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**Date: August 15, 2014**

**Topic: State Technical Assistance on State-specific Data for the Actuarial Value Calculator**

The purpose of this document is to provide technical guidance to states that are interested in submitting data to be considered for approval for use in a state-specific Actuarial Value (AV) Calculator. AV, which determines the metal tier level of non-grandfathered individual and small group market plans, is calculated using the AV Calculator that was developed and made available by the Department of Health and Human Services (HHS). For the purposes of this document, we will refer to the HHS developed AV Calculator as the federal AV Calculator.<sup>1</sup> Specifically, the federal AV Calculator uses a standard population to calculate plans' AVs, and since last year, states have had the option to submit data to be used as the standard population in the template of the federal AV Calculator to create a state-specific AV Calculator beginning in 2015. This data for the standard population needs to be comprised of state-specific cost and utilization data weighted to reflect a state-specific standard population. If the state-specific standard population is approved by HHS, HHS would switch out the data in the federal AV Calculator and deliver to the state its state-specific AV Calculator.

All states have the option of continuing to use the federal AV Calculator, and any state that chooses to continue using the federal AV Calculator will not need to take any of the actions described in this document. Likewise, if the state submits data that is later withdrawn or a state's data is not approved for a state-specific standard population, the state will continue to use the federal AV Calculator. More specifically, the state should follow the processes described in this technical assistance document to build a standard population that can meet the regulatory requirements and be used in the federal AV Calculator template to create a state-specific AV Calculator for a specific benefit year. If the state is interested in using a state-specific AV Calculator and cannot or does not follow a process described in this document, the state should justify why it did not follow this particular process in its methodology document. If the state is interested in using a state-specific AV Calculator and does not follow a process in this document or otherwise justify why it did not follow the process or the state does not provide its data in the continuance tables format with the state's methodology document, HHS may reject the state's

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<sup>1</sup> The 2015 federal AV Calculator is available at: <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2015-av-calculator-final.xlsx>.

data for use in the AV Calculator for a specific benefit year, which would result in the state continuing to use the federal AV Calculator. To assist states in this process, HHS has developed this document, which includes a checklist of items for the state to consider under Section 3, but we also intend to work with any state that is interested in pursuing this process.

In addition to the technical requirements to develop a standard population, any state that is considering whether to pursue a state-specific AV Calculator should also consider the downstream effects of having a state-specific AV Calculator. Since states should undertake issuer education efforts to minimize market disruption, it is best to include issuers as early as possible in the testing process. States deciding to pursue this option should consider what regulatory processes they may need to go through to create and use a state-specific AV Calculator. A state that pursues a state-specific AV Calculator should not anticipate getting its state-specific AV Calculator prior to the finalization of the federal AV Calculator, because the state-specific AV Calculator uses the federal AV Calculator's template and algorithms. Thus, given that a finalized state-specific AV Calculator would only be delivered after the federal AV Calculator is available, ample consideration should also be given to rate filing review deadlines in a given state. Lastly, a state should also take under consideration the operational implications of having a state-based AV Calculator, such as the potential time needed to integrate the state-specific AV Calculator into the Plans and Benefits Template. For State-based Marketplaces, this may require additional work by the state to modify the Plans and Benefits Template used by their issuers so that it integrates appropriately with the state-specific AV Calculator. In a Federally-facilitated Marketplace, integration with the Plans and Benefits Template and system validations will be a part of the overall HHS approval process when evaluating a state-specific AV Calculator.

In this document, we give a brief overview of the statutory and regulatory background and focus the majority of the document on outlining the data and methodology submission process for the state from start to finish. To outline this process, in Section 1, we describe for the state appropriate data sources and considerations when developing a state-specific standard population. In Section 2, we provide a detailed guide for the state on how to aggregate raw claims or annual enrollment summaries into continuance tables. In Section 3, we provide for the state a suggested outline and format for a state's methodology document. In Section 4, we delineate the HHS review and approval process of the state's data, while in Section 5 we outline processes that a state should consider upon receiving a finalized state-specific AV Calculator.

## Statutory and Regulatory Background

Under section 1302(d) of the Affordable Care Act, each non-grandfathered individual and small group health plan, whether offered inside or outside the Marketplace, must cover the essential health benefits (EHB) package, and meet a level of coverage that corresponds to an AV calculated based on the cost-sharing features of the plan. AV is determined based on the expected value of EHB coverage provided to a standard population (and without regard to the population to which the plan may actually provide benefits). Under 45 CFR 156.135(a), issuers use the AV Calculator made available by the HHS to calculate AV for a given benefit year.

Further, under 45 CFR 156.135(d) and (e), states have the option beginning in 2015 to submit state-specific data that, if approved by HHS, can be used as the standard population in a state-specific AV Calculator for a given benefit year. For the purposes of this document, *claims year* refers to the year of the raw claims or annual enrollee data underlying any state data submission, while *benefit year* refers to the year that issuers are certifying plans within a state for (i.e., the year for which a state-specific AV Calculator is being developed). Pursuant to §156.135(d), in order for HHS to approve the data for the AV Calculator, the state's data must meet all of the following requirements:

- (1) Support the calculation of AVs for the full range of health plans available in the market;
- (2) Is derived from a non-elderly population and estimates those likely to be covered by private health plans on or after January 1, 2014;
- (3) Is large enough that: (i) The demographic and spending patterns are stable over time; and (ii) It includes a substantial majority of the state's insured population, subject to the requirement in paragraph (2) above;
- (4) Is a statistically reliable and stable basis for area-specific calculations; and
- (5) Contain claims data on health care services typically offered in the then-current market.

Additionally, under §156.135(e), we are specifying that states must provide this data in an aggregated form known as continuance tables; HHS will consider no other data structure for approval in the development of a state-specific AV Calculator. The state submits the data in a format identical to the continuance tables that are included with the federal AV Calculator<sup>2</sup> and a copy of the continuance table template for states to use is posted to the Centers for Medicare and

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<sup>2</sup> See tabs 3 through 15 in the 2015 AV Calculator, located at <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2015-av-calculator-final.xlsx>.

