**Web Appendix for Accounting for the Impact of Medicaid on Child Poverty**

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**I. Constructing a Health Inclusive Poverty Measure**

This appendix provides a detailed explanation of the methodology used to estimate the health-inclusive poverty rate and Medicaid impacts for the US. While the focus here is on children under 18, we provide sufficient detail to compute these measures for the US population under age 65. The appendix is intended to be comprehensive and therefore overlaps with the HIPM methodology section of the main text.

Our health-inclusive poverty measure incorporates the need for health care via an explicit need for health insurance and counts public and private health insurance benefits as resources to meet that need. Our HIPM is a modification of the SPM as follows:

1. Add to the threshold health insurance needs (unsubsidized premium of the Basic Plan)

2. Add to resources any health insurance benefits received (any subsidies to, direct payments for, or direct provision of health insurance by government or employers, net of required premium payments)

3. Cap the SPM’s deduction of MOOP expenditures on care (nonpremium MOOP) to address cost-sharing needs before subtracting from SPM resources.

A household (SPM-unit) is poor if HIPM resources are less than HIPM needs. Since health insurance resources cannot be used to purchase food or other necessities, the value of health insurance resources is never allowed to exceed the health insurance need. The HIPM rate is the percentage of the people in SPM units with resources insufficient to meet HIPM needs.

For this report, we estimated health-inclusive poverty rates and Medicaid impacts for children under 18 in the US during calendar year 2014 using the 2015 Current Population Survey Annual Social and Economic Supplement (ASEC)[[1]](#footnote-1). The ASEC is the data source used by the Census Bureau for the OPM and SPM and also includes enough detailed information to assign a health insurance need and compute health insurance resources. Specifically, the ASEC provides information about type of health insurance coverage in the previous year, out-of-pocket spending by families on health insurance premiums, and medical out-of-pocket spending on care. Combining this information with external information on premiums and cost-sharing in ACA Basic Silver Plans, Medicare Advantage-Prescription Drug (MA-PD) plans, and Medicaid, enabled us to compute a health insurance need and health insurance resources for each SPM unit. Our sample is restricted to SPM units with children, including those residing with people older than age sixty-five [[2]](#footnote-2). All poverty rates and other estimates are weighted using the ASEC (March) supplement weights.

The next sections outline how we constructed groups of persons who receive health insurance together, how we assigned health insurance types, the sources for data on premiums and cost-sharing needed to assign health insurance needs and health insurance resources, and how total health-inclusive needs and resources are computed.

**II. Assigning Individuals to Health Insurance Units and Health Insurance Types within Households**

*The following section up to Section II. A is taken directly from Appendix Section 2 of Remler, Korenman and Hyson (2017).*

Poverty status is determined at the household (SPM-unit) level. However, household members may be covered by different health insurance policies or programs, may be covered by policies held by individuals outside the household and may be covered by multiple types of insurance. In order to calculate health insurance needs and resources, we group individuals who receive insurance together into health insurance units (HIUs). Some types of health insurance are always individual. For example, Medicare policies are individually-based, even for married couples, so anyone with Medicare only, or Medicare and Medicaid, forms his/her own HIU. Similarly, Military and Veterans Affairs health care types are considered individual HIUs. The State Health Access Data Assistance Center (SHADAC 2012) has constructed HIUs based on family rules for Medicaid eligibility for the Integrated Public Use Microsample (IPUMS) CPS data, which we refer to as “IPUMS HIUs.” Our HIUs are similar to the IPUMS HIUs but differ when health insurance coverage differs among those in the same IPUMS HIU.

