# Incorporating Health Insurance in Poverty Measurement: Implementing a Health Inclusive Poverty Measure in the United States

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#### **Abstract**

As medical expenses become a larger part of a family's budget, researchers and policymakers are becoming more interested in examining the impact of health insurance and health policy on economic well-being. In this paper, the feasibility of incorporating a value of health insurance in the Supplemental Poverty Measure (SPM) at the Census Bureau is examined. Multiple methods are discussed, including the existing approach which does not place an explicit value on health insurance, a market value approach, and the net value approach put forward in the Health Inclusive Poverty Measure (HIPM). Due to production and data demands, the net value approach in HIPM is the most feasible option in the near term to add to the existing SPM. The paper discusses how the method could be implemented at the Census Bureau with particular focus on the data, survey, and policy challenges that would affect the viability of a measure going forward. The paper concludes by outlining a research agenda to improve the valuation of health insurance needs and benefits moving forward.

<sup>&</sup>lt;sup>1</sup> This paper was prepared for the Committee on National Statistics Evaluation and Improvements to the Supplemental Poverty Measure Panel. It is released to inform interested parties of ongoing research and to encourage discussion of work in progress. I am appreciative of comments received on a preliminary draft from members of the panel as well as code and feedback from Rosemary Hyson, Sanders Korenman and Dahlia Remler. The views expressed on methodological or operational issues are those of the authors and are not necessarily those of the U.S. Census Bureau. Any errors are solely those of the author. Contact: John Creamer (john.creamer@census.gov), U.S. Census Bureau, Social, Economic, and Housing Statistics Division, 4600 Silver Hill Road, Washington, DC 20233. For more information on confidentiality protection, methodology, sampling and nonsampling error, and definitions, see <www2.census.gov/programs-surveys/cps/techdocs/cpsmar21.pdf>.

## Introduction

Since the introduction of the Great Society programs in the 1960s, researchers and policymakers have worked to evaluate the success of these programs in reducing poverty in the United States. Much focus has been placed specifically on the impact of Medicare and Medicaid, as increases in these programs spending reflects the growing expense of healthcare in the United States. For example, in 2019, national medical expenditures totaled \$3.8 trillion dollars, more than 4 times the value of \$785.6 billion (in 2019 dollars) in 1980 (Centers for Medicare and Medicaid Services 2020).

In 1995, a panel convened by the National Academy of Sciences recommended the deduction of out-of-pocket medical expenses from a sharing unit's resources to account for these increased expenses (Citro and Michael 1995). This recommendation was implemented in 2009 with the introduction of the Supplemental Poverty Measure (SPM). Currently, the SPM deducts estimated out-of-pocket expenditures on health insurance premiums, co-pays, prescription drugs, and other over-the-counter spending from total family resources. In the current measure, the implicit impact of health insurance is captured by the relationship between changes in premium and non-premium out-of-pocket expenses. As a result, the SPM is unable to measure the explicit impact of health insurance coverage on SPM poverty rates, preventing measurement of the direct impact on poverty of programs such as Medicare and Medicaid.

With these considerations in mind, the Census Bureau has recently evaluated different methods of incorporating a value of health insurance in poverty measures. From the perspective of a feasible implementation, this paper discusses a pure market value approach and the approach introduced by the Health Inclusive Poverty Measure (Korenman and Remler 2016). As will be shown, the Health Inclusive Poverty Method (HIPM) approach is the most feasible option to implement at the Census Bureau, as the additional data and computational demands are compatible with the current production schedule of the annual demographic reports. Methodologically speaking, the HIPM approach includes a value of health insurance in the threshold, a key difference to the existing market value literature. As a result, health benefits cannot be greater than health needs, and therefore cannot be used towards other food, clothing, and shelter needs.

There are a few implementation challenges which must be considered when implementing HIPM in production at the Census Bureau. First, creating a historical series which parallels the current SPM series starting in 2009 will need to account for survey changes over time and external policy changes. Changes to the Current Population Survey Annual Social and Economic Supplement (CPS ASEC) in recent years have added new information about health insurance status and expenditures, meaning that information will be available in some years and not others. Furthermore, HIPM requires the guaranteed issue and community rating provisions of the Affordable Care Act (ACA). Altogether, producing a HIPM time series is currently possible from 2014 onwards, while prior years will need more work for implementation.

