

MILLIMAN REPORT

# Exhibit A-6-c - Dental Program Data Book

State of Florida Agency for Health Care Administration

Statewide Medicaid Managed Care Dental Invitation to Negotiate

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## I. INTRODUCTION

The Florida Agency for Health Care Administration (Agency) retained Milliman, Inc. (Milliman) to develop a data book to provide relevant historical data and background information to potential contractors responding to the Invitation to Negotiate (ITN) issued under the Statewide Medicaid Managed Care (SMMC) Dental program.

The Dental data book includes summaries of historical data to assist potential contractors in gaining a general understanding of program membership and costs. Each Dental data book component is described in subsequent sections of this Dental data book narrative.

### PROGRAM BACKGROUND

The Dental program is a statewide full-risk Medicaid managed care program that provides dental services to Medicaid beneficiaries who have been determined to meet the mandatory or voluntary eligibility requirements set out in Florida statute. The Dental program uses a managed care model where Dental members select among eligible capitated dental plans.

The Dental program was originally implemented according to the following schedule by region based on the current dental plan contract effective dates:

- December 1, 2018: Regions 9, 10, and 11
- January 1, 2019: Regions 5, 6, 7, and 8
- February 1, 2019: Regions 1, 2, 3, and 4

**Region definitions will change from the current definition.** These changes will be effective for the next set of dental plan contracts awarded under the upcoming ITN. Additionally, each plan is currently paid a per member per month (PMPM) capitation rate to cover members enrolled in their plan. The capitation rates vary depending on a member's region and rate cell. The changes in the regional definitions and further discussion of how the capitation rates vary are described further in Section II.

Beginning with the next set of managed care plan contracts awarded under the upcoming ITN, Dental Health Plans will be responsible for authorized hospital outpatient and ambulatory surgery center (ASC) services and ancillary medical services provided secondary to dental care provided in an ASC or outpatient hospital setting when medically necessary. These services are included in the data book and discussed further in Section III.

For the purposes of the Dental data book, we do not carve in any voluntary eligible members.

Additional program details will be provided by the Agency in the ITN.

### OVERVIEW OF DENTAL DATA BOOK CONTENTS

**The Dental data book includes historical data spanning October 2020 through September 2022 service dates.** The claim payment or submission data cutoffs vary by data source for each time period. Further details can be found in Section III.

The Dental data book includes historical cost data from the current set of dental plan contracts.

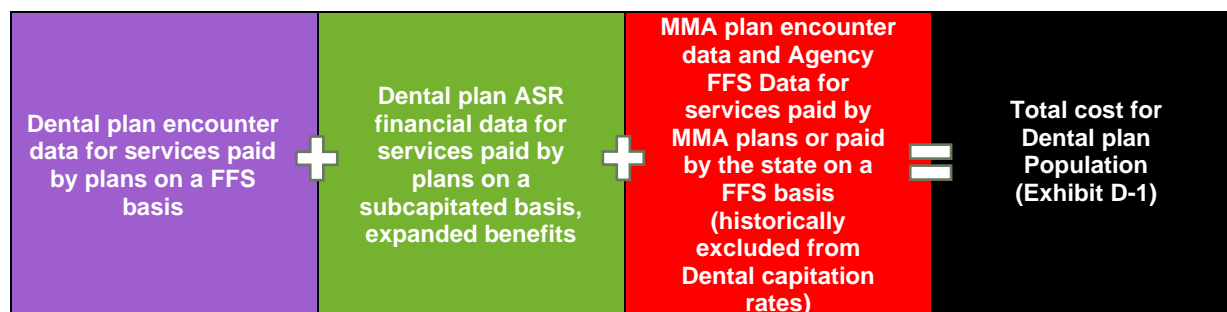
The Dental data book includes regional eligibility, utilization, and paid claims information for populations eligible for services covered under the Dental, MMA, and Agency FFS programs. The Dental data book includes information from the Florida Medicaid data sources listed below:

- The Agency's eligibility data
- Dental plan encounter data, submitted through the Florida Medicaid Management Information System (FMMIS)
- MMA plan encounter data, submitted through the Florida Medicaid Management Information System (FMMIS)

- Dental plan Achieved Savings Rebate (ASR) report financial data
- The Agency's FFS data

These data sources can be combined in the following manner shown in Figure 1 to compile the historical data costs for the Dental enrolled population. Subsequent sections of this report describe the data sources, including the methodology and adjustments we applied in summarizing the data for all members, in additional detail.

**Figure 1 – Summary of Dental Population Data Sources**



The ASR reports include enrollment, revenue, and claims experience submitted by the Dental plans for each calendar quarter. The ASR template is available at the following location:

<https://ahca.myflorida.com/medicaid/statewide-medicaid-managed-care/reports-guides/smmc-asr-dental-financial-report>

## COVID-19 CONSIDERATIONS

The COVID-19 pandemic and determination of a federal public health emergency (PHE) have impacted health care costs significantly since March 2020. Costs changed greatly at the beginning of the pandemic, particularly due to the deferral or elimination of a significant number of non-essential services. Beyond that, Dental enrollment has increased significantly following the beginning of the PHE due to the moratorium on member redeterminations, as individuals who would typically disenroll have remained enrolled in the Dental program. The following impacts resulting from the COVID-19 pandemic and PHE may be reflected in the historical enrollment and cost data included in the Dental data book:

- **Dental population size and acuity:** Medicaid enrollment is currently elevated because during the PHE, Dental members were not being disenrolled due to normal eligibility redeterminations. With the end of the moratorium on member redeterminations, the State started to disenroll Dental members who are no longer eligible beginning in May 2023. This process is expected to take 12 months, and the impact due to this redetermination process on the Dental Program is currently unknown. These changes in the size of the population over time will impact the average acuity of the population enrolled within the Dental Program.
- **Deferred and foregone services:** The COVID-19 pandemic has resulted in the deferral or elimination of a significant number of non-essential services, either through government enacted policies, the impact of social distancing on the administration of services, or personal choice.
- **Other impacts related to the COVID-19 pandemic and federal PHE:** The items above are not an exhaustive list of all possible impacts related to the COVID-19 pandemic and federal PHE. Users of the Dental data book may wish to consider other available research and information.

Potential contractors may want to give special consideration to these impacts when considering program membership and costs given the significant impact of these items.

## DENTAL DATA BOOK STRUCTURE

The Dental data book includes two appendices which contain data summaries and other supporting information.

### Appendix 1

Appendix 1 includes the “database” components for each Dental data source to allow potential contractors to create their own customized summaries of the Dental data book information. Due to the volume of information in these databases, the file “Exhibit A-6-c – Dental Program Data Book Appendix 1.xlsx” presents Appendix 1 in Excel format. Appendix 1 includes the following components (each on a separate tab):

- **Data Dictionary:** A list of the fields included in the database for each data source, a description for each field, and a list of the possible values for each field
- **Procedure Code Mapping:** A list of the procedure codes and how each code maps to a service category for the Dental plan FMMIS encounter data
- **Claims Data:** A database containing encounter data and ASR financial data for Dental program services paid by the Dental plans, as well as ASC and outpatient services paid by the MMA plans or by the Agency to be carved into the Dental Program
- **Eligibility Data:** A database containing summaries of the membership underlying the Dental data book

### Appendix 2

Appendix 2 includes several summary exhibits to allow potential contractors to gain a general understanding of the utilization and cost data by data source. Appendix 2 includes the following exhibits for the October 2021 through September 2022 (RY 21/22) time period. RY 21/22 represents the most recent and complete information available during the data book period:

- **Exhibit D-1: Claims Data Summary by Service Category and Region**
  - **Exhibit D-1** shows the member months, claim costs PMPM, annual utilization per 1,000 members, and cost per unit combined across the data sources described previously, for members historically enrolled in a Dental plan. We provide a summary across all rate cells (Exhibit D-1a), as well as for each rate cell individually (Exhibits D-1b through D-1f). The summaries provide information by dental service category. *The encounter data included in Exhibit D-1 has been adjusted to account for differences relative to the ASR financial data and to remove the estimated value of expanded benefits, as described further in Section III.*
- **Exhibit D-2: Member Months and Claim Costs, PMPM by Sub-Population and Rate Cell**
  - **Exhibit D-2** shows members months and claim costs PMPM (excluding subcapitated costs, as we are unable to allocate these costs into cohorts) by rate cell and for each cohort reported for the Dental data book. The cohorts are described further in Section II. *The encounter data included in Exhibit D-2 has been adjusted to account for differences relative to the ASR financial data and to remove the estimated value of expanded benefits, as described further in Section III.*
- **Exhibit D-3: Expanded Benefits PMPM as Reported in the ASR Financial Data**
  - **Exhibit D-3** shows ASR report financial data for expanded benefits by adult rate cell and expanded benefit category. As this information is sourced from the ASR reports, we do not make any other adjustments to these values.

