other	Section 1115 Demonstration Expansion
Alabama	102,119	15,609	0	68,336	18,174	0
Alaska	7,305	6,131	0	196	978	0
Arizona	88,927	16,420	0	40,656	31,851	0
Arkansas	70,005	19,460	280	29,581	20,681	11
California	799,835	407,862	204,253	147,251	40,469	0
Colorado	54,714	33,348	0	9,069	12,297	0
Connecticut	66,980	4,934	8,333	16,951	36,762	0
Delaware	13,739	2,752	0	7,198	3,291	498
District of Columbia	11,586	2,320	897	4,034	4,335	0
Florida	380,128	115,504	3,513	175,047	69,420	16,644
Georgia	140,269	27,445	2,220	71,782	38,822	0
Hawaii	22,994	7,653	2,644	12,652	45	0
Idaho	16,751	2,462	0	4,791	9,498	0
Illinois	148,177	23,709	60,576	46,163	17,729	0
Indiana	84,870	12,679	0	23,549	48,642	0
Iowa	42,304	5,757	696	8,542	27,309	0
Kansas	35,952	7,058	1,021	8,887	18,986	0
Kentucky	95,397	37,054	1,272	35,330	21,741	0
Louisiana	109,372	35,177	1,363	46,355	26,477	0
Maine	57,909	6,722	3,966	41,606	5,615	0
Maryland	59,276	18,790	21,111	19,354	21	0
Massachusetts	164,174	53,343	12,640	56,838	35,932	5,421
Michigan	136,678	37,644	9,148	57,448	32,438	0
Minnesota	94,510	19,533	15,964	20,861	38,152	0
Mississippi	76,058	18,852	0	37,618	19,528	60
Missouri	95,166	20,230	0	8,674	66,262	0
Montana	9,593	1,944	3,466	1,579	2,604	0
Nebraska	23,633	4,279	9,803	9,532	19	0
Nevada	24,626	9,207	0	9,721	5,698	0
New Hampshire	15,087	1,528	2,298	4,067	7,194	0
New Jersey	128,124	34,145	4,861	45,263	43,855	0
New Mexico	26,410	9,185	0	10,188	7,037	0
New York	474,535	167,334	219,726	62,983	24,464	28
North Carolina	182,440	59,248	21,139	101,891	162	0
North Dakota	9,232	1,624	5,211	2,395	11	0
Ohio	177,700	37,535	0	42,184	97,981	0
Oklahoma	65,211	14,350	0	24,120	26,741	0
Oregon	52,729	14,689	0	15,739	22,301	0
Pennsylvania	234,894	68,105	8,264	80,673	77,852	0
Rhode Island	20,206	4,355	3,234	3,891	8,726	0
South Carolina	77,673	19,121	0	39,364	19,188	0
South Dakota	10,633	1,763	0	3,758	5,112	0
Tennessee	104,373	22,261	1,728	49,934	30,340	110
Texas	440,688	176,285	0	122,691	141,712	0
Utah	14,292	3,693	1,743	4,731	4,125	0
Vermont	18,315	1,237	3,333	484	4,021	9,240
Virginia	99,840	33,690	3,232	36,226	26,692	0
Washington	90,253	32,022	6,490	17,315	34,426	0
West Virginia	37,644	12,710	1,446	15,289	8,199	0
Wisconsin	135,185	9,328	4,000	23,811	30,983	67,063
Wyoming	5,515	826	0	1,844	2,845	0
United States	**5,454,026**	**1,698,912**	**649,871**	**1,728,442**	**1,277,743**	**99,075**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.1 *(continued)*

State	Disabled: Total	Cash	Medically Needy	Poverty	Breast and Cervical Cancer Prevention Act of 2000	Other	Section 1115 Demonstration Expansion
Alabama	222,994	171,108	0	40,959	533	10,394	0
Alaska	16,530	14,643	0	126	163	1,598	0
Arizona	148,104	94,886	0	22,926	182	30,110	0
Arkansas	134,225	94,486	2,460	25,751	822	7,162	3,544
California	1,177,987	953,427	78,972	92,920	8,971	43,697	0
Colorado	89,189	74,307	0	5,312	310	9,260	0
Connecticut	69,316	11,519	11,223	8,287	376	37,911	0
Delaware	23,302	14,442	0	5,687	68	3,105	0
District of Columbia	39,124	23,986	7,769	4,316	14	3,039	0
Florida	559,306	396,927	9,610	102,761	569	27,197	22,242
Georgia	309,309	214,738	4,501	48,469	6,083	35,518	0
Hawaii	26,014	15,801	474	8,301	23	63	1,352
Idaho	38,407	31,421	0	4,642	0	2,344	0
Illinois	355,106	144,655	87,871	80,997	1,218	40,365	0
Indiana	158,850	69,257	0	31,094	338	58,161	0
Iowa	74,532	38,272	562	4,730	310	30,658	0
Kansas	70,448	41,090	3,577	10,580	285	14,916	0
Kentucky	224,961	179,524	3,461	33,351	490	8,135	0
Louisiana	203,592	146,679	2,160	27,841	1,268	25,644	0
Maine	61,326	32,843	950	23,011	260	4,262	0
Maryland	145,616	100,090	22,742	16,604	452	5,728	0
Massachusetts	253,898	149,425	7,473	71,484	0	4,618	20,898
Michigan	316,420	194,428	9,828	76,914	1,314	33,936	0
Minnesota	121,042	66,949	9,348	18,620	403	25,722	0
Mississippi	173,147	123,328	0	32,230	227	11,562	5,800
Missouri	195,265	83,633	0	7,659	993	102,980	0
Montana	20,318	15,591	2,143	593	237	1,754	0
Nebraska	36,419	20,260	2,309	13,015	349	486	0
Nevada	41,743	27,878	0	9,188	261	4,416	0
New Hampshire	25,060	8,412	3,000	4,369	251	9,028	0
New Jersey	194,878	138,720	1,404	30,656	455	23,643	0
New Mexico	69,080	56,614	0	6,448	375	5,643	0
New York	764,270	575,090	160,444	18,278	882	9,576	0
North Carolina	306,755	181,967	10,038	113,768	467	515	0
North Dakota	11,193	6,660	2,235	1,646	73	579	0
Ohio	379,553	238,214	0	42,856	548	97,935	0
Oklahoma	117,673	65,962	0	26,821	6,250	18,627	13
Oregon	88,239	53,610	0	13,714	444	20,471	0
Pennsylvania	544,934	311,089	3,752	178,548	1,819	49,726	0
Rhode Island	44,553	31,912	1,106	1,677	571	9,287	0
South Carolina	158,883	108,411	0	39,006	1,200	10,266	0
South Dakota	19,525	13,525	0	3,112	111	2,777	0
Tennessee	350,814	318,896	1,417	18,743	3,101	8,549	108
Texas	596,831	465,078	0	70,785	2,192	58,776	0
Utah	39,273	17,984	3,523	10,699	324	6,743	0
Vermont	24,084	14,567	4,482	396	125	2,460	2,054
Virginia	170,675	113,722	5,869	37,248	768	13,068	0
Washington	187,624	131,274	10,346	19,579	792	25,633	0
West Virginia	115,728	76,192	13,250	15,403	535	10,348	0
Wisconsin	159,666	104,009	2,257	24,928	682	27,790	0
Wyoming	10,395	5,726	0	1,463	232	2,974	0
United States	**9,686,176**	**6,583,227**	**490,556**	**1,508,511**	**48,716**	**999,155**	**56,011**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.1 *(continued)*

State	Children: Total	Under Section 1931[1]	Of Unemployed Parent Under Section 1931	Medically Needy	Poverty[2]	Other	Foster Care	Section 1115 Demon-stration Expansion
Alabama	453,793	44,920	0	0	386,078	2,128	9,366	11,301
Alaska	76,710	18,104	311	0	50,846	4,225	3,224	0
Arizona	725,813	242,048	0	0	310,394	153,737	16,165	3,469
Arkansas	439,224	16,908	0	772	310,980	3,320	7,184	100,060
California	4,342,515	2,421,007	0	313,148	394,575	919,091	155,260	139,434
Colorado	339,939	102,699	0	0	196,890	19,517	20,833	0
Connecticut	291,618	182,939	0	2,248	62,655	37,442	6,334	0
Delaware	84,222	62,532	0	0	7,620	11,780	2,206	84
District of Columbia	81,519	31,037	0	21,211	24,902	274	4,095	0
Florida	1,558,709	393,485	101,260	15,922	744,690	252,115	48,246	2,991
Georgia	994,547	217,042	0	125	582,862	158,170	36,348	0
Hawaii	113,035	56,090	0	0	42,327	4,969	6,607	3,042
Idaho	145,335	11	0	0	141,954	11	3,370	0
Illinois	1,481,233	63,141	2,744	4,463	1,343,394	1,681	65,810	0
Indiana	659,785	166,684	0	0	374,578	99,043	19,480	0
Iowa	240,159	63,782	3,168	836	125,315	31,776	11,619	3,663
Kansas	200,134	47,095	0	542	130,696	6,208	15,593	0
Kentucky	440,578	120,480	0	7,776	280,073	18,118	14,131	0
Louisiana	700,303	84,840	5,191	432	540,809	58,264	10,767	0
Maine	132,112	0	0	695	105,341	21,473	4,602	11
Maryland	505,038	142,070	0	6,741	328,793	5,728	17,920	3,786
Massachusetts	518,895	65,450	0	0	381,771	45,012	593	26,069
Michigan	1,090,572	293,540	0	39,016	614,703	99,539	43,774	0
Minnesota	399,401	246,294	0	1,700	52,568	33,685	10,924	54,230
Mississippi	367,051	79,752	0	0	281,769	0	5,530	0
Missouri	598,234	243,428	0	0	293,939	29,846	31,021	0
Montana	60,145	14,934	0	11	31,671	9,443	4,095	0
Nebraska	162,100	18,918	47	476	127,660	1,200	13,799	0
Nevada	155,855	84,918	0	0	53,111	7,599	10,227	0
New Hampshire	89,922	9,712	427	1,448	64,574	11,068	2,693	0
New Jersey	591,971	159,616	0	26	380,860	23,190	27,931	348
New Mexico	322,967	74,452	0	0	208,065	22,745	5,551	12,154
New York	1,980,568	949,384	11	322,997	613,057	19,815	58,083	17,227
North Carolina	947,419	144,806	0	3,274	735,203	43,045	21,091	0
North Dakota	38,393	11,849	2,253	581	12,993	8,675	2,042	0
Ohio	1,168,441	126,990	9,892	0	381,073	599,323	51,163	0
Oklahoma	490,953	44,886	0	0	431,708	2,241	12,118	0
Oregon	267,177	73,336	6,195	0	136,372	32,347	18,927	0
Pennsylvania	1,004,140	352,584	54,076	25,532	402,491	113,897	55,560	0
Rhode Island	96,244	17,391	0	0	36,086	10,715	5,889	26,163
South Carolina	478,385	98,014	0	0	340,421	24,522	14,237	1,191
South Dakota	83,485	15,676	0	0	51,156	11,190	5,463	0
Tennessee	751,947	363,039	0	34,277	243,649	56,419	18,140	36,423
Texas	2,722,072	143,681	5,303	2,423	2,208,566	294,426	67,673	0
Utah	164,484	52,667	0	1,069	72,046	29,337	9,365	0
Vermont	65,547	9,227	0	2,504	44,813	4,510	2,678	1,815
Virginia	531,343	0	111	111	478,308	37,602	15,211	0
Washington	655,074	100,380	0	777	347,314	184,492	22,111	0
West Virginia	191,176	60	20	43	7,931	175,058	8,064	0
Wisconsin	485,579	253,995	308	1,480	107,776	76,914	17,115	27,991
Wyoming	51,031	5,534	0	0	33,950	8,176	3,371	0
United States	**30,536,892**	**8,531,427**	**191,317**	**812,656**	**15,661,376**	**3,825,101**	**1,043,599**	**471,452**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Not a child of an unemployed parent or foster care child
[2] Includes Medicaid expansion CHIP children

Table C.1 *(continued)*

	Adults						
State	Total	Under Section 1931[1]	Unemployed Adult under Section 1931	Medically Needy	Poverty	Other	Section 1115 Demonstration Expansion
Alabama	137,524	25,995	0	0	27,915	490	83,124
Alaska	27,245	14,932	610	0	9,695	2,008	0
Arizona	641,237	232,786	0	0	68,083	85,715	254,653
Arkansas	123,204	16,593	0	3,472	20,909	6,015	76,215
California	4,544,987	1,120,653	0	107,007	70,912	866,573	2,379,842
Colorado	98,046	67,343	0	0	9,042	21,661	0
Connecticut	134,255	110,902	0	862	10,767	11,724	0
Delaware	76,028	29,542	0	0	421	10,581	35,484
District of Columbia	40,092	21,995	0	12,528	672	2,703	2,194
Florida	598,554	161,940	88,766	72,349	64,766	107,236	103,497
Georgia	288,294	124,474	0	40	126,879	36,901	0
Hawaii	81,943	27,481	0	11	0	4,129	50,332
Idaho	28,915	12,739	0	0	12,638	3,538	0
Illinois	665,749	9,905	784	254,195	28,094	276,626	96,145
Indiana	234,336	122,203	0	0	31,804	43,608	36,721
Iowa	139,438	41,319	3,191	4,538	12,679	12,939	64,772
Kansas	52,294	30,541	0	678	14,614	6,461	0
Kentucky	137,004	67,518	0	14,395	34,712	20,379	0
Louisiana	190,248	56,573	7,250	5,344	40,058	15,246	65,777
Maine	105,199	29,998	0	562	2,117	54,645	17,877
Maryland	189,008	76,940	0	8,385	13,191	12,752	77,740
Massachusetts	633,337	37,587	0	0	0	80,160	515,590
Michigan	483,150	147,070	0	69,623	54,419	87,635	124,403
Minnesota	210,310	132,358	0	6,371	5,435	15,825	50,321
Mississippi	123,944	52,178	0	0	20,418	0	51,348
Missouri	184,423	112,210	0	0	36,111	3,914	32,188
Montana	20,433	9,540	0	11	4,704	6,184	11
Nebraska	42,781	8,706	0	12,167	10,763	11,145	0
Nevada	55,372	42,614	0	0	6,171	6,587	0
New Hampshire	20,432	3,841	435	2,671	4,376	9,109	0
New Jersey	235,999	81,090	0	0	21,457	36,674	96,778
New Mexico	143,305	44,911	0	0	8,776	17,201	72,417
New York	1,874,549	355,047	11	219,597	1,422	39,554	1,258,918
North Carolina	344,434	168,745	0	15,906	75,299	30,860	53,624
North Dakota	15,815	5,852	1,970	1,568	1,349	5,076	0
Ohio	473,410	47,579	10,310	0	38,648	376,873	0
Oklahoma	135,512	37,442	0	0	45,459	1,393	51,218
Oregon	125,298	34,235	4,017	0	18,942	30,401	37,703
Pennsylvania	440,730	155,292	45,627	33,906	23,102	126,927	55,876
Rhode Island	52,475	7,847	0	29	1,448	23,172	19,979
South Carolina	200,740	72,069	0	0	32,541	25,624	70,506
South Dakota	20,610	9,609	0	0	4,504	6,497	0
Tennessee	305,315	183,605	0	47,885	27,900	45,123	802
Texas	615,466	58,162	8,744	57,746	388,581	102,233	0
Utah	79,809	22,303	0	1,128	20,287	10,753	25,338
Vermont	63,718	4,455	0	6,079	2,470	3,381	47,333
Virginia	146,048	0	8,164	116	39,791	88,000	9,977
Washington	260,972	45,245	0	214	21,976	91,772	101,765
West Virginia	58,895	17,275	6,729	12,469	8,712	13,710	0
Wisconsin	324,511	144,411	439	43	89,912	31,244	58,462
Wyoming	11,198	4,586	0	0	3,016	3,596	0
United States	**16,236,591**	**4,448,236**	**187,047**	**971,878**	**1,617,957**	**2,932,553**	**6,078,930**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Not based on unemployment status

Table C.2. Number of Medicaid Enrollees by Sex, Age Group, and State, 2008

		Sex		
State	Total Enrollees	Male	Female	Unknown
Alabama	916,430	349,064	563,703	3,663
Alaska	127,790	57,422	70,367	11
Arizona	1,604,081	713,192	890,889	0
Arkansas	766,658	305,213	461,406	39
California	10,865,324	4,006,758	6,858,565	11
Colorado	581,888	240,455	341,433	0
Connecticut	562,169	228,775	333,394	0
Delaware	197,291	81,094	116,194	11
District of Columbia	172,321	71,719	100,595	11
Florida	3,096,697	1,284,273	1,798,595	13,829
Georgia	1,732,419	702,959	1,029,374	86
Hawaii	243,986	112,618	131,368	0
Idaho	229,408	101,003	128,405	0
Illinois	2,650,265	1,083,894	1,566,371	0
Indiana	1,137,841	470,874	666,967	0
Iowa	496,433	201,866	294,567	0
Kansas	358,828	154,496	204,321	11
Kentucky	897,940	381,714	516,225	11
Louisiana	1,203,515	492,574	710,810	131
Maine	356,546	158,786	197,760	0
Maryland	898,938	376,186	522,752	0
Massachusetts	1,570,304	706,457	863,847	0
Michigan	2,026,820	865,514	1,161,111	195
Minnesota	825,263	338,747	486,516	0
Mississippi	740,200	287,823	451,396	981
Missouri	1,073,088	447,940	625,131	17
Montana	110,489	47,369	63,120	0
Nebraska	264,933	115,557	144,760	4,616
Nevada	277,596	116,001	160,767	828
New Hampshire	150,501	64,409	86,092	0
New Jersey	1,150,972	473,838	677,121	13
New Mexico	561,762	233,324	328,437	11
New York	5,093,922	2,170,924	2,848,662	74,336
North Carolina	1,781,048	720,087	1,060,961	0
North Dakota	74,633	30,741	43,891	11
Ohio	2,199,104	928,734	1,270,342	28
Oklahoma	809,349	337,386	471,963	0
Oregon	533,443	223,041	310,402	0
Pennsylvania	2,224,698	926,907	1,297,791	0
Rhode Island	213,478	88,968	124,510	0
South Carolina	915,681	355,388	560,266	27
South Dakota	134,253	58,403	75,850	0
Tennessee	1,512,449	632,583	879,864	11
Texas	4,375,057	1,846,373	2,528,575	109
Utah	297,858	124,947	172,422	489
Vermont	171,664	77,157	94,507	0
Virginia	947,906	386,929	560,953	24
Washington	1,193,923	489,895	704,008	20
West Virginia	403,443	174,964	228,479	0
Wisconsin	1,104,941	426,415	678,526	0
Wyoming	78,139	33,639	44,494	11
United States	**61,913,685**	**25,305,395**	**36,508,825**	**99,465**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.2 *(continued)*

