DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
Center for Consumer Information & Insurance Oversight
200 Independence Avenue SW
Washington, DC 20201

Date: October 27, 2017

RE: Draft 2019 Actuarial Value Calculator Methodology

Introduction

Under the *Essential Health Benefits, Actuarial Value, and Accreditation final rule* (EHB Final Rule) that was published in the Federal Register at 78 FR 12834 on February 25, 2013, the Department of Health and Human Services (HHS) generally requires issuers of non-grandfathered health insurance plans offered in the individual and small group markets, both inside and outside of the Affordable Insurance Exchanges to use an Actuarial Value (AV) Calculator for the purposes of determining levels of coverage. Section 1302(d)(2)(A) of the Patient Protection Affordable Care Act (PPACA) stipulates that AV be calculated based on the provision of essential health benefits (EHB) to a standard population. The statute groups health plans into four tiers: bronze, with an AV of 60 percent; silver, with an AV of 70 percent; gold, with an AV of 80 percent; and platinum, with an AV of 90 percent.

On April 18, 2017, the Centers for Medicare & Medicaid Services (CMS) published a final rule, *Patient Protection and Affordable Care Act; Market Stabilization* (Market Stabilization Final Rule; 82 FR 18346), that amended 45 CFR 156.140(c), which establishes the de minimis variation range for the actuarial value (AV) level of coverage. The rule changes the allowable variation in the AV to -4/+2 percentage points, rather than +/-2 percentage points, as well as allows certain bronze plans to have to a de minimis AV variation of -4/+5 percentage points.[1] Specifically, in the final *Patient Protection and Affordable Care Act; Notice of Benefit and Payment Parameters for 2018* (Final 2018 Payment Notice) at 81 FR 94058 (December 22, 2016), we amended the *de minimis* range for bronze plans in certain circumstances. That is, a bronze health plan that either covers and pays for at least one major service, other than preventive services, before the deductible, or meets the requirements to be a high deductible health plan within the meaning of 26 U.S.C. 223(c)(2), may now have an allowable variation in AV for such plans of -4 percentage points and +5 percentage points.

The draft 2019 AV Calculator, Methodology, and User Guide are being released with the proposed rule entitled *Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2019* (Proposed 2019 Payment Notice). This proposed rule includes options for States to change their EHB-benchmark plans for plan years beginning in 2019. The draft 2019 AV Calculator does not modify the standard population as a result of the proposed rule for reasons described in a later section of this document.

[1] Under § 156.400, the de minimis variation for a silver plan variation means a single percentage point.

The AV Calculator represents an empirical estimate of the AV calculated in a manner that provides a close approximation to the actual average spending by a wide range of consumers in a standard population. This document is meant to detail the specific methodologies used in the AV calculation.

This document is revised from the 2018 version to incorporate updates in the draft 2019 version. The first part of this document provides background that includes an overview of the regulation that allows HHS to make updates to the AV Calculator as well as the updates that are incorporated into the draft 2019 AV Calculator. The second part of the document provides a detailed description of the development of the standard population and the AV Calculator methodology. The first section details the data and methods used in constructing the continuance tables that are used to calculate AV in combination with the user inputs. The second section describes the AV Calculator interface and the calculation of AV based on the interface and the continuance tables. The draft 2019 AV Calculator is available at: http://www.cms.gov/cciio/resources/regulations-and-guidance/index.html. We note that the draft 2019 AV Calculator does not affect any 2018 plans, and, when finalized, will only be applicable for 2019 plans.

Comments

We will accept comments on the draft 2019 AV Calculator, as well as the draft 2019 AV Calculator User Guide and the draft 2019 AV Calculator Methodology until 5 p.m. (Eastern time) on Friday, November 17, 2017. Comments must be submitted to the CMS Actuarial Value email at: actuarialvalue@cms.hhs.gov.

Part I: Background

Regulatory Background

The 2014 AV Calculator Methodology, along with the 2014 AV Calculator and the 2014 AV Calculator User Guide, was originally incorporated by reference in the EHB Final Rule and comprises part of the final rule for determining AV at 45 CFR 156.135. A revised version of the 2014 AV Calculator Methodology for 2015, along with the 2015 AV Calculator and 2015 AV Calculator User Guide, was released as part of the final *Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2015* (Final 2015 Payment Notice), published in the Federal Register at 79 FR 13744 (March 11, 2014). Under the Final 2015 Payment Notice, we also finalized provisions for updating the AV Calculator in future years at 45 CFR 156.135(g). HHS has been updating the AV Calculator, its Methodology and its User Guide annually using these provisions since finalizing these provisions at 45 CFR 156.135(g).

In the final *Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2017* (Final 2017 Payment Notice) that was published at 81 FR 12204 (March 8, 2016), we amended the provisions at 45 CFR 156.135(g) to allow for additional flexibility in our approach and options for updating of the AV Calculator in the future, to ensure our ability to keep the AV Calculator reflective of the current market. Under the new 45 CFR 156.135(g) on

updates to the AV Calculator, we state that HHS will update the AV Calculator annually for material changes that may include costs, plan designs, the standard population, developments in the function and operation of the AV Calculator and other actuarially relevant factors. In the preamble of the Final 2017 Payment Notice, we stated we will publicly release a draft version of the AV Calculator and the AV Calculator Methodology for comment before releasing the final AV Calculator. The draft 2019 AV Calculator, Methodology and User Guide were updated in accordance with 45 CFR 156.135(g).

In addition to the regulatory provisions at 45 CFR 156.135 and 156.140, additional guidance on AV is available in the May 16, 2014 FAQs. Specifically, in Question 3, we clarify that issuers must always use an actuarially justifiable process when inputting their plan designs into the AV Calculator and that the AV Calculator is intended to establish a comparison tool and was not developed for pricing purposes. A copy of the FAQ is available at: https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/Final-Master-FAQs-5-16-14.pdf.

Overview of the Draft 2019 AV Calculator Considerations and Updates

This section provides an overview of the key changes made between the revised final 2018 AV Calculator and the draft 2019 AV Calculator and our consideration of updates. The 2018 AV Calculator incorporated many key changes to the underlying data and assumptions to better reflect the current PPACA-compliant market. Specifically, these changes had not been made to the AV Calculator since its inception. We made many of these changes at once recognizing that, due to the claims data update, AVs were already going to shift, and we anticipated limiting the changes in the draft 2019 AV Calculator to provide stability in a year in which we were not intending to change the underlying assumptions in the AV Calculator.

Additionally, in the proposed 2019 Payment Notice, we propose to allow States to have more flexibility in defining their EHB-benchmark plans. While this proposal and other policies being considered may have an impact on the standard population being covered by plans that are required to comply with EHB, the exact impact of those policies is uncertain at this time. Therefore, we do not propose at this time to make an adjustment based on those policies. In future years we should have better information to consider whether further adjustments are needed to the standard population. Given these unknowns, we believe that maintaining the stability of the AV Calculator for 2019 is the best course of action. For these reasons, we limited the changes in the draft AV Calculator for 2019. We will reassess whether other adjustments are needed for the 2020 AV Calculator.

The only major change to the draft AV Calculator for 2019 is that we projected the AV Calculator claims data forward an additional year. The draft 2019 AV Calculator updates the factor applied to project the claims from 2015 to 2019. Similar to 2018, we reviewed a variety of data sources on claims costs in developing the draft 2019 AV Calculator projection factors, and took that data into consideration when selecting the projected rates for the draft 2019 AV Calculator. For the 2018 AV Calculator, we used an annual projection factor of 3.25 percent for medical costs and 11.5 percent for prescription drug costs annually to trend the 2015 claims data to 2018. For the draft 2019 AV Calculator, we added a one-year projection factor of 5.4 percent

for medical costs and 11.5 percent for drugs costs. To help ensure plan design stability for the non-grandfathered individual and small group market plans that are required to comply with AV, in selecting these projection factors, we took into consideration the need to limit dramatic changes in AV. One of the conclusions of our review was that drug costs are continuing to be expected to increase at a substantially different rate than medical costs, and therefore, we continued to use the higher projection factor for drugs. However, for the medical projection factor, we found that a higher projection factor was needed than the previous projection factor to better ensure that we are not under-projecting the AV Calculator given more recent market estimates. These projection factors were only selected for use in the draft 2019 AV Calculator (used to determine the plan's metal level) to help consumers meaningfully compare plan designs. The AV Calculator is not developed for pricing purposes.