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- **Exhibit D-4: FMMIS Data to Financial Report Completion Adjustments**

- **Exhibit D-4** shows the FMMIS Data to Financial Report Completion adjustments by quarter, region, and for adults (age 21+) vs. children (age 0 to 20).

### Appendix 3

Appendix 3 includes lists of diagnosis codes used to identify members with diabetes or pregnancy. Member months and claim costs are tracked in the Dental Data Book for various cohorts (including diabetes and pregnancy). This is explained further in Section II.

### Dental Data Book Narrative

The remainder of this Dental data book narrative includes the following information in addition to the attached database files and summary exhibits:

- Section II describes the eligibility data used to both define the Dental eligible population and summarize the claims data to develop the Dental data book.
- Section III describes the Dental claims data, including MMA capitated plan and Agency FFS data, and adjustments made to the data to develop the Dental data book.
- Section IV outlines adjustments that have not been included in the Dental data book.
- Section V includes caveats and limitations on the use of the Dental data book.

## II. ELIGIBILITY DATA

This section of the Dental data book narrative describes the method for defining the Dental eligible population and summarizing the data. The source of this data includes detailed member-level eligibility files provided by the Agency for October 2020 through September 2022 dates of service. These eligibility files contain one record for each member in each month they were enrolled in Florida's Medicaid program. Exhibit D-1 provides a high-level summary of the member months included in the Dental program by region and rate cell.

The remainder of this section discusses the following information related to the eligibility data included in the Dental data book:

- Region assignment
- Dental Program rate cell assignment
- Data book cohorts

### REGION ASSIGNMENT

Under the current contract, Dental Program capitation rates are set at a regional level for the Medicaid Only and Dual Eligible rate cells and at a statewide level for the Medically Needy rate cells. The Medically Needy rate cells do not have sufficient enrollment to be credible at the regional level.

The SMMC Dental program groups Florida counties into regions according to definitions outlined in Florida Statute. Grouping counties together to form regions also helps to increase the credibility of claims experience. The regional mappings will be condensed from 11 to 9 regions beginning with the new capitated plan contracts, as shown in Table 1.

Table 1 State of Florida SMMC Dental Program Region Definitions		
New Region	Old Region	Counties
A	1	Escambia, Okaloosa, Santa Rosa, and Walton
A	2	Bay, Calhoun, Franklin, Gadsden, Gulf, Holmes, Jackson, Jefferson, Leon, Liberty, Madison, Taylor, Wakulla, and Washington
B	3	Alachua, Bradford, Citrus, Columbia, Dixie, Gilchrist, Hamilton, Hernando, Lafayette, Lake, Levy, Marion, Putnam, Sumter, Suwannee, and Union
B	4	Baker, Clay, Duval, Flagler, Nassau, St. Johns, and Volusia
C	5	Pasco and Pinellas
D	6	Hardee, Highlands, Hillsborough, Manatee, and Polk
E	7	Brevard, Orange, Osceola, and Seminole
F	8	Charlotte, Collier, DeSoto, Glades, Hendry, Lee, and Sarasota
G	9	Indian River, Martin, Okeechobee, Palm Beach, and St. Lucie
H	10	Broward
I	11	Miami-Dade and Monroe

### DENTAL PROGRAM RATE CELL ASSIGNMENT

The Dental Program rate cell structure for RY 24/25 is expected to be consistent with the RY 23/24 rate period with the exception of a potential new rate cell specifically for I-Budget members (to be determined later as program experience emerges). The I-Budget cohort is described further below under *Data Book Cohorts*. The RY 24/25 capitation rates will be developed by region for the three Medicaid Only and Dual Eligible rate cells listed in Table 3 and at a statewide level for the two Medically Needy rate cells listed in Table 2. The Agency will fund dental services through capitation rates developed by rate cell and paid to Dental Program capitated plans on a PMPM basis, though additional contract mechanisms have been using in prior rate periods under the current contract (e.g., withholds) and may be considered as needed.



**Table 2**  
**Statewide Medicaid Dental Program**  
**Expected RY 24/25 Capitation Rate Structure**

<b>Rate Cell</b>	<b>Regional or Statewide Rates?</b>
Medicaid Only / Dual Eligible 0 to 20 Years	Regional
Medicaid Only 21+ Years	Regional
Dual Eligible 21+ Years	Regional
Medically Needy 0 to 20 Years	Statewide
Medically Needy 21+ Years	Statewide

Following is additional detail for each rate cell in Table 3:

- **Medicaid Only / Dual Eligible 0 to 20 Years:** Includes members under age 21 who are not medically needy or who are dual eligible for full Medicare coverage. The data for dual eligible members 0 to 20 years old is not credible on its own. Given the small size of the Dual Eligible 0 to 20 population, the Medicaid Only and Dual Eligible 0 to 20 data are combined into one rate cell.
- **Medicaid Only 21+ Years:** Includes all members age 21 and older who are not medically needy and not dual eligible.
- **Dual Eligible 21+ Years:** Includes all members age 21 and older who are eligible for full Medicare coverage.
- **Medically Needy 0 to 20 Years:** Includes members age 0 to 20 who exceed the income eligibility threshold for Medicaid, but are eligible for Medicaid due to their high medical expenses.
- **Medically Needy 21+ Years:** Includes members age 21 and older who exceed the income eligibility threshold for Medicaid, but are eligible for Medicaid due to their high medical expenses.

## DATA BOOK COHORTS

Both Appendix 1 and Exhibit D-2 (within Appendix 2) provide information on member months and claims split into various cohorts. The purpose of these cohorts is to provide potential ITN respondents with additional insight on the current population covered by the Dental Program. The cohorts are defined as follows:

- **I-Budget cohort.** Members were flagged as I-Budget if they were enrolled in the Developmental Disabilities Individual Budgeting (I-Budget) Waiver program or on the waitlist.
- **Diabetic cohort.** Members were flagged as diabetics if they had any claim with a diagnosis code related to diabetes. A list of these codes is provided in Appendix 3.
- **LTC cohort.** Members were flagged as Long Term Care (LTC) if they were enrolled in a Statewide Medicaid Managed Care LTC plan.
- **Pregnancy cohort.** Members were flagged as pregnant if they had any claim with a diagnosis related to pregnancy or if they were enrolled under program codes M MT, M MP, or MU. A list of the diagnosis codes related to pregnancy is provided in Appendix 3.
- **Elderly cohort.** Members were flagged as elderly if their eligibility record for a given month listed an age of 65 or older.

- SMI cohort. Members were flagged as having a serious mental illness (SMI) if they met the Agency's SMI criteria. The SMI criteria identifies whether a member at any point in their Medicaid enrollment (using claims data from 2013 and forward, when flagging began) was diagnosed with a serious mental illness or prescribed a drug used to treat a serious mental illness. The Agency's SMI assignment algorithm uses data back to January 2013 (for diagnostic data) and back to March 2013 (for pharmacy data) to identify SMI individuals, meaning that once an individual has been flagged with SMI, they will always be flagged with SMI. These flags are consistent with the flags used in the MMA program.
- HIV / AIDS cohort. Members were flagged as HIV / AIDS if at any point in their Medicaid enrollment (using claims from August 2019 and forward, when flagging began) they were diagnosed with HIV or AIDS. Like SMI, these flags are consistent with the flags used in the MMA program.

All cohort flags were determined and provided by the Agency (either as standalone lists of members meeting the criteria or as a flag on quarterly enrollment extracts we receive from the Agency for capitation rate development purposes). These particular cohorts are identified in order to allow stakeholders to understand if the needs of these sub-populations related to dental services warrant any heightened attention for the new contract period.

### III. CLAIMS DATA SOURCES AND ADJUSTMENTS

This section of the Dental data book narrative describes the claims data sources and discusses adjustments made to the data sources to develop the Dental data book. The following aspects of the data are addressed:

- Service category mapping
- Dental plan encounter data
- Dental plan ASR financial data
- MMA plan encounter data
- Agency FFS data

#### DATA VALIDATION PROCESS

The Agency and Milliman went through an extensive data validation process to review dental plan data included in the data book. This review and validation were originally undertaken as part of the October 2022 through September 2023 (RY 22/23) and RY 23/24 capitation rate development processes and also support the summarization of the data in the Dental data book.

First, the Agency reviewed multiple iterations of ASR financial data for internal consistency and helped to validate the FMMIS encounter data. We also performed a review of the data for validation purposes. This review included detailed analysis of numerous aspects of the FMMIS encounter data and ASR financial data, as well as a comparison between the two data sources.

We provided plan-specific data summaries and data validation questions to all plans based on review of the data sources and comparisons of the ASR financial data to FMMIS encounter data. Additionally, we held one-on-one meetings with plan representatives in March 2022 and March 2023 in which we discussed the data with plans. After receiving additional FMMIS encounter data and ASR data submissions, as well as written responses to the data questions, we summarized the historical data for use in both capitation rate development and the development of this data book.