State	Total Enrollees	Age Group Under 1	1-5	6-14	15-20	21-44
Alabama	916,430	34,653	162,619	197,691	106,701	187,429
Alaska	127,790	5,988	24,807	34,037	19,168	24,148
Arizona	1,604,081	61,855	258,693	320,185	174,910	488,634
Arkansas	766,658	25,555	139,309	204,172	110,182	150,743
California	10,865,324	334,625	1,368,666	1,727,008	1,503,721	3,911,456
Colorado	581,888	30,483	131,176	133,927	59,302	122,170
Connecticut	562,169	17,766	82,148	120,310	68,655	140,309
Delaware	197,291	6,718	29,938	37,263	22,225	61,213
District of Columbia	172,321	6,210	24,867	34,512	24,082	39,550
Florida	3,096,697	147,013	572,420	653,521	340,057	643,660
Georgia	1,732,419	104,517	377,640	405,589	199,600	318,276
Hawaii	243,986	7,884	38,023	48,958	28,195	62,362
Idaho	229,408	11,818	51,808	64,847	29,273	37,294
Illinois	2,650,265	93,950	478,989	642,619	334,606	631,308
Indiana	1,137,841	50,229	214,733	288,579	142,233	244,125
Iowa	496,433	19,252	81,332	100,599	63,396	130,805
Kansas	358,828	19,255	79,292	82,383	40,407	63,219
Kentucky	897,940	34,872	149,150	203,959	107,334	186,726
Louisiana	1,203,515	49,814	224,345	314,586	175,736	221,915
Maine	356,546	7,466	36,273	56,188	37,791	106,591
Maryland	898,938	37,770	163,581	210,361	117,938	196,894
Massachusetts	1,570,304	37,159	157,730	222,825	158,980	517,410
Michigan	2,026,820	69,252	319,119	479,091	285,719	499,965
Minnesota	825,263	32,407	131,016	161,978	110,554	211,011
Mississippi	740,200	36,135	137,575	157,203	85,215	149,872
Missouri	1,073,088	45,303	194,061	251,971	138,819	225,072
Montana	110,489	5,459	22,470	24,154	12,432	23,197
Nebraska	264,933	15,198	58,015	67,759	31,379	40,112
Nevada	277,596	16,723	60,167	62,583	29,333	58,455
New Hampshire	150,501	5,801	26,044	38,764	19,966	28,906
New Jersey	1,150,972	48,241	206,644	254,173	132,381	239,995
New Mexico	561,762	22,006	104,210	142,820	74,099	126,860
New York	5,093,922	145,170	608,695	750,191	503,661	1,505,571
North Carolina	1,781,048	80,564	353,955	385,729	208,054	378,476
North Dakota	74,633	3,426	14,668	14,804	8,011	17,329
Ohio	2,199,104	75,591	362,566	520,017	285,707	542,183
Oklahoma	809,349	37,235	164,802	214,440	106,646	147,566
Oregon	533,443	24,934	96,669	108,743	59,006	121,465
Pennsylvania	2,224,698	74,092	331,097	447,907	299,131	549,446
Rhode Island	213,478	6,570	30,188	44,818	25,354	54,552
South Carolina	915,681	41,165	164,536	208,903	122,312	202,284
South Dakota	134,253	6,333	28,795	35,315	18,374	22,955
Tennessee	1,512,449	48,335	237,187	316,648	191,951	378,943
Texas	4,375,057	272,880	1,059,357	1,137,246	505,038	652,373
Utah	297,858	20,965	72,065	57,939	25,936	78,255
Vermont	171,664	3,810	18,912	30,266	18,355	50,213
Virginia	947,906	43,267	182,198	229,768	115,802	178,034
Washington	1,193,923	47,269	214,321	288,039	167,075	272,493
West Virginia	403,443	13,942	61,840	85,920	47,770	89,591
Wisconsin	1,104,941	42,278	158,354	204,353	130,304	318,395
Wyoming	78,139	3,863	18,093	19,976	10,747	14,196
United States	**61,913,685**	**2,433,066**	**10,285,158**	**12,845,637**	**7,633,623**	**15,664,002**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.2 *(continued)*

State	Total Enrollees	Age Group 45-64	65-74	75-84	85 and over	Unknown
Alabama	916,430	103,874	53,265	44,112	26,086	0
Alaska	127,790	11,177	4,261	2,936	1,268	0
Arizona	1,604,081	198,385	48,750	34,814	17,848	11
Arkansas	766,658	66,560	29,487	24,203	16,446	11
California	10,865,324	1,034,717	476,609	351,241	157,266	15
Colorado	581,888	49,122	23,999	19,011	12,694	11
Connecticut	562,169	64,810	24,131	22,773	21,267	0
Delaware	197,291	25,858	5,970	4,804	3,302	0
District of Columbia	172,321	27,825	7,715	4,779	2,775	11
Florida	3,096,697	313,795	192,366	149,936	83,929	0
Georgia	1,732,419	158,167	78,075	57,209	33,344	11
Hawaii	243,986	34,867	9,754	8,715	5,228	0
Idaho	229,408	17,565	7,425	5,417	3,961	0
Illinois	2,650,265	264,245	91,885	68,790	43,858	15
Indiana	1,137,841	112,345	35,711	28,218	21,668	0
Iowa	496,433	58,133	15,337	14,263	13,316	0
Kansas	358,828	38,006	13,716	11,825	10,725	0
Kentucky	897,940	120,457	46,340	31,498	17,604	0
Louisiana	1,203,515	106,536	50,556	38,240	21,787	0
Maine	356,546	53,531	23,565	22,335	12,800	11
Maryland	898,938	98,990	30,748	25,975	16,668	13
Massachusetts	1,570,304	311,856	72,580	52,460	39,302	11
Michigan	2,026,820	234,664	61,313	44,844	32,660	193
Minnesota	825,263	82,667	29,412	31,616	34,585	17
Mississippi	740,200	84,519	39,371	31,442	18,868	0
Missouri	1,073,088	122,630	40,296	31,552	23,364	20
Montana	110,489	12,208	4,253	3,249	3,067	0
Nebraska	264,933	21,640	8,446	8,252	7,298	6,834
Nevada	277,596	24,500	12,324	9,147	4,272	92
New Hampshire	150,501	15,834	5,349	5,062	4,775	0
New Jersey	1,150,972	118,654	59,122	54,149	37,612	11
New Mexico	561,762	56,080	17,094	12,005	6,587	11
New York	5,093,922	899,897	259,799	198,746	128,021	94,171
North Carolina	1,781,048	190,872	76,112	64,592	42,691	11
North Dakota	74,633	7,088	2,810	3,012	3,485	0
Ohio	2,199,104	235,162	73,570	58,431	45,874	11
Oklahoma	809,349	71,945	30,393	22,798	13,524	0
Oregon	533,443	68,452	24,894	17,520	11,760	0
Pennsylvania	2,224,698	286,638	96,614	78,933	60,751	89
Rhode Island	213,478	27,626	8,820	8,297	7,252	11
South Carolina	915,681	91,584	37,419	28,949	18,525	11
South Dakota	134,253	9,836	4,313	4,128	4,204	0
Tennessee	1,512,449	189,895	73,480	49,021	26,989	0
Texas	4,375,057	303,960	195,505	162,048	86,646	11
Utah	297,858	27,261	7,501	5,052	2,882	11
Vermont	171,664	29,953	7,723	7,504	4,928	0
Virginia	947,906	93,547	44,747	37,650	22,892	11
Washington	1,193,923	114,438	40,879	29,876	19,520	13
West Virginia	403,443	63,108	20,365	12,973	7,934	0
Wisconsin	1,104,941	105,584	44,377	55,194	46,101	11
Wyoming	78,139	5,683	2,238	1,843	1,500	0
United States	**61,913,685**	**6,866,746**	**2,670,784**	**2,101,439**	**1,311,709**	**101,521**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.3. Number of Medicaid Enrollees by Race, Ethnicity, and State, 2008

State	Total Enrollees	White	Black/African American	American Indian/Alaskan Native	Asian
Alabama	916,430	419,796	418,376	2,398	5,358
Alaska	127,790	50,491	7,095	49,709	8,567
Arizona	1,604,081	515,237	99,039	163,454	24,757
Arkansas	766,658	377,059	185,846	1,785	2,994
California	10,865,324	2,144,820	956,556	52,811	529,904
Colorado	581,888	154,073	32,613	4,840	7,307
Connecticut	562,169	252,926	116,863	1,199	15,767
Delaware	197,291	84,158	78,874	433	3,449
District of Columbia	172,321	2,835	147,120	74	0
Florida	3,096,697	1,065,291	874,081	7,272	32,648
Georgia	1,732,419	745,049	853,059	1,383	23,587
Hawaii	243,986	57,825	3,868	744	74,803
Idaho	229,408	217,964	3,029	4,971	1,629
Illinois	2,650,265	1,009,334	837,394	1,753	58,493
Indiana	1,137,841	761,352	239,661	661	9,121
Iowa	496,433	262,321	32,428	2,101	3,851
Kansas	358,828	220,961	52,453	4,439	4,488
Kentucky	897,940	708,328	111,175	924	4,173
Louisiana	1,203,515	460,241	638,356	4,215	9,250
Maine	356,546	283,431	8,014	3,227	2,611
Maryland	898,938	279,672	452,274	1,700	27,426
Massachusetts	1,570,304	680,794	156,334	3,535	55,963
Michigan	2,026,820	1,204,332	638,445	10,657	30,819
Minnesota	825,263	479,781	140,763	29,755	50,448
Mississippi	740,200	259,104	414,812	2,900	3,128
Missouri	1,073,088	758,889	275,841	2,289	8,224
Montana	110,489	79,307	1,118	25,980	426
Nebraska	264,933	164,739	34,712	8,713	3,382
Nevada	277,596	114,713	54,047	3,783	8,794
New Hampshire	150,501	137,066	3,677	168	1,381
New Jersey	1,150,972	451,226	326,509	5,103	31,818
New Mexico	561,762	131,123	11,664	96,639	3,758
New York	5,093,922	1,600,663	1,152,500	27,678	486,071
North Carolina	1,781,048	761,934	673,316	28,289	20,223
North Dakota	74,633	49,282	2,387	16,606	395
Ohio	2,199,104	1,464,595	642,626	2,115	16,171
Oklahoma	809,349	486,681	116,754	94,918	9,620
Oregon	533,443	338,234	23,380	11,454	14,641
Pennsylvania	2,224,698	1,291,133	562,822	2,791	46,832
Rhode Island	213,478	78,384	16,442	680	3,762
South Carolina	915,681	373,533	443,178	1,951	4,409
South Dakota	134,253	77,616	3,736	40,806	702
Tennessee	1,512,449	915,674	448,152	2,430	1,893
Texas	4,375,057	1,023,629	775,725	14,733	68,698
Utah	297,858	205,359	8,404	9,542	7,558
Vermont	171,664	110,559	2,161	304	705
Virginia	947,906	399,921	385,459	1,694	24,060
Washington	1,193,923	661,782	75,603	35,123	36,225
West Virginia	403,443	376,332	20,971	91	108
Wisconsin	1,104,941	625,886	166,219	17,643	30,056
Wyoming	78,139	59,042	1,573	6,253	336
United States	**61,913,685**	**25,434,477**	**13,727,504**	**814,716**	**1,820,789**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.3 *(continued)*

State	Total Enrollees	Hispanic or Latino - No Race Information Available	Native Hawaiian/Other Pacific Islander	Hispanic or Latino - and One or More Races	More Than One Race	Unknown
Alabama	916,430	0	0	43,548	0	26,954
Alaska	127,790	4,690	4,087	0	0	3,151
Arizona	1,604,081	742,020	0	0	0	59,574
Arkansas	766,658	39,817	6,600	0	0	152,557
California	10,865,324	6,106,266	419,608	0	0	655,359
Colorado	581,888	176,999	3,712	0	0	202,344
Connecticut	562,169	0	278	175,132	0	11
Delaware	197,291	30,377	0	0	0	0
District of Columbia	172,321	15,975	0	0	1,953	4,364
Florida	3,096,697	867,528	0	0	0	249,877
Georgia	1,732,419	9,374	1,232	0	0	98,735
Hawaii	243,986	12,863	93,825	0	0	58
Idaho	229,408	1,484	331	0	0	0
Illinois	2,650,265	419,194	3,240	145,006	6,719	169,132
Indiana	1,137,841	111,280	0	0	0	15,766
Iowa	496,433	23,637	331	8,226	5,070	158,468
Kansas	358,828	0	261	61,464	4,953	9,809
Kentucky	897,940	11	694	24,142	1,655	46,847
Louisiana	1,203,515	20,749	442	4,869	2,074	63,319
Maine	356,546	278	206	447	2,705	55,627
Maryland	898,938	92,972	435	0	0	44,459
Massachusetts	1,570,304	239,864	0	0	0	433,814
Michigan	2,026,820	111,045	0	0	0	31,522
Minnesota	825,263	195	606	70,048	16,548	37,119
Mississippi	740,200	12,790	245	0	0	47,221
Missouri	1,073,088	4,989	1,225	0	0	21,631
Montana	110,489	3,512	0	0	0	146
Nebraska	264,933	14	201	40,408	2,154	10,610
Nevada	277,596	1,650	0	85,060	9,549	0
New Hampshire	150,501	6,999	0	0	0	1,210
New Jersey	1,150,972	218,102	0	0	0	118,214
New Mexico	561,762	304,067	0	0	0	14,511
New York	5,093,922	138,181	26,406	1,250,727	80,086	331,610
North Carolina	1,781,048	138,763	911	38,655	3,630	115,327
North Dakota	74,633	0	39	2,676	3,243	11
Ohio	2,199,104	71,610	0	0	0	1,987
Oklahoma	809,349	0	555	90,877	9,944	0
Oregon	533,443	73,330	1,941	18,411	2,447	49,605
Pennsylvania	2,224,698	190,065	536	64,457	3,450	62,612
Rhode Island	213,478	37,515	0	0	0	76,695
South Carolina	915,681	47,679	0	0	0	44,931
South Dakota	134,253	11	140	4,445	6,805	0
Tennessee	1,512,449	69,381	13,855	0	0	61,064
Texas	4,375,057	2,351,178	0	0	0	141,094
Utah	297,858	0	3,437	62,505	0	1,053
Vermont	171,664	718	0	0	0	57,217
Virginia	947,906	100,459	3,615	0	2,714	29,984
Washington	1,193,923	118,105	23,464	0	0	243,621
West Virginia	403,443	11	0	0	0	5,940
Wisconsin	1,104,941	73,706	1,109	22,896	14,548	152,878
Wyoming	78,139	0	98	10,304	0	533
United States	**61,913,685**	**12,989,426**	**613,665**	**2,224,303**	**180,247**	**4,108,558**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.4. Number of Medicaid Enrollees by Basis of Eligibility, Number of Months Enrolled, and State, 2008

		Aged					
State	Total Enrollees	Enrollees	Enrolled for All 12 Months	Enrolleed for 10-11 Months	Enrolled for 7-9 Months	Enrolled for 4-6 Months	Enrolled for 1-3 Months
Alabama	916,430	102,119	79,619	4,374	7,152	5,600	5,374
Alaska	127,790	7,305	5,583	385	466	449	422
Arizona	1,604,081	88,927	62,890	3,762	5,062	8,134	9,079
Arkansas	766,658	70,005	50,121	5,131	4,584	4,998	5,171
California	10,865,324	799,835	618,647	34,631	47,650	43,840	55,067
Colorado	581,888	54,714	39,821	2,534	3,791	4,045	4,523
Connecticut	562,169	66,980	49,248	3,282	4,604	4,756	5,090
Delaware	197,291	13,739	10,769	518	798	703	951
District of Columbia	172,321	11,586	8,249	733	779	926	899
Florida	3,096,697	380,128	262,172	18,794	28,946	34,586	35,630
Georgia	1,732,419	140,269	101,657	6,780	9,927	9,434	12,471
Hawaii	243,986	22,994	16,662	1,274	1,680	1,708	1,670
Idaho	229,408	16,751	12,058	800	1,189	1,264	1,440
Illinois	2,650,265	148,177	102,012	7,408	12,141	10,740	15,876
Indiana	1,137,841	84,870	58,393	4,583	6,835	7,018	8,041
Iowa	496,433	42,304	30,084	2,206	3,033	3,357	3,624
Kansas	358,828	35,952	24,726	1,831	2,767	3,041	3,587
Kentucky	897,940	95,397	73,613	4,317	5,475	5,480	6,512
Louisiana	1,203,515	109,372	89,947	3,341	4,941	5,606	5,537
Maine	356,546	57,909	45,782	2,044	3,077	3,603	3,403
Maryland	898,938	59,276	42,382	3,243	4,151	4,554	4,946
Massachusetts	1,570,304	164,174	118,972	8,906	12,136	11,993	12,167
Michigan	2,026,820	136,678	98,011	6,789	9,661	10,643	11,574
Minnesota	825,263	94,510	54,826	3,544	4,974	6,813	24,353
Mississippi	740,200	76,058	60,251	3,937	3,855	3,710	4,305
Missouri	1,073,088	95,166	65,520	4,762	6,524	7,600	10,760
Montana	110,489	9,593	5,875	522	864	1,003	1,329
Nebraska	264,933	23,633	16,809	1,170	1,596	1,859	2,199
Nevada	277,596	24,626	16,813	1,415	1,968	1,958	2,472
New Hampshire	150,501	15,087	9,976	845	1,173	1,388	1,705
New Jersey	1,150,972	128,124	95,400	5,895	7,852	8,634	10,343
New Mexico	561,762	26,410	19,615	1,380	1,685	1,727	2,003
New York	5,093,922	474,535	338,023	20,109	32,484	48,477	35,442
North Carolina	1,781,048	182,440	143,237	6,426	9,715	10,953	12,109
North Dakota	74,633	9,232	6,180	539	720	840	953
Ohio	2,199,104	177,700	124,609	8,874	12,780	15,435	16,002
Oklahoma	809,349	65,211	47,262	2,700	4,881	4,562	5,806
Oregon	533,443	52,729	38,070	2,433	3,486	3,719	5,021
Pennsylvania	2,224,698	234,894	171,161	10,487	15,934	17,692	19,620
Rhode Island	213,478	20,206	14,442	1,028	1,417	1,569	1,750
South Carolina	915,681	77,673	58,830	4,064	4,813	4,985	4,981
South Dakota	134,253	10,633	7,398	597	775	871	992
Tennessee	1,512,449	104,373	77,227	4,251	7,239	7,728	7,928
Texas	4,375,057	440,688	349,104	17,172	22,753	23,411	28,248
Utah	297,858	14,292	9,519	775	1,168	1,210	1,620
Vermont	171,664	18,315	12,565	2,145	1,062	1,466	1,077
Virginia	947,906	99,840	74,354	4,856	6,570	6,708	7,352
Washington	1,193,923	90,253	64,687	4,631	6,239	6,653	8,043
West Virginia	403,443	37,644	27,724	2,063	2,371	2,438	3,048
Wisconsin	1,104,941	135,185	99,673	7,687	8,910	8,394	10,521
Wyoming	78,139	5,515	3,756	325	438	478	518
United States	**61,913,685**	**5,454,026**	**4,014,324**	**252,298**	**355,091**	**388,759**	**443,554**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.4 *(continued)*