Additionally, we updated the annual limitation on cost sharing, also known as the maximum out of pocket (MOOP) limit, in the draft 2019 AV Calculator, as we have done in previous years. Similar to prior years, this update was based on a projected estimate, to enable the AV Calculator to comply with 45 CFR 156.130(a)(2). Since we may make the AV Calculator available prior to the finalization of the annual limit on cost sharing for a given plan year, we use an estimated annual limit on cost sharing in the AV Calculator, to ensure that the AV Calculator does not contain an annual limit on cost sharing that is lower than the finalized one. For the draft 2019 AV Calculator, the MOOP limit and related functions have been set at $8,000 to account for an estimated 2019 annual limitation on cost sharing. The 2019 annual limitation on cost sharing will be specified in the 2019 Payment Notice.[2] Issuers that are required to meet AV standards must comply with the limit established in the regulation, and may not use the projected estimates stated in the draft 2019 AV Calculator when finalizing plan designs. Lastly, we updated three naming conventions in the draft 2019 AV Calculator fields. Specifically, we updated a label to reflect the draft 2019 AV Calculator, to refer to the MOOP in cell A5, and to refer to MH/SUD (Mental Health/Substance Use Disorder) in cell A19 for terminology consistency.

Similar to previous years, the draft 2019 AV Calculator remains unlocked. This allows users to view the source code for the AV Calculator algorithm. We note that the workbook structure is also unlocked so that users may make copies of output tabs. However, users should not move or copy the original "AV Calculator" tab either whole or in part, as doing so will result in calculation errors for subsequent runs. This functionality should only be used after reviewing the relevant instructions contained in the draft 2019 AV Calculator User Guide. Additionally, users should not reveal hidden rows in the "AV Calculator" tab. Doing so invalidates the AV estimates produced by the AV Calculator due to the potential introduction of calculation errors. Furthermore, auto-filling rows may also impair the function of the calculator and result in run-time errors.

While most of the changes described in this section do not impact current AVs, updating the draft AV Calculator to project the claims data forward an additional year affects all AVs. Therefore, all current AVs are impacted by the updates to the draft 2019 AV Calculator.

[2] The proposed 2019 maximum annual limitation on cost sharing is $7,900 for self-only coverage and $15,800 for other than self-only coverage.

Part II: AV Calculator's Methodology and Operation

Data Sources and Methods

This section describes the data and methods used to create the building blocks of the AV Calculator, including the development of the standard population. The inputs for AV calculation are information on utilization, cost sharing, and total costs for health services for a standard population of health plan enrollees resembling those that are likely to be covered by individual and small group market health insurance in 2019. This information is used to create a series of continuance tables that describe the distribution of claims spending for a population of health insurance users that we refer to as the standard population. The standard population is the basis for these continuance tables from a utilization perspective.

Because spending is affected by plan design through induced demand, the claims data are used to develop four sets of continuance tables, based on bronze, silver, gold and platinum plan designs. The AV Calculator estimates the AV of a plan design based on the aggregated data contained in the four sets of continuance tables representing each plan's metal tier.

The remainder of this document outlines the process for creating and using each of these components in turn. The first section describes the large national claims database that is used as the basis to develop the standard population. In addition, preliminary adjustments to that database are described in the first section. The second section explains the process for adjusting and supplementing the claims data in the national database to better estimate the individual and small group markets in 2018 to develop the standard population. Finally, the last section describes the methodology for using the claims database to develop the continuance tables.

National Database

To provide information on utilization and cost sharing for a standard population of enrollees, HHS began with claims data from the Health Intelligence Company, LLC (HIC) database for calendar year 2015. This commercial database, which is the same source used for prior years' AV Calculators, includes detailed enrollment and claims information for members of several regional insurers. It incorporates both individual and small group market data and includes many plans that are required to comply with EHB. The draft 2019 AV Calculator relies on both individual and small group claims data to reflect the plans that are required to comply with AV requirements. As described below, several adjustments were made to these data to more closely represent the expected population of individual and small group market enrollees.

Since descriptions of the plan benefit design characteristics were not included in the database, cost-sharing variables, including copayments, coinsurance, and deductibles from the claims data were used to infer the member and plan shares of the total spending that is reflected in the database, as described below. The data contain spending, demographic, and enrollment information at the member level, including age, sex, and family structure, presence of a pre-existing condition, enrollment length, spending, and number of claims. Enrollees are grouped into Product Client Contracts (PCCs) defined by plan type (for example, PPO, HMO, indemnity, etc.) and benefit design for a given contract or plan group. The 2019 AV Calculator treats each

PCC as a separate health plan, since each PCC represents a uniform benefit structure under a contract or plan group. However, in practice, a regional health plan may operate multiple PCCs. All cost data in the database are projected forward to 2019.

Spending and claims information is provided in the database both for total services and for each of the following medical and drug service categories:

- Emergency Room Services
- All Inpatient Hospital Services (including Mental Health and Substance Use Disorder Services)
- Primary Care Visit to Treat an Injury or Illness (excluding Preventive Well Baby, Preventive, and X-rays[3])
- Specialist Visit
- Mental/Behavioral Health and Substance Use Disorder Outpatient Services
- Imaging (CT/PET Scans, MRIs)
- Speech Therapy
- Occupational and Physical Therapy
- Preventive Care/Screening/Immunization
- Laboratory Outpatient and Professional Services
- X-rays and Diagnostic Imaging
- Skilled Nursing Facility (SNF)
- Outpatient Facility Fee (e.g. Ambulatory Surgery Center)
- Outpatient Surgery Physician/Surgical Services[4]
- Drug Categories
    - Generics
    - Preferred Brand Drugs
    - Non-Preferred Brand Drugs
    - Specialty Drugs (High Cost)

With the exception of preventive care, the claims database defines which services fall into each category. In addition, the database provides a breakdown of whether a service and associated cost is considered part of Outpatient Surgery Physician/Surgical Services or Outpatient Facility Fees for the following five service categories: Mental Health and Substance Use Disorder, Advanced Imaging, Speech Therapy, and Occupational and Physical Therapy, Diagnostic Laboratory, and Unclassified (medical). For this reason, Mental Health and Substance Use

[3] Depending on the plan design, the AV Calculator may apply the same or separate cost sharing to primary care visits and X-rays associated with primary care visits. The AV Calculator may also apply the same or separate cost sharing to specialist visits and X-rays associated with specialist visits. See the section below on calculating AV for further information.

[4] Currently, the level of aggregation within the national claims database does not allow for the explicit distinction of surgical services from other outpatient professional claims. While provisional outpatient surgery claims are the main component by cost and utilization of the Outpatient Surgery Physician/Surgical Services category, the category currently includes other outpatient professional claims not otherwise classified.

Disorder, Advanced Imaging, Speech Therapy, Occupational and Physical Therapy, and Diagnostic Laboratory will be referred to throughout this text as the five benefits with both facility and professional components. In the development of the continuance tables based on the standard population, we relied on this aspect of the database to account for separate copayments and cost-sharing payments applying to the professional and facility components of services.

Preventive care is defined, and claims are categorized, using the CPT code list from the US Preventive Services Task Force. The services defined as preventive care correspond to the preventive services covered without cost sharing under section 2713 of the Public Health Service Act.