While we have performed a considerable amount of data review and validation, it is not practical to validate every possible outcome, and we did not audit the data. As a result, data anomalies, inconsistencies, or errors may exist, and these situations may have a larger relative impact when reviewing more detailed cuts of data. Additionally, our review and validation prioritized claim payment amounts over utilization counts; as a result, data anomalies, inconsistencies, or errors may impact utilization metrics to a greater degree than claim payment amounts. Users of the Dental data book should be aware of the limitations of the data when reviewing it.

Additionally, while a significant amount of detail is available in the appendices, particularly Appendix 1, certain detailed cuts of data with low volume may lack credibility.

#### SERVICE CATEGORY MAPPING

Each of the data sources is summarized by service category. The ASR financial data is mapped to service categories by the Dental plans in their quarterly ASR report submissions. The mapping of each service category in the encounter data is based on the procedure code and age limitation for a given claim as shown in the Procedure Code Mapping tab of Appendix 1. The Dental data book includes the following service categories:

- Diagnostic
- Preventive
- Restorative
- Endodontics
- Periodontics
- Prosthodontics
- Prosthodontics, fixed
- Oral and Maxillofacial Surgery
- Orthodontics
- Adjunctive General Services

- Other
- Subcapitated Services
- Third Party Liability (TPL) & Fraud / Abuse Recoveries
- ASC / Hospital Outpatient Services – to be carved in beginning with RY 24/25.

Appendix 1 only includes state plan covered services, and thus, expanded benefits are excluded. A summary of services offered by Dental plans as expanded benefits is provided in Exhibit D-3.

## DENTAL PLAN ENCOUNTER DATA

The Dental Program FMMIS encounter data submitted by Dental plans into the Agency's system is the primary data source for the services paid by plans on a FFS basis. Encounter data for subcapitated services is not included in the data summaries because ASR financial data is the primary data source for these costs.

**The data summary exhibits do not account for incurred but not reported (IBNR) claims liability.** Six months of claims runout beyond September 2022 are inherent in the data. From RY 23/24 capitation rate development, we estimate less than 0.1% of the claims liability for claims incurred between October 2021 and September 2022 is outstanding.

Certain procedure codes are considered expanded benefits when provided by plans for recipients older than the maximum age listed for that procedure code (as shown in Appendix 1, Procedure Code Mapping). As part of their negotiated contracts with the Agency, Dental plans provide these benefits as additional services to Medicaid members enrolled in their plan who are older than the maximum age listed. However, they are not covered under the Florida Medicaid State Plan and are excluded from capitation rate development.

We remove records from the FMMIS encounter data for the following items, each of which is described further in the subsequent sections:

- Claim de-duplication
- Data exclusions

### Claim De-Duplication

The FMMIS encounter data provided to Milliman includes all claims submitted by plans into FMMIS – including claims that were paid by plans, but flagged as rejected for technical reasons in the FMMIS system. For various reasons, numerous claims are included in the FMMIS encounter data set multiple times. To remove the excess records and include a unique set of claims paid by Dental plans, we de-duplicate the data. We worked with the Agency to refine the de-duplication logic that is applied to the data.

During the initial data loading process, we exclude any claim record that the Agency provided to us multiple times under the same internal control number (ICN) and line number. Following the initial loading of the data, the goal of the de-duplication process is to remove any claim record that is not the single final version of a claim paid by a Dental plan. Therefore, we remove claim records for the reasons described below:

- Any claim line indicated as denied by a Dental plan.
- Any claim record with a missing or invalid recipient identification field or claim identification field.
- Any claim for which the Agency later received a resubmission. We identify these claims using an Agency table listing all “old” claims that were later resubmitted.
- Any claim record automatically generated in the Agency's system to close out a voided claim.
- Any claim with an ICN adjusted by another claim. Only the final version of a claim is kept.
- Any claim that voids a previously paid claim. Only the final version of a claim is kept.

- Any claim record for which a number of key fields match exactly to another claim record. To be considered a duplicate, a claim record must have the same recipient ID, billing provider ID, treating provider ID, date of service, date of last service, procedure code, tooth number (if populated), mouth quadrant (if populated), and tooth surface (if populated) as another claim record. A claim record is only removed as a duplicate if it matches another claim record on all these fields and has a paid amount within \$0.50 of a claim record that is being kept in the data set. Claim records with certain procedure codes permitted to be billed multiple times on the same day per American Dental Association (ADA) guidance are not removed as part of this step because they are valid claims that should remain in the data set for multiple occurrences on the same day.

## Data Exclusions

After the de-duplication process outlined above, we exclude records from the encounter data shown in the data summary exhibits in the following situations:

- The following types of Dental plan claims based on the member who incurred the claim:
  - Claims for recipient IDs that do not match to a member month in the Agency's eligibility file.
  - Claims for members who do not map to a valid Dental Program plan, region, or rate cell.
- Claims that do not have either a billing or treating provider type of 35, 37, 68, or 77 to indicate a dentist, registered dental hygienist, Federally Qualified Health Center, or County Health Department.
- Claim records with procedure codes that are not covered by the Dental Program. However, we do include some claim records coded under broader procedure codes (i.e., D0999, D1999, D9999) under the assumption that these claims are for services covered by the Dental Program despite using a code that is not specific. Additionally, we include all claims for children under age 21 because services not normally covered by the Dental Program may be covered as part of the Early and Periodic Screening, Diagnostic and Treatment (EPSDT) benefit.
- Claim records that are not covered by the Dental Program because the recipient is older than the maximum covered age.
- Claim records for expanded benefits.

## Data Adjustments

### Settlements / AP Costs

Regarding settlements / AP (alternative payment arrangement) costs, we would typically use the ASR financial data as the data source and remove any associated payments from the encounter data. However, based on feedback from one plan, we understand the plan made incentive payments to dental providers during the data period, and these incentive payments are based on the provision of specific services to the plan's members. These incentive payments are included in the encounter data at the claim line level. Because the plan's reimbursement methodology and encounter data submissions for these payments are analogous to FFS claim payments, we retain these incentive payments in the encounter data rather than using ASR financial data. These costs are included in the "Other" service category of the summarized data book data.

### FMMIS Data to Financial Report Completion Adjustment

Based on the results of our comparison between ASR financial data and FMMIS encounter data, the two data sources reflect differences in total paid claims for services paid on a FFS basis. Because the ASR reports are ultimately audited and because of known limitations with the FMMIS encounter data, we believe the ASR financial data is a more representative source for total paid claims within the Dental Program. As a result, to account for this discrepancy and include a complete set of cost information in the Dental data book, we apply a FMMIS encounter data to ASR financial data completion adjustment.

To develop this adjustment, we summarized the FMMIS encounter data on a consistent basis as the ASR data in terms of types of claims included (e.g., expanded benefits are included in both sources for this comparison to avoid misalignment in their identification). To compare the FMMIS data and ASR financial data on a consistent time period basis, we rely on the following information in developing this adjustment for each of the following three distinct time periods:

- **Q4 2020 service dates:** We compared FMMIS encounter data with submission runout through March 31, 2021 to audited CY 2020 ASR financial data which also include runout through March 31, 2021. Factors are developed by region and for children (age 0 to 20) vs. adults (age 21+).
- **CY 2021 service dates:** We compared FMMIS encounter data with submission runout through March 31, 2023 to dental plan-submitted lag reports which include claims incurred from January 2021 through December 2022 and paid through March 31, 2023. We use the lag reports rather than the audited CY 2021 ASR financial data because the audited CY 2021 ASR financial data only includes runout through March 31, 2022. However, we did validate the lag reports (ignoring runout beyond March 2022 to align with the ASR reports) against audited ASR reports to ensure consistency. Factors are developed separately for each of the three plans and by quarter due to limitations on the level of detail provided in the lag reports.
- **Q1 – Q3 2022 service dates:** We compared FMMIS encounter data with submission runout through March 31, 2023 to CY 2022 ASR financial data which also include runout through March 31, 2023. Factors are developed by region, for children (age 0 to 20) vs. adults (age 21+), and by quarter.

A summary of the adjustments applied is provided in Appendix 2, Exhibit D-4.

## DENTAL PLAN ASR FINANCIAL DATA

Plans submit ASR financial reports on a quarterly basis throughout the year, as well as a year-end report with three months of claim payment runout (e.g., the 2022 year-end ASR report includes payment runout through March 2023). ASR financial data are the primary data source for subcapitated costs and TPL & fraud / abuse recoveries (which are not reflected in the encounter data).