State	Total Enrollees	Disabled					
		Enrollees	Enrolled for All 12 Months	Enrolleed for 10-11 Months	Enrolled for 7-9 Months	Enrolled for 4-6 Months	Enrolled for 1-3 Months
Alabama	916,430	222,994	180,797	8,332	10,662	10,656	12,547
Alaska	127,790	16,530	12,719	869	976	1,008	958
Arizona	1,604,081	148,104	120,612	5,236	7,105	7,488	7,663
Arkansas	766,658	134,225	98,941	8,481	7,832	8,656	10,315
California	10,865,324	1,177,987	1,001,229	32,671	48,748	40,416	54,923
Colorado	581,888	89,189	64,640	4,217	6,295	6,776	7,261
Connecticut	562,169	69,316	53,126	3,746	4,230	4,299	3,915
Delaware	197,291	23,302	19,156	946	1,118	1,050	1,032
District of Columbia	172,321	39,124	28,790	2,040	2,337	2,847	3,110
Florida	3,096,697	559,306	409,376	18,536	32,447	53,947	45,000
Georgia	1,732,419	309,309	234,716	9,704	15,935	17,496	31,458
Hawaii	243,986	26,014	20,516	1,342	1,596	1,370	1,190
Idaho	229,408	38,407	30,597	1,395	2,137	2,137	2,141
Illinois	2,650,265	355,106	294,031	11,065	15,574	12,647	21,789
Indiana	1,137,841	158,850	123,433	7,626	9,506	8,913	9,372
Iowa	496,433	74,532	62,775	2,655	3,340	2,983	2,779
Kansas	358,828	70,448	52,141	3,281	4,698	4,404	5,924
Kentucky	897,940	224,961	181,335	8,382	10,961	10,879	13,404
Louisiana	1,203,515	203,592	169,014	5,956	9,556	10,541	8,525
Maine	356,546	61,326	51,107	2,194	2,857	2,650	2,518
Maryland	898,938	145,616	116,388	5,842	7,598	7,935	7,853
Massachusetts	1,570,304	253,898	222,047	8,318	8,885	7,602	7,046
Michigan	2,026,820	316,420	255,367	13,313	16,279	15,260	16,201
Minnesota	825,263	121,042	95,978	5,584	6,748	6,680	6,052
Mississippi	740,200	173,147	140,857	6,109	7,494	8,998	9,689
Missouri	1,073,088	195,265	137,249	10,869	14,399	14,849	17,899
Montana	110,489	20,318	14,230	938	1,373	1,600	2,177
Nebraska	264,933	36,419	28,496	1,382	2,082	2,166	2,293
Nevada	277,596	41,743	26,213	3,322	3,719	3,945	4,544
New Hampshire	150,501	25,060	17,175	1,608	2,035	1,801	2,441
New Jersey	1,150,972	194,878	161,372	7,345	8,621	8,772	8,768
New Mexico	561,762	69,080	57,393	2,336	3,203	3,166	2,982
New York	5,093,922	764,270	653,363	22,756	30,335	32,527	25,289
North Carolina	1,781,048	306,755	242,847	10,425	16,953	17,877	18,653
North Dakota	74,633	11,193	8,233	612	779	800	769
Ohio	2,199,104	379,553	286,874	21,222	25,957	23,169	22,331
Oklahoma	809,349	117,673	84,445	5,436	8,677	9,234	9,881
Oregon	533,443	88,239	68,754	3,361	4,952	4,644	6,528
Pennsylvania	2,224,698	544,934	439,010	21,136	28,836	28,498	27,454
Rhode Island	213,478	44,553	36,481	2,035	1,971	1,960	2,106
South Carolina	915,681	158,883	127,347	5,896	8,950	9,161	7,529
South Dakota	134,253	19,525	15,346	967	1,020	1,055	1,137
Tennessee	1,512,449	350,814	309,794	5,282	15,859	10,392	9,487
Texas	4,375,057	596,831	467,493	24,417	31,128	35,589	38,204
Utah	297,858	39,273	27,583	2,172	3,226	3,042	3,250
Vermont	171,664	24,084	18,427	2,465	1,147	1,060	985
Virginia	947,906	170,675	133,618	7,554	9,516	9,734	10,253
Washington	1,193,923	187,624	135,630	10,161	13,597	13,337	14,899
West Virginia	403,443	115,728	90,464	5,386	6,569	6,949	6,360
Wisconsin	1,104,941	159,666	129,170	6,177	7,284	6,123	10,912
Wyoming	78,139	10,395	7,847	403	645	742	758
United States	**61,913,685**	**9,686,176**	**7,764,542**	**363,503**	**497,747**	**509,830**	**550,554**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.4 *(continued)*

		Child					
State	Total Enrollees	Enrollees	Enrolled for All 12 Months	Enrolleed for 10-11 Months	Enrolled for 7-9 Months	Enrolled for 4-6 Months	Enrolled for 1-3 Months
Alabama	916,430	453,793	249,159	60,736	56,001	48,011	39,886
Alaska	127,790	76,710	36,140	9,060	11,237	11,622	8,651
Arizona	1,604,081	725,813	336,764	81,899	104,816	109,742	92,592
Arkansas	766,658	439,224	242,385	62,821	48,704	44,551	40,763
California	10,865,324	4,342,515	2,384,792	392,288	469,785	447,004	648,646
Colorado	581,888	339,939	140,473	41,239	55,834	51,056	51,337
Connecticut	562,169	291,618	196,055	22,584	25,454	25,280	22,245
Delaware	197,291	84,222	42,349	11,470	10,621	9,711	10,071
District of Columbia	172,321	81,519	56,828	5,717	6,348	6,675	5,951
Florida	3,096,697	1,558,709	719,291	153,811	230,387	252,900	202,320
Georgia	1,732,419	994,547	437,485	126,455	162,417	139,297	128,893
Hawaii	243,986	113,035	81,349	5,596	8,959	8,852	8,279
Idaho	229,408	145,335	71,419	17,010	22,880	18,454	15,572
Illinois	2,650,265	1,481,233	1,108,848	63,075	91,095	93,020	125,195
Indiana	1,137,841	659,785	401,201	58,335	72,338	66,932	60,979
Iowa	496,433	240,159	134,514	23,768	25,600	29,903	26,374
Kansas	358,828	200,134	92,198	23,195	30,389	28,407	25,945
Kentucky	897,940	440,578	239,661	53,499	54,818	47,262	45,338
Louisiana	1,203,515	700,303	537,003	29,197	41,028	55,505	37,570
Maine	356,546	132,112	87,383	10,387	12,318	11,638	10,386
Maryland	898,938	505,038	319,537	43,172	51,645	47,919	42,765
Massachusetts	1,570,304	518,895	323,462	46,468	49,957	49,430	49,578
Michigan	2,026,820	1,090,572	694,209	88,586	109,485	101,209	97,083
Minnesota	825,263	399,401	212,727	39,330	48,917	52,318	46,109
Mississippi	740,200	367,051	197,957	39,402	47,015	43,313	39,364
Missouri	1,073,088	598,234	365,196	49,886	64,959	61,632	56,561
Montana	110,489	60,145	27,847	6,494	8,685	8,903	8,216
Nebraska	264,933	162,100	98,123	13,956	18,333	17,967	13,721
Nevada	277,596	155,855	57,165	19,390	25,563	26,659	27,078
New Hampshire	150,501	89,922	51,179	8,080	10,608	10,112	9,943
New Jersey	1,150,972	591,971	380,048	45,309	56,052	55,559	55,003
New Mexico	561,762	322,967	213,205	30,468	29,546	26,652	23,096
New York	5,093,922	1,980,568	1,197,727	165,462	216,338	208,309	192,732
North Carolina	1,781,048	947,419	529,504	100,769	114,956	106,888	95,302
North Dakota	74,633	38,393	18,070	3,545	4,817	5,798	6,163
Ohio	2,199,104	1,168,441	753,625	92,787	119,071	114,485	88,473
Oklahoma	809,349	490,953	273,528	46,476	59,827	59,048	52,074
Oregon	533,443	267,177	111,129	28,327	46,126	41,112	40,483
Pennsylvania	2,224,698	1,004,140	618,042	79,719	105,475	102,367	98,537
Rhode Island	213,478	96,244	53,341	15,612	10,264	8,956	8,071
South Carolina	915,681	478,385	271,293	56,785	57,524	51,175	41,608
South Dakota	134,253	83,485	45,629	8,631	10,030	10,012	9,183
Tennessee	1,512,449	751,947	519,232	39,997	68,788	65,340	58,590
Texas	4,375,057	2,722,072	1,183,673	344,628	398,763	437,621	357,387
Utah	297,858	164,484	60,027	15,657	26,725	31,603	30,472
Vermont	171,664	65,547	38,297	8,287	6,902	6,592	5,469
Virginia	947,906	531,343	303,545	50,969	61,036	60,842	54,951
Washington	1,193,923	655,074	402,606	58,171	69,936	65,064	59,297
West Virginia	403,443	191,176	103,728	26,020	23,523	19,942	17,963
Wisconsin	1,104,941	485,579	251,035	61,415	54,698	42,962	75,469
Wyoming	78,139	51,031	24,337	5,044	7,209	7,189	7,252
United States	**61,913,685**	**30,536,892**	**17,294,320**	**2,890,984**	**3,523,802**	**3,452,800**	**3,374,986**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.4 *(continued)*

State	Total Enrollees	Adult: Enrollees	Adult: Enrolled for All 12 Months	Adult: Enrolleed for 10-11 Months	Adult: Enrolled for 7-9 Months	Adult: Enrolled for 4-6 Months	Adult: Enrolled for 1-3 Months
Alabama	916,430	137,524	59,080	18,672	21,498	20,215	18,059
Alaska	127,790	27,245	7,245	3,072	5,105	6,213	5,610
Arizona	1,604,081	641,237	221,802	72,109	113,587	125,341	108,398
Arkansas	766,658	123,204	46,737	15,086	19,373	21,094	20,914
California	10,865,324	4,544,987	1,514,856	714,071	864,947	743,077	708,036
Colorado	581,888	98,046	26,078	10,605	18,982	20,389	21,992
Connecticut	562,169	134,255	81,962	10,465	12,866	13,721	15,241
Delaware	197,291	76,028	30,868	11,723	11,383	11,086	10,968
District of Columbia	172,321	40,092	25,423	2,810	3,445	3,661	4,753
Florida	3,096,697	598,554	159,048	58,964	95,126	115,519	169,897
Georgia	1,732,419	288,294	55,498	32,718	58,356	62,022	79,700
Hawaii	243,986	81,943	39,067	6,673	11,882	12,221	12,100
Idaho	229,408	28,915	4,701	3,247	6,283	6,847	7,837
Illinois	2,650,265	665,749	432,646	44,062	63,396	59,954	65,691
Indiana	1,137,841	234,336	66,331	26,690	46,477	46,328	48,510
Iowa	496,433	139,438	55,340	17,741	19,877	22,101	24,379
Kansas	358,828	52,294	11,148	5,820	10,379	11,303	13,644
Kentucky	897,940	137,004	38,279	17,905	25,524	26,237	29,059
Louisiana	1,203,515	190,248	94,001	19,602	27,450	25,312	23,883
Maine	356,546	105,199	63,331	8,659	11,131	11,797	10,281
Maryland	898,938	189,008	75,704	15,627	23,381	33,620	40,676
Massachusetts	1,570,304	633,337	324,927	68,226	88,547	76,366	75,271
Michigan	2,026,820	483,150	200,671	63,100	73,819	70,152	75,408
Minnesota	825,263	210,310	75,917	22,203	31,325	35,550	45,315
Mississippi	740,200	123,944	63,013	13,195	17,674	15,866	14,196
Missouri	1,073,088	184,423	71,666	20,101	29,204	30,112	33,340
Montana	110,489	20,433	5,730	2,071	3,670	4,150	4,812
Nebraska	264,933	42,781	9,250	4,571	7,062	9,375	12,523
Nevada	277,596	55,372	10,102	6,090	10,601	12,569	16,010
New Hampshire	150,501	20,432	6,082	2,225	3,632	4,107	4,386
New Jersey	1,150,972	235,999	111,576	20,687	30,587	31,367	41,782
New Mexico	561,762	143,305	63,635	18,085	23,902	19,995	17,688
New York	5,093,922	1,874,549	948,882	175,076	260,460	267,141	222,990
North Carolina	1,781,048	344,434	103,112	37,376	55,975	66,933	81,038
North Dakota	74,633	15,815	4,215	1,938	2,818	3,093	3,751
Ohio	2,199,104	473,410	216,659	55,435	71,623	67,488	62,205
Oklahoma	809,349	135,512	21,495	15,155	28,417	35,754	34,691
Oregon	533,443	125,298	42,261	11,657	24,140	23,459	23,781
Pennsylvania	2,224,698	440,730	183,599	47,521	67,235	68,426	73,949
Rhode Island	213,478	52,475	24,422	9,046	6,990	6,096	5,921
South Carolina	915,681	200,740	84,250	25,703	31,170	30,033	29,584
South Dakota	134,253	20,610	5,951	2,248	3,978	4,211	4,222
Tennessee	1,512,449	305,315	141,876	19,998	48,292	52,339	42,810
Texas	4,375,057	615,466	70,370	68,986	132,019	134,856	209,235
Utah	297,858	79,809	20,322	7,752	13,568	16,529	21,638
Vermont	171,664	63,718	25,100	8,981	9,816	9,759	10,062
Virginia	947,906	146,048	53,102	16,052	22,578	23,305	31,011
Washington	1,193,923	260,972	76,065	39,423	51,590	48,185	45,709
West Virginia	403,443	58,895	12,463	8,728	11,429	13,469	12,806
Wisconsin	1,104,941	324,511	142,851	49,288	43,876	38,198	50,298
Wyoming	78,139	11,198	2,637	1,157	2,172	2,445	2,787
United States	**61,913,685**	**16,236,591**	**6,231,346**	**1,958,395**	**2,678,617**	**2,619,386**	**2,748,847**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.5. Number of Enrollment Database (EDB) Duals by Type of Dual Status and State, 2008

State	Total Enrollees	In EDB but no valid Dual Code	Confirmed EDB Duals							
			Qualified Medicare Beneficiary (QMB) only	Qualified Medicare Beneficiary (QMB) - Full Medicaid Benefits	Special Low-Income Medicare Beneficiary (SLMB) only	Special Low-Income Medicare Beneficiary (SLMB) - Full Medicaid Benefits	Qualified Working and Disabled Individual (QDWI)	Qualifying Individuals (QI)	Other Dual Eligibles	Type of Dual Unknown
Alabama	916,430	1,296	59,042	76,479	32,992	4,004	0	15,678	16,475	0
Alaska	127,790	891	11	9,644	188	0	0	114	3,240	0
Arizona	1,604,081	3,378	5,258	81,360	17,667	0	0	11,427	37,077	0
Arkansas	766,658	6,447	25,352	5,064	16,118	0	0	7,885	62,940	0
California	10,865,324	8,402	8,865	1,063,315	5,382	0	11	11,797	111,553	0
Colorado	581,888	1,947	11,518	14,872	5,770	0	0	2,882	47,599	0
Connecticut	562,169	734	11,394	44,601	4,641	6,728	0	8,885	27,952	0
Delaware	197,291	971	6,544	6,576	4,350	0	0	1,776	4,472	0
District of Columbia	172,321	415	3,541	18,640	0	11	0	0	0	0
Florida	3,096,697	2,767	147,864	270,212	67,314	15,405	0	39,636	57,115	0
Georgia	1,732,419	7,257	65,807	18,167	32,084	4,372	0	20,366	123,966	0
Hawaii	243,986	395	129	26,919	2,092	932	0	789	1,863	0
Idaho	229,408	869	4,742	14,005	3,215	1,567	0	1,475	6,913	0
Illinois	2,650,265	5,225	12,438	169,057	13,518	21,942	0	11,899	93,543	0
Indiana	1,137,841	7,838	31,187	56,049	17,408	11,456	0	6,758	33,198	0
Iowa	496,433	815	6,472	39,737	4,117	9,370	0	2,578	18,250	0
Kansas	358,828	2,136	8,438	27,364	5,170	2,864	0	2,628	17,352	0
Kentucky	897,940	1,588	38,191	77,214	20,319	4,288	0	9,097	23,250	0
Louisiana	1,203,515	777	38,513	84,498	21,771	5,149	0	12,716	16,187	0
Maine	356,546	762	28,901	43,615	6,567	582	0	3,342	9,181	0
Maryland	898,938	1,773	21,748	54,176	9,388	0	0	4,490	20,623	0
Massachusetts	1,570,304	7,075	642	207,795	6,409	5,758	0	11	32,658	0
Michigan	2,026,820	10,236	1,820	154,092	18,860	9,644	11	9,860	66,180	0
Minnesota	825,263	16,426	2,052	70,210	6,454	13,387	0	3,942	38,577	0
Mississippi	740,200	3,304	40,455	53,155	18,970	0	0	9,901	27,723	0
Missouri	1,073,088	1,181	11,794	85,653	5,042	12,362	0	286	62,795	0
Montana	110,489	73	1,080	9,832	845	1,282	0	435	5,032	0
Nebraska	264,933	481	0	25,525	1,581	0	0	2,406	12,232	0
Nevada	277,596	700	9,937	16,822	5,817	1,438	11	3,079	3,771	0
New Hampshire	150,501	566	4,645	6,948	2,499	1,363	11	1,216	12,284	0
New Jersey	1,150,972	969	0	146,710	19,609	0	0	7,845	26,261	5,536
New Mexico	561,762	1,203	16,418	33,664	0	0	0	0	5,166	0
New York	5,093,922	12,971	22,921	293,835	26,440	8,451	26	31,469	358,484	0
North Carolina	1,781,048	5,798	994	204,711	39,682	5,348	0	18,824	40,974	0