To prepare the data for use in the continuance tables, several enrollment restrictions are applied to ensure that the data accurately represent utilization experience for enrollees. The full data include 48,142,791 enrollees and 822,996 individual or small group plans. In the absence of plan benefit design information directly from the plans that submitted data to this commercial database, the cost-sharing parameters that apply to individuals are inferred from the spending data to aid in the construction of the continuance tables. To ensure that the imputation procedure can be applied effectively, plans with utilization data that are likely incomplete are excluded. To be included, plans must be a PPO, POS, HMO or EPO to reflect frequent types of plans that are available in the AV-compliant markets, have at least one member with over $5,000 in spending similar to the requirement for the 2014 AV Calculator's standard population, have at least one member with drug coverage, and have at least one member with full 2015 enrollment to ensure data quality. Additionally, small group plans must have 100 or few employees. Individual plans must have at least 50 members and, if the plan has over 1,000 members, they must have at least one member with a maternity claim. To prepare the data for use in the continuance tables, additional restrictions are made to exclude implausible plan designs. Plans with imputed coinsurance rates that fall outside the range of 0-100 percent are dropped as are plans without an imputed deductible. After these plan level restrictions, the database consists of 10,508,800 enrollees (4,435,905 individual/6,072,895 small group) and 191,080 plans.

Because the database does not include plan level PPACA-compliant information, individual plans must also meet another set of requirements designed to identify plans that are PPACA-compliant, as opposed to grandfathered or transitional plans. For these purposes, a plan is identified as PPACA-compliant if the plan has 2.5 percent single new subscribers in 2015, if at least 20 percent of its returning members were either from plans that allowed new enrollment in 2014 or from the group market, or if the plan's primary state is a state which did not allow transitional plans in 2015.[5] These requirements shrink the individual market population in the dataset to 3,910,235 enrollees in 2,185 plans. Because most employer plans offered prior to the obligation to cover EHB substantial coverage of EHB, these requirements apply only to individual plans and not to the small group market.[6]

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[5] Because the data does not directly include plan level information, the concept of a primary state is used to link a plan to a state. By linking plans to states, we can incorporate state level policies to help identify PPACA-compliant plans. A plan has a primary state if in either 2014 or 2015 90 percent of plan members came from one state. In the unlikely event a plan has different 2015 and 2014 primary states, the 2015 primary state dominates.

[6] https://kaiserfamilyfoundation.files.wordpress.com/2013/04/8085.pdf.

Finally, the database is subject to enrollee level restrictions. Enrollees must have an age between zero and sixty-four inclusive and a specified sex. Enrollees with less than 4 months of enrollment in 2015 were also excluded. [7] The resulting database, consisting of 8,140,951 enrollees and 189,486 plans, is used to construct the continuance tables, subject to the additional adjustments identified in the next two sections of this document.

For plans that meet all the requirements detailed above, the plan deductible is imputed as the 90th percentile of positive deductibles that are at least $250 lower than the amount of total spending for all enrollees within a PCC, and plan MOOP is imputed as the 90th percentile of beneficiary spending above $1,000 over all enrollees within a PCC. The coinsurance rate is estimated by examining the coinsurance variable on claims for plan members with spending between the deductible and the MOOP. Spending data are also used to impute copayments for several services including in-patient (IP) services, emergency room (ER) services, primary care office visits, specialist office visits, and four tiers of prescription drugs: generics, preferred brand drugs, non-preferred brand drugs, and specialty high-cost drugs.

The claims costs incorporated into the continuance tables in the draft 2019 AV Calculator are projected forward from 2015 to 2018 at an annual rate of 3.25 percent for medical expenses and 11.5 percent for drug expenses and from 2018 to 2019 at an annual rate of 5.4 percent for medical costs and 11.5 percent for drugs costs.

Standard Population Development and Adjustment from Primary Claims Data

The claims data, excluding the populations and plans noted above, provided the raw material for developing a standard population based on the expected enrollment in individual and small group market plans in 2018. We intend to use this same standard population again, without adjustment for 2019. While the use of post-PPACA 2015 individual and small group market data removed the need to augment the data to the degree required in earlier versions of the AV Calculator, utilization and spending in the data required some adjustment to represent utilization and spending in the population expected to participate in the individual and small group markets in 2018.[8] In addition, the data from 2015 represent only the second year of qualified health plan (QHP) implementation, and additional market shifts may occur as the market evolves. The data are therefore weighted to match the expected 2018 age, sex, market-type, plan-type, and risk-score distribution and adjusted for length of enrollment and selection effects.

Demographic Distribution: Expected market participation for each sex/age group was estimated as a blend of both a predicted individual demographic distribution, and the observed 2015 small group distribution.[9] The individual demographic distribution was predicted by a model

[7] We note that the treatment of newborns in the claims data is not different from the treatment of any other age group and the standard population data is reweighted to fit the expected age distribution.

[8] AV Calculators prior to the 2018 AV Calculator included augmentation for individuals previously enrolled in high risk pools (HRPs) and Pre-existing Condition Insurance Plans (PCIP). As those individuals are now represented in individual market-enrollment, the draft 2019 AV Calculator, like the 2018 AV Calculator, does not include similar adjustments.

[9] The demographic distribution is based on the following age groups: 0 to 6 year olds, 7 to 18 year olds, 19 to 25 year olds, 26 to 40 year olds, 41 to 54 year olds, and 55 to 64 year olds.

developed by HHS. The model estimates market enrollment in a manner that incorporates the effects of policy choices and accounts for the behavior of individuals and employers. The model was developed with reference to existing models such as those of the Congressional Budget Office and the Office of the Actuary, to characterize medical expenditures and enrollment choices across the Marketplaces. The small group demographic distribution was predicted by the observed 2015 small group market distribution from the national claims dataset. Use of this distribution assumes that the demographic distribution of small group plans will remain relatively constant. We did not update the demographic distribution in the draft 2019 AV Calculator and retained the demographic distributions from the 2018 AV Calculator.

Transitional Plan Population: When we built the 2018 AV Calculator, transitional plans were expected to no longer be allowed in 2018 and some of the population enrolled in transitional plans in 2015 were expected to move into the PPACA-compliant market. This population was likely to have different risk characteristics from the existing PPACA-compliant risk pool. To account for the updated risk pool, claims from the population in imputed PPACA-compliant plans were reweighted by risk quartile to match the observed risk pool of the combined PPACA-compliant and transitional individual markets from the national database. We did not make changes to this adjustment in the draft 2019 AV Calculator.

Length of Enrollment: To represent the full population of enrollees, including those with less than one full year of enrollment, we annualized claims for enrollees with less than full year enrollment based on age, gender and risk quartile. To annualize the claims, for each age, gender and risk quartile group, we calculated a claim annualization factor for each length of enrollment. This factor is equal to the average total spending of full year enrollees divided by the average total spending of full year enrollees at that length of enrollment. For example, the spending of a 25 year-old female enrollee in the second risk quartile with four months of enrollment is multiplied by a factor calculated using the spending of full-year 25 year-old female enrollees in the second risk quartile, where the factor is equal to the average total spending in the full year divided by average total spending during the first four months of enrollment. The four month cutoff was chosen after analysis of risk score characteristics and consultation with other data sources indicated that enrollees with four to eleven months of enrollment had comparable characteristics to those with full year enrollment. Enrollees with less than four months of enrollment had substantially lower risk scores, indicating the data do not contain enough information to adequately annualize their spending. The average number of months of enrollment in the claims data was more than 9 months.

Selection Effects in Bronze Plans: While the AV Calculator is designed to reflect the standard population within each metal tier, the bronze metal level population in 2015 displayed evidence of selection due to new features of the underlying individual market data. The observed distortion in the tail of the bronze 2015 spending distributions is not expected to persist through 2019 as factors such as pent-up demand decrease over time. To mitigate the impacts of this bronze plan selection basis, the draft 2019 AV Calculator imputes the percentage of zero spenders and the upper end of the bronze spending distribution using the silver spending distribution.[10]

[10] Previous versions of the AV Calculators also had an adjustment to the bronze plan spending range, and this adjustment is replacing those adjustments.

Increased use of HMOs: As evidence suggests that HMO and EPO plans represent a substantial proportion of the available Marketplace plans, the draft 2019 AV Calculator relies on claims data from HMO and EPO plan types as well as PPO and POS plans.[11] To ensure appropriate weighting to anticipate the 2019 market, for the continuance tables, HMO and EPO claims, including both individual and small group claims, are weighted with PPO and POS claims.