Medicaid Services' Center for Consumer for Information and Insurance Oversight (CCIIO) website.<sup>3</sup> Continuance tables submitted by states should be comprised of data aggregated and weighted to a state-specific standard population reflecting expected on- and off-Marketplace Single Risk Pool (Single Risk Pool) demographics and utilization. States wishing to submit continuance tables for consideration in the HHS approval process should include a detailed methodology document indicating both a step-by-step process of converting raw claims data or annual member summaries into continuance tables as well as a comprehensive analysis showing that the resultant continuance tables comply with §156.135(d) and any other relevant federal regulations.

States will need to submit their data and methodology for approval annually by September 1 of the calendar year that is two years prior to the benefit year in which the state-specific AV Calculator would be used. HHS will notify the state of the results of its review. In the event that the data and/or methodology submission is found to not meet regulatory requirements, the standard population to calculate AV under the federal AV Calculator will be used. Conversely, if a data submission is approved, a testing phase will occur after which a state uses the finalized state-specific AV Calculator that is delivered to the state by HHS for purposes of requiring all issuers subject to section 1302(d) of the Affordable Care Act in the state to certify their metal tiers. To accord maximum flexibility to states, a state may withdraw its submission from consideration for a state-specific AV Calculator any time before the finalized state-specific AV Calculator is delivered. Lastly, we note that the AV Calculator is specifically intended to help consumers meaningfully compare plan designs and is not intended as pricing tool.

## **1. Sources of Data and Developing a Standard Population**

Data obtained and used by a state for the purposes of a state-specific AV Calculator should aim to capture the typical enrollment, cost, and utilization patterns within a given state; this combination of state-specific characteristics is then aggregated into continuance tables. This section gives a brief summary of what continuance tables are and discusses data considerations including defining the standard population, outlining the types of cost and utilization data required, and noting adjustments to be made to claims or annual enrollee summary data to account for differences between the data year and the benefit year.

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<sup>3</sup> A copy of the continuance tables is posted at <http://www.cms.gov/cciio/resources/regulations-and-guidance/index.html>

## ***Continuance Tables Required for Data Submission***

Continuance tables summarize the claims experience and utilization of the standard population and are therefore the key component in calculating AV. Specifically, a continuance table describes the distribution of claims spending for a population of health insurance users who face a particular benefit structure. The set of continuance tables underlying the federal AV Calculator reflects the standard population developed by the Secretary of HHS to implement section 1302(d) of the Affordable Care Act. The continuance tables are a component of the algorithm for determining actuarial value whose details can be found at <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2015-av-calculator-methodology.pdf>.

To submit data for consideration by HHS during the approval process for a state-based AV Calculator, states will be required to blend 48 continuance tables for every combination of metal tier (Bronze, Silver, Gold, and Platinum), gender, and age bracket (0-6, 7-18, 19-24, 25-40, 41-54, and 55-64) into twelve continuance tables weighted to a defined standard population. Each continuance table ranks the included enrollees by allowed total charges in the claims database (after any provider discounts but before any member cost-sharing) and groups them by ranges of spending.<sup>4</sup> These ranges of spending define the rows of the continuance table. The data are then used to calculate the number of enrollees with total spending falling within each range, the cumulative average cost in the range for all enrollees, and the average cost for all enrollees whose total spending falls within the range. For all service types included in the claims database, the columns of the continuance table display the average cost of spending on that service type that is attributed to cumulative enrollees in each range and the average frequency of the service type per enrollee. When submitting continuance tables to HHS, the year of service associated with the state's claims data should be clearly specified.

Once HHS approves the continuance tables and delivers the final state-specific AV Calculator to the state, the state must use the state-specific AV Calculator and will not be allowed to use the federal AV Calculator for the given benefit year. States that pursue this option should be aware that a plan's metal tier may change when switching between the final federal AV Calculator from the year prior to the benefit year and a state-specific AV Calculator. Likewise, if the state switches back from a state-specific AV Calculator to the federal AV Calculator in future years, a similar shift may occur. Although this difference may seem intuitive due to the addition of state-specific medical and prescription drug growth rates, plans

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<sup>4</sup> An example section of the Silver Combined continuance table from the federal 2015 AV Calculator is included in Appendix A.

may experience significant shifts in AV metal tier certification due to a new definition of the standard population and underlying utilization patterns that differ from the national average.

### ***Defining the Standard Population***

A standard population is required by a state to accurately reflect the cost and utilization characteristics of covered individuals expecting to enroll or enrolled in the Single Risk Pool. Failure to define an appropriate standard population can lead to inaccurate AV certifications, exposing plans to unexpected enrollment and utilization trends. The standard population that a state uses as the base for a state-based AV Calculator should be reflective of the anticipated Single Risk Pool population in the benefit year. This population includes the Individual/Small Group markets comprising both Marketplace and non-Marketplace plans. The standard population is expressed as weighted percentages of demographic groups comprising gender combined with age brackets (0-6, 7-18, 19-24, 25-40, 41-54, and 55-64) such that the percentages add up to one. Although demographic group composition will vary between metal tiers, the state-based AV Calculator should use the same standard population across all metal tiers. Realized and expected Standard Risk Pool enrollment should be projected forward to the benefit year initially using census-based population growth projections. After this adjustment, the state will need to give consideration to whether movements between markets could alter the relative demographic weights of the Standard Risk Pool population; for example, some states may be ending transitional plan allowances or may have pre-January 1, 2014 early plan renewals reflected in their original enrollment data. If data are being collected from a year before the end of the federal Pre-Existing Health Insurance Plan (PCIP) or of a state high risk pool (HRP), then the state's demographic composition of these enrollees should also be included in the standard population if known.