Table C.5 *(continued)*

State	Total Enrollees	In EDB but no valid Dual Code	Confirmed EDB Duals: Qualified Medicare Beneficiary (QMB) only	Qualified Medicare Beneficiary (QMB) - Full Medicaid Benefits	Special Low-Income Medicare Beneficiary (SLMB) only	Special Low-Income Medicare Beneficiary (SLMB) - Full Medicaid Benefits	Qualified Working and Disabled Individual (QDWI)	Qualifying Individuals (QI)	Other Dual Eligibles	Type of Dual Unknown
North Dakota	74,633	59	2,302	1,196	1,244	230	0	481	10,008	0
Ohio	2,199,104	10,350	54,223	110,285	24,784	22,468	0	14,797	74,772	0
Oklahoma	809,349	977	0	73,442	11,586	9,114	0	7,046	12,200	0
Oregon	533,443	2,084	14,781	37,258	9,289	5,573	0	5,281	19,071	0
Pennsylvania	2,224,698	1,671	2,044	247,161	35,435	14,337	11	21,490	69,409	0
Rhode Island	213,478	288	757	21,517	2,795	0	0	1,930	13,088	0
South Carolina	915,681	1,214	0	114,165	11,967	0	0	6,852	14,818	0
South Dakota	134,253	168	3,772	9,841	2,042	1,108	0	1,021	2,899	0
Tennessee	1,512,449	5,018	34,973	98,897	33,098	6,744	0	0	108,055	0
Texas	4,375,057	3,931	118,612	292,896	75,060	20,538	0	31,073	72,679	20,041
Utah	297,858	1,128	393	16,924	1,373	2,099	0	953	9,103	0
Vermont	171,664	462	1,939	11,906	2,871	918	0	2,656	7,174	4,698
Virginia	947,906	1,385	24,850	94,423	19,512	0	49	7,819	24,997	0
Washington	1,193,923	4,193	18,921	103,970	11,546	1,716	0	6,038	10,123	0
West Virginia	403,443	233	17,176	5,414	8,851	2,185	0	4,548	41,283	11
Wisconsin	1,104,941	445	8,021	69,920	6,448	8,495	0	2,460	51,865	66,161
Wyoming	78,139	139	1,898	3,077	873	3,762	0	513	11	0
United States	**61,913,685**	**151,411**	**953,375**	**4,822,808**	**701,053**	**246,990**	**91**	**380,450**	**1,966,441**	**96,447**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.6. Number of Medicaid Enrollees in Selected Managed Care Combinations by State, 2008

State	Total Enrollees	Compre-hensive Plan Only	Dental Plan Only	Behavioral Health Plan Only	Primary Care Case Management Plan (PCCM) Only	Other Managed Care Plan Only
Alabama	916,430	24,776	0	0	2,284	83,375
Alaska	127,790	0	0	0	0	0
Arizona	1,604,081	6,997	0	4,868	0	42,934
Arkansas	766,658	0	0	0	15,072	136,047
California	10,865,324	258,819	3,042,035	0	0	2,411
Colorado	581,888	73	0	427,361	153	1,477
Connecticut	562,169	161,754	0	0	0	0
Delaware	197,291	52	0	0	11	24,275
District of Columbia	172,321	110,621	0	0	0	47,696
Florida	3,096,697	921,434	19,439	156,439	86,569	5,906
Georgia	1,732,419	0	0	0	11	385,850
Hawaii	243,986	184,159	0	974	0	11
Idaho	229,408	0	22,050	0	49,562	1,151
Illinois	2,650,265	139,323	0	0	1,572,821	48,117
Indiana	1,137,841	755,019	0	0	61,576	0
Iowa	496,433	0	0	174,548	0	14
Kansas	358,828	11	0	118,234	11	258
Kentucky	897,940	1,497	0	0	3,879	229,751
Louisiana	1,203,515	0	0	0	784,791	87
Maine	356,546	0	0	0	193,627	0
Maryland	898,938	658,503	0	0	0	162
Massachusetts	1,570,304	461,012	0	24,859	7,393	13,936
Michigan	2,026,820	65,627	1,789	543,638	0	0
Minnesota	825,263	498,968	0	0	0	0
Mississippi	740,200	0	0	0	0	619,131
Missouri	1,073,088	480,665	0	0	0	213
Montana	110,489	0	0	0	60,621	0
Nebraska	264,933	0	0	129,104	0	0
Nevada	277,596	1,315	0	0	0	92,774
New Hampshire	150,501	0	0	0	0	0
New Jersey	1,150,972	811,598	0	0	0	0
New Mexico	561,762	38,817	0	748	0	18,653
New York	5,093,922	3,247,030	0	11	18,998	26,304
North Carolina	1,781,048	0	0	17,509	1,083,113	14
North Dakota	74,633	0	0	0	46,324	683
Ohio	2,199,104	1,506,856	0	0	0	0
Oklahoma	809,349	0	0	0	11	654,024
Oregon	533,443	205	14,992	23,701	114	806
Pennsylvania	2,224,698	3,346	0	228,618	3,508	9,039
Rhode Island	213,478	100,708	0	0	0	154
South Carolina	915,681	34	0	0	11	457,528
South Dakota	134,253	0	0	0	84,220	0
Tennessee	1,512,449	0	0	636,501	0	356
Texas	4,375,057	1,556,547	0	82,379	973,327	923
Utah	297,858	0	0	26,264	0	6,122
Vermont	171,664	0	0	0	104,334	56
Virginia	947,906	538,378	0	0	62,930	284
Washington	1,193,923	0	0	464,423	21	0
West Virginia	403,443	187,755	0	0	22,688	0
Wisconsin	1,104,941	559,376	0	994	0	47,275
Wyoming	78,139	0	0	0	0	0
United States	**61,913,685**	**13,281,275**	**3,100,305**	**3,061,173**	**5,237,945**	**2,957,797**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.6 *(continued)*

State	Total Enrollees	Comprehensive Plan and Dental Plan	Comprehensive Plan and Behavioral Health Plan	Comprehensive Plan and Other Managed Care Plan	Comprehensive Plan, Dental Pan and Behavioral Plan
Alabama	916,430	0	0	25	0
Alaska	127,790	0	0	0	0
Arizona	1,604,081	0	1,218,933	11	0
Arkansas	766,658	0	0	0	0
California	10,865,324	3,806,233	0	0	0
Colorado	581,888	0	50,716	0	0
Connecticut	562,169	0	0	0	0
Delaware	197,291	0	0	136,376	0
District of Columbia	172,321	0	0	0	0
Florida	3,096,697	119,031	14	59	11
Georgia	1,732,419	0	0	1,082,476	0
Hawaii	243,986	0	2,981	0	0
Idaho	229,408	0	0	0	0
Illinois	2,650,265	0	0	0	0
Indiana	1,137,841	0	0	0	0
Iowa	496,433	0	6,082	0	0
Kansas	358,828	0	179,171	0	0
Kentucky	897,940	0	0	177,287	0
Louisiana	1,203,515	0	0	0	0
Maine	356,546	0	0	0	0
Maryland	898,938	0	0	0	0
Massachusetts	1,570,304	0	421	0	0
Michigan	2,026,820	0	942,532	0	245,792
Minnesota	825,263	0	0	0	0
Mississippi	740,200	0	0	0	0
Missouri	1,073,088	0	0	0	0
Montana	110,489	0	0	0	0
Nebraska	264,933	0	40,639	0	0
Nevada	277,596	0	0	137,690	0
New Hampshire	150,501	0	0	0	0
New Jersey	1,150,972	0	0	0	0
New Mexico	561,762	0	337,709	0	0
New York	5,093,922	0	0	0	0
North Carolina	1,781,048	0	0	0	0
North Dakota	74,633	0	0	0	0
Ohio	2,199,104	0	0	0	0
Oklahoma	809,349	0	0	0	0
Oregon	533,443	3,098	4,397	0	345,958
Pennsylvania	2,224,698	0	930,863	931	0
Rhode Island	213,478	37,443	0	0	0
South Carolina	915,681	0	0	284,575	0
South Dakota	134,253	0	0	0	0
Tennessee	1,512,449	0	802,869	0	0
Texas	4,375,057	0	366,408	0	0
Utah	297,858	0	0	0	0
Vermont	171,664	0	0	0	0
Virginia	947,906	0	0	0	0
Washington	1,193,923	0	638,268	0	0
West Virginia	403,443	0	0	0	0
Wisconsin	1,104,941	0	11	0	0
Wyoming	78,139	0	0	0	0
United States	**61,913,685**	**3,965,805**	**5,522,014**	**1,819,430**	**591,761**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.6 *(continued)*

State	Total Enrollees	PCCM and Dental Plan	PCCM and Behavioral Health Plan	PCCM and Other Managed Care Plan	PCCM, Dental Plan and Behavioral Health Plan	Dental Plan and Behavioral Plan	Other Combinations
Alabama	916,430	0	0	499,462	0	0	0
Alaska	127,790	0	0	0	0	0	0
Arizona	1,604,081	0	0	0	0	0	22,236
Arkansas	766,658	0	0	398,566	0	0	0
California	10,865,324	0	0	0	0	0	1,040
Colorado	581,888	0	63,014	0	0	0	32
Connecticut	562,169	0	0	0	0	0	0
Delaware	197,291	0	0	11,054	0	0	0
District of Columbia	172,321	0	0	0	0	0	0
Florida	3,096,697	2,398	329,598	260	50,978	45,893	42,699
Georgia	1,732,419	0	0	126,428	0	0	2,121
Hawaii	243,986	0	0	0	0	0	0
Idaho	229,408	132,282	0	11	0	0	0
Illinois	2,650,265	0	0	36	0	0	51
Indiana	1,137,841	0	0	0	0	0	18
Iowa	496,433	0	190,731	0	0	0	11
Kansas	358,828	0	26,751	0	0	0	0
Kentucky	897,940	0	0	399,910	0	0	11
Louisiana	1,203,515	0	0	0	0	0	0
Maine	356,546	0	0	0	0	0	0
Maryland	898,938	0	0	0	0	0	11
Massachusetts	1,570,304	0	328,304	0	0	0	2,143
Michigan	2,026,820	0	0	0	0	103,535	371
Minnesota	825,263	0	0	0	0	0	0
Mississippi	740,200	0	0	0	0	0	0
Missouri	1,073,088	0	0	0	0	0	0
Montana	110,489	0	0	0	0	0	0
Nebraska	264,933	0	48,290	0	0	0	0
Nevada	277,596	0	0	0	0	0	0
New Hampshire	150,501	0	0	0	0	0	0
New Jersey	1,150,972	0	0	0	0	0	0
New Mexico	561,762	0	0	0	0	0	2,335
New York	5,093,922	0	0	0	0	0	0
North Carolina	1,781,048	0	70,050	0	0	0	0
North Dakota	74,633	0	0	161	0	0	0
Ohio	2,199,104	0	0	0	0	0	0
Oklahoma	809,349	0	0	14,477	0	0	0
Oregon	533,443	245	451	0	6,154	51,630	52
Pennsylvania	2,224,698	0	355,882	1,126	0	0	404,605
Rhode Island	213,478	0	0	0	0	0	0
South Carolina	915,681	0	0	82,938	0	0	0
South Dakota	134,253	0	0	0	0	0	0
Tennessee	1,512,449	0	0	0	0	0	0
Texas	4,375,057	0	80	0	0	0	93
Utah	297,858	0	6,803	62	0	0	216,628
Vermont	171,664	0	0	0	0	0	0
Virginia	947,906	0	0	0	0	0	0
Washington	1,193,923	0	86,649	0	0	0	357
West Virginia	403,443	0	0	0	0	0	0
Wisconsin	1,104,941	0	0	0	0	0	11
Wyoming	78,139	0	0	0	0	0	0
United States	**61,913,685**	**134,925**	**1,506,603**	**1,534,491**	**57,132**	**201,058**	**694,801**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.7. Number of Medicaid Enrollees by Benefit Coverage and State, 2008

State	Total Enrollees	Full Medicaid Benefits	Non-Qualified Aliens	Dual Medicaid/ Medicaid Status	Pregnancy-Related Coverage	Other Benefits	Family Planning Only Services
Alabama	916,430	686,187	2,252	109,171	24,401	0	94,419
Alaska	127,790	127,382	11	322	75	0	0
Arizona	1,604,081	1,422,465	138,145	35,797	0	0	7,674
Arkansas	766,658	632,562	0	50,143	0	0	83,953
California	10,865,324	7,219,598	1,017,457	26,423	74,367	8,181	2,519,276
Colorado	581,888	555,192	12,318	14,378	0	0	0
Connecticut	562,169	536,931	0	25,238	0	0	0
Delaware	197,291	170,158	8,359	12,885	0	0	5,886
District of Columbia	172,321	166,328	1,772	3,621	600	0	0
Florida	3,096,697	2,596,837	20,691	255,865	22,912	93,904	106,488
Georgia	1,732,419	1,590,225	15,293	120,251	4,913	1,404	0
Hawaii	243,986	240,841	94	3,050	0	0	0
Idaho	229,408	58,082	0	9,433	12,836	0	0
Illinois	2,650,265	2,506,147	1,005	38,630	7,615	0	96,146
Indiana	1,137,841	992,815	5,784	54,641	34,376	13,343	0
Iowa	496,433	447,249	1,566	13,255	1,472	0	32,854
Kansas	358,828	340,226	2,319	16,093	0	0	0
Kentucky	897,940	824,840	1,039	68,258	3,799	0	0
Louisiana	1,203,515	1,014,055	184	74,151	40,058	9,290	65,777
Maine	356,546	316,067	283	40,154	42	0	0
Maryland	898,938	770,989	10,697	35,569	0	40,142	41,384
Massachusetts	1,570,304	1,115,959	14,401	7,221	1,544	173,943	0
Michigan	2,026,820	1,844,122	32,582	25,608	0	74,999	49,406
Minnesota	825,263	750,581	6,103	12,476	15	23,282	32,806
Mississippi	740,200	593,631	903	69,846	22,278	2,194	51,348
Missouri	1,073,088	1,018,674	0	17,094	5,116	0	32,188
Montana	110,489	95,478	0	2,377	0	12,630	0
Nebraska	264,933	260,899	11	4,009	0	0	0
Nevada	277,596	247,741	5,896	18,912	5,030	14	0
New Hampshire	150,501	142,047	0	8,436	0	0	0
New Jersey	1,150,972	987,103	13,159	28,368	2,812	119,520	0
New Mexico	561,762	461,791	2,646	16,654	8,183	38,505	33,983
New York	5,093,922	4,044,384	51,375	85,893	16,194	834,813	61,263
North Carolina	1,781,048	1,543,276	19,341	60,119	59,051	45,640	53,621
North Dakota	74,633	70,597	11	4,026	0	0	0
Ohio	2,199,104	2,092,623	0	106,445	0	0	0
Oklahoma	809,349	754,786	5,842	18,932	100	16	29,673
Oregon	533,443	437,419	28,828	29,453	0	37,722	0
Pennsylvania	2,224,698	2,059,016	4,263	57,874	505	47,103	55,863
Rhode Island	213,478	196,487	282	5,567	5,218	4,560	1,364
South Carolina	915,681	821,027	4,094	18,844	0	0	71,697
South Dakota	134,253	122,840	160	6,870	4,383	0	0
Tennessee	1,512,449	1,434,040	5,381	68,677	4,351	0	0

Table C.7 *(continued)*

State	Total Enrollees	Full Medicaid Benefits	Non-Qualified Aliens	Dual Medicaid/ Medicaid Status	Pregnancy-Related Coverage	Other Benefits	Family Planning Only Services
Texas	4,375,057	4,033,588	88,052	193,516	446	58,690	0
Utah	297,858	264,676	5,700	2,391	0	25,091	0
Vermont	171,664	145,141	0	880	0	14,590	0
Virginia	947,906	867,949	8,397	52,753	0	8,798	9,977
Washington	1,193,923	1,036,881	1,496	36,666	0	17,116	101,764
West Virginia	403,443	175,192	34	30,679	0	0	0
Wisconsin	1,104,941	933,811	2,339	17,149	1,610	378	79,527
Wyoming	78,139	69,960	1,039	3,307	3,807	26	0
United States	**61,913,685**	**51,836,895**	**1,541,595**	**2,018,370**	**368,109**	**1,705,894**	**3,718,337**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.7 *(continued)*

State	Total Enrollees	Benchmark Equivalent Benefits	Money Follows the Person (MFP)	Psychiatric Residential Treatment Facilities (PRTF)	Health Opportunity Account (HOA)	Premium Assistance Only	Prescription Drug Benefits	Unknown
Alabama	916,430	0	0	0	0	0	0	0
Alaska	127,790	0	0	0	0	0	0	0
Arizona	1,604,081	0	0	0	0	0	0	0
Arkansas	766,658	0	0	0	0	0	0	0
California	10,865,324	0	22	0	0	0	0	0
Colorado	581,888	0	0	0	0	0	0	0
Connecticut	562,169	0	0	0	0	0	0	0
Delaware	197,291	0	11	0	0	0	0	0
District of Columbia	172,321	0	0	0	0	0	0	0
Florida	3,096,697	0	0	0	0	0	0	0
Georgia	1,732,419	0	20	313	0	0	0	0
Hawaii	243,986	0	11	0	0	0	0	0
Idaho	229,408	149,057	0	0	0	0	0	0
Illinois	2,650,265	0	12	0	0	0	0	710
Indiana	1,137,841	0	0	148	36,734	0	0	0
Iowa	496,433	0	37	0	0	0	0	0
Kansas	358,828	81	55	54	0	0	0	0
Kentucky	897,940	0	11	0	0	0	0	0
Louisiana	1,203,515	0	0	0	0	0	0	0
Maine	356,546	0	0	0	0	0	0	0
Maryland	898,938	0	157	0	0	0	0	0
Massachusetts	1,570,304	0	0	0	0	257,236	0	0
Michigan	2,026,820	0	103	0	0	0	0	0
Minnesota	825,263	0	0	0	0	0	0	0
Mississippi	740,200	0	0	0	0	0	0	0
Missouri	1,073,088	0	16	0	0	0	0	0
Montana	110,489	0	0	11	0	0	0	0
Nebraska	264,933	0	17	0	0	0	0	0
Nevada	277,596	0	0	0	0	0	0	11
New Hampshire	150,501	0	18	0	0	0	0	0
New Jersey	1,150,972	0	11	0	0	0	0	0
New Mexico	561,762	0	0	0	0	0	0	0
New York	5,093,922	0	0	0	0	0	0	0
North Carolina	1,781,048	0	0	0	0	0	0	0
North Dakota	74,633	0	11	0	0	0	0	0
Ohio	2,199,104	0	36	0	0	0	0	0
Oklahoma	809,349	0	0	0	0	0	0	0
Oregon	533,443	0	21	0	0	0	0	0
Pennsylvania	2,224,698	0	74	0	0	0	0	0
Rhode Island	213,478	0	0	0	0	0	0	0
South Carolina	915,681	0	0	14	11	0	0	0