## MMA PLAN ENCOUNTER DATA

MMA plan encounter data reflects certain services and populations covered by capitated plans participating in the SMMC Managed Medical Assistance (MMA) Program in the historical data period that are expected to be covered by Dental plans in the future. The following MMA data is included in the Dental data book:

- Dental covered services provided in an ASC or Outpatient Hospital setting. Specifically, we carve in claims with a claim type of O or provider type of 06 and a procedure code in the following list of 106 codes:

D0120, D0140, D0145, D0150, D0210, D0220, D0230, D0240, D0250, D0251, D0270, D0272, D0274, D0330, D0340, D0350, D1110, D1120, D1351, D1354, D2140, D2150, D2160, D2161, D2330, D2331, D2332, D2335, D2390, D2391, D2392, D2393, D2394, D2710, D2721, D2740, D2751, D2920, D2930, D2931, D2932, D2933, D2940, D2950, D2951, D2954, D3110, D3120, D3220, D3221, D3222, D3230, D3240, D3310, D3320, D3330, D3331, D3333, D3351, D3352, D3353, D3410, D3430, D4210, D4211, D4240, D4241, D4260, D4261, D4341, D4342, D4346, D4355, D6096, D7111, D7140, D7210, D7220, D7230, D7240, D7241, D7250, D7260, D7261, D7270, D7280, D7283, D7296, D7297, D7310, D7320, D7472, D7473, D7510, D7520, D7880, D7881, D9222, D9223, D9230, D9239, D9243, D9248, D9420, D9920, 00170<sup>1</sup>

The MMA data reflects dates of service in October 2020 through September 2022, with runout for claims submitted through March 31, 2023. The Dental data book does not account for incurred but not reported (IBNR) claims liability for MMA claims.

<sup>1</sup> We additionally carve in claims for code 00170 (intraoral anesthesia) with a claim type of B or M that have a primary diagnosis of K023, K0251, K0252, K0253, K0261, K0262, K0263, K027, K029, or K08431, which were deemed by the Agency as being clearly dental rather than medical claims.

The MMA data provided to Milliman includes all claims paid by MMA capitated plans for the relevant claim types. We reviewed the data and performed additional processing steps as needed to appropriately categorize and aggregate the data.

### MMA Data Exclusions and Adjustments

We exclude MMA data claims in the following situations:

- Claims identified through a rigorous de-duplication process, similar to the one described above in the Dental Plan Encounter Data section.
- Claims which are an exact duplicate of another claim.
- Claims for recipient IDs that do not match to a member enrolled in the Dental Program in the Agency's eligibility file.

### AGENCY FFS DATA

The Agency FFS data reflects certain services and populations covered by the Agency in the historical data period that are expected to be covered by Dental plans in the future. The following FFS data is included in the Dental data book:

- Dental covered services provided in an ASC or Outpatient Hospital setting. Specifically, we carve in claims with a claim type of O or a provider type of 06, and a procedure code in the same list of 106 codes outlined above under *MMA Encounter Data* (including the same additional criteria pertaining to code 00170).

The FFS data reflects dates of service in October 2020 through September 2022, with runout for claims submitted through March 31, 2023. The Dental data book does not account for incurred but not reported (IBNR) claims liability for Agency FFS claims.

The Agency provided the FFS data to Milliman. The FFS data provided to Milliman includes all claims paid by the Agency for the relevant claim types. We reviewed the data and performed additional processing steps as needed to appropriately categorize and aggregate the data.

### FFS Data Exclusions and Adjustments

We exclude FFS data claims in the following situations:

- Claims identified through a rigorous de-duplication process, similar to the one described above in the Dental Plan Encounter Data section.
- Claims which are an exact duplicate of another claim.
- Claims for recipient IDs that do not match to a member enrolled in the Dental Program in the Agency's eligibility file.

## IV. ADJUSTMENTS NOT INCLUDED IN THE MMA DENTAL DATA BOOK

Adjustments for the following issues are not incorporated into the Dental data book. Users of the data book should be aware of these items that are not reflected in the historical data:

- Incurred but not reported (IBNR) claim adjustments
- Any seasonality adjustments to account for partial years of data in the Dental data book
- Adjustments to account for utilization changes, service mix changes, unit cost changes, population changes, or other changes over time (including changes that may be either related or unrelated to COVID-19 or the federal PHE)
- Adjustments to provider reimbursement due to legislated minimum wage increases
- Future program changes not yet known as of the Dental data book release date
- Data smoothing to improve data credibility
- Inclusion of administrative costs and plan underwriting margin



## VI. CAVEATS AND LIMITATIONS

We prepared this report and the rest of the Dental data book for the specific purpose of assisting the Agency in publishing a data book to provide relevant historical data and background information to potential contractors responding to the Invitation to Negotiate (ITN) issued under the Statewide Medicaid Managed Care (SMMC) Dental Program. This report may not be appropriate, and should not be used, for other purposes.

This report and the rest of the Dental data book are intended solely for the benefit of the Agency. We understand that this material will be shared publicly by the Agency, and we recognize that materials delivered to the Agency may be public records subject to disclosure to third parties; however, Milliman does not intend to benefit, and assumes no duty or liability to, parties other than the Agency who receive this work. This material should only be distributed and reviewed in its entirety.

In preparing this material, we relied on several sources of data and information from Dental plans, the Agency, and other sources. Those data sources and information include Agency eligibility data, Agency FFS claims data, Dental plan ASR financial data submissions, Dental plan FMMIS encounter data, MMA plan FMMIS encounter data, and other supporting information from the Agency and plans. We relied on the Agency for the accuracy of the eligibility and FFS claims data and other supporting information. We also relied on the Agency for the collection and processing of the Dental plan ASR financial data, encounter data, and other supporting information. We relied on the plans to provide accurate ASR financial data and encounter data as certified by the plan, as well as accurate follow-up information. **We did not audit any of the data sources or other information**, but we did assess the data and information for reasonableness. If the data or other information used is inadequate or incomplete, the results will be likewise inadequate or incomplete.

Milliman has developed certain models to estimate the values included in the Dental data book. The intent of the models was to process, adjust, and summarize historical data for the Dental data book. We have reviewed the models, including their inputs, calculations, and outputs for consistency, reasonableness, and appropriateness to the intended purpose and in compliance with generally accepted actuarial practice and relevant actuarial standards of practice (ASOPs). The models, including all input, calculations, and output, may not be appropriate for any other purpose.

Future Dental plan experience will differ from the contents of the Dental data book due to health care trend, managed care efficiency, provider reimbursement changes, enrollment demographic changes, the impact of the COVID-19 pandemic, the adjustments excluded from the Dental data book (described in Section V), and many other factors. The Dental data book does not reflect projections of future costs.

The results of this report and the rest of the Dental data book are technical in nature and are dependent upon specific assumptions and methods. No party should rely on these results without a thorough understanding of those assumptions and methods. Such an understanding may require consultation with qualified professionals.

Guidelines issued by the American Academy of Actuaries require actuaries to include their professional qualifications in all actuarial communications. The authors of this report are actuaries at Milliman, are members of the American Academy of Actuaries, and meet the Qualification Standards of the Academy to render the actuarial communication contained herein. To the best of our knowledge and belief, this communication is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices.

This communication is subject to the terms and conditions of the October 12, 2021 contract between the Agency and Milliman.

## APPENDIX 1

### (Provided in Excel Only)

## APPENDIX 2

### (Provided in Excel Only)

## APPENDIX 3

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**State of Florida Agency for Health Care Administration**  
Statewide Medicaid Managed Care  
Dental Program Data Book

October 6, 2023

AHCA ITN 007-23/24, Attachment A, Exhibit A-6-c

This material assumes that the reader is familiar with the State of Florida's Medicaid program, Florida Medicaid benefits, and rate setting principles. The material was prepared solely to provide assistance to the Agency in publishing a Dental data book for the Statewide Medicaid Managed Care (SMMC) Dental Program Invitation to Negotiate. It may not be appropriate for other purposes. Milliman does not intend to benefit and assumes no duty or liability to other parties who receive this work. This material should only be reviewed in its entirety.