Consideration of Additional Updates Not Made in the AV Calculator

When we rebuilt the standard population for the AV Calculator for 2018 (that we intend to use for 2019), we considered a variety of other updates for both claims data and for the operation and function of the AV Calculator. For example, for the claims data, we considered the impact of specific service categories such as habilitative services, pediatric dental and vision, wellness incentives, urgent care, and preferred generic drugs. For habilitative services, the previous versions of the AV Calculator continuance tables did not incorporate any additional adjustments for these services, and we reconsidered how to address habilitative services with the updated claims data. We found that the 2015 claims data indicate an increased utilization of speech, occupational and physical therapies relative to earlier years, consistent with these services being included in the 2015 data.[12] We also determined in reviewing the 2015 claims data that there is insufficient evidence to support continuation of the pediatric dental and vision augmentations, which were incorporated in the original 2014 AV Calculator. While it is uncertain whether utilization in the future will be consistent with utilization in 2015, there is insufficient evidence to support additional adjustments for these services at this time.

Additionally, we considered whether to add an input to the AV Calculator to allow users to input benefit-specific cost sharing with respect to urgent care. Utilization of these services in the current data is relatively minimal, so we decided not to add an input, but we will continue to monitor the standardization and growth of urgent care services. We may reconsider the addition of adjustments for functionality related to these services in future years. We also considered expanding the number of drug tiers available, such as adding a potential preferred generic drugs category, but due to both data limitations and lack of standardization in the market with regard to an additional drug tier type, we are not expanding the number of drug tiers at this time. The definitions of the drug tiers used in the AV Calculator are discussed in the AV Calculator User Guide. We remind AV Calculator users that issuers must always use an actuarially justifiable process when inputting their plan designs into the AV Calculator.[13]

We further considered changes to allow the *Begin Primary Care Cost-Sharing After a Set Number of Visits* and *Begin Primary Care Deductible/Coinsurance After a Set Number of Copays* options to apply to *Mental/Behavioral Health and Substance Use Disorder Outpatient Services*. This change could help plans test out innovative plan designs for benefits that are impacted by MH/SUD parity requirements. The purpose of the AV Calculator is to determine

[11] http://www.bcbs.com/healthofamerica/HoA-Jan_Consumer_Exchange-Report.pdf.
[12] Because these services are the same services expected for rehabilitative services, we changed the naming of these inputs into the AV Calculator to remove the references to rehabilitative.
[13] For additional information, refer to the May 16, 2014 FAQs that are available at: https://www.cms.gov/CCIIO/Resources/Fact-Sheets-and-FAQs/Downloads/Final-Master-FAQs-5-16-14.pdf

the metal tier level of the plan and it was not intended as a tool to demonstrate parity. Due to the complexity of this change and the potential to cause significant confusion for plans, the draft 2019 AV Calculator does not incorporate any changes to these options at this time.

We also considered but are not introducing any changes with regard to separate AV calculations for family plans. The clarification provided in the *Patient Protection and Affordable Care Act; HHS Notice of Benefit and Payment Parameters for 2016* final rule (Final 2016 Payment Notice) that was published at 80 FR 10750, at page 10824, (February 27, 2015) on application of cost-sharing limitations for individuals who are enrolled in non-self-only plans sufficiently removes the distinction in usage to the point that we do not think there is a current need for separate family plan AV calculations.

Constructing Continuance Tables

Continuance tables summarize the claims experience and utilization of the standard population and are therefore the key input to calculating AV. Specifically, a continuance table describes the distribution of claims spending for a population of health insurance users in plans with a particular benefit structure. The set of continuance tables underlying the AV Calculator reflects the standard population developed by the Secretary to implement section 1302(d) of the Affordable Care Act. The continuance tables themselves, as a representation of the standard population and not the standard population itself, are a component of the rules for determining AV under the EHB Final Rule and are available at: http://www.cms.gov/cciio/resources/regulations-and-guidance/index.html. Those continuance tables were updated in accordance with 45 CFR 156.135(g) to reflect a new standard population and the plan designs and costs projected in the 2018 market and were not adjusted for 2019 outside of projecting the claims data forward an additional year.

The continuance tables rank enrollees by allowed total charges (after any provider discounts but before any member cost sharing) and group them by ranges of spending. 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 each service type listed above, 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.

To construct the continuance tables from the underlying utilization data, enrollees are separated into groups based on common plan enrollment, sex, and age bracket, and each group is assigned to a metal level based on the estimated AV of the plan. Separate continuance tables are created based on the utilization of enrollees in the same metal tier, sex, and age bracket.

Because continuance tables are constructed for plan designs with similar AVs, the tables must account for changes in utilization induced by plan design. To account for this induced demand, each continuance table reflects utilization of individuals from the claims database in plans with AVs from the respective metal tier. That is, each plan in the database is assigned an AV based on the service utilization and plan payments for enrollee groups in that plan, and enrollees are grouped by these values into the metal tiers. The continuance tables for each metal tier are based

on utilization data from enrollees in the claims database with estimated AVs within +/- 5 percentage points of the target AV for each metal tier, with the exception of the bronze continuance table, which is based on all plans with estimated AVs below 65 percent.

To estimate AV for each plan, the realized AV of the imputed benefit characteristics is calculated for groups of enrollees by age, sex, and spending bracket; the spending brackets are $0 to $250, $250 to $500, $500 to $1,500, $1,500 to $5,000, $5,000 to $15,000, $15,000 to $25,000, and $25,000 and over. 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.

The utilization data are then used to create continuance tables for each sex/age group and each metal tier. The continuance tables for each metal level are based on utilization of enrollees in plans with the respective metal level AV. To produce a single continuance table for each metal tier, each of the separate continuance tables representing age/sex groups for a given metal tier are assembled into a single metal-level-specific continuance table, with each sex/age-group cell weighted by expected individual market participation in the corresponding metal tier for enrollees with those characteristics as discussed above.

Separate continuance tables for medical services and prescription drugs underlie the AV Calculator to accommodate the input of benefit structures with separate deductibles for these types of spending. To estimate costs for a plan with a separate drug benefit, the continuance table must include only non-drug claims to determine AV for the medical portion of the plan. To produce a single AV for this type of plan, the plan-covered spending on drugs and medical services are added together and divided by total spending.

The AV Calculator Interface

This section describes the AV Calculator interface and how inputs into the AV Calculator are used to determine AV. The inputs for the AV Calculator were based on the 10 broad categories of EHB and determined through a combination of consultation with actuarial experts and testing the magnitude of the effect of parameters on the calculated AV as well as comments received. The AV Calculator is designed to produce a summarized AV that is displayed to the nearest hundredth of a percentage point based on the continuance tables described above and the cost-sharing inputs described below.

Plan Benefit Features Allowed as Inputs

Plan design structures are characterized by cost-sharing features that determine the division of expenses between the plan and the insured. The ratio of the share of total allowed costs paid by the plan relative to the total allowed costs of covered services is the AV of the plan. No summary calculator could capture every single potential plan variation, nor are they necessary for an accurate calculation of AV. However, empirically, the vast majority of the variation between the AVs of health plans is captured by a finite number of variables, and the AV Calculator focuses on accurately determining plan AVs based on this set of key plan characteristics. Therefore, the AV Calculator includes only these key characteristics that have a

significant effect on AV.

The user inputs a combination of metal tier and cost-sharing features, and the AV Calculator uses these inputs and the continuance tables to produce an AV for the health plan. The metal tier input allows the AV Calculator to account for induced demand by using the set of continuance tables for that specified metal tier. This is necessary to take into account the differences in utilization that are based on generosity of the health plan (i.e., induced utilization).

Deductibles, general rates for coinsurance, and MOOPs generally have a significant effect on utilization and the share of plan-covered expenses. The AV Calculator allows the user to specify either an integrated deductible that applies to both medical and drug expenses or separate deductibles for each type of spending.[14] Similarly, if a plan design has separate medical and drug MOOP spending limits, the user may specify either an integrated MOOP or separate MOOPs for medical and drug spending. The user may also specify different coinsurance rates for medical and drug spending.