Table C.7 *(continued)*

State	Total Enrollees	Benchmark Equivalent Benefits	Money Follows the Person (MFP)	Psychiatric Residential Treatment Facilities (PRTF)	Health Opportunity Account (HOA)	Premium Assistance Only	Prescription Drug Benefits	Unknown
South Dakota	134,253	0	0	0	0	0	0	0
Tennessee	1,512,449	0	0	0	0	0	0	0
Texas	4,375,057	0	765	0	0	0	0	0
Utah	297,858	0	0	0	0	0	0	0
Vermont	171,664	0	0	0	0	0	11,053	0
Virginia	947,906	0	13	19	0	0	0	0
Washington	1,193,923	0	0	0	0	0	0	0
West Virginia	403,443	197,538	0	0	0	0	0	0
Wisconsin	1,104,941	3,044	20	0	0	0	67,063	0
Wyoming	78,139	0	0	0	0	0	0	0
United States	**61,913,685**	**349,720**	**1,409**	**559**	**36,745**	**257,236**	**78,116**	**721**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

Table C.8. Number of Medicaid Fee-for-Service Enrollees by Basis of Eligibility, Recipiency Status, and State, 2008

		Aged					
			Fee-for-Service Recipients				
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	889,159	88,377	48,827	12,411	17,140	45,924	13,493
Alaska	127,790	7,305	6,641	1,008	602	6,559	1,984
Arizona	340,954	50,312	4,501	968	686	3,843	271
Arkansas	766,650	69,997	54,294	14,322	15,362	52,980	18,242
California	6,564,424	665,740	540,080	64,366	78,746	505,470	355,520
Colorado	518,366	50,029	38,990	4,324	11,709	37,365	11,163
Connecticut	399,582	66,979	52,326	10,614	23,911	48,050	37,182
Delaware	51,969	12,963	8,610	1,842	2,987	8,305	2,459
District of Columbia	57,627	11,568	9,448	2,138	2,358	9,139	3,493
Florida	1,867,686	346,599	196,943	50,230	53,194	183,436	65,969
Georgia	571,263	140,237	94,293	17,932	28,603	87,313	23,687
Hawaii	51,982	22,691	19,340	871	3,652	18,519	13,869
Idaho	229,408	16,751	12,943	2,594	3,715	12,316	3,904
Illinois	2,464,766	147,961	115,089	10,043	41,795	105,699	68,682
Indiana	328,610	84,816	64,597	5,672	30,781	63,310	34,845
Iowa	489,015	42,294	35,862	8,002	15,726	33,336	21,574
Kansas	162,609	35,741	28,465	4,280	12,574	25,633	16,043
Kentucky	715,546	89,084	68,636	6,089	20,062	65,998	40,088
Louisiana	1,203,424	109,292	76,996	21,000	22,171	72,856	27,488
Maine[5]	356,546	57,909	14,761	0	0	0	14,761
Maryland	205,658	58,657	46,237	11,031	17,127	42,241	18,174
Massachusetts	1,022,169	147,916	114,616	16,708	37,754	106,170	63,434
Michigan	651,341	133,123	104,439	3,729	35,788	92,858	49,238
Minnesota	264,543	38,013	9,784	1,996	3,411	8,760	4,655
Mississippi	740,200	76,058	55,634	11,154	15,342	54,905	12,511
Missouri	563,658	94,953	83,951	1,929	29,331	78,623	49,429
Montana	110,484	9,593	8,105	1,660	4,075	7,269	2,503
Nebraska	219,428	23,328	20,188	4,336	8,809	18,979	14,904
Nevada	130,102	24,625	16,999	2,095	3,371	16,268	8,456
New Hampshire	150,501	15,087	12,157	2,475	6,182	10,469	7,632
New Jersey	308,213	117,632	88,997	12,675	33,116	82,721	51,844
New Mexico	166,079	25,837	21,905	2,336	3,738	21,242	2,981
New York	1,666,297	424,104	312,333	82,021	103,138	284,395	168,016
North Carolina	1,781,033	182,427	140,312	14,296	34,475	136,408	64,825
North Dakota	74,625	9,224	7,637	889	4,256	6,457	2,460
Ohio	533,103	169,491	138,957	20,544	61,885	135,509	81,923
Oklahoma	809,338	65,200	50,670	14,915	16,634	48,714	12,873
Oregon	153,897	33,039	21,222	704	5,112	20,205	10,182

Table C.8 *(continued)*

		Aged					
			Fee-for-Service Recipients				
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	877,104	219,054	147,010	15,457	69,184	98,056	86,148
Rhode Island	67,994	20,097	15,547	3,482	7,226	13,882	8,555
South Carolina	586,827	77,216	60,397	12,339	14,516	56,754	27,539
South Dakota	134,253	10,633	8,285	1,444	4,524	7,267	2,577
Tennessee	702,342	73,964	20,526	1,563	11,175	15,134	1,287
Texas	2,234,868	349,646	202,187	20,972	71,001	152,190	83,507
Utah	297,858	14,292	10,562	1,234	3,321	9,387	5,035
Vermont	171,608	18,266	16,789	1,691	2,989	9,955	13,115
Virginia	374,756	96,892	74,965	44,413	21,066	67,822	39,099
Washington	491,702	89,063	74,610	8,663	14,452	70,733	58,310
West Virginia	202,661	37,643	28,139	2,181	9,139	26,448	9,981
Wisconsin	490,251	132,508	110,298	11,018	25,780	50,724	85,991
Wyoming	78,139	5,515	4,338	997	1,971	3,999	1,410
United States	**34,418,408**	**4,909,741**	**3,519,438**	**569,653**	**1,065,662**	**3,140,595**	**1,823,311**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month
[2] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month and had at least one fee-for-service claim during the year
[3] Recipients who had at least one fee-for-service claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.8 *(continued)*

State	Total FFS Enrollees[1]	Disabled: Total FFS Enrollees[1]	Fee-for-Service Recipients: Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	889,159	209,476	173,551	17,242	8,059	169,920	127,354
Alaska	127,790	16,530	15,292	2,276	487	15,173	9,743
Arizona	340,954	48,477	10,389	2,009	423	10,119	1,607
Arkansas	766,650	134,225	121,582	20,650	6,434	121,278	81,140
California	6,564,424	883,796	791,110	128,019	40,430	771,599	590,013
Colorado	518,366	78,698	64,708	8,530	2,645	63,380	40,480
Connecticut	399,582	69,285	63,071	13,611	6,543	61,901	53,365
Delaware	51,969	12,025	8,958	1,731	732	8,884	4,053
District of Columbia	57,627	34,639	29,203	7,908	1,664	28,464	20,052
Florida	1,867,686	417,802	316,436	76,914	15,075	306,862	185,742
Georgia	571,263	295,222	247,127	43,956	9,058	243,782	149,995
Hawaii	51,982	22,950	20,405	2,378	810	20,133	15,250
Idaho	229,408	38,407	33,888	4,963	2,180	33,574	22,985
Illinois	2,464,766	354,697	307,721	55,023	41,946	300,942	228,358
Indiana	328,610	139,010	117,612	19,873	10,079	116,674	73,563
Iowa	489,015	74,487	69,471	12,134	4,731	68,719	50,071
Kansas	162,609	68,981	57,280	10,646	2,689	55,501	40,515
Kentucky	715,546	189,573	162,912	22,845	7,132	160,632	125,897
Louisiana	1,203,424	203,581	172,861	37,886	16,789	169,598	125,025
Maine[5]	356,546	61,326	39,528	0	0	0	39,528
Maryland	205,658	67,174	54,164	16,229	5,290	53,158	20,935
Massachusetts	1,022,169	210,746	195,346	29,413	11,809	191,711	146,313
Michigan	651,341	155,698	126,740	10,607	5,574	119,219	73,173
Minnesota	264,543	107,768	100,181	19,414	6,576	99,522	74,189
Mississippi	740,200	173,147	146,030	27,604	6,931	144,080	92,945
Missouri	563,658	191,435	174,437	27,222	9,542	171,901	134,829
Montana	110,484	20,318	18,224	3,878	1,063	18,029	12,011
Nebraska	219,428	32,927	30,319	6,610	2,596	30,068	23,429
Nevada	130,102	41,060	32,679	5,383	1,566	32,122	23,370
New Hampshire	150,501	25,060	21,741	3,989	816	21,440	14,501
New Jersey	308,213	109,467	89,848	15,910	10,508	86,564	64,234
New Mexico	166,079	35,762	31,254	3,595	1,475	30,710	4,092
New York	1,666,297	505,539	439,098	98,030	46,478	427,248	310,705
North Carolina	1,781,033	306,753	266,332	41,696	11,134	263,638	195,749
North Dakota	74,625	11,193	10,216	1,580	1,099	10,113	6,030
Ohio	533,103	218,820	191,539	32,375	23,340	190,111	114,971
Oklahoma	809,338	117,673	101,781	22,420	6,599	98,820	66,316
Oregon	153,897	36,645	26,552	2,346	1,151	25,626	15,050

Table C.8 *(continued)*

		Disabled						
			Fee-for-Service Recipients					
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	877,104	254,785	193,203	20,806	12,145	176,277	133,676
Rhode Island	67,994	38,183	33,703	6,162	2,600	32,807	25,484
South Carolina	586,827	120,233	101,282	17,610	3,445	99,622	67,584
South Dakota	134,253	19,525	16,834	3,283	1,413	16,632	9,220
Tennessee	702,342	195,676	117,221	12,481	3,416	109,182	80,999
Texas	2,234,868	396,144	288,944	46,064	27,905	268,504	212,250
Utah	297,858	39,273	33,132	3,292	2,284	29,331	24,469
Vermont	171,608	24,077	22,613	3,033	576	21,210	17,265
Virginia	374,756	110,715	90,579	47,145	6,366	87,452	54,479
Washington	491,702	176,202	155,369	21,747	4,468	151,807	132,558
West Virginia	202,661	113,741	99,745	13,395	3,247	98,394	77,011
Wisconsin	490,251	154,103	136,024	20,636	6,002	121,071	87,329
Wyoming	78,139	10,395	8,909	1,753	465	8,796	5,958
United States	**34,418,408**	**7,373,424**	**6,177,144**	**1,074,302**	**405,785**	**5,962,300**	**4,305,860**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month
[2] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month and had at least one fee-for-service claim during the year
[3] Recipients who had at least one fee-for-service claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.8 *(continued)*

		Child						
			Fee-for-Service Recipients					
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	889,159	453,793	409,010	410	1,475	402,357	349,319
Alaska	127,790	76,710	63,956	6,400	1,060	62,984	35,244
Arizona	340,954	85,189	41,318	6,357	42	41,070	4,784
Arkansas	766,650	439,224	417,701	33,620	3,452	414,773	315,755
California	6,564,424	1,516,502	948,239	32,672	369	901,358	594,186
Colorado	518,366	300,310	243,223	13,696	51	239,523	144,135
Connecticut	399,582	176,046	121,791	5,899	501	76,214	95,406
Delaware	51,969	11,361	7,400	967	12	7,242	4,914
District of Columbia	57,627	6,897	4,175	817	66	4,000	2,207
Florida	1,867,686	721,129	543,672	36,621	11	533,343	415,747
Georgia	571,263	84,869	48,860	7,333	395	46,764	32,904
Hawaii	51,982	2,198	635	138	11	564	133
Idaho	229,408	145,335	116,541	8,286	625	113,667	78,404
Illinois	2,464,766	1,341,990	1,138,980	57,649	5,237	1,112,688	860,797
Indiana	328,610	67,704	30,421	3,302	448	29,375	18,640
Iowa	489,015	234,704	203,491	19,361	817	198,846	148,383
Kansas	162,609	44,460	33,795	4,522	113	32,114	22,614
Kentucky	715,546	329,568	300,509	19,729	1,478	296,554	254,707
Louisiana	1,203,424	700,303	633,466	41,520	2,567	625,940	500,199
Maine[5]	356,546	132,112	81,850	0	0	0	81,850
Maryland	205,658	20,797	8,014	3,484	481	7,192	3,205
Massachusetts	1,022,169	206,256	147,577	6,820	194	140,216	101,811
Michigan	651,341	205,872	117,001	14,323	38	100,856	76,570
Minnesota	264,543	56,784	37,224	4,329	387	35,227	20,538
Mississippi	740,200	367,051	321,943	19,300	1,716	316,759	251,449
Missouri	563,658	200,576	166,422	19,518	45	162,411	140,373
Montana	110,484	60,142	51,447	6,370	243	50,805	30,415
Nebraska	219,428	128,826	115,605	10,128	1,107	113,467	96,515
Nevada	130,102	44,903	29,351	4,493	781	28,399	16,816
New Hampshire	150,501	89,922	79,564	6,063	294	78,031	54,640
New Jersey	308,213	47,684	22,887	5,314	532	20,733	8,223
New Mexico	166,079	58,458	45,732	5,466	0	45,228	14,476
New York	1,666,297	387,200	215,001	31,961	3,931	203,152	129,421
North Carolina	1,781,033	947,419	854,913	92,521	1,708	846,440	612,597
North Dakota	74,625	38,393	32,784	3,689	54	32,072	22,373
Ohio	533,103	104,857	59,723	5,714	322	56,486	41,394
Oklahoma	809,338	490,953	418,812	46,214	3,420	394,173	288,318
Oregon	153,897	49,794	27,038	2,960	104	24,173	19,194

Table C.8 *(continued)*

		Child					
			Fee-for-Service Recipients				
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	877,104	252,198	197,745	20,302	460	189,375	158,009
Rhode Island	67,994	5,558	3,897	67	18	3,519	2,509
South Carolina	586,827	248,842	217,151	30,505	527	214,084	159,324
South Dakota	134,253	83,485	71,867	7,513	784	69,683	48,131
Tennessee	702,342	293,626	244,490	15,758	11	237,136	202,168
Texas	2,234,868	1,086,699	917,209	140,990	1,632	870,461	682,768
Utah	297,858	164,484	126,830	13,909	64	107,017	73,838
Vermont	171,608	65,547	59,498	2,560	11	58,504	41,329
Virginia	374,756	117,721	86,661	10,094	363	83,805	65,648
Washington	491,702	106,648	70,930	2,056	11	65,706	51,254
West Virginia	202,661	34,415	27,983	1,954	546	27,072	21,606
Wisconsin	490,251	100,130	74,719	5,698	922	71,166	51,931
Wyoming	78,139	51,031	42,834	5,581	585	42,199	30,493
United States	**34,418,408**	**12,986,675**	**10,281,885**	**844,953**	**39,984**	**9,834,923**	**7,477,664**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month
[2] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month and had at least one fee-for-service claim during the year
[3] Recipients who had at least one fee-for-service claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.8 *(continued)*

		Adult					
			Fee-for-Service Recipients				
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	889,159	137,513	103,366	3,805	11	101,119	55,200
Alaska	127,790	27,245	23,103	5,175	59	22,553	17,156
Arizona	340,954	156,976	39,094	20,625	31	38,733	1,900
Arkansas	766,650	123,204	86,775	19,364	19	83,143	47,104
California	6,564,424	3,498,386	2,143,747	174,666	284	2,030,351	943,664
Colorado	518,366	89,329	63,947	18,000	11	61,026	45,549
Connecticut	399,582	87,272	66,108	6,168	80	38,556	57,136
Delaware	51,969	15,620	6,418	1,963	123	5,844	4,185
District of Columbia	57,627	4,523	3,067	1,686	49	2,735	970
Florida	1,867,686	382,156	273,285	92,833	29	259,693	173,619
Georgia	571,263	50,935	35,186	14,507	11	32,865	11,184
Hawaii	51,982	4,143	1,659	279	24	1,586	225
Idaho	229,408	28,915	24,893	9,410	198	24,022	18,657
Illinois	2,464,766	620,118	475,179	67,934	378	444,314	396,840
Indiana	328,610	37,080	15,756	5,329	11	15,165	3,189
Iowa	489,015	137,530	90,836	16,081	21	88,085	59,984
Kansas	162,609	13,427	9,443	3,622	11	8,688	4,314
Kentucky	715,546	107,321	97,013	24,190	667	94,396	85,041
Louisiana	1,203,424	190,248	153,526	39,883	1,320	145,160	125,555
Maine[5]	356,546	105,199	74,939	0	0	0	74,939
Maryland	205,658	59,030	20,932	8,528	46	17,371	7,646
Massachusetts	1,022,169	457,251	153,522	11,700	190	142,385	124,132
Michigan	651,341	156,648	95,561	17,606	47	86,849	52,584
Minnesota	264,543	61,978	45,683	3,173	149	43,987	14,986
Mississippi	740,200	123,944	92,913	27,452	26	90,078	72,760
Missouri	563,658	76,694	54,625	14,731	0	50,642	46,018
Montana	110,484	20,431	17,612	4,413	55	17,193	12,591
Nebraska	219,428	34,347	28,774	4,919	75	28,027	22,734
Nevada	130,102	19,514	13,043	5,138	11	12,133	6,288
New Hampshire	150,501	20,432	17,214	3,529	11	16,580	14,413
New Jersey	308,213	33,430	19,278	11,201	11	15,546	3,208
New Mexico	166,079	46,022	23,325	5,273	11	21,384	8,783
New York	1,666,297	349,454	219,352	59,534	2,026	204,220	121,878
North Carolina	1,781,033	344,434	286,992	72,551	61	277,065	217,975
North Dakota	74,625	15,815	13,445	3,238	11	13,064	11,012
Ohio	533,103	39,935	22,588	3,453	23	20,845	12,426
Oklahoma	809,338	135,512	99,000	30,342	39	94,340	68,478
Oregon	153,897	34,419	17,285	6,461	11	16,302	9,608