Second, there are several survey-related challenges with the CPS ASEC which could impact the accuracy of estimates that need to be addressed. Most important of these are understanding how expenditures vary for partial and whole-unit imputes, the validity of new variables (such as whether the individual has a marketplace subsidy) added to the survey with the updated questions and processing system implemented in 2018, and accounting for subannual health insurance coverage.

The paper continues with a discussion of the SPM treatment of medical expenses and valuing health insurance, followed by more detailed specifics of implementation of HIPM at the Census Bureau. The paper concludes with a discussion of next steps.

## Background

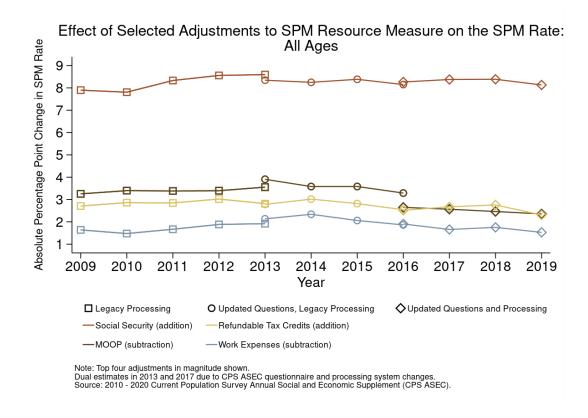
## **Current SPM Treatment of Medical Expenditures**

Since 2010, the CPS ASEC has asked respondents about their out-of-pocket spending on medical care on three specific components: premiums for comprehensive and supplemental health coverage (but not Medicare premiums); expenditures on copays, prescriptions, and other medical care; expenditures for other over-the-counter spending such as vitamins, allergy medicine, and other health products in those categories. Medicare Part B premiums are not explicitly obtained from the CPS ASEC and are estimated for those aged 65 and older using survey responses on Social Security payments and through simulations based upon tax filing status (Fox 2020).

The SPM methodology deducts the uncapped sum of these values from total resources. The rationale behind the deduction is that these expenditures are necessary expenditures that cannot be used for other consumption, so they should not count as a resource. Compared to other adjustments, the medical expenses (MOOP) deduction is one of the larger adjustments to the SPM. As seen in Figure 1, the deduction increased annual SPM rates by two to four percentage points since 2009, behind only the addition of Social Security income which reduces SPM poverty by approximately 8 percentage points over the same period (Fox 2020).

<sup>&</sup>lt;sup>2</sup> The 2011 CPS ASEC (reference year 2010) was the first edition that included MOOP data on the public-use file. The 2010 CPS ASEC (reference year 2009) contained MOOP data on the internal file.

Figure 1



The SPM methodology currently captures the implicit impact of health insurance in cases where non-premium out-of-pocket expenses are reduced more than increases in premiums. Additionally, evaluation of the poverty-reduction effects of the provision of health insurance through Medicare and Medicaid cannot be completed with the SPM since it is not possible to explicitly determine the full material benefit one obtains from their health insurance coverage. Therefore, a different approach needs to be taken to explicitly incorporate these important benefits.

### Methods of Valuing Health Insurance Benefits

As Citro and Michael (1995) note, two primary challenges with valuing health insurance surround the fungibility of health insurance and variable needs across the population. Here, fungibility is best described as the fact that health benefits do not free up resources for a sharing unit in the same way that benefits from the Supplemental Nutrition Assistance Program (SNAP) do. For example, an individual can go throughout the year not needing care, so any benefits received from health insurance coverage may not free up resources for consumption in the same way that SNAP benefits do. The challenge with variable needs is that health needs are dependent on a variety of different risk factors, such as age, health status, and pre-existing medical conditions which require specialist care. Accurate values of health benefits would then need to be based on each individual situation, a difficult task without knowing the individual risk rated health insurance premium. The task would be even more difficult for individuals with pre-existing conditions who were not able to purchase health insurance before the implementation of the Affordable Care Act (ACA) due to high costs or insurers refusing to provide coverage.