### ***Cost and Utilization Data Required***

Once the state defines a standard population, it should obtain cost and utilization data that are reflective of the types of enrollees contained within the standard population. This cost and utilization data can be in the form of raw claims or annual beneficiary summaries, but should include information on total allowed charges, service type, diagnosis, utilization, and place of service. Though not strictly necessary, a breakdown of allowed charges into its component parts of copay, coinsurance, deductible, coordination of benefits (COB), and plan liability will allow for data integrity checks. Additionally, a plan's expected metal tier should be known for the claims year underlying the data; before 2014, the state should impute the expected metal tier using information from a plan benefit design database whilst after 2014 the certified metal tier of a plan may be used. For this subsection, we examine a) statistical validity, b) enrollment restrictions, c) the format of an enrollment database, and d) plan benefit design information required.

### ***a) Statistical Validity***

States may use a variety of underlying claims databases from issuers within their state to serve as the basis for the demographic-specific continuance tables. To create statistically valid distributions, CCIIO intends to work with the state, but the threshold of at least 100,000 enrollee experiences per metal tier is required for each of the twelve finalized continuance tables. A threshold is necessary in order to guarantee the validity of the underlying metal tier assignments and the reliability of any induced demand estimates that may underlie the continuance tables, as these estimates are adversely affected by the statistical “noise” in insurance pools with small numbers of enrollees. The ideal source for such a claims database includes all major issuers that are participating in a state’s health insurance market with a standardized format, such as an All Payer Claims Database (APCD). If such a claims database is not readily available, states may need to work with the major participants of their health insurance market to obtain either raw claims data or annual enrollee summaries, as long as these claims data or annual summaries fulfill the requirements for utilization data listed below. States should work with a number of carriers equaling the market share of the three largest issuers within their state of their state’s insurance market to ensure appropriate differentiation between regions covered, network structures, and to protect the confidentiality of any proprietary data during the aggregation process. For states with fewer insurance market participants, working with issuers comprising at least 70 percent of the market share of their states insurance market is sufficient. Additionally, this data is required to be drawn primarily from Preferred Provider Organization (PPO) and Point of Service (POS) type plans. Even if a state has a high degree of Health Maintenance Organization (HMO) penetration, HMO plans may exhibit unrepresentative provider discounts and utilization patterns that have been directed by the individual plans rendering their claims inappropriate for the development of a demographic-specific continuance tables. Due to the complexity of augmenting continuance tables for expected market adjustments between a claims year and a benefit year, multiple claims years of data are not allowed at this time. The state’s data sources should also include all allowed charges incurred by a plan, even if the plan was compensated from a third-party such as a reinsurance broker or program.

The metal tiers generated by the AV Calculator are not for the purposes of pricing by plans; rather the AV Calculator is intended both to serve as a consumer categorization tool and to provide a consistent utilization and benefit standard for HHS risk transfers. To facilitate this goal, enrollee experiences are subject to enrollment restrictions.

### ***b) Enrollment Restrictions***

Utilization data used to construct the state’s continuance tables should reflect a full year of all claims experience for individuals in the standard population. Thus, only enrollees aged 0-64 who are continuously enrolled for 12 months, were born in the year, or died in the year may

be included. Enrollees with an annual spending limit or a limitation on the type of inpatient services covered (e.g., maternity coverage) should be excluded. Within metal tiers, utilization data should be as free from pre-Single Risk Pool selection effects wherever possible; accordingly, individuals enrolled within group plans with less than 250 enrollees should be used to construct the AV Calculator continuance tables, although large group plan enrollees may be included in the construction of gold and platinum continuance tables. These restrictions are in line with the federal AV Calculator methodology. Enrollees in non-group plans before 2014 cannot be used unless it can be substantiated that such plans have not been subject to heavy underwriting. Including enrollees in plans with heavy underwriting will produce continuance tables with utilization that is unreflective of expected claims expenditures. For transparency and record keeping purposes, it is best to keep a master enrollment database that can be used to easily identify enrollment inclusion and exclusion criteria.

### ***c) Format of the Enrollment Database***

To allow convenient mapping to all datasets used in the process of creating continuance tables, a state can require all APCD or third-party datasets to have a State Insurance Plan ID (or Health Insurance Oversight System ID if available) and a unique Member ID. A master enrollment dataset should be kept for all enrollees to be included in the continuance tables, including those with zero utilization and cost. Wherever possible, states should build enrollment databases with the intention of mapping to the federal Health Insurance Oversight System (HIOS) to leverage existing data sources and to ease the reporting burden on issuers. Within HIOS, the understanding is that a company has one issuer per state, an issuer has many products sharing a general benefit design in terms of types of covered services, and products can have many plans encompassing a variety of metal tiers. This mapped HIOS ID can be used even if a plan submitted data through the System for Electronic Rate and Form Filing (SERFF); states that use SERFF may already have internal state insurance plan IDs that are appropriate for use in a maintained enrollment database. An enrollment dataset would contain the following variables:

- **State Member ID:** This is a unique member identifier that is used by a state across all datasets used to construct continuance tables.
- **State Insurance Plan ID:** This is a unique plan identifier that is used by a state across all datasets used to construct continuance tables. This Plan ID should remain the same as long as the plan benefit design associated with the Plan ID remains unchanged; if a Plan ID's plan benefit design changes, the plan should be issued a new Plan ID.
- **HIOS Issuer ID (if available):** This is the unique issuer identifier as used in HIOS.
- **HIOS Insurance Product ID (if available):** This is the unique product identifier as used in HIOS.

- HIOS Insurance Plan ID (if available): This is the unique plan identifier as used in HIOS.
- Benefit Year Start: This is the first date of the plan's current benefit year.
- Period Start: This is the beginning date of the observation period.
- Period End: This is the end date of the observation period.
- Months Enrolled: For enrollees to be included in continuance tables, this should be equal to 12.
- Age
- Gender
- Member Geographic Cost Factor: The rating factor applied to a member's premium based on the region in which he or she resides. Although not required, this will allow a state to standardize and reweight the cost of claims to the regional composition expected in the Single Risk Pool if the claims dataset is not fully representative of all regions in a state.