Table C.8 *(continued)*

		Adult					
			Fee-for-Service Recipients				
State	Total FFS Enrollees[1]	Total FFS Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	877,104	151,067	101,339	15,018	394	95,195	76,477
Rhode Island	67,994	4,156	2,972	253	11	2,661	2,053
South Carolina	586,827	140,536	108,641	23,902	117	101,417	71,382
South Dakota	134,253	20,610	18,039	4,937	11	17,497	12,669
Tennessee	702,342	139,076	102,969	16,756	11	94,291	91,226
Texas	2,234,868	402,379	316,103	122,113	67	276,269	162,940
Utah	297,858	79,809	63,850	11,701	11	53,165	49,423
Vermont	171,608	63,718	47,770	4,580	31	45,709	40,823
Virginia	374,756	49,428	34,952	12,031	15	32,325	19,973
Washington	491,702	119,789	70,421	5,163	14	63,448	31,766
West Virginia	202,661	16,862	13,288	2,117	29	12,560	10,725
Wisconsin	490,251	103,510	73,540	5,271	54	70,532	43,270
Wyoming	78,139	11,198	9,326	2,647	11	9,015	7,336
United States	**34,418,408**	**9,148,568**	**5,991,694**	**1,045,251**	**6,812**	**5,540,129**	**3,573,994**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month
[2] Medicaid enrollees who were not enrolled in a comprehensive prepaid managed care plan in any month and had at least one fee-for-service claim during the year
[3] Recipients who had at least one fee-for-service claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.9. Number of Medicaid Comprehensive Managed Care Enrollees by Basis of Eligibility, Recipiency Status, and State, 2008

		Aged						
			Recipients of Prepaid Plan Services					
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	27,271	13,742	11	11	0	0	0
Alaska	0	0	0	0	0	0	0
Arizona	1,263,127	38,615	31,072	5,581	1,107	30,475	16,659
Arkansas	11	11	0	0	0	0	0
California	4,300,900	134,095	106,587	7,160	8,702	92,630	68,166
Colorado	63,522	4,685	109	11	0	73	11
Connecticut	162,587	11	0	0	0	0	0
Delaware	145,322	776	609	11	11	589	11
District of Columbia	114,694	18	0	0	0	0	0
Florida	1,229,011	33,529	8,910	90	0	8,006	1,298
Georgia	1,161,156	32	28	0	0	20	15
Hawaii	192,004	303	252	11	0	178	92
Idaho	0	0	0	0	0	0	0
Illinois	185,499	216	0	0	0	0	0
Indiana	809,231	54	35	11	0	23	19
Iowa	7,418	11	0	0	0	0	0
Kansas	196,219	211	11	0	0	0	0
Kentucky	182,394	6,313	5,793	711	0	5,667	3,635
Louisiana	91	80	0	0	0	0	0
Maine[5]	0	0	0	0	0	0	0
Maryland	693,280	619	432	24	11	232	149
Massachusetts	548,135	16,258	0	0	0	0	0
Michigan	1,375,479	3,555	2,542	47	29	1,997	767
Minnesota	560,720	56,497	54,723	6,173	601	52,303	44,815
Mississippi	0	0	0	0	0	0	0
Missouri	509,430	213	11	0	0	11	11
Montana	11	0	0	0	0	0	0
Nebraska	45,505	305	274	48	0	254	0
Nevada	147,494	11	0	0	0	0	0
New Hampshire	0	0	0	0	0	0	0
New Jersey	842,759	10,492	7,822	1,259	0	7,302	59
New Mexico	395,683	573	220	23	11	184	185
New York	3,427,625	50,431	30,033	809	444	27,081	4,032
North Carolina	15	13	0	0	0	0	0
North Dakota	11	11	0	0	0	0	0
Ohio	1,666,001	8,209	0	0	0	0	0
Oklahoma	11	11	0	0	0	0	0

Table C.9 *(continued)*

		Aged					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Oregon	379,546	19,690	16,854	2,530	49	16,458	3,592
Pennsylvania	1,347,594	15,840	0	0	0	0	0
Rhode Island	145,484	109	11	11	0	11	11
South Carolina	328,854	457	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0
Tennessee	810,107	30,409	6,193	77	11	5,176	25
Texas	2,140,189	91,042	25,777	49	13	24,478	84
Utah	0	0	0	0	0	0	0
Vermont	56	49	0	0	0	0	0
Virginia	573,150	2,948	2,293	317	12	1,991	1,742
Washington	702,221	1,190	596	49	11	429	175
West Virginia	200,782	11	0	0	0	0	0
Wisconsin	614,690	2,677	25	11	0	23	0
Wyoming	0	0	0	0	0	0	0
United States	**27,495,277**	**544,285**	**301,192**	**24,979**	**10,972**	**275,576**	**145,516**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan (e.g. HMO, HIO or PACE) for at least one month
[2] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan for at least one month and had at least one encounter claim
[3] Recipients who had at least one encounter claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.9 *(continued)*

State	Total Comprehensive Managed Care Enrollees[1]	Disabled: Total Comprehensive Managed Care Enrollees[1]	Recipients of Prepaid Plan Services: Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	27,271	13,518	33	30	0	0	0
Alaska	0	0	0	0	0	0	0
Arizona	1,263,127	99,627	87,938	16,932	1,841	86,602	68,540
Arkansas	11	0	0	0	0	0	0
California	4,300,900	294,191	257,201	21,850	4,363	235,945	157,017
Colorado	63,522	10,491	2,989	569	0	2,448	20
Connecticut	162,587	31	0	0	0	0	0
Delaware	145,322	11,277	9,952	109	67	9,771	136
District of Columbia	114,694	4,485	0	0	0	0	0
Florida	1,229,011	141,504	46,324	1,049	0	40,001	12,733
Georgia	1,161,156	14,087	12,774	0	11	11,106	6,052
Hawaii	192,004	3,064	2,733	204	11	2,373	804
Idaho	0	0	0	0	0	0	0
Illinois	185,499	409	172	11	0	93	11
Indiana	809,231	19,840	17,581	1,590	101	15,362	11,609
Iowa	7,418	45	38	11	0	27	11
Kansas	196,219	1,467	1,343	128	0	1,070	276
Kentucky	182,394	35,388	31,839	3,800	0	30,631	25,906
Louisiana	91	11	0	0	0	0	0
Maine[5]	0	0	0	0	0	0	0
Maryland	693,280	78,442	67,407	10,285	792	59,092	23,122
Massachusetts	548,135	43,152	0	0	0	0	0
Michigan	1,375,479	160,722	143,846	6,080	2,004	136,442	44,184
Minnesota	560,720	13,274	7,862	517	50	5,974	2,997
Mississippi	0	0	0	0	0	0	0
Missouri	509,430	3,830	2,787	411	0	2,290	429
Montana	11	0	0	0	0	0	0
Nebraska	45,505	3,492	3,003	393	0	2,613	31
Nevada	147,494	683	58	0	0	42	0
New Hampshire	0	0	0	0	0	0	0
New Jersey	842,759	85,411	70,895	9,247	0	65,502	2,247
New Mexico	395,683	33,318	30,853	4,246	871	29,770	26,956
New York	3,427,625	258,731	224,850	4,457	719	212,076	4,343
North Carolina	15	11	0	0	0	0	0
North Dakota	11	0	0	0	0	0	0
Ohio	1,666,001	160,733	0	0	0	0	0
Oklahoma	11	0	0	0	0	0	0
Oregon	379,546	51,594	46,848	5,417	184	45,419	8,762

Table C.9 *(continued)*

		Disabled					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	1,347,594	290,149	0	0	0	0	0
Rhode Island	145,484	6,370	5,281	953	0	4,622	3,562
South Carolina	328,854	38,650	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0
Tennessee	810,107	155,138	72,888	6,514	83	60,231	264
Texas	2,140,189	200,687	92,451	2,557	2,073	83,095	444
Utah	0	0	0	0	0	0	0
Vermont	56	11	0	0	0	0	0
Virginia	573,150	59,960	52,947	7,442	560	48,496	41,163
Washington	702,221	11,422	8,699	466	11	3,984	2,184
West Virginia	200,782	1,987	0	0	0	0	0
Wisconsin	614,690	5,563	3,054	286	39	2,356	83
Wyoming	0	0	0	0	0	0	0
United States	**27,495,277**	**2,312,752**	**1,304,646**	**105,546**	**13,772**	**1,197,433**	**443,867**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan (e.g. HMO, HIO or PACE) for at least one month
[2] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan for at least one month and had at least one encounter claim
[3] Recipients who had at least one encounter claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.9 *(continued)*

		Child					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	27,271	0	0	0	0	0	0
Alaska	0	0	0	0	0	0	0
Arizona	1,263,127	640,624	497,540	60,591	596	484,236	408,360
Arkansas	11	0	0	0	0	0	0
California	4,300,900	2,826,013	2,199,884	30,537	369	2,013,637	1,451,044
Colorado	63,522	39,629	1,039	162	0	871	11
Connecticut	162,587	115,572	0	0	0	0	0
Delaware	145,322	72,861	58,571	796	0	56,145	5,130
District of Columbia	114,694	74,622	0	0	0	0	0
Florida	1,229,011	837,580	229,841	764	0	195,219	86,944
Georgia	1,161,156	909,678	747,305	0	11	700,759	518,639
Hawaii	192,004	110,837	91,375	3,309	52	87,096	67,052
Idaho	0	0	0	0	0	0	0
Illinois	185,499	139,243	70,581	457	11	61,289	4,754
Indiana	809,231	592,081	480,156	31,639	950	435,376	347,653
Iowa	7,418	5,455	4,161	290	0	3,649	505
Kansas	196,219	155,674	124,482	9,925	22	108,715	84,929
Kentucky	182,394	111,010	96,669	3,520	0	94,317	79,710
Louisiana	91	0	0	0	0	0	0
Maine[5]	0	0	0	0	0	0	0
Maryland	693,280	484,241	406,652	32,044	29	378,960	236,818
Massachusetts	548,135	312,639	0	0	0	0	0
Michigan	1,375,479	884,700	714,018	5,635	2,127	652,755	470,570
Minnesota	560,720	342,617	281,638	10,871	61	250,985	171,605
Mississippi	0	0	0	0	0	0	0
Missouri	509,430	397,658	323,567	25,018	0	311,256	199,337
Montana	11	11	0	0	0	0	0
Nebraska	45,505	33,274	25,419	2,139	0	22,147	1,723
Nevada	147,494	110,952	538	0	0	532	0
New Hampshire	0	0	0	0	0	0	0
New Jersey	842,759	544,287	464,658	19,845	0	434,648	383,337
New Mexico	395,683	264,509	231,403	13,244	2,753	220,980	180,256
New York	3,427,625	1,593,368	1,277,126	20,468	20	1,226,200	97,874
North Carolina	15	0	0	0	0	0	0
North Dakota	11	0	0	0	0	0	0
Ohio	1,666,001	1,063,584	0	0	0	0	0
Oklahoma	11	0	0	0	0	0	0
Oregon	379,546	217,383	166,256	11,804	316	155,157	75,565

Table C.9 *(continued)*

		Child					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	1,347,594	751,942	0	0	0	0	0
Rhode Island	145,484	90,686	78,336	9,267	0	75,345	59,796
South Carolina	328,854	229,543	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0
Tennessee	810,107	458,321	285,734	11,687	578	241,262	9,047
Texas	2,140,189	1,635,373	1,255,204	87,677	10,009	1,118,365	108,671
Utah	0	0	0	0	0	0	0
Vermont	56	0	0	0	0	0	0
Virginia	573,150	413,622	324,114	9,599	199	283,902	222,483
Washington	702,221	548,426	356,427	18,325	11	196,874	257,850
West Virginia	200,782	156,761	0	0	0	0	0
Wisconsin	614,690	385,449	290,971	19,127	571	273,473	43,780
Wyoming	0	0	0	0	0	0	0
United States	**27,495,277**	**17,550,217**	**11,083,665**	**438,740**	**18,659**	**10,084,150**	**5,573,438**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan (e.g. HMO, HIO or PACE) for at least one month
[2] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan for at least one month and had at least one encounter claim
[3] Recipients who had at least one encounter claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

Table C.9 *(continued)*

		Adult					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Alabama	27,271	11	0	0	0	0	0
Alaska	0	0	0	0	0	0	0
Arizona	1,263,127	484,261	362,778	66,013	1,543	347,527	302,889
Arkansas	11	0	0	0	0	0	0
California	4,300,900	1,046,601	809,926	75,264	291	744,170	573,540
Colorado	63,522	8,717	374	37	0	315	11
Connecticut	162,587	46,983	0	0	0	0	0
Delaware	145,322	60,408	47,515	1,020	299	46,550	316
District of Columbia	114,694	35,569	0	0	0	0	0
Florida	1,229,011	216,398	52,158	625	0	40,554	8,563
Georgia	1,161,156	237,359	196,810	0	11	171,971	105,749
Hawaii	192,004	77,800	58,451	3,305	16	54,852	42,471
Idaho	0	0	0	0	0	0	0
Illinois	185,499	45,631	28,428	1,168	0	23,578	63
Indiana	809,231	197,256	135,477	28,530	32	113,890	83,896
Iowa	7,418	1,908	1,540	315	0	1,278	13
Kansas	196,219	38,867	32,775	9,409	25	27,121	18,846
Kentucky	182,394	29,683	26,062	6,837	0	25,119	22,163
Louisiana	91	0	0	0	0	0	0
Maine[5]	0	0	0	0	0	0	0
Maryland	693,280	129,978	96,786	18,830	56	66,475	57,358
Massachusetts	548,135	176,086	0	0	0	0	0
Michigan	1,375,479	326,502	267,683	5,859	3,992	237,498	134,342
Minnesota	560,720	148,332	124,496	10,434	23	106,326	70,644
Mississippi	0	0	0	0	0	0	0
Missouri	509,430	107,729	85,259	22,959	0	79,097	46,059
Montana	11	11	0	0	0	0	0
Nebraska	45,505	8,434	6,745	1,265	0	5,286	114
Nevada	147,494	35,858	391	0	0	357	0
New Hampshire	0	0	0	0	0	0	0
New Jersey	842,759	202,569	163,530	10,000	0	149,319	123,161
New Mexico	395,683	97,283	79,782	10,728	58	73,588	60,244
New York	3,427,625	1,525,095	1,090,059	23,751	413	1,035,121	132,627
North Carolina	15	0	0	0	0	0	0
North Dakota	11	0	0	0	0	0	0
Ohio	1,666,001	433,475	0	0	0	0	0
Oklahoma	11	0	0	0	0	0	0
Oregon	379,546	90,879	72,752	11,492	11	67,712	14,155

Table C.9 *(continued)*

		Adult					
			Recipients of Prepaid Plan Services				
State	Total Comprehensive Managed Care Enrollees[1]	Total Comprehensive Managed Care Enrollees[1]	Recipients of Any Service[2]	Recipients of Inpatient Hospital Services[3]	Recipients of Institutional Long-Term Care Services[3]	Recipients of Other Services[3,4]	Recipients of Prescription Drug Services[3]
Pennsylvania	1,347,594	289,663	0	0	0	0	0
Rhode Island	145,484	48,319	41,467	8,251	0	38,972	33,954
South Carolina	328,854	60,204	0	0	0	0	0
South Dakota	0	0	0	0	0	0	0
Tennessee	810,107	166,239	105,331	10,464	43	87,099	314
Texas	2,140,189	213,087	180,978	87,424	3,446	158,057	827
Utah	0	0	0	0	0	0	0
Vermont	56	0	0	0	0	0	0
Virginia	573,150	96,620	80,493	15,838	261	64,802	48,541
Washington	702,221	141,183	101,387	15,279	11	59,826	47,748
West Virginia	200,782	42,033	0	0	0	0	0
Wisconsin	614,690	221,001	167,857	20,381	119	156,498	4,691
Wyoming	0	0	0	0	0	0	0
United States	**27,495,277**	**7,088,023**	**4,417,290**	**465,478**	**10,632**	**3,982,958**	**1,933,296**

Source: MAX Person Summary File, 2008.

Note: To protect privacy, state counts representing fewer than 11 people were recoded to 11. If only one state had a count of less than 11, a value of 11 was used to contribute to the U.S. total.

[1] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan (e.g. HMO, HIO or PACE) for at least one month
[2] Medicaid enrollees who were enrolled in a comprehensive prepaid managed care plan for at least one month and had at least one encounter claim
[3] Recipients who had at least one encounter claim for this category of service
[4] Other Services includes services other than Inpatient Hospital (TOS=01), Institutional Long Term Care (TOS=02, 04, 05, and 07), and prescription drugs (TOS=16).
[5] Maine was unable to accurately report its inpatient, long-term care, and other services claims as it did not have a fully functional MMIS.

APPENDIX D

EXAMPLE CODE FOR ANALYSIS OF MINI-MAX

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This appendix provides example code for conducting Mini-MAX analysis. We present a brief overview of the purpose of the three examples, followed by the code.

Example Code 1: Identifying Subpopulations Commonly Used in Medicaid Research and Developing Commonly Used Statistics. This code uses data elements in the base Mini-MAX files to identify subpopulations commonly excluded from or used in Medicaid research. The code identifies the following subpopulations:

- Persons with Medicaid enrollment at any point during the year
- Medicaid enrollees by BOE
- Restricted benefit enrollees
- Persons enrolled in comprehensive managed care at any point in the year
- Dual enrollees

The program calculates the following statistics:

- Person-months and person-years of enrollment for persons enrolled in Medicaid at any point in the year
- Total expenditures and total FFS expenditures per person-year of enrollment
- Person-months and person-years of enrollment for persons enrolled in comprehensive managed care
- Number of comprehensive managed care capitation claims per person-month of enrollment, capitation payment amount per person-month of enrollment, and capitation payment amount per person-year of enrollment

Example Code 2: Basic Calculations Using Enrollment and Expenditure Data in the PS File. The code includes the following calculations:

- Number of individuals enrolled in Medicaid and comprehensive managed care, by state
- Number of months enrolled in Medicaid and number of months enrolled in comprehensive managed care, by age group
- Total and mean expenditures, by state
- Total expenditures per person year, by MAS/BOE category
- Total comprehensive managed care capitation payments per person-year enrolled in comprehensive managed care where BOE is child, by age category in West Virginia
- Total FFS expenditures per person year, by BOE in Maryland, excluding individuals enrolled in managed care at any point

Example Code 3: Linking Claims Summary with the PS File. This code selects diabetes claims, summarizes expenditures, and links person-level expenditure estimates to the PS file. We assumed that people with diabetes have a primary diagnosis code equal to one of the following ICD-9 codes:[21]

249.00, 249.01, 249.10, 249.11, 249.20, 249.21, 249.30, 249.31, 249.40, 249.41, 249.50, 249.51, 249.60, 249.61, 249.70, 249.71, 249.80, 249.81, 249.90, 249.91, 250.00, 250.01, 250.02, 250.03, 250.10, 250.11, 250.12, 250.13, 250.20, 250.21, 250.22, 250.23, 250.30, 250.31, 250.32, 250.33, 250.40, 250.41, 250.42, 250.43, 250.50, 250.51, 250.52, 250.53, 250.60, 250.61, 250.62, 250.63, 250.70, 250.71, 250.72, 250.73, 250.80, 250.81, 250.82, 250.83, 250.90, 250.91, 250.92, 250.93, 357.2, 362.01, 362.02, 366.41.