The AV Calculator allows the user to specify coinsurance rates and copayments for the medical services listed on page 6 of this document, along with the deductible, general coinsurance, and MOOP. In addition, the AV Calculator allows the user to specify whether services are subject to deductible or subject to coinsurance, and whether any copayments apply only after the deductible is met.

The AV Calculator does not allow the user to subject recommended preventive care to a copayment or deductible because the Affordable Care Act directs that these services be covered by the plan at 100 percent.[15]

The AV Calculator also allows users to specify other plan details. For inpatient and skilled nursing facility services, the default option is that copayments and coinsurance costs apply per stay, but these may be applied at the per day level by choosing the corresponding options. If inpatient copayment costs are applied per day, the user may specify that these copayments only apply for a set number of days chosen by the user, ranging from the first one to ten days in the hospital. Due to data limitations, the option to limit the number of days to which the copayment applies imposes a limit to the number of days a copayment applies per year and not per stay. For example, if the user limits the copayment per day to one day, an enrollee with two hospital stays within a year would pay the copayment only once. Users may also specify that cost sharing for primary care visits only applies after a set number of visits chosen by the user, ranging from one

[14] Given how the AV Calculator tallies spending relative to the deductible, similar plans with separate or combined deductibles imply different cost-sharing schemes. For example, a plan with a $1000 medical deductible, a $0 drug deductible, and a $10 copayment for generic drugs will have slightly different cost sharing than a plan with a $1000 combined deductible and a $10 copayment for generic drugs. In the case of a separate drug deductibles, the $10 drug copayment will not be credited toward the medical deductible. In the case of the combined deductibles, depending on the exact plan design, the $10 drug copayment could move medical spending into the coinsurance range more quickly.

[15] For the purposes of the AV Calculator, preventive care means the services required to be covered without cost sharing under Section 2713 of the Public Health Service Act and its implementing regulations. *See* 45 CFR 147.130.

to ten visits. Alternatively, users may specify that the deductible or coinsurance does not apply to primary care services until after a set number of visits, ranging from one to ten visits; during this initial set of visits, the enrollee pays a per-visit primary care copayment. Users may specify cost sharing for four tiers of prescription drugs: generics,[16] preferred brand drugs, non-preferred brand drugs, and specialty high-cost drugs. Additionally, the user may specify that for specialty tier drugs, the enrollee pays the lesser of either the specialty drug coinsurance or a set dollar limit chosen by the user. The AV Calculator also incorporates health savings accounts (HSAs) and health reimbursement arrangements (HRAs) that are integrated with group health plans if the amounts may only be used for cost sharing; to use this option the user must include an annual amount contributed by the employer or in the case of HRAs, the amount first made available (sometimes referred to in this document as "HRA contributions").

The AV Calculator produces estimates of AV based only on in-network utilization and allows the user to specify only in-network cost-sharing parameters. This is consistent with § 156.135(b)(4).

The draft 2019 AV Calculator can accommodate plans utilizing a multi-tiered network with up to two tiers. Users may input separate cost-sharing parameters—such as deductibles, coinsurance rates, MOOPs, and schedules for service-specific copayments and coinsurance—and specify the share of utilization that occurs within each tier. The resulting AV is a utilization-weighted blend of the AV for the two tiers.

Calculating AV

AV is the anticipated covered medical spending for EHB coverage (as defined in § 156.110(a)) paid by a health plan for a standard population, computed in accordance with the plan's cost sharing, and divided by the total anticipated allowed charges for EHB coverage provided to a standard population. It is reflected as a percentage and can be thought of as the share of the total expenditures for EHB that can be expected to be covered by the plan. The denominator of this calculation is the average allowed cost of all services for the standard population in the year for a specified metal tier; the numerator is the share of average allowed cost covered by the plan, using the cost-sharing parameters specified.

The remainder of this section describes the nine steps in the calculation of AV for the various plan structures that may be specified by the user:

- Step 1: Set the metal tier (by identifying the continuance tables on which the calculation will be based)
- Step 2: Calculate average expenses over all enrollees (by identifying the denominator of the AV calculation, the average cost over all enrollees for a plan of the specified metal level)

[16] From a technical perspective, it is important to note that the generic drug category in the claims database includes maintenance drugs. To address the fact that not all maintenance drugs are generics and that some of those drugs are high cost, we have revised the definition of the generic drug category to only include maintenance drugs that cost less than $50 per prescription. The remaining maintenance drug claims are split between preferred brand and non-preferred brand drugs.

- Step 3: Calculate expenses covered by employer contributions to HSAs and HRAs, if applicable
- Step 4: Calculate plan-covered expenses for spending before the deductible is met
- Step 5: Determine applicable enrollee spending level for MOOP
- Step 6: Calculate plan-covered expenses for spending between the deductible and the MOOP (in the coinsurance range)
- Step 7: Calculate plan-covered expenses for spending above the MOOP
- Step 8: Apply tiered network, if applicable (to calculate AV in Tier 2)
- Step 9: Calculate AV and corresponding metal tier (to assign AV and metal tier)

Before proceeding with the above calculation, the AV Calculator checks that the user has specified the necessary deductibles, coinsurance, and MOOPs consistent with the choice of integrated or separate deductibles and MOOPs for medical and drug expenses. The AV Calculator also checks that the deductible is less than or equal to the MOOP and that the MOOP (or sum of the MOOPs, for plans with separate medical and drug MOOPs) is less than $8,000.[17] Each year's AV Calculator uses an estimated MOOP limit and the actual MOOP will be finalized in the final annual HHS notice of benefit and payment parameters. Plan designs must not exceed the annual MOOP limit that is established in regulation, regardless of the estimated limit included in the AV Calculator. For plans with separate medical and drug components, the AV Calculator calculates the equivalent combined deductible. If the equivalent combined deductible is greater than the combined MOOP, the AV Calculator sets the equivalent combined deductible equal to the MOOP. This updated equivalent combined deductible is then used as the deductible for the remaining calculations. The AV Calculator flags results obtained using this method. Additionally, if the effective coinsurance (i.e., the coinsurance after adjusting the level of plan-covered spending to account for copayments) based on user inputs is 100 percent, the MOOP and deductible are set equal to each other for AV calculations.

If the user's chosen inputs for deductible and MOOP are not exactly equal to the spending thresholds used in constructing the continuance table, the values are pro-rated using linear interpolation. For instance, if a user enters a $150 deductible, then the AV Calculator estimates the amount of spending below the deductible by interpolating between the average cost per enrollee that occurs below the $100 threshold on the continuance table and the average cost per enrollee that occurs below the $200 threshold on the continuance table. In this case, if the average cost per enrollee at the $100 threshold was $85 and the average cost per enrollee at the $200 threshold was $185, the interpolated average cost per enrollee would be $135 (halfway between $85 and $185).

<u>Step 1: Set Metal Tier</u>

[17] The proposed 2019 maximum annual limitation on cost sharing at $7,900 for self-only coverage and $15,800 for other than self-only coverage.

The user enters the desired metal tier for the calculation, and the AV Calculator selects the corresponding continuance tables for use in all remaining steps of the calculation.

Step 2: Calculate Average Expenses Over All Enrollees

The denominator of the AV calculation is the average cost over all enrollees for a plan of the specified metal level, found in the final row of the corresponding continuance table in the column for average cost.

Step 3: Calculate Expenses Covered by Employer Contributions to HSA and HRA, if Applicable

Section 156.135(c) provides that, for plans other than those in the individual market that at the time of purchase are offered in conjunction with an HSA or with integrated HRAs that may be used only for cost sharing, annual employer contributions to HSAs or amounts newly made available under such HRAs for the current year are counted towards the total anticipated medical spending of the standard population that is paid by the health plan. When the HSA or HRA Employer Contribution box is checked and the entered annual contribution amount is positive, because the value of a contribution to this type of HSA or HRA can affect expected utilization, the AV Calculator treats the actuarial average spending of the employer contributions as covered "first-dollar" spending for covered EHB services, as if the annual contribution amount is applied at the very beginning of an enrollee's spending in a benefit year.