***d) Plan Benefit Design Information Required***

Plan benefit design information is required to assign metal tiers to the individual enrollees within a state's claims database. Although plans may have already certified their metal tier using either the final 2014 or 2015 AV Calculators, plan benefit design information is still required due to growth and enrollment trends that will be unique by state. Additionally, given a state's unique medical rate structure and service utilization patterns, the AV of a plan may not be consistent given the newly constructed standard population. The plan benefit design database that the state uses should include the general deductible, coinsurance rate, and maximum out-of-pocket (MOOP) for individual enrollees, all service-specific copay or coinsurance rates for medical services present in the AV Calculator, as well as all prescription drug-specific copay or coinsurance rates for the tiers present in the AV Calculator. If the claims originate from plans that have previously submitted data to CCIIO through HIOS or to states individually through SERFF, then states may have access to plan benefit design data by mapping directly to a plan's HIOS Issuer ID, HIOS Insurance Product ID, and HIOS Insurance Plan ID combination.

Because continuance tables are constructed for plan designs with similar AVs, the state's tables should account for changes in utilization induced by plan design. To account for this induced demand, each continuance table should reflect utilization of individuals from the claims database in plans with AVs in each of the four metal tiers. That is, each plan in the database should be assigned an AV based on the service utilization and plan payments for enrollee groups in that plan and enrollees should be grouped by these AVs into the metal tiers. Due to

differences in service utilization and overall demographic composition, it is not appropriate to estimate AVs for pre-2014 data using the federal AV Calculator.

Note that if the plan's metal tier is not known, the state should assign AVs within that plan *per demographic group*. The estimation of actuarial value without a standard population represents a statistical problem due to the correlation between plans with less healthy enrollees and high realized AV. To estimate the AV for each plan, the realized AV of the plan benefit characteristics is calculated for groups of enrollees by age, gender, and spending bracket, and compared to the expected actuarial value given a region's typical cost and utilization trends for major services (e.g., inpatient hospitalizations, emergency room usage, office visits, and drug benefits). Nonlinear least squares regressions, a statistical technique, are used to develop models estimating AV based on the imputed cost shares in each of the spending brackets. It is of extreme importance that the state properly assigns metal tiers to pre-2014 plan data; failure to accurately identify metal tiers will lead to incorrect estimates of induced demand and unexpected selection effects appearing within the data.

The accurate classification of enrollees into metal tiers is necessary to provide credible utilization for individual demographic groups. Pre-2014 plans involve demographic compositions that make the empirical AV of a given plan inappropriate for the creation of a standard population. Estimating the AV based on the above statistical technique controls for differences in demographic and health compositions for the purposes of creating a standard population. The overall expected AVs generated take into account the unique features of a plan's benefit design while controlling for both composition and pricing effects. Accordingly, the overall expected AV of a plan might not be the same as the expected AVs of the individual groups that comprise the plan. AVs may fall within +/- 5 percentage points of the target AV for each metal tier. For the federal AV Calculator, we undertook this process of assigning metal tier levels to the plan designs and provided a description of it in the AV methodology document. If the metal tier of the plans in a state's APCD is not known, the state should consider consulting with HHS regarding the process for imputation of the state-specific metal tier level.

### ***Raw Data Adjustments***

Before aggregation to continuance tables can occur, a state is required to first trend its claims in two ways: a) trend unit costs forward to the given year at expected private healthcare insurance claims inflation, and b) make market-feature based utilization adjustments if appropriate. For example, a *claims year 2012* dataset intended for usage in a *benefit year 2016* AV Calculator would require both four years of general health expenditure trend and a specific adjustment to account for market features, such as the introduction of new expensive therapies. These raw claims adjustments are prior to adjustments accounting for EHB and adjustments for

populations with a different morbidity, which will be addressed when building the aggregated continuance tables.

First, holding claim quantities constant, all payment variables should be inflated to the given year from the plan benefit year at a rate consistent with a reputable source of private health expenditure increase data. These sources include National Health Expenditure (NHE), Congressional Budget Office (CBO), or state-specific rate filing projections. The state will need to detail and justify these adjustments and calculations in the methodology document that it submits with its continuance tables.

Second, once claims costs have been adjusted for expected inflation, the state should apply market features and developments specific to the enrollee population represented in the claims database. An example of a market feature or development specific to the enrollee population already represented in the claims database would be the introduction of new expensive therapies whose incidence is expected to increase the proportional weight of a specific benefit service category. Inflating the benefit costs at a higher rate will account for this market change until new utilization data becomes available for future calculators; at this stage, quantities may also be increased if appropriate, although should ensure that the total of both unit cost and quantity is not double-counted. The state's adjustments concerning the newly enrolled population that have a different morbidity or risk should not be made at this point in the aggregation process; composition-based market changes will be reflected in the construction of a state's standard population as well as during the final aggregation into metal tier continuance tables. Similar adjustments and considerations were made to the federal AV Calculator, additional information on those adjustments is available in the 2015 AV Calculator methodology.<sup>5</sup>

## **2. Data Aggregation into the Continuance Tables**

Creating continuance tables for each metal level, gender, and age group from the claims data of enrollees requires four steps: (1) Categorize each claim by type and/or place of service, (2) Sum claims at the enrollee level by type, (3) Group enrollees into brackets by total allowed charges, and (4) Aggregate claims across brackets. To create "combined" continuance tables including both medical and drug spending, these steps should be performed with all claims data. To construct Medical and Prescription Drug-specific continuance tables, the steps will be performed using only medical or drug utilization data, respectively. The remainder of this section describes each step in detail. This is the same process that was undertaken to develop the federal AV Calculator.

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<sup>5</sup> The 2015 AV Calculator is available at: <http://www.cms.gov/CCIIO/Resources/Regulations-and-Guidance/Downloads/2015-av-calculator-methodology.pdf>.