[21] Diagnosis codes are those used to identify diabetes claims in CMS's chronic condition warehouse.

```
*===================================================================*;
* MINI-MAX USER'S GUIDE - EXAMPLE CODE 1:                           *;
* EXAMPLES OF COMMONLY USED SUBPOPULATIONS AND COMPUTATIONS         *;
*-------------------------------------------------------------------*;
* THIS PROGRAM WILL USE DATA ELEMENTS IN THE MINI-MAX FILE TO       *;
* IDENTIFY POPULATIONS COMMONLY EXCLUDED FROM OR USED IN MEDICAID   *;
* RESEARCH, AND PERFORM SIMPLE COMMONLY USED COMPUTATIONS.          *;
*                                                                   *;
* THE SUBPOPULATIONS IDENTIFIED AND COMPUTATIONS PERFORMED ARE:     *;
* 1. IDENTIFY PERSONS WITH MEDICAID ENROLLMENT AT ANY POINT DURING   *;
* THE YEAR (EVER ENROLLED), AND CALCULATE PERSON MONTHS OF          *;
* ENROLLMENT AND PERSON YEARS OF ENROLLMENT                          *;
* 2. IDENTIFY MEDICAID ENROLLEES BY BASIS OF ELIGIBILITY (BOE)       *;
* 3. IDENTIFY RESTRICTED BENEFIT ENROLLEES                          *;
* 4. IDENTIFY PERSONS ENROLLED IN COMPREHENSIVE MANAGED CARE AT ANY  *;
* POINT DURING THE YEAR (EVER ENROLLED), AND CALCULATE PERSON       *;
* MONTHS OF ENROLLMENT AND PERSON YEARS OF ENROLLMENT               *;
* 5. IDENTIFY DUAL ENROLLEES                                        *;
* 6. CALCULATE TOTAL EXPENDITURES AND TOTAL FEE-FOR-SERVICE (FFS)   *;
* EXPENDITURES PER PERSON YEAR OF ENROLLMENT                        *;
* 7. CALCULATE NUMBER OF COMPREHENSIVE MANAGED CARE CAPITATION      *;
* CLAIMS PER PERSON MONTH OF ENROLLMENT, COMPREHENSIVE MANAGED CARE  *;
* CAPITATION PAYMENT AMOUNT PER PERSON MONTH OF ENROLLMENT, AND     *;
* COMPREHENSIVE MANAGED CARE CAPITATION PAYMENT AMOUNT PER PERSON   *;
* YEAR OF ENROLLMENT                                                *;
*                                                                   *;
* NOTES:                                                            *;
* - S-CHIP ONLY ENROLLEES AND PERSONS WITH CLAIMS BUT NO ENROLLMENT  *;
* INFORMATION HAVE ALREADY BEEN EXCLUDED FROM THESE FILES           *;
* - LOW PREVALENCE CONDITIONS CANNOT BE ANALYZED WITH MINI-MAX      *;
* - THIS PROGRAM ASSUMES THE INPUT DATASET IS STORED IN THE 'WORK'   *;
* LIBRARY                                                         *;
*===================================================================*;

DATA PS;
  SET PS;

*-------------------------------------------------------------------*;
* 1. THE FOLLOWING CODE IDENTIFIES PERSONS EVER ENROLLED IN MEDICAID, *;
* THEIR PERSON MONTHS OF ENROLLMENT, AND PERSON YEARS OF ENROLLMENT  *;
* NOTE: WE DO NOT CLASSIFY "UNKNOWN" (MASBOE = 99) AS ENROLLED      *;
*-------------------------------------------------------------------*;

  ** CREATE THE ARRAY MASBOES, WHICH CONTAINS 12 SLOTS FOR THE MONTHLY
  ** MASBOE VARIABLES;

  ARRAY MASBOES(12) MAX_ELG_CD_MO_1 - MAX_ELG_CD_MO_12;

  ** CREATE THE INDICATOR VARIABLE ENROLLED, WHICH EQUALS 1 IF THE
  ** ENROLLEE HAS AT LEAST ONE MONTH WITH VALID MASBOE (MASBOE NOT
  ** EQUAL TO 00 OR 99), AND EQUALS 0 OTHERWISE;

  ENROLLED = 0;

  ** ALSO CREATE THE COUNTER VARIABLE ENROLLED_MOS TO COUNT THE NUMBER
  ** OF MONTHS WITH A VALID MASBOE (MASBOE NOT EQUAL TO 00 OR 99);

   ENROLLED_MOS = 0;

  ** LOOP OVER THE ARRAY MASBOES. SET ENROLLED EQUAL TO 1 IF THE
  ** ENROLLEE IS IDENTIFIED AS HAVING A VALID MASBOE FOR ANY MONTH
  ** OF THE YEAR. ADD ONE TO ENROLLED_MOS FOR EACH MONTH THE ENROLLEE
  ** IS IDENTIFIED AS HAVING A VALID MASBOE;
```

```
  DO MO = 1 TO 12;
    IF MASBOES(MO) NOT IN ('00','99') THEN DO;
      ENROLLED = 1;
      ENROLLED_MOS = ENROLLED_MOS + 1;
    END;
  END;

  DROP MO;

 ** CREATE THE VARIABLE ENROLLED_YR TO EQUAL THE NUMBER OF PERSON YEARS
 ** OF ENROLLMENT FOR EACH ENROLLEE, BY DIVIDING ENROLLED_MOS BY 12;

  ENROLLED_YR = ENROLLED_MOS/12;

*--------------------------------------------------------------------*;
* 2. THE FOLLOWING CODE IDENTIFIES ENROLLEES ACCORDING TO MASBOE      *;
* (MAINTENANCE ASSISTANCE STATUS AND BASIS OF ELIGIBILITY).          *;
* ENROLLEES ARE PUT INTO THE FOLLOWING CATEGORIES: AGED, DISABLED,   *;
* CHILD, ADULT, AND UNKNOWN.                                         *;
* NOTE: WE CLASSIFY INDIVIDUALS COVERED UNDER THE BREAST AND         *;
* CERVICAL CANCER PREVENTION ACT OF 2000 AS DISABLED                 *;
*--------------------------------------------------------------------*;

  ** IDENTIFY ENROLLEES BY BOE BASED ON EL_MAX_ELGBLTY_CD_LTST (THE
  ** LATEST VALID MASBOE ASSIGNMENT FOR EACH ENROLLEE);

  ** IDENTIFY AGED ENROLLEES (BOE = 1);

  IF EL_MAX_ELGBLTY_CD_LTST IN ('11','21','31','41','51')
  THEN BOE = 1;

  ** IDENTIFY DISABLED ENROLLEES (BOE = 2);

  ELSE IF EL_MAX_ELGBLTY_CD_LTST IN ('12','22','32','3A','42','52')
  THEN BOE = 2;

  ** IDENTIFY CHILD ENROLLEES (BOE = 3);

  ELSE IF EL_MAX_ELGBLTY_CD_LTST IN ('14','16','24','34','44','48','54')
  THEN BOE = 3;

  ** IDENTIFY ADULT ENROLLEES (BOE = 4);

  ELSE IF EL_MAX_ELGBLTY_CD_LTST IN ('15','17','25','35','45','55')
  THEN BOE = 4;

  ** IDENTIFY NON ELIGIBLE OR UNKNOWN ELIGIBILITY ENROLLEES (BOE = 0);

  ELSE BOE = 0;

*--------------------------------------------------------------------*;
* 3. THE FOLLOWING CODE IDENTIFIES RESTRICTED BENEFIT ENROLLEES      *;
* NOTE: WE EXCLUDE PEOPLE WITH VERY RESTRICTED BENEFITS FROM MOST    *;
* ANALYSES. PEOPLE WITH VERY RESTRICTED BENEFITS HAVE AT LEAST ONE   *;
* MONTH IN WHICH RESTRICTED BENEFITS FLAG (RBF)  = 2, 3, 6, W, X,    *;
* Y, OR Z, AND NO MONTHS WITH RBF = 1, 4, 5, 7, 8, A, B OR C. WE DO  *;
* NOT LOOK AT RBF = 9 TO MAKE THIS DECISION                          *;
*--------------------------------------------------------------------*;

  ** CREATE THE ARRAY RBFS, WHICH CONTAINS 12 SLOTS FOR THE MONTHLY
  ** RBF VARIABLES;
```

```
ARRAY RBFS(12) EL_RSTRCT_BNFT_FLG_1-EL_RSTRCT_BNFT_FLG_12;

** CREATE THE COUNTER VARIABLES NBR_MOS_RESTRICTED AND NBR_MOS_FULL
** TO COUNT THE NUMBER OF MONTHS OF RESTRICTED BENEFITS AND FULL
** BENEFITS;

NBR_MOS_RESTRICTED = 0;
NBR_MOS_FULL = 0;

** LOOP OVER THE ARRAY RBFS, ADDING ONE TO NBR_MOS_RESTRICTED FOR
** EACH MONTH THE ENROLLEE IS IDENTIFIED AS HAVING RESTRICTED BENEFITS
** (RBF = 2, 3, 6, W, X, Y, OR Z), AND ADDING ONE TO NBR_MOS_FULL FOR
** EACH MONTH THE ENROLLEE IS IDENTIFIED AS HAVING FULL BENEFITS
** (RBF = 1, 4, 5, 7, 8, A, B OR C);

DO MO = 1 TO 12;
  IF RBFS(MO) IN ('2', '3', '6', 'W', 'X', 'Y', 'Z') THEN
    NBR_MOS_RESTRICTED = NBR_MOS_RESTRICTED + 1;
  ELSE IF RBFS(MO) IN ('1', '4', '5', '7', '8', 'A', 'B', 'C') THEN
    NBR_MOS_FULL = NBR_MOS_FULL + 1;
END;

DROP MO;

** CREATE THE INDICATOR VARIABLE RESTRICTED_BENEFITS, WHICH EQUALS 1
** IF THE ENROLLEE HAS AT LEAST ONE MONTH OF RESTRICTED BENEFITS AND
** NO MONTHS OF FULL BENEFITS, AND EQUALS 0 OTHERWISE;

IF NBR_MOS_RESTRICTED > 0 AND NBR_MOS_FULL = 0
THEN RESTRICTED_BENEFITS = 1;
ELSE RESTRICTED_BENEFITS = 0;
```

```
*-------------------------------------------------------------------*;
* 4. THE FOLLOWING CODE IDENTIFIES PERSONS ENROLLED IN              *;
* COMPREHENSIVE MANAGED CARE AT ANY POINT IN THE YEAR               *;
* NOTE: PERSONS ENROLLED IN COMPREHENSIVE MANAGED CARE ARE ENROLLED  *;
* IN HMO, HIO OR PACE. (PACE IS INCLUDED BECAUSE THE CORRESPONDING   *;
* CAPITATION AMOUNT (TOS = 20) INCLUDES HMO, HIO AND PACE)          *;
*-------------------------------------------------------------------*;

  ** CREATE FOUR ARRAYS (PTYPE1 - PTYPE4), WHICH CONTAIN 12 SLOTS FOR
  ** EACH OF THE PLAN TYPE VARIABLES;

  ARRAY PTYPE1 (12)  EL_PHP_TYPE_1_1-EL_PHP_TYPE_1_12;
  ARRAY PTYPE2 (12)  EL_PHP_TYPE_2_1-EL_PHP_TYPE_2_12;
  ARRAY PTYPE3 (12)  EL_PHP_TYPE_3_1-EL_PHP_TYPE_3_12;
  ARRAY PTYPE4 (12)  EL_PHP_TYPE_4_1-EL_PHP_TYPE_4_12;

  ** CREATE THE INDICATOR VARIABLE HMO, WHICH EQUALS 1 IF THE ENROLLEE
  ** HAS AT LEAST ONE MONTH WITH ANY OF THE FOUR PLAN TYPES = 1 OR 6,
  ** AND EQUALS 0 OTHERWISE;

   HMO = 0;

  ** CREATE THE COUNTER HMO_MOS TO COUNT THE NUMBER OF MONTHS THE
  ** ENROLLEE HAS ANY OF THE FOUR PLAN TYPES = 1 (HMO) OR 6 (PACE);

   HMO_MOS = 0;

  ** LOOP OVER ALL FOUR PTYPE ARRAYS. SET HMO EQUAL TO 1 IF THE ENROLLEE
  ** HAS ANY OF THE PLAN TYPES EQUAL TO 1 OR 6 FOR ANY MONTH.
  ** ADD ONE TO HMO_MOS FOR EACH MONTH ANY OF THE PLAN TYPES = 1 OR 6;

   DO MO = 1 TO 12;
     IF PTYPE1(MO) IN (1,6) OR
        PTYPE2(MO) IN (1,6) OR
        PTYPE3(MO) IN (1,6) OR
        PTYPE4(MO) IN (1,6)
     THEN DO;
        HMO = 1;
        HMO_MOS = HMO_MOS + 1;
     END;
   END;

   DROP MO;

  ** CREATE THE VARIABLE HMO_YR TO EQUAL THE NUMBER OF PERSON YEARS OF
  ** COMPREHENSIVE MANAGED CARE ENROLLMENT FOR EACH ENROLLEE, BY
  ** DIVIDING HMO_MOS BY 12;

  HMO_YR = HMO_MOS/12;
```

```
*-------------------------------------------------------------------*;
* 5. THE FOLLOWING CODE IDENTIFIES DUALS                            *;
* NOTE: THERE ARE TWO SETS OF DUAL VARIABLES: MONTHLY AND ANNUAL.   *;
* THE MONTHLY DUAL VARIABLES IDENTIFY WHETHER THE PERSON IS DUALLY  *;
* ENROLLED IN MEDICARE AND MEDICAID IN THAT MONTH, ACCORDING TO THE *;
* MEDICARE ENROLLMENT FILE (EDB FILE). THE ANNUAL DUAL VARIABLE     *;
* IDENTIFIES WHETHER THE PERSON WAS EVER DUALLY ENROLLED IN THE     *;
* YEAR. THE ANNUAL DUAL VARIABLE IS TYPICALLY USED IN OUR ANALYSES. *;
*-------------------------------------------------------------------*;


  ** CREATE THE INDICATOR VARIABLE EDB_DUAL, WHICH EQUALS 1 IF
  ** EL_MDR_DUAL_ANN = 50, 51, 52, 53, 54, 55, 56, 57, 58, 59,
  ** AND EQUALS 0 OTHERWISE;

  IF EL_MDCR_DUAL_ANN IN
  ('50','51','52','53','54','55','56','57','58','59')
  THEN EDB_DUAL = 1;
  ELSE EDB_DUAL = 0;

*-------------------------------------------------------------------*;
* 6. THE FOLLOWING CODE CALCULATES TOTAL EXPENDITURES AND TOTAL     *;
* FEE-FOR-SERVICE (FFS) EXPENDITURES PER PERSON YEAR OF ENROLLMENT  *;
*-------------------------------------------------------------------*;

  ** CREATE THE VARIABLE TOT_MDCD_PYMT_AMT_PYE TO EQUAL THE TOTAL
  ** MEDICAID MEDICAID EXPENDITURES AMOUNT PER ENROLLEE DIVIDED BY THE
  ** NUMBER OF PERSON YEARS OF ENROLLMENT;

   TOT_MDCD_PYMT_AMT_PYE = TOT_MDCD_PYMT_AMT / ENROLLED_YR;

  ** CREATE THE VARIABLE TOT_MDCD_FFS_PYMT_AMT_PYE TO EQUAL THE TOTAL
  ** NUMBER OF PERSON YEARS OF FFS EXPENDITURES AMOUNT PER ENROLLEE
  ** DIVIDED BY THE NUMBER OF PERSON YEARS OF ENROLLMENT;

  TOT_MDCD_FFS_PYMT_AMT_PYE  = TOT_MDCD_FFS_PYMT_AMT / ENROLLED_YR;

*-------------------------------------------------------------------*;
* 7. THE FOLLOWING CODE CALCULATES THE NUMBER OF COMPREHENSIVE      *;
* MANAGED CARE CAPITATION CLAIMS PER PERSON MONTH OF ENROLLMENT,    *;
* COMPREHENSIVE MANAGED CARE CAPITATION PAYMENT AMOUNT PER PERSON   *;
* MONTH OF ENROLLMENT, AND COMPREHENSIVE MANAGED CARE CAPITATION    *;
* PAYMENT AMOUNT PER PERSON YEAR OF ENROLLMENT                      *;
*-------------------------------------------------------------------*;

  ** CREATE THE VARIABLE HMO_CLAIMS_PME TO EQUAL THE NUMBER OF
  ** COMPREHENSIVE MANAGED CARE CAPITATION CLAIMS PER ENROLLEE DIVIDED
  ** BY THE NUMBER OF PERSON MONTHS OF HMO ENROLLMENT.
  ** IF HMO_MOS = 0, SET HMO_CLAIMS_PME TO MISSING;

  IF HMO_MOS NE 0
  THEN HMO_CLAIMS_PME = PREM_PYMT_REC_CNT_HMO / HMO_MOS;
  ELSE HMO_CLAIMS_PME = .;

  ** CREATE THE VARIABLE HMO_AMT_PME TO EQUAL THE TOTAL MANAGED CARE
  ** CAPITATION PAYMENT AMOUNT PER ENROLLEE DIVIDED BY THE NUMBER OF
  ** PERSON MONTHS OF HMO ENROLLMENT.
  ** IF HMO_MOS = 0, SET HMO_AMT_PME TO MISSING;

  IF HMO_MOS NE 0
  THEN HMO_AMT_PME = PREM_MDCD_PYMT_AMT_HMO / HMO_MOS;
  ELSE HMO_AMT_PME = .;
```

```
  ** CREATE THE VARIABLE HMO_AMT_PYE TO EQUAL THE TOTAL MANAGED CARE
  ** CAPITATION PAYMENT AMOUNT PER ENROLLEE DIVIDED BY THE NUMBER
  ** OF PERSON YEARS OF HMO ENROLLMENT.
  ** IF HMO_YR = 0, SET HMO_AMT_PYE TO MISSING;

  IF HMO_YR NE 0
  THEN HMO_AMT_PYE = PREM_MDCD_PYMT_AMT_HMO / HMO_YR;
  ELSE HMO_AMT_PYE = .;

RUN;
```

```
*==================================================================*;
* MINI-MAX USER'S GUIDE - EXAMPLE CODE 2:                          *;
* EXAMPLES OF SUMMARY ENROLLMENT AND EXPENDITURE STATISTICS         *;
*------------------------------------------------------------------*;
* THIS PROGRAM WILL USE THE PS FILE TO CALCULATE STATISTICS ON      *;
* ENROLLMENT AND EXPENDITURES.                                      *;
*                                                                  *;
* THE CALCULATIONS PERFORMED ARE:                                   *;
* 1. TOTAL NUMBER OF INDIVIDUALS EVER ENROLLED IN MEDICAID AND      *;
* MANAGED CARE BY STATE                                             *;
* 2. NUMBER OF MEDICAID ENROLLED MONTHS AND COMPREHENSIVE MANAGED   *;
* CARE ENROLLED MONTHS BY AGE GROUP                                 *;
* 3. TOTAL AND MEAN EXPENDITURES BY STATE                           *;
* 4. TOTAL EXPENDITURES PER PERSON YEAR BY MASBOE CATEGORY          *;
* 5. TOTAL COMPREHENSIVE MANAGED CARE CAPITATION PAYMENTS PER PERSON *;