Specifically, the AV Calculator uses the continuance table for combined expenses to identify the average cost per enrollee at the annual HSA or HRA contribution amount. If the annual contribution amount falls between two spending thresholds in the continuance table, this amount is pro-rated as described in the previous section. The pro-rated amount is plan-covered expenses and is included in the numerator. Next, the AV Calculator identifies any plan-covered benefits obtained in the deductible stage and subtracts them from the numerator, to avoid double-counting when these benefits are included in the numerator during the regular benefit calculation steps described in Step 4: Calculate Plan-Covered Expenses for Spending Before the Deductible is Met below. At the conclusion of these steps, plan-covered expenses in the numerator include average costs at the annual HSA or HRA contribution amount less any plan-covered expenses in the deductible stage below the HSA or HRA contribution amount.

Step 4: Calculate Plan-Covered Expenses for Spending Before the Deductible is Met

The AV Calculator next computes any plan-covered expenses for spending before the deductible is met for each benefit type and includes these expenses in the numerator. The computation process identifies the relevant deductible for each benefit type, which depends on whether the plan includes separate medical and drug deductibles or a combined deductible. For plans with a combined ("integrated") deductible, the relevant deductible is always the combined deductible. For plans with separate medical and drug deductibles the relevant deductible is the medical deductible for medical services and the drug deductible for drug services.

The following terms are used throughout the subsequent discussion of calculating plan-covered expenses during the deductible range:

- The adjusted deductible is the deductible divided by the percentage of spending below the deductible that satisfies the deductible. For example, this excludes spending on copays that are also subject to the deductible. This calculation is iterative to ensure that the adjusted deductible remains consistent with the percentage of spending below the deductible that satisfies the deductible.[18]
- The average cost of a benefit during the deductible range (hereafter in this section simply average cost of a benefit) is the average cost of that benefit listed in the row of the continuance table corresponding to spending at the relevant adjusted deductible (which may be pro-rated, if necessary).
- The per-service cost of a benefit is the average cost of a benefit as described above divided by the benefit type frequency.
- Special cost sharing is defined as any cost sharing for a service type other than subjecting that service to the deductible and the general coinsurance rate without including a special coinsurance rate or copay.

The process for calculating plan-covered expenses and enrollee-covered expenses below the deductible for a given benefit type depends on whether the benefit type is subject to the deductible or to a copayment as follows:

- If the benefit type is subject to neither the deductible nor a copayment, the plan covers all spending on that benefit type below the relevant deductible. The AV Calculator identifies the average cost of that benefit, all of which is included in plan-covered expenses. There is no enrollee-covered expense associated with this benefit type.[19]
- If the benefit type is subject to copayment but not the deductible, the plan covers all spending on that benefit type below the deductible, less enrollee copayments. The AV Calculator subtracts the copayment for the benefit type from the per-service cost to produce plan-covered expenses per service for this benefit type. The AV Calculator multiplies this result by the benefit type frequency to produce total plan-covered expenses for the benefit type. To track enrollee out-of-pocket costs, the copayment is multiplied by the benefit-type frequency to determine enrollee spending.
- If the benefit type is subject to the deductible and not subject to a copayment, or subject to the copayments applying only after deductible, the plan covers no spending on that benefit type below the relevant deductible. The average cost of the benefit is applied to the enrollee-covered expenses. If the benefit is subject to copayments applying only after the deductible, then copayments are not considered until after the deductible range. The AV Calculator will return an error if the benefit applies the copayment only after deductible and the deductible is not checked for the benefit.

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[18] The iterative calculation of the adjusted deductible was added in the 2018 AV Calculator. Please note that any attempts to reproduce AV without the iterative calculation may differ from the AV calculated by the AV Calculator.

[19] Before the deductible is met, services may not be subject to a coinsurance rate. Therefore, if a plan has benefits with only coinsurance and no deductible or copay, the AV Calculator assumes that there is no enrollee-covered expense associated with this benefit type before the deductible is met. To help AV Calculator users understand the AV Calculator's operation in these cases, the AV Calculator's Additional Notes field will indicate if a service has no enrollee cost sharing in the deductible range.

- If the benefit type is subject to the deductible and the user has entered a copayment rate applying during the deductible, the plan covers no spending on that benefit type below the relevant deductible. The difference between the per-service cost of a benefit and the copayment amount multiplied by the frequency of the service applies towards enrollee-covered expenses for the deductible. The cost of the copays applies only to the point at which the enrollee reaches the MOOP, but not the point at which the enrollee reaches the deductible. Compared to plans with no copayment during the deductible, this increases the total amount of per member spending required before the deductible is met.[20]

Some claims are composed of multiple components, each with separate inputs for cost sharing in the AV Calculator. The assignment of special cost sharing to claims with multiple components is as follows:

- If the benefit type is one of the five benefit types with both facility and professional components, then the cost sharing depends on the combination of cost sharing entered both for that service type, and for the outpatient facility and professional service types. If special cost sharing is entered for the service type and for one or both of outpatient facility and professional services, or if special cost sharing is entered for only the service type, the cost sharing associated with the service type is used. If special cost sharing is not entered for the service type and is entered for one or both of outpatient facility and professional services, the cost sharing associated with outpatient services is used. For example, if Speech Therapy is not subject to the deductible, is subject to coinsurance, and is subject to a $40 copay, and Outpatient Facility claims are subject to the deductible, and subject to a specific 60 percent coinsurance rate, the Outpatient Facility component of a Speech Therapy claim will be subject to the $40 copay. The AV Calculator's Additional Notes field will indicate if the service-level cost sharing overrides the outpatient cost-sharing input in a particular AV calculation.
- If the benefit type is a primary care or specialist visit, then the cost sharing that applies to any X-ray service provided as part of the visit depends on the cost sharing entered for primary care and/or specialist visits and X-rays. If special cost sharing is entered for one or both of primary care and specialist visits and for X-rays, or if special cost sharing is entered for only X-rays, the cost sharing associated with X-rays is used. If special cost sharing is not entered for X-rays and is entered for one or both of primary care and specialist visits, the cost sharing associated with primary care and/or specialist visits is used. For example, if Primary Care office visits are not subject to the deductible and are subject to a $20 copay, but X-rays are subject to the deductible and general coinsurance, a Primary Care office visit that includes an X-ray will be split into two services: a Primary Care office visit and an X-ray and the primary care cost sharing will apply to both. The AV Calculator's

[20] At this time, subjecting drugs to a copayment in the deductible range and a special coinsurance rate in the coinsurance range is not supported by the AV Calculator. Plans may apply both a copayment and the general coinsurance rate to prescription drugs by entering a copayment and selecting the Subject to Coinsurance option.

Additional Notes field will indicate if the office visit cost sharing overrides the X-ray cost-sharing input in a particular AV calculation.

The AV Calculator also supports three specific variations on the general deductible process described above:

- If the user limits IP copayments to a set number of days, the AV Calculator compares the IP frequency at the adjusted deductible amount to the set number of days. If the IP frequency is less than or equal to the set number of days, the calculation proceeds normally. However, if the IP frequency is greater than the set number of days, the AV calculator multiplies the set number of days by the copayment and subtracts the resulting total copayment spending from the average cost of the benefit to compute plan-covered spending.
- If the user selects the option restricting primary care cost sharing to care after a set number of visits, the AV Calculator first determines whether or not the primary care frequency at the adjusted deductible amount exceeds the set number of visits. If the frequency is less than or equal to the set number of visits, the copayment does not apply and the plan-covered spending equals the full value of average cost for that service. However, if the frequency is greater than the set number of visits, the AV Calculator subtracts the set number of visits from the frequency and multiplies the result by the copayment to obtain total enrollee copayment spending. The AV Calculator then subtracts total enrollee copayment spending from the average cost for that service to compute total plan-covered spending.
- If the user specifies that the primary care deductible and/or coinsurance applies only after a set number of visits with copayments, the AV Calculator compares the set number of copayment visits to the frequency of visits when total average spending is equal to the deductible. If the frequency of visits is less than or equal to the set number of copayment visits, then the AV Calculator treats this service as if it was subject to a copayment but not the deductible. However, if the frequency of visits exceeds the set number of copayment visits, the AV Calculator computes total plan-covered spending at the deductible by multiplying the per-service cost by the set number of copayment visits and subtracting from the result the set number of copayment visits multiplied by the copayment amount.