### ***Determine Type and/or Place of Service for Each Claim***

In the first step, the state's claims data reflecting total allowed charges (including all enrollee contributions) should be categorized into mutually exclusive and exhaustive groups by type of service. The following categorizations are hierarchical and should be categorized in the order presented.

If claims take place in an inpatient, emergency department, or skilled nursing facility setting, these claims should be aggregated to a stay level, with all allowed charges combined into a single observation per admission and discharge date pairing. Claims occurring outside of these settings are to be evaluated at a line level and categorized by type and/or place of service. The following mutually exclusive and exhaustive groups are required for medical claims occurring outside of non-outpatient facilities:

- Primary Care Visit to Treat an Injury or Illness (excluding Preventive Well Baby, Preventive, and X-rays)
- Specialist Visit
- Mental/Behavioral Health and Substance Abuse Disorder Outpatient Services, Outpatient Professional Component
- Mental/Behavioral Health and Substance Abuse Disorder Outpatient Services, Outpatient Facility Component
- Mental/Behavioral Health and Substance Abuse Disorder Outpatient Services, Other
- Imaging (CT/PET Scans, MRIs), Outpatient Professional Component
- Imaging (CT/PET Scans, MRIs), Outpatient Facility Component
- Imaging (CT/PET Scans, MRIs), Other
- Rehabilitative Speech Therapy, Outpatient Professional Component
- Rehabilitative Speech Therapy, Outpatient Facility Component
- Rehabilitative Speech Therapy, Other
- Rehabilitative Occupational and Rehabilitative Physical Therapy, Outpatient Professional Component
- Rehabilitative Occupational and Rehabilitative Physical Therapy, Outpatient Facility Component
- Rehabilitative Occupational and Rehabilitative Physical Therapy, Other
- Preventive Care/Screening/Immunization

- Laboratory Outpatient and Professional Services, Outpatient Professional Component
- Laboratory Outpatient and Professional Services, Outpatient Facility Component
- Laboratory Outpatient and Professional Services, Other
- X-rays and Diagnostic Imaging, Primary Care Office Setting
- X-rays and Diagnostic Imaging, Specialist Office Setting
- X-rays and Diagnostic Imaging, Other
- Outpatient Facility Fee (e.g., Ambulatory Surgery Center)
- Outpatient Surgery Physician/Surgical Services
- Other

For drug claims, prescriptions should be categorized into the following mutually exclusive and exhaustive categories:

- Generics
- Preferred Brand Drugs
- Non-preferred Brand Drugs
- Specialty Drugs Costing More than \$500 per script

Claims of the same service type occurring on the same day should be aggregated into the quantity of copays an enrollee would pay when receiving treatment.

### ***Summarize Claims by Type per Enrollee***

After claims have been categorized by service type, the creation of enrollee-level data is the next step. For states planning on requesting annual member enrollee utilization datasets from issuers, this is the level of aggregation that should be requested. The following process creates a dataset in which each row represents exactly one enrollee, with a column indicating total allowed charges across all categories, a column indicating allowed charges for each of the individual categories, and a column indicating the number of stays or service days occurring for each of the individual categories. A sample table shell for this dataset is provided as Figure 3 in Appendix C. If a state wishes to use claims data to impute the plan benefit design of a plan, network cost-sharing variables should also be requested. The following discussion will include all necessary payment variables for this process; however, if the metal tier of a plan is known, only allowed cost information is necessary.

For each member, adding up individual service category costs will yield the following aggregate variables:

- Total Allowed Cost: This is the total allowed charges per member over the period, subdivided into in-network and out-of-network claims as appropriate. This should always be the sum of the next five columns: total copay, total coinsurance, total deductible, total COB and total paid by the network.
- Total Copay: This is the total copay per member.
- Total Coinsurance: This is the total coinsurance per member.
- Total Deductible: This is the total deductible per member.
- Total COB: This is the total COB per member.
- Total Plan Liability: This is the total amount paid by the health plan per member.

These variables are repeated for all service categories identified in the first step.

In the third step, enrollees should be grouped into 84 brackets based on their total allowed charges. The upper limits for the brackets are:

- \$0,
- \$100 to \$6,500 in \$100 increments,
- \$7,500,
- \$10,000 to \$50,000 in \$5,000 increments,
- \$100,000 to \$500,000 in \$100,000 increments,
- \$1,000,000,
- \$2,000,000,
- Unlimited (enrollees with over \$2,000,000 in spending).

Due to a combination of sparseness of data with selection effects in the tail of spending distributions, a state may wish to combine bronze and silver enrollees with over \$45,000 in allowed charges. Such a combination would involve using all bronze and silver enrollees with over \$45,000 in spending for the construction of both the bronze and silver continuance tables. This can be done in the event that the total per-member-per-year (PMPY) average of bronze enrollees is not credibly below the PMPY average of silver spenders. In general, bronze spending is expected to be around 2.5-5 percent lower than silver spending for a standard population. If a state's bronze and silver continuance tables exhibit differences in PMPY spending outside this range states may still submit these continuance tables provided actuarial certification and justification of the difference.