## APPENDIX 3

### List of diagnosis codes used to identify members with diabetes:

E08	Diabetes mellitus due to underlying condition
E080	Diabetes due to underlying condition w hyperosmolarity
E0801	Diabetes due to underlying condition w hyprosm w coma
E081	Diabetes mellitus due to underlying condition w ketoacidosis
E0810	Diabetes due to underlying condition w ketoacidosis w/o coma
E0811	Diabetes due to underlying condition w ketoacidosis w coma
E082	Diabetes due to underlying condition w kidney complications
E0821	Diabetes due to underlying condition w diabetic nephropathy
E0822	Diabetes due to undrl cond w diabetic chronic kidney disease
E0829	Diabetes due to undrl condition w oth diabetic kidney comp
E083	Diabetes due to underlying condition w ophthalmic comp
E0831	Diabetes due to underlying condition w unsp diabetic rtnop
E0832	Diabetes due to undrl cond w mild nonprlf diabetic rtnop
E083211	Diabetes with mild nonp rtnop with macular edema, right eye
E083212	Diabetes with mild nonp rtnop with macular edema, left eye
E083213	Diabetes with mild nonp rtnop with macular edema, bilateral
E083219	Diabetes with mild nonp rtnop with macular edema, unsp
E083291	Diabetes with mild nonp rtnop without macular edema, r eye
E083293	Diabetes with mild nonp rtnop without macular edema, bi
E083299	Diabetes with mild nonp rtnop without macular edema, unsp
E0833	Diabetes due to undrl cond w moderate nonprlf diabetic rtnop
E083311	Diabetes with moderate nonp rtnop with macular edema, r eye
E083313	Diabetes with moderate nonp rtnop with macular edema, bi
E083319	Diabetes with moderate nonp rtnop with macular edema, unsp
E083393	Diabetes with moderate nonp rtnop without macular edema, bi
E0834	Diabetes due to undrl cond w severe nonprlf diabetic rtnop
E083411	Diabetes with severe nonp rtnop with macular edema, r eye
E083412	Diabetes with severe nonp rtnop with macular edema, left eye
E083413	Diabetes with severe nonp rtnop with macular edema, bi
E083419	Diabetes with severe nonp rtnop with macular edema, unsp
E083491	Diabetes with severe nonp rtnop without macular edema, r eye
E083493	Diabetes with severe nonp rtnop without macular edema, bi
E083499	Diabetes with severe nonp rtnop without macular edema, unsp
E0835	Diabetes due to underlying condition w prolif diabetic rtnop
E083513	Diabetes with prolif diabetic rtnop with macular edema, bi
E083519	Diabetes with prolif diabetic rtnop with macular edema, unsp
E08352	Diabetes with prolif diabetic rtnop with trctn dtch macula
E08353	Diabetes with prolif diabetic rtnop with trctn dtch n-mcla
E08354	Diabetes with prolif diabetic rtnop with combined detachment
E083541	Diabetes with prolif diabetic rtnop with comb detach, r eye
E083543	Diabetes with prolif diabetic rtnop with combined detach, bi
E083549	Diabetes with prolif diabetic rtnop with comb detach, unsp
E08355	Diabetes with stable proliferative diabetic retinopathy

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E083551	Diabetes with stable prolif diabetic retinopathy, right eye
E083552	Diabetes with stable prolif diabetic retinopathy, left eye
E083553	Diabetes with stable prolif diabetic retinopathy, bilateral
E083559	Diabetes with stable prolif diabetic retinopathy, unsp
E0836	Diabetes due to underlying condition w diabetic cataract
E0837	Diabetes with diabetic macular edema, resolved fol treatment
E0837X3	Diabetes with diabetic macular edema, resolved fol trtmt, bi
E0839	Diabetes due to undrl condition w oth diabetic opth comp
E084	Diabetes due to underlying condition w neurological comp
E0840	Diabetes due to underlying condition w diabetic neurop, unsp
E0841	Diabetes due to undrl condition w diabetic mononeuropathy
E0842	Diabetes due to underlying condition w diabetic polyneurop
E0844	Diabetes due to underlying condition w diabetic amyotrophy
E0849	Diabetes due to undrl condition w oth diabetic neuro comp
E085	Diabetes due to underlying condition w circulatory comp
E0859	Diabetes due to underlying condition w oth circulatory comp
E086	Diabetes due to underlying condition w oth complications
E0861	Diabetes due to underlying condition w diabetic arthropathy
E08610	Diabetes due to undrl cond w diabetic neuropathic arthrop
E08618	Diabetes due to underlying condition w oth diabetic arthrop
E0862	Diabetes due to underlying condition w skin complications
E08620	Diabetes due to underlying condition w diabetic dermatitis
E08621	Diabetes mellitus due to underlying condition w foot ulcer
E08622	Diabetes due to underlying condition w oth skin ulcer
E08628	Diabetes due to underlying condition w oth skin comp
E0863	Diabetes due to underlying condition w oral complications
E08630	Diabetes due to underlying condition w periodontal disease
E08638	Diabetes due to underlying condition w oth oral comp
E0864	Diabetes mellitus due to underlying condition w hypoglycemia
E08641	Diabetes due to underlying condition w hypoglycemia w coma
E08649	Diabetes due to underlying condition w hypoglycemia w/o coma
E0865	Diabetes due to underlying condition w hyperglycemia
E0869	Diabetes due to underlying condition w oth complication
E088	Diabetes due to underlying condition w unsp complications
E089	Diabetes due to underlying condition w/o complications
E09	Drug or chemical induced diabetes mellitus
E090	Drug or chemical induced diabetes mellitus w hyperosmolarity
E0901	Drug/chem diabetes mellitus w hyperosmolarity w coma
E091	Drug or chemical induced diabetes mellitus with ketoacidosis
E0910	Drug/chem diabetes mellitus w ketoacidosis w/o coma
E0911	Drug/chem diabetes mellitus w ketoacidosis w coma
E092	Drug/chem diabetes mellitus w kidney complications
E0921	Drug/chem diabetes mellitus w diabetic nephropathy

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E0922	Drug/chem diabetes w diabetic chronic kidney disease
E0929	Drug/chem diabetes w oth diabetic kidney complication
E093	Drug/chem diabetes mellitus w ophthalmic complications
E0931	Drug/chem diabetes mellitus w unsp diabetic retinopathy
E09311	Drug/chem diabetes w unsp diabetic rtnop w macular edema
E09319	Drug/chem diabetes w unsp diabetic rtnop w/o macular edema
E0932	Drug/chem diabetes w mild nonprlf diabetic retinopathy
E0933	Drug/chem diabetes w moderate nonprlf diabetic retinopathy
E0934	Drug/chem diabetes w severe nonprlf diabetic retinopathy
E0935	Drug/chem diabetes w proliferative diabetic retinopathy
E09355	Drug/chem diabetes with stable prolif diabetic retinopathy
E093551	Drug/chem diabetes with stable prolif diabetic rtnop, r eye
E093553	Drug/chem diabetes with stable prolif diabetic rtnop, bi
E093559	Drug/chem diabetes with stable prolif diabetic rtnop, unsp
E0936	Drug/chem diabetes mellitus w diabetic cataract
E0939	Drug/chem diabetes w oth diabetic ophthalmic complication
E094	Drug/chem diabetes mellitus w neurological complications
E0940	Drug/chem diabetes w neuro comp w diabetic neuropathy, unsp
E0941	Drug/chem diabetes w neuro comp w diabetic mononeuropathy
E0942	Drug/chem diabetes w neurological comp w diabetic polyneurop
E0944	Drug/chem diabetes w neurological comp w diabetic amyotrophy
E0949	Drug/chem diabetes w neuro comp w oth diabetic neuro comp
E095	Drug/chem diabetes mellitus w circulatory complications
E0951	Drug/chem diabetes w diabetic prph angiopath w/o gangrene
E0952	Drug/chem diabetes w diabetic prph angiopath w gangrene
E0959	Drug/chem diabetes mellitus w oth circulatory complications
E096	Drug/chem diabetes mellitus w oth complications
E0961	Drug/chem diabetes mellitus w diabetic arthropathy
E09610	Drug/chem diabetes w diabetic neuropathic arthropathy
E09618	Drug/chem diabetes mellitus w oth diabetic arthropathy
E0962	Drug/chem diabetes mellitus w skin complications
E09620	Drug/chem diabetes mellitus w diabetic dermatitis
E09621	Drug or chemical induced diabetes mellitus with foot ulcer
E09622	Drug or chemical induced diabetes mellitus w oth skin ulcer
E09628	Drug/chem diabetes mellitus w oth skin complications
E0963	Drug/chem diabetes mellitus w oral complications
E09630	Drug/chem diabetes mellitus w periodontal disease
E09638	Drug/chem diabetes mellitus w oth oral complications
E0964	Drug or chemical induced diabetes mellitus with hypoglycemia
E09641	Drug/chem diabetes mellitus w hypoglycemia w coma
E09649	Drug/chem diabetes mellitus w hypoglycemia w/o coma
E0965	Drug or chemical induced diabetes mellitus w hyperglycemia
E0969	Drug/chem diabetes mellitus w oth complication