At the conclusion of these steps, plan-covered expenses in the numerator include all plan-covered expenses for spending up to the amount corresponding to the adjusted deductible. The AV Calculator also tracks the average cost per enrollee at the amount of the deductible, which is used in later steps. For plans with an integrated deductible, this is the average cost per enrollee at a level of spending equal to the deductible, listed in the corresponding row of the combined continuance table. For plans with separate deductibles, this is the sum of the average cost per enrollee at spending equal to the medical deductible, listed in the corresponding row of the medical continuance table, and the average cost per enrollee at spending equal to the drug deductible, listed in the corresponding row of the drug continuance table. For plans with

separate medical and drug deductibles, the AV Calculator uses the drug-claim continuance table to track the average cost per enrollee corresponding to the plan drug deductible (which may be pro-rated); this value is also used in later steps.

Step 5: Determine Applicable Enrollee Spending Level for MOOP

To identify the spending level at which an enrollee will reach the MOOP, the AV Calculator considers both enrollee expenses during the deductible phase and enrollee expenses during the coinsurance phase. To account for enrollee spending below the deductible, the AV Calculator determines a modified MOOP. If a benefit has a copayment, the AV Calculator multiplies this copayment by the average frequency at the adjusted deductible for the benefit type. The calculator then sums the enrollee copayment expenses across all benefits. The resulting value, which represents the amount of copayment an enrollee pays for that benefit type at the deductible, is subtracted from the MOOP to obtain the amount that an enrollee would have to pay in the coinsurance range for the remaining service types before reaching the MOOP limit. The resulting "modified MOOP" represents the amount that an enrollee would have to pay in the coinsurance range for all remaining service types before reaching the MOOP limit. If the plan has separate MOOPs for medical and drug spending, the AV Calculator carries out the above steps separately for medical and drug benefit types and their corresponding MOOPs, producing a modified MOOP for medical spending and a modified MOOP for drug spending.

Next, the AV Calculator computes the spending level at which the modified MOOP will apply. For this calculation, the AV Calculator utilizes an iterative process that involves both the effective and realized coinsurance rate. In the AV Calculator, all coinsurance rates are expressed as the percentage of spending the plan pays. The effective coinsurance rate is the percentage of costs borne by the plan for services subject to coinsurance, accounting for copayments. The initial effective coinsurance rate is calculated using the overall average mix of spending on service types. In contrast, the realized coinsurance rate is the coinsurance rate the enrollee receives during the coinsurance range, which accounts for different mixes of spending on service types at different levels of total spending.[21]

To find the point at which the MOOP is reached during the first iteration of this calculation, the AV Calculator first subtracts the deductible from the modified MOOP and divides the resulting value by one minus the effective coinsurance rate. For future iterations, the calculator uses the realized coinsurance rate from the previous iteration as the effective coinsurance rate. The AV Calculator then adds the deductible to this value to calculate the total amount of spending at which out-of-pocket costs paid by the enrollee reach the modified MOOP. For plans with separate MOOPs, the AV Calculator performs this process separately for medical and drug benefits and their corresponding deductibles, modified MOOPs, and continuance tables to obtain separate average cost estimates for medical and drug spending at the relevant modified MOOP.

[21] The coinsurance for the five benefits with facility and professional components as well as X-rays associated with primary care visits is determined by a similar method to the one applied for costs under the deductible. For the five benefits with facility and professional components, their cost sharing is overridden by the outpatient facility and professional cost sharing if and only if the services does not have special cost sharing entered and the corresponding outpatient component does have special cost sharing applied. For X-rays associated with primary care and specialist visits, the primary care visit cost sharing applies if and only if the primary care is subject to special cost sharing, while X-rays are not subject to special cost sharing.

The steps above describe the basic way of determining when a MOOP is reached. As detailed below, the AV Calculator may use one of several variations on this process. First, the AV Calculator may use a variation on the method to compute the modified MOOP. For example, if the user specifies that primary care services are subject to copayments for a set number of visits before the deductible and/or coinsurance applies, the AV Calculator subtracts from the MOOP the lesser of either: 1) the frequency of primary care visits at the deductible multiplied by the copayment amount; or 2) the set number of copayment visits multiplied by the copayment amount.

Step 6: Calculate Plan-Covered Expenses for Spending Between the Deductible and the MOOP

To calculate expenses covered by the plan in the coinsurance range (that is, the plan's spending for services when spending is between the amount corresponding to the adjusted deductible and the amount corresponding to the modified MOOP), the AV Calculator examines each of the medical and drug benefits listed in the AV Calculator to determine plan-covered spending during the coinsurance range. The computation for each benefit type depends on the coinsurance and copayment requirements applying to that type. The narrower the range between the deductible and the MOOP, as in the case with some bronze plans, the smaller the role this computation plays in the overall AV of the plan.

The AV Calculator computes plan-covered expenses for all benefits as follows:

- For each benefit type that is subject to coinsurance, the AV Calculator identifies the applicable coinsurance rate, either a service-specific rate or the general rate, for that benefit. The AV Calculator then subtracts the average cost of that benefit corresponding to spending at the deductible from the average cost of that benefit corresponding to spending at the modified MOOP to obtain the average costs for that benefit that are attributed to spending in the range between the deductible and the modified MOOP. Multiplying this average cost by the benefit's coinsurance rate produces plan-covered expenses for this benefit in the range, which are included in the numerator.[22]
- For each benefit type that is not subject to the deductible or coinsurance, but is subject to copayment, the AV Calculator divides average cost at the deductible for that benefit by the frequency for that benefit type to estimate the per-service cost at the deductible. The AV Calculator then subtracts the

[22] If specialty high-cost drugs are subject to coinsurance at a coinsurance rate different from the overall plan coinsurance rate and if the user selects the option to limit the amount of beneficiary cost sharing on specialty high-cost drugs, the AV Calculator compares this specialty drug spending limit to the beneficiary cost-sharing amount under the specialty drug coinsurance rate. To compute this latter value, the AV Calculator multiplies the average cost for the benefit in the range between the deductible and the MOOP by one minus the specialty-drug coinsurance rate. If the beneficiary cost-sharing amount is less than or equal to the specialty-drug spending limit, the calculation proceeds as described above. However, if the beneficiary cost-sharing amount exceeds the specialty-drug spending limit, the AV calculator computes plan-covered spending in the range between the deductible and the modified MOOP by subtracting the specialty-drug spending limit from the average cost of the specialty drug benefit in this range.

benefit copayment from the per-service cost and multiplies the result by the benefit frequency to produce plan-covered spending for the benefit corresponding to spending at the deductible. Next, the AV Calculator follows a similar process to calculate plan-covered spending for the benefit corresponding to spending at the modified MOOP. Finally, the AV Calculator subtracts plan-covered spending at the deductible from plan-covered spending at the modified MOOP and adds the resulting value to the total plan-covered spending. The AV Calculator may use one of several variations on this process to compute plan-covered spending, depending on whether the user selects options that affect how the AV Calculator applies copayments or general cost-sharing requirements. In this instance, the AV Calculator computes plan-covered spending at the deductible level based on the average spending and frequency for each benefit type at the deductible level, and it follows an analogous process to compute plan-covered spending at the modified MOOP level.