## **Construct Continuation Tables for Each Demographic Group**

Finally, the bracketed data may be used to construct the demographic-specific continuation table, with the following columns defined with one observation per bracket<sup>6</sup>:

- **Number of Enrollees:** This is the number of enrollees in the total allowed charge bracket.
- **Avg. Cost per Enrollee (Max'd):** This is the average spending of all enrollees in the dataset, if enrollees that spent above the bracket limit were top-coded to the value of the bracket limit. This is equal to  $[(\text{total spending of all enrollees with spending up to bracket}) + (\text{total number of enrollees} - \text{number of enrollees up to bracket}) * (\text{bracket upper limit})] / \text{total n}$ .
- **Avg. Cost per Enrollee (Bucket):** This is the average spending of enrollees within a particular spending bracket.
- **Avg. Utilization of [Service Category]:** This is the cumulative average utilization of all enrollees up to the bracket limit of a particular service. For facility categories, this is a stay level quantity.
- **Avg. Cost per [Service Category] Unit:** This is the cumulative average cost of all enrollees up to the bracket limit of a particular service.
- **Avg. Utilization of [Service Category], Combined:** This is the cumulative average utilization of all enrollees up to the bracket limit of a particular service with all of its component parts combined. This is applicable to service categories with Outpatient Professional, Outpatient Facility, and Other components, as well as to X-Rays and Diagnostic Imaging.
- **Avg. Cost per [Service Category] Unit, Combined:** This is the cumulative average cost of all enrollees up to the bracket limit of a particular service with all of its component parts combined. This is applicable to service categories with Outpatient Professional, Outpatient Facility, and Other components, as well as to X-Rays and Diagnostic Imaging.
- **Avg. Number of Days of [Facility Service Category]:** This is the cumulative average utilization in days of all enrollees up to the bracket limit of a particular facility service.
- **IP Avg. Days, Up to [1-10] Days:** This is the cumulative average utilization in days of all enrollees up to the bracket limit of inpatient facility claims, with stays over  $x$  days top-coded to the appropriate value.

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<sup>6</sup> These continuation tables take the same form as included in Appendix A. However, note that a separate continuation table must be constructed per age group, gender, and market (Medical, Rx Drug, and Combined) combination, resulting in 48 total continuation tables before aggregation.

- **Primary Care Visits, Over [1-10] Visits:** This is the cumulative average utilization of all enrollees up to the bracket limit of primary care visits, only taking into account visits after the *xth* visit.

### ***Aggregate into Metal Tier Continuance Tables***

To produce a single continuance table for each metal tier for use in the AV Calculator, the state will need each of the separate continuance tables representing age/gender groups for a given metal tier to be combined into twelve metal level-specific continuance tables; these aggregate tables are comprised of four metal tiers crossed with the three continuance table types of Medical, Prescription Drug, and Combined. Before submission to HHS, the state should blend the demographic continuance tables by metal tier in accordance with their standard population. This process involves two types of blending: a) blending within demographic groups to account for populations with different morbidity or to account for EHBs not present in the raw data, and b) blending across demographic groups to reweight to a state's standard population.

#### ***a) Blending Within Demographic Groups***

If there is a separate claims dataset or annual member dataset to account for a population with different morbidity, then separate demographic and metal tier-specific continuance tables can be created as above. Note that this process is only necessary for enrollees with significantly different spending patterns. For example, such an adjustment may be necessary for states that allowed transitional plans where the effects of underwriting are still present, but would not be necessary for grandfathered enrollees from 2010 entering into the Single Risk Pool whose underwriting effects have worn off. Once continuance tables have been created for the new enrollees entering into the Single Risk Pool, these tables can be blended with the state Single Risk Pool continuance tables within a demographic group and metal tier combination by creating a weighted average of all variables present in the continuance tables. The state's weight of this blending within a demographic group can differ by metal tier; however, the sum of all weights should be consistent with the population augmentation performed in altering the standard population. Because of the potential complexity of this operation, it may be beneficial to augment all metal tiers equally.

If there is no separate claims dataset or annual member dataset to account for a population with different morbidity, the state Single Risk Pool continuance tables can be augmented either before or after demographic blending dependent on data availability. Augmentation without specific claims composition is done using PMPY rates tied to an appropriate spending category distribution. We made this adjustment in the federal AV Calculator; this process is described in pages 9 and 10 of the 2015 AV Calculator methodology. For instance, PCIP/HRP augmentation on overall medical and prescription drug claims can be

done by calculating the percentage of the standard population that PCIP/HRP enrollees comprise. This percentage is then multiplied by the PMPY cost of these enrollees to determine the additional cost required to be covered by plans at which point this cost is added to the “Avg. Cost per Enrollee (Max’d)” column of the continuance tables. To simulate a credible claims distribution, the PMPY cost is tied to an appropriate distribution; in the case of PCIP/HRP medical claims an appropriate distribution may be emergency room costs. For states that are missing data on required EHB, such as Pediatric Dental or Pediatric Vision, continuance tables should be augmented using the above method. Since augmentations of this method require actuarial judgment, a state may request consultation with CCIIO.

#### ***b) Final Blending Across Demographic Groups for Submission to HHS***

The state will need to blend separately the demographic-specific continuance tables for each metal tier at the demographic weights specified by a state’s standard population. Unlike morbidity adjustments, the same weights should be used across all metal tiers. After any aggregate morbidity augmentations, the state’s continuance tables will be ready for submission to HHS for consideration during the approval process.

### **3. Format of the State’s Methodology Document**

A state’s methodology document is to be submitted for consideration by HHS during the approval process concurrently with a state’s data submission. The state’s methodology document should provide a detailed description of the database and the development of data for use in the state’s continuance tables; additionally, the state’s methodology document should provide a step-by-step guide on how the state converted data into continuance tables. The organization of these two sections should conform to the organization outlined in Sections 1 and 2 above. To ensure that states have addressed regulatory considerations, a “checklist” should be included at the beginning of the methodology document addressing the following points organized among thematic lines. Note that some checklist items will appear in multiple categories, meaning that a separate consideration should be made in each of those categories. This list is intended to assist states on the elements that they should consider, but it is not intended to be an exhaustive list. Therefore, CCIIO may require other elements that are not included on this list.