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E098	Drug/chem diabetes mellitus w unsp complications
E099	Drug or chemical induced diabetes mellitus w/o complications
E10	Type 1 diabetes mellitus
E101	Type 1 diabetes mellitus with ketoacidosis
E1010	Type 1 diabetes mellitus with ketoacidosis without coma
E1011	Type 1 diabetes mellitus with ketoacidosis with coma
E102	Type 1 diabetes mellitus with kidney complications
E1021	Type 1 diabetes mellitus with diabetic nephropathy
E1022	Type 1 diabetes mellitus w diabetic chronic kidney disease
E1029	Type 1 diabetes mellitus w oth diabetic kidney complication
E103	Type 1 diabetes mellitus with ophthalmic complications
E1031	Type 1 diabetes mellitus with unsp diabetic retinopathy
E10311	Type 1 diabetes w unsp diabetic retinopathy w macular edema
E10319	Type 1 diabetes w unsp diabetic rtnop w/o macular edema
E1032	Type 1 diabetes w mild nonproliferative diabetic retinopathy
E103213	Type 1 diabetes with mild nonp rtnop with macular edema, bi
E1033	Type 1 diabetes w moderate nonprlf diabetic retinopathy
E1034	Type 1 diabetes w severe nonprlf diabetic retinopathy
E1035	Type 1 diabetes w proliferative diabetic retinopathy
E10354	Type 1 diabetes with prolif diabetic rtnop with comb detach
E10355	Type 1 diabetes with stable prolif diabetic retinopathy
E103551	Type 1 diabetes with stable prolif diabetic rtnop, right eye
E103552	Type 1 diabetes with stable prolif diabetic rtnop, left eye
E103553	Type 1 diabetes with stable prolif diabetic rtnop, bilateral
E103559	Type 1 diabetes with stable prolif diabetic rtnop, unsp
E1036	Type 1 diabetes mellitus with diabetic cataract
E1039	Type 1 diabetes w oth diabetic ophthalmic complication
E104	Type 1 diabetes mellitus with neurological complications
E1040	Type 1 diabetes mellitus with diabetic neuropathy, unsp
E1041	Type 1 diabetes mellitus with diabetic mononeuropathy
E1042	Type 1 diabetes mellitus with diabetic polyneuropathy
E1043	Type 1 diabetes w diabetic autonomic (poly)neuropathy
E1044	Type 1 diabetes mellitus with diabetic amyotrophy
E1049	Type 1 diabetes w oth diabetic neurological complication
E105	Type 1 diabetes mellitus with circulatory complications
E1051	Type 1 diabetes w diabetic peripheral angiopath w/o gangrene
E1052	Type 1 diabetes w diabetic peripheral angiopathy w gangrene
E1059	Type 1 diabetes mellitus with oth circulatory complications
E106	Type 1 diabetes mellitus with other specified complications
E1061	Type 1 diabetes mellitus with diabetic arthropathy
E10610	Type 1 diabetes mellitus w diabetic neuropathic arthropathy
E10618	Type 1 diabetes mellitus with other diabetic arthropathy
E1062	Type 1 diabetes mellitus with skin complications



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E10620	Type 1 diabetes mellitus with diabetic dermatitis
E10621	Type 1 diabetes mellitus with foot ulcer
E10622	Type 1 diabetes mellitus with other skin ulcer
E10628	Type 1 diabetes mellitus with other skin complications
E1063	Type 1 diabetes mellitus with oral complications
E10630	Type 1 diabetes mellitus with periodontal disease
E10638	Type 1 diabetes mellitus with other oral complications
E1064	Type 1 diabetes mellitus with hypoglycemia
E10641	Type 1 diabetes mellitus with hypoglycemia with coma
E10649	Type 1 diabetes mellitus with hypoglycemia without coma
E1065	Type 1 diabetes mellitus with hyperglycemia
E1069	Type 1 diabetes mellitus with other specified complication
E108	Type 1 diabetes mellitus with unspecified complications
E109	Type 1 diabetes mellitus without complications
E11	Type 2 diabetes mellitus
E110	Type 2 diabetes mellitus with hyperosmolarity
E1101	Type 2 diabetes mellitus with hyperosmolarity with coma
E111	Type 2 diabetes mellitus with ketoacidosis
E1110	Type 2 diabetes mellitus with ketoacidosis without coma
E1111	Type 2 diabetes mellitus with ketoacidosis with coma
E112	Type 2 diabetes mellitus with kidney complications
E1121	Type 2 diabetes mellitus with diabetic nephropathy
E1122	Type 2 diabetes mellitus w diabetic chronic kidney disease
E1129	Type 2 diabetes mellitus w oth diabetic kidney complication
E113	Type 2 diabetes mellitus with ophthalmic complications
E1131	Type 2 diabetes mellitus with unsp diabetic retinopathy
E11311	Type 2 diabetes w unsp diabetic retinopathy w macular edema
E11319	Type 2 diabetes w unsp diabetic rtnop w/o macular edema
E1132	Type 2 diabetes w mild nonproliferative diabetic retinopathy
E113213	Type 2 diabetes with mild nonp rtnop with macular edema, bi
E1133	Type 2 diabetes w moderate nonprlf diabetic retinopathy
E1134	Type 2 diabetes w severe nonprlf diabetic retinopathy
E1135	Type 2 diabetes w proliferative diabetic retinopathy
E11354	Type 2 diabetes with prolif diabetic rtnop with comb detach
E11355	Type 2 diabetes with stable prolif diabetic retinopathy
E113551	Type 2 diabetes with stable prolif diabetic rtnop, right eye
E113552	Type 2 diabetes with stable prolif diabetic rtnop, left eye
E113553	Type 2 diabetes with stable prolif diabetic rtnop, bilateral
E113559	Type 2 diabetes with stable prolif diabetic rtnop, unsp
E1136	Type 2 diabetes mellitus with diabetic cataract
E1139	Type 2 diabetes w oth diabetic ophthalmic complication
E114	Type 2 diabetes mellitus with neurological complications
E1140	Type 2 diabetes mellitus with diabetic neuropathy, unsp

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E1141	Type 2 diabetes mellitus with diabetic mononeuropathy
E1142	Type 2 diabetes mellitus with diabetic polyneuropathy
E1143	Type 2 diabetes w diabetic autonomic (poly)neuropathy
E1144	Type 2 diabetes mellitus with diabetic amyotrophy
E1149	Type 2 diabetes w oth diabetic neurological complication
E115	Type 2 diabetes mellitus with circulatory complications
E1151	Type 2 diabetes w diabetic peripheral angiopath w/o gangrene
E1152	Type 2 diabetes w diabetic peripheral angiopathy w gangrene
E1159	Type 2 diabetes mellitus with oth circulatory complications
E116	Type 2 diabetes mellitus with other specified complications
E1161	Type 2 diabetes mellitus with diabetic arthropathy
E11610	Type 2 diabetes mellitus w diabetic neuropathic arthropathy
E11618	Type 2 diabetes mellitus with other diabetic arthropathy
E1162	Type 2 diabetes mellitus with skin complications
E11620	Type 2 diabetes mellitus with diabetic dermatitis
E11621	Type 2 diabetes mellitus with foot ulcer
E11622	Type 2 diabetes mellitus with other skin ulcer
E11628	Type 2 diabetes mellitus with other skin complications
E1163	Type 2 diabetes mellitus with oral complications
E11630	Type 2 diabetes mellitus with periodontal disease
E11638	Type 2 diabetes mellitus with other oral complications
E1164	Type 2 diabetes mellitus with hypoglycemia
E11641	Type 2 diabetes mellitus with hypoglycemia with coma
E11649	Type 2 diabetes mellitus with hypoglycemia without coma
E1165	Type 2 diabetes mellitus with hyperglycemia
E1169	Type 2 diabetes mellitus with other specified complication
E118	Type 2 diabetes mellitus with unspecified complications
E119	Type 2 diabetes mellitus without complications
E13	Other specified diabetes mellitus
E130	Other specified diabetes mellitus with hyperosmolarity
E1301	Oth diabetes mellitus with hyperosmolarity with coma
E131	Other specified diabetes mellitus with ketoacidosis
E1310	Oth diabetes mellitus with ketoacidosis without coma
E1311	Oth diabetes mellitus with ketoacidosis with coma
E132	Other specified diabetes mellitus with kidney complications
E1321	Other specified diabetes mellitus with diabetic nephropathy
E1322	Oth diabetes mellitus with diabetic chronic kidney disease
E1329	Oth diabetes mellitus with oth diabetic kidney complication
E133	Oth diabetes mellitus with ophthalmic complications
E1331	Oth diabetes mellitus with unspecified diabetic retinopathy
E13311	Oth diabetes w unsp diabetic retinopathy w macular edema
E13319	Oth diabetes w unsp diabetic retinopathy w/o macular edema
E1332	Oth diabetes w mild nonproliferative diabetic retinopathy