Many approaches to valuing health insurance benefits for the estimation of deeper income measures and policy evaluation have been considered in the United States. Previous research on the topic at the Census Bureau (US Census Bureau 1985) and recent research for the post-ACA landscape (Korenman, Remler 2016) lead us into two directions to incorporate health insurance in poverty measurement going forward: a pure market value approach and the net value approach of HIPM.

#### Market Value Approach

Much of the existing work at the Census Bureau on valuing health insurance has centered around using generated market values of health insurance (Smeeding 1982) before the implementation of the ACA. Here, the value of health insurance on the market for public and private insurance is estimated and added to existing income to create an expanded income measure with no additional adjustments to the existing poverty thresholds. A consequence of this choice in poverty measurement is that some individuals, especially the elderly, are classified as not in poverty solely because they have high health benefits.

Currently, the Congressional Budget Office (CBO 2012) and Burkhauser et al. (2015, 2021) set the value of public insurance at the average government contribution for different risk classes, age, and location. Prior to 2015, this public insurance market value was available on CPS ASEC, as the average government contribution per enrollee was estimated using state-level Medicare and Medicaid expenditure data across risk classes provided by the Centers for Medicare and Medicaid Services (CMS).<sup>3</sup> Due to data security concerns, CMS restricted access to this data in 2015, limiting the Census Bureau's ability to generate market values for public insurance going forward.

For employer sponsored insurance, values are typically set as the employer contribution to health insurance premiums. Prior to 2018, the CPS ASEC included an imputed value of the employer contribution to health insurance premiums. Using data from the 1977 National Medical Care Expenditure Survey (NMCES) matched to the 1980 CPS ASEC, values for employer contributions were imputed for non-federal workers based on several different labor market and demographic characteristics and extended annually. The healthcare landscape has changed in many ways since this matching occurred, threatening the accuracy of the imputations. Using different methods, Janicki, O'Hara, and Zawacki (2013) and Larrimore and Splinter (2019) studied the validity of the measure in comparison to more timely data sources or administrative data, finding that the imputed values on the CPS ASEC were lower than what was found with newer data. As a result of these concerns, information on employer contributions was removed from the CPS ASEC with the introduction of the CPS ASEC Updated Processing System in 2019.

The Census Bureau (Janicki, O'Hara, and Zawacki 2013; Berchick and O'Hara 2017) has also explored using data from the annual Medical Expenditure Panel Survey Insurance Component (MEPS-IC) to improve the measurement of employer health benefits. While the results are promising in improving estimates, the MEPS-IC data is released in October, after the release of the annual income, poverty, and health insurance reports, and has its own data use limitations. The combination of inflexible release dates and technical

<sup>&</sup>lt;sup>3</sup> The Census Bureau has provided an explanation of how market values were created using the CMS data and how to extend to later years. The production of market values was a difficult procedure which relied on adjustments to the beneficiary totals to reflect the CPS ASEC sample of the civilian, non-institutionalized population as well as removing the medically needy. See < <a href="https://www.census.gov/programs-surveys/cps/technical-documentation/user-notes/fungible-values.html">https://www.census.gov/programs-surveys/cps/technical-documentation/user-notes/fungible-values.html</a> for more information.

<sup>&</sup>lt;sup>4</sup> MEPS-IC sample includes public and private employers. The data is restricted-use data, limiting its ability to be used in production of estimates at the Census Bureau.

challenges mean that using the MEPS-IC as a source of imputations for employer contributions to health insurance for production purposes is unlikely in the foreseeable future.