<b>Enrollment Restrictions</b>
Only 12 month continuously enrolled enrollees, newborns, and deaths aged 0-64 included
Enrollees without prescription drug coverage excluded
Enrollees in plans with annual limits excluded
Enrollees include small group plans for all metal tiers and large group plans for gold and platinum
Additional enrollees included (i.e. non-group plan enrollees) are free of underwriting and selection effects
<b>Standard Population Properties</b>
Standard Population includes on- and off- Marketplace Single Risk Pool demographics
HRP/PCIP population included (if appropriate, this depends on the state's program)
Grandfathered enrollees entering the Single Risk Pool included
Transitional enrollees entering the Single Risk Pool included
Early Renewal enrollees entering the Single Risk Pool included
<b>Data Properties</b>
Claims data cover one claims year; please specify the data year
Claims data are from an APCD or contracted directly from carriers (indicate which is true)
Claims data cover at least either market share of three largest carriers or 70% of state insurance market
Majority of claims data are derived from PPO/POS plans (if not, please justify)
Claims data are in the form of raw claims or annual enrollee summaries (indicate which is true)
Claims data include total allowed charges, including payments from reinsurance and third parties
Claims data include plan's metal tier classification either imputed (pre-2014) or certified (post-2014)
Data include plan benefit design information for imputation of metal tier or HIOS ID
(Pre-2014 claims year) Metal tiers imputed per demographic group (outline method if done without HHS aid)

<b>Data Adjustments</b>
Claims trended forward to benefit year using CBO, NHE, or state rate filing projections (indicate which)
Specific service types trended forward due to market changes (such as new expensive therapies; indicate which and why)
<b>Continuance Table Properties</b>
At least 100,000 enrollees represented per aggregated metal tier (in each of the 12 submitted tables)
HRP/PCIP population included
Grandfathered enrollees entering the Single Risk Pool included (often no adjustment needed)
Transitional enrollees entering the Single Risk Pool included
Early Renewal enrollees entering the Single Risk Pool included
EHBs absent from claims data included (such as Pediatric Dental and Pediatric Vision)
Indicate if any populations were combined due to sparseness of data (such as bronze and silver tail enrollees)
<b>Submission Attestation</b>
Attest that submission of continuance tables does not guarantee approval by HHS
Attest that there will be a testing period between approval and final delivery of state AVC
Attest that plan AVs within the state may vary dramatically between the federal and state AVC
Attest that a state can withdraw data from consideration any time before final delivery of state AVC
Attest that upon final delivery of state AVC, all plans within the state must use only the state AVC

#### 4. HHS Review and Approval Process

States intending to submit data and methodology documents for review and approval should submit both to the AV email box at [actuarialvalue@cms.hhs.gov](mailto:actuarialvalue@cms.hhs.gov) by September 1 two years prior to the benefit year. During the review process, CCIIO may follow up with additional questions to the state regarding its data. In the event of required adjustments to the submitted continuance tables and methodology document, CCIIO will provide iterative actuarial and data processing guidance to states on an individual basis. As such, states should have the data analysts who created the data submission available for conversations with CCIIO and be

prepared to respond to any follow up questions or modifications to the data and in a timely manner.

Upon receiving final approval, states will receive a draft state-specific AV Calculator for testing. During this testing period, it is the sole responsibility of the state to reach out to issuers that will be affected by the change. Extensive testing of all Single Risk Pool health plans should be carried out, as plans may change metal tiers during this process. States will have the option to withdraw their data from consideration at any point during this testing process. However, if data are not withdrawn by the end of the testing period, HHS will deliver a finalized state-specific AV Calculator. After the testing period is completed and HHS delivers a finalized state-specific AV Calculator, the state must use the AV Calculator that it receives and cannot use the federal AV Calculator for the given benefit year. Only one AV Calculator can be applicable in the state for a given benefit year.

## **5. Delivery of a State's AV Calculator**

The finalized state-specific AV Calculator will contain the latest algorithms approved for use in the finalized federal AV Calculator. The calculation of AV will be identical except for the backend data continuance tables, which will have been provided by the state. It is the responsibility of the state to provide new continuance tables for approval by the data submission deadline for each subsequent year. Updates to the state's new continuance tables from year-to-year should align with the updates under 45 CFR 156.135(g)(2) and (4). In future years, HHS may provide more specific direction to states on updates that will need to be made to the state-specific standard population from year to year.

Since states should undertake issuer education efforts to minimize market disruption, it is best to include issuers as early as possible in the testing process. States deciding to pursue this option should consider what regulatory processes they may need to go through to create and use a state-specific AV Calculator. A state that pursues a state-specific AV Calculator should not anticipate getting its state-specific AV Calculator prior to the finalization of the federal AV Calculator, since the state based AV Calculator uses the federal AV Calculator's template. Thus, given that a finalized state-specific AV Calculator would only be delivered after the federal AV Calculator is available, states should also give ample consideration to their rate filing review deadlines. Lastly, a state should also take under consideration the operational implications of having a state-based AV Calculator, such as the potential time needed to integrate the state-specific AV Calculator into the Plans and Benefits Template. For State-based Marketplaces, this may require additional work by the state to modify the Plans and Benefits Template their issuers use so that it integrates appropriately with the state-specific AV Calculator. In a Federally-facilitated Marketplace, integration with the Plans and Benefits Template and system validations

will be a part of the overall HHS approval process when evaluating a state-specific AV Calculator.

The following chart details the steps that will need to occur after the state submits its data:

<b>After the State Submits Data - Process Overview</b>
Step 1: State submits data and methodology
Step 2: HHS reviews data and methodology
Step 3: HHS issues its approval or rejection of the state's data
Step 4: HHS builds the state-specific AV Calculator
Step 5: State tests its state-specific AV Calculator
Step 6: HHS delivers the final state-specific AV Calculator

### **Conclusion: Types of CCIIO Technical Assistance Available**

States wishing to pursue a state-specific AV Calculator should let CCIIO know as soon as possible, as CCIIO intends to partner with any state that pursues this option and will need to be in communication throughout this process. States that will not be pursuing this option this year but are planning to pursue a state-specific AV Calculator in future years may reach out to CCIIO for technical assistance in building their APCDs and to receive guidance on the appropriate types of datasets necessary for their state's unique insurance market structure. In addition to iterative collaborations during the review process, CCIIO intends to provide technical calls for states that are interested in submitting data. CCIIO also intends to periodically update this document in the future. Any comments can be submitted to: [actuarialvalue@cms.hhs.gov](mailto:actuarialvalue@cms.hhs.gov).