* YEAR FOR COMPREHENSIVE MANAGED CARE ENROLLEES WITH BOE = CHILD BY  *;
* AGE CATEGORY IN WV                                                *;
* 6. TOTAL FFS EXPENDITURES PER PERSON YEAR BY BOE IN MD, EXCLUDING  *;
* INDIVIDUALS ENROLLED IN COMPREHENSIVE MANAGED CARE AT ANY POINT    *;
*                                                                  *;
* NOTES:                                                            *;
* - S-CHIP ONLY ENROLLEES AND PERSONS WITH CLAIMS BUT NO ENROLLMENT  *;
* INFORMATION HAVE ALREADY BEEN EXCLUDED FROM THESE FILES           *;
* - LOW PREVALENCE CONDITIONS CANNOT BE ANALYZED WITH MINI-MAX      *;
* - THIS PROGRAM ASSUMES THE INPUT DATASET IS STORED IN THE 'WORK'   *;
* LIBRARY                                                           *;
*------------------------------------------------------------------*;

*------------------------------------------------------------------*;
* 1. THE FOLLOWING CODE CALCULATES THE TOTAL NUMBER OF INDIVIDUALS   *;
* EVER ENROLLED IN MEDICAID AND COMPREHENSIVE MANAGED CARE BY STATE  *;
*------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE TOTAL NUMBER OF ENROLLEES.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - SUM = TOTAL NUMBER OF INDIVIDUALS EVER ENROLLED
** - STD = STANDARD DEVIATION OF THE SUM
** - CLSUM = 95% CONFIDENCE INTERVAL FOR NUMBER OF INDIVIDUALS EVER
** ENROLLED;

** SORT THE DATASET TO PERFORM CALCULATIONS BY STATE_CD;

PROC SORT DATA = PS;
    BY STATE_CD;
RUN;

PROC SURVEYMEANS DATA = PS SUM STD CLSUM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH STATE;

  BY STATE_CD;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS ON THE VARIABLE
  ** HMO (CREATED IN EXAMPLE CODE 2). THE VARIABLE HMO EQUALS 1 IF AN
  ** ENROLLEE WAS EVER ENROLLED IN HMO, HIO OR PACE, AND EQUALS 0
  ** OTHERWISE;
```

```
  VAR HMO;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** CREATE THE OUTPUT DATASET HMO_ENRLL_STATS TO STORE THE SUMMARY
  ** STATISTICS;

  ODS OUTPUT STATISTICS = HMO_ENRLL_STATS;

RUN;

*-------------------------------------------------------------------*;
* 2. THE FOLLOWING CODE CALCULATES THE MEAN NUMBER OF MEDICAID       *;
* ENROLLED MONTHS AND COMPREHENSIVE MANAGED CARE ENROLLED MONTHS BY   *;
* AGE GROUP                                                          *;
*-------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE MEAN NUMBER OF MONTHS.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - MEAN = MEAN NUMBER OF MONTHS ENROLLED
** - STDERR = STANDARD ERROR OF THE MEAN
** - CLM = 95% CONFIDENCE INTERVAL FOR MEAN NUMBER OF MONTHS ENROLLED;

** SORT THE DATASET TO PERFORM CALCULATIONS BY EL_AGE_GRP_CD;

PROC SORT DATA = PS;
    BY EL_AGE_GRP_CD;
RUN;

PROC SURVEYMEANS DATA = PS SUM STDERR CLM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH AGE GROUP;

  BY EL_AGE_GRP_CD;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS ON THE VARIABLES
  ** ENROLLED_MOS AND HMO_MOS (CREATED IN SAMPLE CODE 1). THE VARIABLE
  ** ENROLLED_MOS EQUALS THE NUMBER OF MONTHS WITH A VALID MASBOE. THE
  ** VARIABLE HMO_MOS IS THE NUMBER OF MONTHS THE ENROLLEE WAS ENROLLED
  ** IN HMO, HIO, OR PACE;

  VAR ENROLLED_MOS HMO_MOS;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** CREATE THE OUTPUT DATASET ENROLL_MC_MOS_STATS TO STORE THE SUMMARY
  ** STATISTICS;

  ODS OUTPUT STATISTICS = ENROLL_MC_MOS_STATS;

RUN;
```

```
*-------------------------------------------------------------------*;
* 3. THE FOLLOWING CODE CALCULATES TOTAL AND MEAN EXPENDITURES BY     *;
* STATE                                                               *;
*-------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE TOTAL AND MEAN EXPENDITURES.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - SUM = TOTAL MEDICAID EXPENDITURES
** - MEAN = MEAN MEDICAID EXPENDITURES
** - STDERR = STANDARD ERROR OF THE MEAN
** - STD = STANDARD DEVIATION OF THE SUM
** - CLSUM = 95% CONFIDENCE INTERVAL FOR TOTAL MEDICAID EXPENDITURES
** - CLM = 95% CONFIDENCE INTERVAL FOR MEAN MEDICAID EXPENDITURES;

** SORT THE DATASET TO PERFORM CALCULATIONS BY STATE_CD;

PROC SORT DATA = PS;
    BY STATE_CD;
RUN;

PROC SURVEYMEANS DATA = PS SUM MEAN STDERR STD CLSUM CLM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH STATE;

  BY STATE_CD;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS FOR TOTAL
  ** EXPENDITURES;

  VAR TOT_MDCD_PYMT_AMT;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** CREATE THE OUTPUT DATASET TOT_MDCD_PYMT_AMT_STATS TO STORE THE
  ** SUMMARY STATISTICS;

  ODS OUTPUT STATISTICS = TOT_MDCD_PYMT_AMT_STATS;

RUN;

*-------------------------------------------------------------------*;
* 4. THE FOLLOWING CODE CALCULATES TOTAL EXPENDITURES PER PERSON YEAR *;
* BY MASBOE CATEGORY                                                  *;
*-------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE TOTAL EXPENDITURES PER PERSON
** YEAR BY MASBOE CATEGORY.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - SUM = TOTAL EXPENDITURES PER PERSON YEAR
** - STD = STANDARD DEVIATION OF THE SUM
** - CLSUM = 95% CONFIDENCE INTERVAL FOR TOTAL EXPENDITURES;
```

```
** SORT THE DATASET TO PERFORM CALCULATIONS BY EL_MAX_ELGBLTY_CD_LTST;

PROC SORT DATA = PS;
    BY EL_MAX_ELGBLTY_CD_LTST;
RUN;

PROC SURVEYMEANS DATA = PS SUM STD CLSUM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH MASBOE
  ** CATEGORY;

  BY EL_MAX_ELGBLTY_CD_LTST;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS ON THE VARIABLE
  ** TOT_MDCD_PYMT_AMT_PYE (CREATED IN SAMPLE CODE 2). THE VARIABLE
  ** TOT_MDCD_PYMT_AMT_PYE EQUALS THE TOTAL MEDICAID EXPENDITURES FOR
  ** EACH ENROLLEE, DIVIDED BY THE TOTAL ENROLLED YEARS FOR THAT
  ** ENROLLEE;

  VAR TOT_MDCD_PYMT_AMT_PYE;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** CREATE THE OUTPUT DATASET TOT_MDCD_PYMT_AMT_PYE_STATS TO STORE THE
  ** SUMMARY STATISTICS;

  ODS OUTPUT STATISTICS = TOT_MDCD_PYMT_AMT_PYE_STATS;

RUN;

*-------------------------------------------------------------------*;
* 5. THE FOLLOWING CODE CALCULATES TOTAL COMPREHENSIVE MANAGED CARE   *;
* CAPITATION PAYMENTS PER PERSON YEAR FOR COMPREHENSIVE MANAGED CARE  *;
* ENROLLEES WITH BOE = CHILD BY AGE CATEGORY IN WV                    *;
*-------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE TOTAL COMPREHENSIVE MANAGED
** CARE CAPITATION PAYMENTS.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - SUM = TOTAL PAYMENTS PER PERSON YEAR
** - STD = STANDARD DEVIATION OF THE SUM
** - CLSUM = 95% CONFIDENCE INTERVAL FOR TOTAL PAYMENTS;

** SORT THE DATASET TO PERFORM CALCULATIONS BY EL_AGE_GRP_CD;

PROC SORT DATA = PS;
    BY EL_AGE_GRP_CD;
RUN;

PROC SURVEYMEANS DATA = PS SUM STD CLSUM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH AGE
  ** GROUP;
```

```
  BY EL_AGE_GRP_CD;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS ON THE VARIABLE
  ** HMO_AMT_PYE (CREATED IN SAMPLE CODE 2). THE VARIABLE HMO_AMT_PYE
  ** EQUALS THE TOTAL MEDICAID CAPITATION PAYMENTS FOR EACH ENROLLEE,
  ** DIVIDED BY THE TOTAL ENROLLED YEARS FOR THAT ENROLLEE;

  VAR HMO_AMT_PYE;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** USE THE WHERE STATEMENT TO LIMIT THE ANALYSIS TO CHILDREN
  ** (BOE = 3, WHERE THE VARIABLE BOE WAS CREATED IN SAMPLE CODE 2
  ** AND CONTAINS ALL ENROLLEES WITH EL_MAX_ELGBLTY_CD_LTST EQUAL TO
  ** 14, 16, 24, 34, 44, 48, OR 54), AND ENROLLEES IN WEST VIRGINIA;

  WHERE BOE = 3 AND STATE_CD = 'WV';

  ** CREATE THE OUTPUT DATASET HMO_AMT_PYE_CHILD_WV_STATS TO STORE THE
  ** SUMMARY STATISTICS;

  ODS OUTPUT STATISTICS = HMO_AMT_PYE_CHILD_WV_STATS;

RUN;

*-------------------------------------------------------------------*;
* 6. THE FOLLOWING CODE CALCULATES TOTAL FFS EXPENDITURES PER PERSON  *;
* YEAR BY BOE IN MD, EXCLUDING INDIVIDUALS ENROLLED IN COMPREHENSIVE  *;
* MANAGED CARE AT ANY POINT                                           *;
*-------------------------------------------------------------------*;

** USE PROC SURVEYMEANS TO CALCULATE THE TOTAL FFS EXPENDITURES PER
** PERSON YEAR.
** THE FOLLOWING KEYWORDS ARE USED AND REPRESENT THE IDENTIFIED
** STATISTICS:
** - SUM = TOTAL EXPENDITURES PER PERSON YEAR
** - STD = STANDARD DEVIATION OF THE SUM
** - CLSUM = 95% CONFIDENCE INTERVAL FOR TOTAL EXPENDITURES;

** SORT THE DATASET TO PERFORM CALCULATIONS BY BOE;

PROC SORT DATA = PS;
    BY BOE;
RUN;

PROC SURVEYMEANS DATA = PS SUM STD CLSUM;

  ** USE THE BY STATEMENT TO PERFORM THE CALCULATIONS FOR EACH BOE
  ** CATEGORY;

  BY BOE;

  ** USE THE STRATA STATEMENT TO PERFORM STRATIFIED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;
```

```
  STRATA STATE_CD BOE_STRATA;

  ** USE THE VAR STATEMENT TO PERFORM THE CALCULATIONS ON THE VARIABLE
  ** TOT_MDCD_FFS_PYMT_AMT_PYE (CREATED IN SAMPLE CODE 2). THE VARIABLE
  ** TOT_MDCD_FFS_PYMT_AMT_PYE EQUALS THE TOTAL FFS PAYMENTS FOR EACH
  ** ENROLLEE, DIVIDED BY THE TOTAL ENROLLED YEARS FOR THAT ENROLLEE;

  VAR TOT_MDCD_FFS_PYMT_AMT_PYE;

  ** USE THE WEIGHT STATEMENT TO PERFORM WEIGHTED ANALYSES TO ACCOUNT
  ** FOR COMPLEX SURVEY DESIGN;

  WEIGHT SAMPLINGWEIGHT;

  ** USE THE WHERE STATEMENT TO LIMIT THE ANALYSIS TO ENROLLEES WITH
  ** HMO = 0 (THOSE NEVER ENROLLED IN COMPREHENSIVE MANAGED CARE),
  ** AND ENROLLEES IN MARYLAND;

  WHERE HMO = 0 AND STATE_CD = 'MD';

  ** CREATE THE OUTPUT DATASET FFS_PYMT_PYE_MD_STATS TO STORE THE
  ** SUMMARY STATISTICS;

 ODS OUTPUT STATISTICS = FFS_PYMT_PYE_MD_STATS;

RUN;
```

```
*==================================================================*;
* MINI-MAX USER'S GUIDE - EXAMPLE CODE 3:                          *;
* LINKING CLAIMS SUMMARY WITH PS FILE                              *;
*------------------------------------------------------------------*;
* THIS PROGRAM SELECTS ONLY FFS DIABETES CLAIMS FROM THE OT FILE,  *;
* SUMMARIZES TO THE STATE AND BENE_ID LEVEL, SUMS EXPENDITURES, AND *;
* MERGES TO THE PS FILE.                                           *;
*                                                                  *;
* NOTES:                                                           *;
* - S-CHIP ONLY ENROLLEES AND PERSONS WITH CLAIMS BUT NO ENROLLMENT *;
* INFORMATION HAVE ALREADY BEEN EXCLUDED FROM THESE FILES          *;
* - THIS LIST OF DIAGNOSTIC CODES INDICATING DIABETES CODES ARE CODES *;
* FOR MARYLAND AND WEST VIRGINIA, AND ARE USED ONLY AS AN EXAMPLE  *;
* - LOW PREVALENCE CONDITIONS CANNOT BE ANALYZED WITH MINI-MAX     *;
* - THIS PROGRAM ASSUMES THE INPUT DATASETS ARE STORED IN THE 'WORK' *;
* LIBRARY                                                          *;
*------------------------------------------------------------------*;

** ASSIGN LIST OF MD AND WV DIABETES DIAGNOSTIC CODES TO THE MACRO
** VARIABLE DIABETES_CODES;

%LET DIABETES_CODES = ('24900', '24901', '24910', '24911', '24920',
                       '24921', '24930', '24931', '24940', '24941',
                       '24950', '24951', '24960', '24961', '24970',
                       '24971', '24980', '24981', '24990', '24991',
                       '25000', '25002', '25003', '25010', '25011',
                       '25012', '25001', '25013', '25020', '25021',
                       '25022', '25023', '25030', '25031', '25032',
                       '25033', '25040', '25041', '25042', '25043',
                       '25050', '25051', '25052', '25053', '25060',
                       '25061', '25062', '25063', '25070', '25071',
                       '25072', '25073', '25080', '25081', '25082',
                       '25083', '25090', '25091', '25092', '25093',
                       '3572',  '36201', '36202', '36641');

** CREATE THE DATASET OT_DIABETES, WHICH HAS ALL CURRENT FFS CLAIMS
** WITH A PRIMARY DIAGNOSIS CODE OF DIABETES;

DATA OT_DIABETES;
  SET OT;

  ** KEEP ONLY FFS CLAIMS WITH A PRIMARY DIAGNOSIS CODE OF DIABETES;

  IF TYPE_CLM_CD = '1' AND STRIP(DIAG_CD_1) IN &DIABETES_CODES.;

RUN;

** SORT THE DATASET OF DIABETES CLAIMS BY STATE_CD AND BENE_ID TO
** BE USED IN PROC SUMMARY IN NEXT STEP;

PROC SORT DATA = OT_DIABETES;
  BY STATE_CD BENE_ID;
RUN;

** SUMMARIZE THE DATASET OF DIABETES CLAIMS TO THE STATE AND BENE_ID-
** LEVEL TO BE USED IN PROC SUMMARY SUMMING MEDICAID PAYMENT AMOUNT,
** AND OUTPUT THE ID-LEVEL FILE OT_DIABETES_BID;

PROC SUMMARY DATA = OT_DIABETES;
  VAR MDCD_PYMT_AMT;
  BY STATE_CD BENE_ID;
  OUTPUT OUT = OT_DIABETES_BID SUM(MDCD_PYMT_AMT) =
  TOT_FFS_MDCD_PYMT_AMT_DIABETES;
```

```
RUN;

** SORT THE PS DATASET BY STATE_CD AND BENE_ID TO MERGE ONTO
** OT_DIABETES_BID;

PROC SORT DATA = PS;
  BY STATE_CD BENE_ID;
RUN;

** MERGE OT_DIABETES_BID TO THE PS DATASET, CREATING THE DUMMY
** VARIABLE HAS_DIABETES_CLAIMS TO IDENTIFY ENROLLEES WITH DIABETES
** CLAIMS;

DATA OT_PS_DIABETES_CLAIMS;
  MERGE OT_DIABETES_BID (IN = DIABETES) PS (IN = PS);
  BY STATE_CD BENE_ID;

  HAS_DIABETES_CLAIMS = DIABETES;

  ** SET TOT_FFS_MDCD_PYMT_AMT_DIABETES TO ZERO FOR ENROLLEES WITH
  ** NO DIABETES CLAIMS;

  IF HAS_DIABETES_CLAIMS = 0 THEN TOT_FFS_MDCD_PYMT_AMT_DIABETES = 0;

  ** KEEP ONLY THE RECORDS IN THE PS FILE;
  IF PS = 1;
RUN;
```

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