## HIPM Approach

Two key provisions in the ACA, guaranteed issue and community rating, changed the health insurance landscape in the United States as everyone in the United States became eligible to purchase health insurance at a set price based on different community risk factors by rating area. HIPM uses these features to incorporate a value of health insurance in poverty measurement (Korenman and Remler 2016; Korenman, Remler and Hyson 2019a). As a result of guaranteed issue, any individual in the United States can purchase insurance on the private market. For employer sponsored plans and Medicaid, HIPM sets the health need at the value of the second lowest cost silver plan on the health insurance marketplace. The health need for those with Medicare is set at the average government contribution plus the second lowest cost Medicare Advantage Part D (MA-PD) Plan in a specific geographic area. Individuals without health insurance (including those with "coverage" only from the Indian Health Service) or who do not receive health insurance marketplace subsidies receive no health insurance benefits. Those estimated to receive ACA subsidies receive the value of their tax credit as the benefit. A consequence of this approach is that the impact of health insurance on poverty rates can be estimated for the population and across different health insurance types (Remler, Korenman and Hyson 2017; Korenman, Remler and Hyson 2019b).

Individuals with health insurance receive a benefit from their health insurance to meet their specific health insurance needs. In HIPM, a net health insurance benefit is estimated by calculating the difference between the health need determined by the type of insurance an individual has and survey reported premiums. The survey reported premiums are capped at the value of the health need, meaning that survey reported premiums greater than estimated health needs are not deducted from resources. Then, non-premium MOOP (copays, deductibles, prescriptions excluding over-the-counter spending) is deducted from this net benefit, with the value of the non-premium MOOP being capped at the highest level allowed by specific plan. Net health insurance benefits are then aggregated at the SPM unit level and added to SPM resources (pre-medical expense deduction) while the full value of health insurance for a given type is added to thresholds to create estimates of HIPM poverty rates.<sup>5</sup>

Linking resources and needs in this way satisfies the benefit-needs offset principle and means that poverty status will not change if health needs change for the insured. In addition, linking resources and needs prevents health benefits from being used towards other food, clothing, and shelter needs in the thresholds, meaning that individuals with high medical benefits, such as the elderly with Medicare, cannot be classified as not in poverty solely because of their health benefits. Notably, compared to the current SPM methodology, some individuals pushed into poverty by high premium and/or non-premium MOOP, might no longer be categorized as in poverty due to caps on MOOP.

### Feasibility Comparison

The primary feasibility concerns for valuing health insurance in poverty measurement are data requirements and the annual production schedule which requires that the Income and Poverty, SPM, and Health Insurance reports be produced in September each year. Currently, the data required to set values of

<sup>&</sup>lt;sup>5</sup> More details about how values and caps are set for different health insurance situations and simplifications can be found in Table A1 which reproduces a table from Korenman, Remler and Hyson (2019a).

Medicare and Medicaid for the market value approach is not available. Additionally, the timeliness of potential sources of data for employer contribution imputations is not compatible with the production timeline.

These feasibility concerns are less prevalent for HIPM in the current policy environment. Since costs of the second lowest cost silver plan must be set before the open enrollment period, information on the monthly plans of premiums in the marketplace are available in time for annual production. The same is true for the average contribution the government makes towards care through Medicare. Reductions in current data availability would necessitate more resources to prepare the external data and threaten timely and accurate implementation. Lastly, creating a consistent valuation of health insurance between the pre- and post-ACA implementation periods will be a difficult endeavor. More consideration of how to value health insurance without guaranteed issue will be needed if having a historical series that extends pre-2014 is a priority.

As a result of these considerations, implementing HIPM at the Census Bureau is the most feasible option given the current data and production schedule constraints.

## **HIPM Implementation**

## **Data Needs and Procedures**

#### **External Data**

To meet the current deadlines for the report schedules, estimates and public use files would need to be ready in the first part of August to make it through the requisite review and preparation procedures. Therefore, to implement a HIPM at the Census Bureau, any external data sources must be available by early summer to be used in the reports. Fortunately for implementation, the CPS ASEC reference period is for the previous calendar year and plan information for the reference year is available in some capacity before a given reference year. For example, the MA-PD data for 2020 from CMS was available in October 2019.