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E133211	Oth diabetes with mild nonp rtnop with macular edema, r eye
E133213	Oth diabetes with mild nonp rtnop with macular edema, bi
E133219	Oth diabetes with mild nonp rtnop with macular edema, unsp
E133293	Oth diabetes with mild nonp rtnop without macular edema, bi
E1333	Oth diabetes w moderate nonprlf diabetic retinopathy
E133313	Oth diabetes with moderate nonp rtnop with macular edema, bi
E13334	Oth diabetes w severe nonproliferative diabetic retinopathy
E133413	Oth diabetes with severe nonp rtnop with macular edema, bi
E133419	Oth diabetes with severe nonp rtnop with macular edema, unsp
E1335	Oth diabetes mellitus w proliferative diabetic retinopathy
E13354	Oth diabetes with prolif diabetic rtnop with combined detach
E133543	Oth diabetes with prolif diabetic rtnop with comb detach, bi
E13355	Oth diabetes with stable proliferative diabetic retinopathy
E133551	Oth diabetes with stable prolif diabetic rtnop, right eye
E133552	Oth diabetes with stable prolif diabetic rtnop, left eye
E133553	Oth diabetes with stable prolif diabetic rtnop, bilateral
E133559	Oth diabetes with stable prolif diabetic retinopathy, unsp
E1336	Other specified diabetes mellitus with diabetic cataract
E1337	Oth diabetes with diabetic macular edema, resolved fol trtmt
E1339	Oth diabetes mellitus w oth diabetic ophthalmic complication
E134	Oth diabetes mellitus with neurological complications
E1340	Oth diabetes mellitus with diabetic neuropathy, unspecified
E1341	Oth diabetes mellitus with diabetic mononeuropathy
E1342	Oth diabetes mellitus with diabetic polyneuropathy
E1343	Oth diabetes mellitus w diabetic autonomic (poly)neuropathy
E1344	Other specified diabetes mellitus with diabetic amyotrophy
E1349	Oth diabetes w oth diabetic neurological complication
E135	Oth diabetes mellitus with circulatory complications
E1351	Oth diabetes w diabetic peripheral angiopathy w/o gangrene
E1352	Oth diabetes w diabetic peripheral angiopathy w gangrene
E1359	Oth diabetes mellitus with other circulatory complications
E136	Oth diabetes mellitus with other specified complications
E1361	Other specified diabetes mellitus with diabetic arthropathy
E13610	Oth diabetes mellitus with diabetic neuropathic arthropathy
E13618	Oth diabetes mellitus with other diabetic arthropathy
E1362	Other specified diabetes mellitus with skin complications
E13620	Other specified diabetes mellitus with diabetic dermatitis
E13621	Other specified diabetes mellitus with foot ulcer
E13622	Other specified diabetes mellitus with other skin ulcer
E13628	Oth diabetes mellitus with other skin complications
E1363	Other specified diabetes mellitus with oral complications
E13630	Other specified diabetes mellitus with periodontal disease
E13638	Oth diabetes mellitus with other oral complications

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E1364	Other specified diabetes mellitus with hypoglycemia
E13641	Oth diabetes mellitus with hypoglycemia with coma
E13649	Oth diabetes mellitus with hypoglycemia without coma
E1365	Other specified diabetes mellitus with hyperglycemia
E1369	Oth diabetes mellitus with other specified complication
E138	Oth diabetes mellitus with unspecified complications
E139	Other specified diabetes mellitus without complications
E232	Diabetes insipidus
N251	Nephrogenic diabetes insipidus
O24	Diabetes in pregnancy, childbirth, and the puerperium
O240	Pre-exist type 1 diabetes, in preg, chldbrth and the puerp
O2401	Pre-existing type 1 diabetes mellitus, in pregnancy
O24011	Pre-existing type 1 diabetes, in pregnancy, first trimester
O24012	Pre-existing type 1 diabetes, in pregnancy, second trimester
O24013	Pre-existing type 1 diabetes, in pregnancy, third trimester
O24019	Pre-exist type 1 diabetes, in pregnancy, unsp trimester
O2402	Pre-existing type 1 diabetes mellitus, in childbirth
O2403	Pre-existing type 1 diabetes mellitus, in the puerperium
O241	Pre-exist type 2 diabetes, in preg, chldbrth and the puerp
O2411	Pre-existing type 2 diabetes mellitus, in pregnancy
O24111	Pre-existing type 2 diabetes, in pregnancy, first trimester
O24112	Pre-existing type 2 diabetes, in pregnancy, second trimester
O24113	Pre-existing type 2 diabetes, in pregnancy, third trimester
O24119	Pre-exist type 2 diabetes, in pregnancy, unsp trimester
O2412	Pre-existing type 2 diabetes mellitus, in childbirth
O2413	Pre-existing type 2 diabetes mellitus, in the puerperium
O243	Unsp pre-exist diabetes in pregnancy, chldbrth and the puerp
O2431	Unspecified pre-existing diabetes mellitus in pregnancy
O24311	Unsp pre-existing diabetes in pregnancy, first trimester
O24312	Unsp pre-existing diabetes in pregnancy, second trimester
O24313	Unsp pre-existing diabetes in pregnancy, third trimester
O24319	Unsp pre-existing diabetes in pregnancy, unsp trimester
O2432	Unspecified pre-existing diabetes mellitus in childbirth
O2433	Unspecified pre-existing diabetes mellitus in the puerperium
O244	Gestational diabetes mellitus
O2441	Gestational diabetes mellitus in pregnancy
O24410	Gestational diabetes mellitus in pregnancy, diet controlled
O24414	Gestational diabetes in pregnancy, insulin controlled
O24415	Gestatnl diabetes in preg, ctrl by oral hypoglycemic drugs
O24419	Gestational diabetes mellitus in pregnancy, unsp control
O2442	Gestational diabetes mellitus in childbirth
O24420	Gestational diabetes mellitus in childbirth, diet controlled
O24424	Gestational diabetes in childbirth, insulin controlled

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O24429	Gestational diabetes mellitus in childbirth, unsp control
O2443	Gestational diabetes mellitus in the puerperium
O24430	Gestational diabetes in the puerperium, diet controlled
O24434	Gestational diabetes in the puerperium, insulin controlled
O24435	Gestatl diabetes in puerp, ctrl by oral hypoglycemic drugs
O24439	Gestational diabetes in the puerperium, unsp control
O248	Oth pre-exist diabetes in pregnancy, chldbrth, and the puerp
O2481	Other pre-existing diabetes mellitus in pregnancy
O24811	Oth pre-existing diabetes in pregnancy, first trimester
O24812	Oth pre-existing diabetes in pregnancy, second trimester
O24813	Oth pre-existing diabetes in pregnancy, third trimester
O24819	Oth pre-existing diabetes in pregnancy, unsp trimester
O2482	Other pre-existing diabetes mellitus in childbirth
O2483	Other pre-existing diabetes mellitus in the puerperium
O249	Unsp diabetes in pregnancy, childbirth and the puerperium
O2491	Unspecified diabetes mellitus in pregnancy
O24911	Unspecified diabetes mellitus in pregnancy, first trimester
O24912	Unspecified diabetes mellitus in pregnancy, second trimester
O24913	Unspecified diabetes mellitus in pregnancy, third trimester
O24919	Unsp diabetes mellitus in pregnancy, unspecified trimester
O2492	Unspecified diabetes mellitus in childbirth
O2493	Unspecified diabetes mellitus in the puerperium
P700	Syndrome of infant of mother with gestational diabetes
P702	Neonatal diabetes mellitus

## APPENDIX 3

### List of members used to identify pregnant members:

Z3491	first trimester less than 14 weeks
Z3492	second trimester 14 weeks
Z3493	third trimester 28 weeks
Z331	pregnancy
O0900	Pregnancy with history of infertility
O0901	Pregnancy with history of infertility
O0902	Pregnancy with history of infertility
O0903	Pregnancy with history of infertility
O0910	Pregnancy with history of ectopic pregnancy
O0911	Pregnancy with history of ectopic pregnancy
O0912	Pregnancy with history of ectopic pregnancy
O0913	Pregnancy with history of ectopic pregnancy
O09A0	Pregnancy with history of molar pregnancy
O09A1	Pregnancy with history of molar pregnancy
O09A2	Pregnancy with history of molar pregnancy
O09A3	Pregnancy with history of molar pregnancy
O09211	Pregnancy with other poor reproductive or obstetric history
O09212	Pregnancy with other poor reproductive or obstetric history
O09213	Pregnancy with other poor reproductive or obstetric history
O09214	Pregnancy with other poor reproductive or obstetric history
O09215	Pregnancy with other poor reproductive or obstetric history
O09216	Pregnancy with other poor reproductive or obstetric history
O09217	Pregnancy with other poor reproductive or obstetric history
O09218	Pregnancy with other poor reproductive or obstetric history
O09219	Pregnancy with other poor reproductive or obstetric history
O09220	Pregnancy with other poor reproductive or obstetric history
O09221	Pregnancy with other poor reproductive or obstetric history
O09222	Pregnancy with other poor reproductive or obstetric history
O09223	Pregnancy with other poor reproductive or obstetric history
O09224	Pregnancy with other poor reproductive or obstetric history
O09225	Pregnancy with other poor reproductive or obstetric history
O09226	Pregnancy with other poor reproductive or obstetric history
O09227	Pregnancy with other poor reproductive or obstetric history
O09228	Pregnancy with other poor reproductive or obstetric history
O09229	Pregnancy with other poor reproductive or obstetric history
O09230	Pregnancy with other poor reproductive or obstetric history
O09231	Pregnancy with other poor reproductive or obstetric history
O09232	Pregnancy with other poor reproductive or obstetric history
O09233	Pregnancy with other poor reproductive or obstetric history
O09234	Pregnancy with other poor reproductive or obstetric history
O09235	Pregnancy with other poor reproductive or obstetric history
O09236	Pregnancy with other poor reproductive or obstetric history
O09237	Pregnancy with other poor reproductive or obstetric history