## Appendix A

**Figure 1: Section of Silver Combined Continuance Table, 2015 AV Calculator**

Up To	Number of Enrollees	Avg. Cost per Enrollee (Max'd)	Avg. Cost per Enrollee (Bucket)	IP	Avg. IP Freq
\$0	56,423	\$0.00	\$0.00	\$0.00	0.000
\$100	14,692	\$84.22	\$49.71	\$0.00	0.000
\$200	19,977	\$164.62	\$150.77	\$0.00	0.000
\$300	18,209	\$240.94	\$249.15	\$0.00	0.000
\$400	16,383	\$313.73	\$349.30	\$0.00	0.000
\$500	14,988	\$383.38	\$449.30	\$0.00	0.000
\$600	13,694	\$450.22	\$549.17	\$0.00	0.000
\$700	12,497	\$514.30	\$649.26	\$0.01	0.000
\$800	11,238	\$575.87	\$749.04	\$0.01	0.000
\$900	10,273	\$635.23	\$849.09	\$0.02	0.000
\$1,000	9,374	\$692.59	\$949.45	\$0.04	0.000
\$1,100	8,738	\$747.86	\$1,049.13	\$0.06	0.000
\$1,200	8,312	\$801.45	\$1,148.84	\$0.08	0.000
\$1,300	7,729	\$853.19	\$1,249.45	\$0.13	0.000
\$1,400	7,189	\$903.44	\$1,350.41	\$0.18	0.000
\$1,500	6,631	\$952.12	\$1,449.45	\$0.23	0.000
\$1,600	6,210	\$999.28	\$1,549.49	\$0.31	0.000
\$1,700	6,007	\$1,045.14	\$1,648.88	\$0.37	0.000
\$1,800	5,550	\$1,089.84	\$1,749.46	\$0.46	0.000
\$1,900	5,190	\$1,133.22	\$1,849.31	\$0.58	0.001
\$2,000	5,084	\$1,175.41	\$1,949.27	\$0.71	0.001
\$2,100	4,823	\$1,216.29	\$2,049.16	\$0.87	0.001
\$2,200	4,522	\$1,256.36	\$2,148.70	\$1.04	0.001
\$2,300	4,355	\$1,295.27	\$2,249.84	\$1.21	0.001
\$2,400	4,028	\$1,333.41	\$2,349.90	\$1.44	0.001
\$2,500	3,965	\$1,370.51	\$2,448.85	\$1.63	0.001
⋮	⋮	⋮	⋮	⋮	⋮
Unlimited	3	\$5,146.76	\$2,433,339.96	\$1,104.48	0.058

## **Appendix B**

### Glossary of Key Terms

#### *Actuarial Value*

Actuarial Value is the percentage paid by a health plan of the total allowed costs of benefits.

#### *Essential Health Benefits Package*

The Essential Health Benefits (EHB) package is the scope of covered benefits and associated limits of a health plan offered by an issuer that provides at least the ten categories of benefits described in 45 CFR 156.110(a), provides benefits in the manner described in 45 CFR 156.115, limits cost-sharing for such coverage as described in 45 CFR 156.130, and, subject to offering catastrophic plans as described in section 1302(e) of the Affordable Care Act, provides distinct levels of coverage as described in 45 CFR 156.140.

#### *Continuance Table*

A continuance table groups a standard population of enrollees by allowed charges and aggregate utilization patterns in order to create a distribution of claims. Actuarial algorithms apply a given benefit structure to this distribution of claims in the determination of actuarial value.

Continuance tables are specific to a given metal tier but weighted to the same standard population.

#### *Demographic Group*

Demographic groups are categorizations of enrollees that include their gender and age. Each enrollee can be classified into only one demographic group, such that the demographic groups are mutually exclusive and exhaustive.

#### *Federal AV Calculator*

The federal AV Calculator refers to the HHS developed AV Calculator that is available on CCIIO's website on an annual basis. This calculator incorporates a federal standard population and is used by states unless their data is approved by HHS for a state-specific AV Calculator.

### *Pre-Existing Condition Insurance Plan/High Risk Pool Augmentation (PCIP/HRP Augmentation)*

Both federal and state-specific standard populations should account for high cost enrollees who had been enrolled in either the Pre-Existing Condition Insurance Plan or a state High Risk Pool, who are expected to enter the Single Risk Pool. This is done by augmenting the continuance tables by the expected per-member per-year amount representative of the medical and drug spending of this group of enrollees.

### *Standard Population*

A standard population is a specified weighting of demographic groups that is equal to expected on- and off-Marketplace enrollment in a plan. Cost and utilization data should be weighted to this standard population to be valid inputs for continuance tables.

### *State-Specific AV Calculator*

A state-specific AV Calculator refers to an AV Calculator delivered by HHS to a state incorporating state-specific cost and utilization data weighted to a standard population. This calculator incorporates a state-specific standard population and must be used upon delivery of the final calculator to a state by HHS for the given benefit year.

### *Trend*

Trend refers to expected medical and drug expenditure increases either due to cost inflation or quantity changes for existing claims data. This is conceptually independent from expected changes in the overall demographic composition and changes due to the addition of new services.

## Appendix C

**Figure 2: Table Shell for Enrollment Database**

State Member ID	State Plan ID	HIOS Issuer ID	HIOS Product ID	HIOS Plan ID	Benefit Year Start	Period Start	Period End	Months Enrolled	Age	Gender	Member GCF

**Figure 3: Table Shell for Enrollee Level Utilization Data**

State Member ID	State Plan ID	Period Start	Period End	Total Allowed Costs	Total Plan Liability	[Service Category] Allowed Costs	[Service Category] Quantity	[Service Category] Days (if nec.)	[Service Category] Copay	[Service Category] Coinsurance	[Service Category] Deductible	[Service Category] COB	[Service Category] Plan Liability