Data on the second lowest cost silver plan, the benchmark plan of HIPM for those with private insurance or Medicaid, is collected and maintained at HIX Compare, a free service provided by the Robert Wood Johnson Foundation. Data is currently available (with some gaps) from 2014 to 2021 and has historically become available alongside the beginning of the open enrolment period in November. This data includes rating area information as well as the out-of-pocket maximums for a given plan. The Census Bureau could follow the simplification in Hyson, Korenman, Remler (2021) which sets caps for Medicaid premium and non-premium expenditures to 5% of family income instead of gathering the state specific information. The CMS Medicare Advantage Landscape Files provide the monthly premiums for county-wide and individual level MA-PD plans and are available from 2014 onwards. The average government contribution to Medicare is reported in the annual Medicare Trustees Report.

A risk to implementation is if these data sources were to stop being produced like the state-level Medicare and Medicaid data used to create market-values in the past. Fortunately, it is possible to get premium and

<sup>&</sup>lt;sup>6</sup> Premium data from states who manage their own health insurance marketplaces are missing from the 2014 data. Additional data can be found through www.data.healthcare.gov

cost-sharing information on the second lowest cost silver plan from either Healthcare.gov or the staterun healthcare exchanges. This would be a time intensive procedure, and additional resources would be needed to collect the data, and likely automate the process for accuracy. A secondary method for the Medicare plans is less clear.

#### Internal Data

Since HIPM is an extension of the SPM it uses the same CPS ASEC data that is used for the annual demographic reports. The CPS ASEC data is linked to the external plan data sources at the rating area-county level if possible, followed by Core Based Statistical Area, and then by state, with the second lowest cost silver plans being chosen at each level.

To help data users replicate the estimates within any data products, variables would need to be added to the CPS ASEC data files. First, information on health insurance units would need to be included to help users understand the more detailed relationships that underlie the estimates. Second, a variable (or code to generate this variable) would need to be added to determine a "primary" insurance type to set health needs and benefits. Together, these two pieces of information would allow data users to accurately create the health benefits and needs that are added to SPM resources and thresholds.

Table A1 shows each of the health insurance types, and the associated needs and benefits. Groups with a single type of insurance are assigned the corresponding health insurance type. If multiple insurance types are reported, then health insurance is assigned based on a hierarchy created in Korenman, Remler, and Hyson (2019a) where public coverage is given precedence ahead of employer sponsored insurance, direct purchase, and military and veteran's coverage. Within the hierarchy, survey reported values are prioritized, followed by logically imputed values, hot-deck imputed values, and whole-unit imputes. For example, someone who reports having employer sponsored insurance but is allocated Medicaid coverage would be classified as having employer sponsored insurance. Future work will examine the impacts of changing the hierarchy or reducing the number of primary health insurance types to simplify the method and be more comparable to the main reported categories in the annual health insurance report.

Overall, it is expected that adding HIPM estimates to any annual data releases would follow a similar timeline to the current SPM production. Once the core CPS ASEC data is cleared (usually by early July), the external data could be linked, and estimates could be generated in time for the September production deadline.

### Implementation Challenges

#### **Historical Series**

There are two predominate challenges with producing a parallel historical HIPM series to the SPM series. First, is the introduction of new CPS ASEC survey questions and a new processing system in 2019, for reference years 2017 onwards. The new questionnaire was tailored to capture the healthcare

<sup>&</sup>lt;sup>7</sup> Currently, this information is not included in the final CPS ASEC internal and public use files. However, the information can be merged onto the final internal file from an intermediate data output. This should be able to be added to the file without disclosure concerns.

<sup>&</sup>lt;sup>8</sup> This process refers to the CPS ASEC Updated Processing System. Only Medicare and Medicaid have logical imputations under the CPS ASEC Legacy Processing System. As a result, logical allocations are treated as reported values, meaning the imputation hierarchy is reported information followed by allocated information.

environment post-ACA and includes questions on whether private coverage was purchased on the marketplace, if it was subsidized, and more detailed information on subannual coverage. Special consideration will need to be taken to balance using new information in more recent years compared to the years where it will not be available.

Second, producing HIPM estimates between 2009 and 2014 will be difficult since the health insurance market lacked the guaranteed issue and community rating provisions that enable a valid HIPM. Remler and Korenman (2020) discuss some of the validity concerns of extending HIPM into the pre-ACA environment, suggesting that any classification errors will be limited to the uninsured or with direct purchase insurance. Potential avenues of valuation include using health expenditure deflators or imputations from other data sources among others. Importantly, research into this problem will help make the measure robust to any future policy changes that may remove guaranteed issue and community rating. However, it is likely that implementing HIPM would result in a break in series for the SPM in 2014.