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O09281	Pregnancy with other poor reproductive or obstetric history
O09282	Pregnancy with other poor reproductive or obstetric history
O09283	Pregnancy with other poor reproductive or obstetric history
O09284	Pregnancy with other poor reproductive or obstetric history
O09285	Pregnancy with other poor reproductive or obstetric history
O09286	Pregnancy with other poor reproductive or obstetric history
O09287	Pregnancy with other poor reproductive or obstetric history
O09288	Pregnancy with other poor reproductive or obstetric history
O09289	Pregnancy with other poor reproductive or obstetric history
O09290	Pregnancy with other poor reproductive or obstetric history
O09291	Pregnancy with other poor reproductive or obstetric history
O09292	Pregnancy with other poor reproductive or obstetric history
O09293	Pregnancy with other poor reproductive or obstetric history
O09294	Pregnancy with other poor reproductive or obstetric history
O09295	Pregnancy with other poor reproductive or obstetric history
O09296	Pregnancy with other poor reproductive or obstetric history
O09297	Pregnancy with other poor reproductive or obstetric history
O09298	Pregnancy with other poor reproductive or obstetric history
O09299	Pregnancy with other poor reproductive or obstetric history
O0930	Pregnancy with insufficient antenatal care
O0931	Pregnancy with insufficient antenatal care
O0932	Pregnancy with insufficient antenatal care
O0933	Pregnancy with insufficient antenatal care
O0940	Pregnancy with grand multiparity
O0942	Pregnancy with grand multiparity
O0942	Pregnancy with grand multiparity
O0943	Pregnancy with grand multiparity
O09511	Elderly primigravida and multigravida
O09512	Elderly primigravida and multigravida
O09513	Elderly primigravida and multigravida
O09514	Elderly primigravida and multigravida
O09515	Elderly primigravida and multigravida
O09516	Elderly primigravida and multigravida
O09517	Elderly primigravida and multigravida
O09518	Elderly primigravida and multigravida
O09519	Elderly primigravida and multigravida
O09520	Elderly primigravida and multigravida
O09521	Elderly primigravida and multigravida
O09522	Elderly primigravida and multigravida
O09523	Elderly primigravida and multigravida
O09524	Elderly primigravida and multigravida
O09525	Elderly primigravida and multigravida
O09526	Elderly primigravida and multigravida



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O09527	Elderly primigravida and multigravida
O09528	Elderly primigravida and multigravida
O09529	Elderly primigravida and multigravida
O09611	Young primigravida and multigravida
O09612	Young primigravida and multigravida
O09613	Young primigravida and multigravida
O09614	Young primigravida and multigravida
O09615	Young primigravida and multigravida
O09616	Young primigravida and multigravida
O09617	Young primigravida and multigravida
O09618	Young primigravida and multigravida
O09619	Young primigravida and multigravida
O09620	Young primigravida and multigravida
O09621	Young primigravida and multigravida
O09622	Young primigravida and multigravida
O09623	Young primigravida and multigravida
O09624	Young primigravida and multigravida
O09625	Young primigravida and multigravida
O09626	Young primigravida and multigravida
O09627	Young primigravida and multigravida
O09628	Young primigravida and multigravida
O09629	Young primigravida and multigravida
O0970	High-risk pregnancy due to social problems
O0971	High-risk pregnancy due to social problems
O0972	High-risk pregnancy due to social problems
O0973	High-risk pregnancy due to social problems
O09811	Other high-risk pregnancies
O09812	Other high-risk pregnancies
O09813	Other high-risk pregnancies
O09814	Other high-risk pregnancies
O09815	Other high-risk pregnancies
O09816	Other high-risk pregnancies
O09817	Other high-risk pregnancies
O09818	Other high-risk pregnancies
O09819	Other high-risk pregnancies
O09820	Other high-risk pregnancies
O09821	Other high-risk pregnancies
O09822	Other high-risk pregnancies
O09823	Other high-risk pregnancies
O09824	Other high-risk pregnancies
O09825	Other high-risk pregnancies
O09826	Other high-risk pregnancies
O09827	Other high-risk pregnancies

## APPENDIX 3

O09828	Other high-risk pregnancies
O09829	Other high-risk pregnancies
O09830	Other high-risk pregnancies
O09831	Other high-risk pregnancies
O09832	Other high-risk pregnancies
O09833	Other high-risk pregnancies
O09834	Other high-risk pregnancies
O09835	Other high-risk pregnancies
O09836	Other high-risk pregnancies
O09837	Other high-risk pregnancies
O09838	Other high-risk pregnancies
O09839	Other high-risk pregnancies
O09840	Other high-risk pregnancies
O09841	Other high-risk pregnancies
O09842	Other high-risk pregnancies
O09843	Other high-risk pregnancies
O09844	Other high-risk pregnancies
O09845	Other high-risk pregnancies
O09846	Other high-risk pregnancies
O09847	Other high-risk pregnancies
O09848	Other high-risk pregnancies
O09849	Other high-risk pregnancies
O09850	Other high-risk pregnancies
O09851	Other high-risk pregnancies
O09852	Other high-risk pregnancies
O09853	Other high-risk pregnancies
O09854	Other high-risk pregnancies
O09855	Other high-risk pregnancies
O09856	Other high-risk pregnancies
O09857	Other high-risk pregnancies
O09858	Other high-risk pregnancies
O09859	Other high-risk pregnancies
O09860	Other high-risk pregnancies
O09861	Other high-risk pregnancies
O09862	Other high-risk pregnancies
O09863	Other high-risk pregnancies
O09864	Other high-risk pregnancies
O09865	Other high-risk pregnancies
O09866	Other high-risk pregnancies
O09867	Other high-risk pregnancies
O09868	Other high-risk pregnancies
O09869	Other high-risk pregnancies
O09870	Other high-risk pregnancies

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O09871	Other high-risk pregnancies
O09872	Other high-risk pregnancies
O09873	Other high-risk pregnancies
O09874	Other high-risk pregnancies
O09875	Other high-risk pregnancies
O09876	Other high-risk pregnancies
O09877	Other high-risk pregnancies
O09878	Other high-risk pregnancies
O09879	Other high-risk pregnancies
O09880	Other high-risk pregnancies
O09881	Other high-risk pregnancies
O09882	Other high-risk pregnancies
O09883	Other high-risk pregnancies
O09884	Other high-risk pregnancies
O09885	Other high-risk pregnancies
O09886	Other high-risk pregnancies
O09887	Other high-risk pregnancies
O09888	Other high-risk pregnancies
O09889	Other high-risk pregnancies
O09890	Other high-risk pregnancies
O09891	Other high-risk pregnancies
O09892	Other high-risk pregnancies
O09893	Other high-risk pregnancies
O09894	Other high-risk pregnancies
O09895	Other high-risk pregnancies
O09896	Other high-risk pregnancies
O09897	Other high-risk pregnancies
O09898	Other high-risk pregnancies
O09899	Other high-risk pregnancies
O24410	Gestational diabetes mellitus
O24411	Gestational diabetes mellitus
O24412	Gestational diabetes mellitus
O24413	Gestational diabetes mellitus
O24414	Gestational diabetes mellitus
O24415	Gestational diabetes mellitus
O24416	Gestational diabetes mellitus
O24417	Gestational diabetes mellitus
O24418	Gestational diabetes mellitus
O24419	Gestational diabetes mellitus
O24420	Gestational diabetes mellitus
O24421	Gestational diabetes mellitus
O24422	Gestational diabetes mellitus
O24423	Gestational diabetes mellitus

## APPENDIX 3

O24424	Gestational diabetes mellitus
O24425	Gestational diabetes mellitus
O24426	Gestational diabetes mellitus
O24427	Gestational diabetes mellitus
O24428	Gestational diabetes mellitus
O24429	Gestational diabetes mellitus
O24430	Gestational diabetes mellitus
O24431	Gestational diabetes mellitus
O24432	Gestational diabetes mellitus
O24433	Gestational diabetes mellitus
O24434	Gestational diabetes mellitus
O24435	Gestational diabetes mellitus
O24436	Gestational diabetes mellitus
O24437	Gestational diabetes mellitus
O24438	Gestational diabetes mellitus
O24439	Gestational diabetes mellitus