The AV Calculator supports two specific variations on the calculation of expenses between the deductible and MOOP:

- For specialty high-cost drugs, if they are subject to the plan coinsurance rate and if the user selects the option to limit the amount of beneficiary cost sharing on those drugs, the AV Calculator follows a process analogous to that described above to determine whether the beneficiary cost-sharing amount for spending between the deductible and the modified MOOP exceeds the specialty-drug spending limit. If the beneficiary cost-sharing amount is less than or equal to the specialty-drug spending limit, the AV Calculator treats the benefit as subject to plan coinsurance and incorporates it into the numerator using the process described below. However, if the beneficiary cost-sharing amount exceeds the specialty-drug spending limit, the AV Calculator computes plan-covered spending by subtracting the spending limit from the average cost for that benefit between the deductible and the modified MOOP.
- For primary care, if the benefit is subject to plan or benefit-specific coinsurance and if the user selects the option to begin cost sharing after a set number of visits, the AV Calculator compares the set number of visits to the frequency for primary care at the modified MOOP. If the set number of visits is less than or equal to the frequency at the modified MOOP, then plan-covered spending equals the difference between the average cost of services at the modified MOOP and the average cost of services at the deductible. However, if the set number of visits is greater than the frequency at the modified MOOP, the AV Calculator computes the beneficiary cost-sharing amount by subtracting the set number of visits from the frequency and multiplying the result by the coinsurance rate. The AV Calculator then computes plan-covered spending by subtracting the beneficiary cost-sharing amount from the difference between the average cost of services at the

modified MOOP and the average cost of services at the deductible.[23]

For the five benefits with facility and professional components and X-rays associated with primary care or specialist visits, the AV Calculator determines the applicable cost sharing for expenses between the deductible and the MOOP in the same way it determines the applicable cost sharing for the deductible. For the five benefits, if that benefit has special cost sharing it applies to claims with both components.

At the completion of these steps, the numerator includes plan-covered expenses in the range of spending between the MOOP and deductible for all services. The AV Calculator calculates the realized coinsurance rate here and compares it to the effective coinsurance rate used in step 5. If they are equal, the calculator moves on to step 7. If they are not equal, the calculator repeats steps 5 and 6, this time with the recently calculated realized coinsurance rate as the effective coinsurance rate in step 5.

Step 7: Calculate Plan-Covered Expenses for Spending Above the MOOP

The plan covers all expenses for spending on covered benefits above the MOOP. To calculate the amount of this spending, the AV Calculator computes the difference between average cost over all enrollees and average cost at the modified MOOP, and includes the full amount in the numerator. If the plan has separate MOOPs for medical and drug spending, the AV Calculator computes the difference between the average cost for medical benefits over all enrollees and the average cost for medical benefits at the modified medical MOOP and performs a corresponding calculation for drug benefits; the full amount for both benefit types is included in the numerator. At the conclusion of this step, the numerator includes plan-covered expenses over the full range of spending.

Step 8: Apply Tiered Network, if Applicable

If the plan is a blended network plan, the AV Calculator first performs all steps above using the deductible, coinsurance rate, MOOP and benefit-specific deductible, coinsurance, and copayment requirements entered for Tier 1, and then multiplies the numerator calculated in step 7 by the portion of total claims costs specified by the user as anticipated to be used in Tier 1. The result becomes the preliminary numerator. The AV Calculator then repeats steps 3 through 7, utilizing the information about the deductible, coinsurance rate, MOOP and benefit-specific deductible, coinsurance, and copayment requirements contained in the Tier 2 columns of the AV Calculator to calculate a secondary numerator. This secondary numerator is then multiplied by the portion of total claims cost specified by the user to reflect utilization of the Tier 2 network. Once this process is complete, the AV Calculator adds the preliminary and secondary numerators to produce the new final numerator.

[23] The AV calculator follows a similar process if primary care services are subject to coinsurance and the user specifies that cost sharing only applies after a set number of visits with copayments. If the set number of copayment visits is less than or equal to the frequency for primary care at the modified MOOP, the AV Calculator computes plan-covered spending in this range using the process described above but subtracting the copayment amount multiplied by the frequency for primary care at the modified MOOP. Similarly, if the set number of copayment visits exceeds the frequency at the modified MOOP, the AV Calculator computes plan-covered spending in this range as described above by subtracting the copayment amount multiplied by the copayment visit limit.

Step 9: Calculate AV and Corresponding Metal Tier

In the final step, the AV Calculator computes the final AV amount, classifies the plan by metal tier, and determines whether the metal tier matches the desired metal tier input by the user.

To compute the AV, the AV Calculator divides the numerator by the denominator. If the AV is outside of the ranges corresponding to each metal tier, the AV Calculator outputs the AV and the message "Error: Result is outside of [-4,+2] percent *de minimis* variation."

The AV Calculator compares the observed metal tier to the user's desired metal tier. If the desired metal tier matches the observed metal tier, the AV Calculator outputs the AV, metal tier, and the message, "Calculation Successful." If the plan does not match the desired metal tier, the AV Calculator provides the user the option to reset the "Desired Metal Tier" parameter to the observed metal tier and rerun the AV calculation. If the user declines, the AV Calculator outputs the AV, the metal tier, and the message, "Calculation resolved without matching metal tiers."

Additionally, users may select the option to determine whether the plan design satisfies the Affordable Care Act CSR plan variation requirements or the expanded bronze plan AV *de minimis* range in accordance with 45 CFR 156.140(c). CSR requirements are available to eligible enrollees with household incomes below 250 percent of the Federal Poverty Level (FPL) under section 1402(a) through (c) of the Affordable Care Act. Under the regulations implementing section 1402, issuers of qualified health plans must provide plan variations to eligible lower-income enrollees, who have enrolled in silver qualified health plans in the individual market through the Exchange.[24] These plan variations must have reduced cost sharing and meet specified AV levels depending on the enrollee's household income. To use the AV Calculator to verify the AV of a plan variation, users should select the indicator that the plan meets the CSR standard, and select the intended type of CSR plan. The below table provides information on which metal tier should be chosen to align with the expected utilization for each plan variation. Please note that the metal tier continuance tables indicated below should be used regardless of any error message prompting the use of a different continuance table.

Household Income	**Silver Plan Variation AV**	**Desired Metal Tier**
100-150% of FPL	Plan Variation 94%	Platinum
150-200% of FPL	Plan Variation 87%	Gold
200-250% of FPL	Plan Variation 73%	Silver

After the other information has been entered, and the AV is calculated, the AV Calculator will produce an additional output message, which describes whether the plan satisfies the AV requirements for enrollees at a particular percentage of FPL.

Similarly, in accordance with 45 CFR 156.140(c), the draft 2019 AV Calculator allows the user to calculate AV for bronze plans that meet certain requirements, and therefore would be allowed to utilize an expanded bronze plan *de minimis* range. The requirements for using the expanded

[24] 45 CFR 156.420.

bronze plan *de minimis* range require that the bronze plan either covers and pays for at least one major service, other than preventive services, before the deductible or meets the requirements to be a high deductible health plan within the meaning of 26 U.S.C. 223(c)(2). For the bronze plans that meet either of these requirements, the allowable variation in AV for such plans is -4 percentage points and +5 percentage points.[25] The draft 2019 AV Calculator does not check the plans for compliance with the requirements to use the expanded bronze plan *de minimis* range. To run an expanded bronze plan in the AV Calculator, the user should check the box entitled *Indicate if Plan Meets CSR or Expanded Bronze AV Standard* and then select the radio button entitled *Expanded Bronze (56%-65%).* This process will automatically update the *Desired Metal Level* to Bronze. If an expanded bronze plan is incorrectly run without *Bronze* selected as the *Desired Metal Level*, the user will receive the following output messages "Calculation resolved without matching metal tiers" or "Error: Result is outside of de minimis variation for Expanded Bronze" to indicate that the AV calculation is not successful. An expanded bronze plan AV calculation is successful in the AV Calculator when the user receives the output message "Expanded Bronze Standard (56% to 65%), Calculation Successful". It is the responsibility of the bronze plan issuer to ensure that its bronze plan meets the requirements under this policy at 45 CFR 156.140(c) if the issuer uses that expanded bronze plan *de minimis range* in the AV Calculator.

[25] For information on the expanded bronze plan policy at 45 CFR 156.140(c), please refer to the Final 2018 Payment Notice and the Market Stabilization Final Rule.