### **Survey Challenges**

There are a few survey challenges that would need to be considered if the Census Bureau were to implement HIPM. First, decisions would need to be made on technical aspects like how health insurance units are defined and whether public-use or the detailed internal file geographies will be used.

Health insurance units divide households and families into groups where health insurance is most likely to be shared. The previous literature (Korenman and Remler 2016; Korenman, Remler and Hyson 2019a) uses two pieces of information to define health insurance units. First, individuals in a household are grouped together to approximate a tax unit following the State Health Access Data Center (SHADAC 2012, 2020) methodology. This unit is used to approximate out-of-pocket caps for public insurance and eligibility for subsidies on the health insurance marketplace. Individuals within these units are then grouped together if they are covered by the same health insurance plan.

The Census Bureau incorporated health insurance units into data processing beginning with the CPS ASEC Updated Processing System. These units, which are similarly defined to the SHADAC units are used to jointly impute missing data in these more detailed groups, improving on the previous imputation method which was at the household level. Small differences exist between the SHADAC health insurance units and Census Bureau health insurance units, mainly in the way Census Bureau health insurance units combine same sex married couples and other sharing units more broadly compared to the SHADAC health insurance units. <sup>10</sup> As a result, using the Census Bureau's health insurance units instead of the SHADAC units in will likely lead to small changes in poverty rates for SPM units who are on the margin in terms of receiving a subsidy based on their income or if they live in a unit where someone has access to employer sponsored insurance. Further evaluation of the differences across units is necessary to measure the impact of choosing one health insurance unit compared to another.

With regards to geographies, preliminary research suggested that there were small differences in estimates when using the public use geographies compared to the internal file geographies. A potential

<sup>&</sup>lt;sup>9</sup> This data is available from IPUMS from 2009 onwards, with a gap for the 2018 CPS ASEC Bridge File and 2021 CPS ASEC (currently).

<sup>&</sup>lt;sup>10</sup> In 2020, SHADAC updated their formulation of health insurance units to allow same sex married couples and other familial relationships to fall under the same health insurance unit to better reflect the health insurance landscape more accurately (SHADAC 2020).

solution to this challenge is to follow the path of the SPM and use public use geographies to link plan data to the CPS ASEC geographies. <sup>11</sup> While this reduces the granularity of estimates (fewer linked counties), it preserves estimates across internal and public use files and reduces the burden (and chance of error) of maintaining two separate procedures for creating estimates.

Second, the impact of the imputations on the different CPS ASEC specific components of HIPM would need to be considered, particularly the data on premium and non-premium out-of-pocket expenditures, and subannual information. Jackson and Keisler-Starkey (2020) found that the Updated Processing System reduced the percentage of families with medical expenditures exceeding 10% of income. There is less information however on how the specific expenditure components change across processing systems and across allocation types, highlighting the need for additional research on imputations in the future.

Lastly, the internal CPS ASEC files after the implementation of the updated processing system include more detailed subannual information beyond what was available with the Legacy Processing System.<sup>12</sup> The prospect of using this information in HIPM is exciting, as it would provide additional insights on the impacts of changing health insurance coverage throughout the year on HIPM estimates. However, due to disclosure and validity concerns, public use files have only indicated whether coverage is full-year or part-year, with no information on how many months someone was covered. Forthcoming research from the Census Bureau will examine the validity of these measures, and offer solutions moving forward.

## Discussion

In sum, the HIPM approach is the most feasible way to incorporate a value of health insurance in poverty measurement in the short term at the Census Bureau. From a data perspective, the necessary data on the benchmark ACA and Medicare plans to set health needs and benefits are ready and able to be linked to the CPS ASEC in time to produce the annual reports every September. From a theoretical perspective, the benefit-needs offset principle which links health benefits to health needs is attractive, as it prevents someone with large health benefits from potentially being incorrectly classified as not in poverty if they have no other resources.

Currently, the Census Bureau is replicating available HIPM estimates in 2014, 2015, and 2017 and plans to produce a working paper with estimates. This work is creating programs to merge the internal and external files together to consistently produce HIPM estimates going forward. Additional research will be conducted to make a consistent time series in the post-ACA environment from 2014 that bridges differences between the CPS ASEC Legacy and Updated Processing Systems.

Research from the Census Bureau aims to explore some of the survey specific challenges that threaten HIPM, taking a deeper look at the subannual estimates (Mykyta and Berchick 2021) and specific medical out-of-pocket deductions in the CPS ASEC. The results of these studies will help guide potential changes to the HIPM methodology which fit the production needs of the Census Bureau. Future research is also planned to examine the accuracy of the marketplace subsidy variable as well as improving the understanding of Medicaid underreporting in the CPS ASEC.

<sup>&</sup>lt;sup>11</sup> Going forward, potential changes to disclosure avoidance rules at the Census Bureau may further restrict the availability of counties on the public-use file.

<sup>&</sup>lt;sup>12</sup> The CPS ASEC Legacy Processing System provided subannual information only for those with Medicaid.

Longer term goals of the project include extending the historical series to at least the start of the SPM historical series in 2009 and determining if values of employer contributions can be included again on the CPS ASEC. In terms of the historical series, the primary challenge is valuing health insurance that is consistent with the principles of HIPM in the pre-ACA environment. In terms of employer contributions, focus will be placed on using more recent data sources to impute information onto the CPS ASEC and using administrative sources of data as validators. Importantly, the additional research creates spillovers which could improve the quality of future Census Bureau data releases.

## References

- Berchick, Edward R., and Brett J. O'Hara. 2017. "Measuring the Dollar Value of Employer-Provided Health Insurance Contribution: A Syntehtic Approach." *Association for Public Policy Analysis and Management*. Chicago, IL.
- Berchick, Edward R., and Heide M. Jackson. 2019. "Health Insurance Coverage in the Current Population Survey: Estimates from the 2017 Research File." *SEHSD Working PAPER 2019-02*.
- Burkhauser, Richard V., Kevin Corinth, James Elwell, and Jeff Larrimore. 2021. "Evaluating the Success of President Johnson's War on Poverty: Revisiting the Historical Record Using an Absolute Full-Income Poverty Measure." *NBER Working Paper 26532*.
- Burkhauser, Richard V., Jeff Larrimore, and Sean Lyons. 2015. "Measuring Health Insurance Benefits: The Case of People with Disabilities." *NBER Working Paper No. 21629.*
- Centers for Medicare and Medicaid Services. 2020. *NHE Fact Sheet*. December 16. Accessed August 8, 2021. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.
- —. 2020. *Prescription Drug Coverage General Information.* December 14. Accessed August 10, 2021. https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn.
- —. 2020. Trustees Report & Trust Funds. April 22. https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds.
- Citro, Constance F., and Robert T. Michael. 1995. *Measuring Poverty: A New Approach.* The National Academies Press.
- Congressional Budget Office. 2012. "The Distribution of Household Income and Federal Taxes, 2008 and 2009."
- Creamer, John. 2021. "Examining the Impact of Medical Expenses on Supplemental Poverty Rates." SEHSD Working Paper xxxx.
- Fox, Liana. 2020. "The Supplemental Poverty Measure: 2019." P60-272, US Census Bureau.
- Hyson, Rosemary T., Sanders Korenman, and Dahlia K. Remler. 2020. "Is the Health-Inclusive Poverty Measure Robust to Simplifications and the Policy Environment?" 2020 Meetings of the Population Association of America.

- Jackson, Heide, and Katherine Keisler-Starkey. 2020. "Out-of-Pocket Medical Expenditures in the Redesigned Current Population Survey: Evaluating Improvements to Data Processing." SEHSD Working Paper 2020-18.
- Janicki, Hubert, Brett O'Hara, and Alice Zawacki. 2013. "Comparing Methods for Imputing Employer Health Insurance Contributions in the Current Population Survey." *SEHSD Working Paper 2013-23*.
- Korenman, Sanders B., and Dahlia K. Remler. 2016. "Including health insurance in poverty measurement: The impact of Massachusetts health reform on poverty." *Journal of Health Economics* 50: 27-35.
- Korenman, Sanders, Dahlia K. Remler, and Rosemary T. Hyson. 2019. "Accounting for The Impact of Medicaid on Child Poverty." *NBER Working Paper No. 25973*.
- Korenman, Sanders, Dahlia K. Remler, and Rosemary T. Hyson. 2019. "Medicaid Expansions and Poverty: Comparing Supplemental and Health-Inclusive Poverty Measures." *Social Service Review* 93 (3).
- Larrimore, Jeff, and David Splinter. 2019. "How much does health insurance cost? Comparison of premiums in administrative and survey data." *Economics Letters* 174: 132-135.
- Mykyta, Laryssa, and Edward R. Berchick. 2021. "Evaluating Subannual Health Insurance Coverage Estimates in the Current Population Survey Annual Social and Economic Supplement (CPS ASEC)." SEHSD Working Paper 2021-21.
- Remler, Dahlia, K., Sanders D. Korenman, and Rosemary T. Hyson. 2017. "Estimating The Effects of Health Insurance And Other Social Programs On Poverty Under The Affordable Care Act." *Health Affairs* 36 (10).
- Robert Wood Johnson Foundation. 2021. HIX Compare. https://hixcompare.org/.
- Smeeding, Timothy M. 1982. "Alternative Methods for Valuing Selected In-Kind Transfer Benefits and Measuring Their Effect on Poverty." *US Census Bureau Technical Paper 50.*
- State Health Access Data Assistance Center. 2020. "2020 Update of SHADAC's Health Insurance Unit." July. https://www.shadac.org/sites/default/files/publications/HIU%20brief\_2020.pdf.
- —. 2012. "Defining "Family" for Studies of Health Insurance Coverage." March.
   https://www.shadac.org/sites/default/files/publications/SHADAC\_Brief27.pdf.
- US Census Bureau. 1985. "Conference on Measurment of Noncash Benefits." *Proceedings of the Conference on Measurment of Noncash Benefits.*

## Appendix

# Table A1: Health Insurance Resources & MOOP Deductions by Health Insurance Type (reproduced from Korenman, Remler and Hyson 2019)

Health Insurance Type	Health Insurance Resources	Nonpremium MOOP Deduction
Employer Sponsored and Tricare	Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to BP premium)	Actual nonpremium MOOP (up to BP nonpremium MOOP cap)
Individually Purchased	Subsidy to premium (unless family member has employer sponsored insurance)	Actual nonpremium MOOP (up to BP non- premium MOOP cap; income-based lower caps apply unless family member has em- ployer-sponsored insurance)
Covered by someone outside of unit	Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to BP premium)	Actual nonpremium MOOP (up to BP nonpremium MOOP cap)
Full-year Medicaid or CHIP	Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to 5% of household income)	Actual nonpremium MOOP (up to 5% of household income)
Part-year Medicaid	Basic Plan unsubsidized premium pro-rated to number of months covered by Medicaid – Actual premium MOOP (up to 5% of household income)	Actual nonpremium MOOP (up to 5% of household income)
Medicare (< age 65)	Full cost of Basic MA-PD plan –Ac- tual Premium MOOP (up to MA-PD BP premium)	Actual nonpremium MOOP
Medicare (age 65+)	Full cost of Basic MA-PD plan –Ac- tual Premium MOOP (up to MA-PD BP premium)	Actual nonpremium MOOP
Dual Eligible	Full cost of Basic MA-PD plan –Actual Premium MOOP (up to 5% of household income)	Actual nonpremium MOOP (up to 5% of household income)
VA or CHAMPVA	Basic Plan Unsubsidized Premium	Actual nonpremium MOOP (up to BP non- premium MOOP cap; income-based lower caps apply unless family member has em- ployer-sponsored insurance)
Indian Health Service	None	Zero for income < 300% FPL Actual nonpremium MOOP (up to BP nonpremium MOOP cap)
Uninsured	None	Actual nonpremium MOOP