We used the following rules to construct our HIUs and to define HIU “types”:

* Persons reporting both Medicare and Medicaid are given health insurance type of “Dual eligible” and form his/her own HIU.
* Each person reported as having Medicare is put in his/her own HIU of type “Medicare.”
* Each person with Medicaid coverage is given health insurance type “full-year Medicaid” if they report coverage for twelve months or no months are reported[[3]](#footnote-3).
* Those who report Medicaid coverage for one to eleven months and report no other insurance are grouped into one HIU of type “part-year Medicaid.”
* Employer-sponsored insurance policyholder and all dependents of that policy are put in the same HIU with health insurance type “employer-sponsored insurance.”
* Individually-purchased insurance policyholder and all dependents of that policy are in the same HIU and assigned health insurance type “individually purchased insurance.”
* Tricare/Champus is a health insurance program covering members of the US military and their dependents; all individuals in the same family who report Tricare are in the same HIU, “Tricare/Champus”.
* Those who report any type of Veterans Affairs (VA) coverage (either VA Milt or VA Champus) are given health insurance type “VA” and put in their own, one-person, HIU “Military/VA”.
* Children reported as being covered by their state’s Children’s Health Insurance Program (CHIP) are assigned to a HIU for CHIP, with all children in a family being assigned to the same CHIP HIU.
* Each person reported as being covered by someone outside the household is considered to have health insurance (HI) type of “covered outside the household.” Everyone in the same family (i.e., IPUMS HIU) covered by the same type of out-of-household insurance (employer, individual, other) is put in the same HIU. For example, a mother and her child both covered outside the household are in the same HIU, but a roommate in the same SPM unit but a different IPUMS HIU, also covered by someone outside the household, would be placed in a separate HIU.
* Everyone who reports no type of health insurance for all variables measuring health care coverage in the last year is given HI type “uninsured.” All those in the same family (i.e., IPUMs HIU) who report being uninsured are put in the same HIU.
* Individuals who report being covered by the Indian Health Service are assigned health insurance type "Indian Health" and put in their own, one-person HIU.

In cases where more than one type of insurance was reported, we assigned insurance type using the following order of priority: Medicare and Medicaid, Medicare, full-year Medicaid, employer-sponsored, individually purchased, part-year Medicaid, Tricare/Champus, Military/VA, CHIP, Indian Health Program, covered by someone outside the household, and uninsured. In cases where one HI type was reported and a second was logically imputed or allocated in the CPS, the first type was assigned. If one was logically imputed and the other allocated in the CPS, the logically imputed type was assigned.[[4]](#footnote-4)

At times, a household head reports multiple types of health insurance but some insurance covers only him/her while others cover both the head and dependents. For example, persons with Medicare coverage also report holding an employer policy that covers their dependents. These cases require computing premium and nonpremium MOOP caps separately for the individuals covered by each type of insurance and then combining them at the HIU level.[[5]](#footnote-5) Only one type of insurance, however, is assigned to the household head.

**A. Health Insurance Plan Data**

Information on health insurance premiums and cost sharing is required to estimate health insurance needs and resources. As described in section IX of the main text, the health insurance need is the full cost of a MA-PD plan for Medicare recipients and the unsubsidized purchase price of the second cheapest Silver exchange plan for everyone else.[[6]](#footnote-6)

Health insurance plan information was gathered from three sources: Data on the basic plans (exchange plans) came from the Robert Wood Johnson Foundation’s Health Insurance Exchange (HIX) Compare database; data on Medicare Advantage Prescription Drug Plans (the Basic Plans for Medicare recipients) came from the Centers for Medicare and Medicaid Services via the National Bureau of Economic Research; and information on states’ premium and cost-sharing rules for Medicaid and the Children’s Health Insurance Program (CHIP) came primarily from Henry J. Kaiser Family Foundation reports.

*The following sections regarding the source of our health insurance plan information on premiums and cost-sharing for the Basic Silver Plan and Medicare are taken directly from the Section 3 of the Appendix to Remler, Korenman and Hyson (2017) with only minor modifications.*

The Silver Plan premium data were from the HIX Compare 2014 data and include monthly premiums, deductibles and out-of-pocket maxima for medical care (RWJF, 2016). The geographic unit of observation is a plan-rating area, which usually includes one or more counties and in some cases, an entire state.

We aimed to identify the premium and out-of-pocket maxima for the second cheapest Silver Plan in the ACA Rating Area corresponding to each sample household’s geographic location. The geography in the public-use CPS microdata files is sometimes available only at a more aggregate level than county and cannot always be exactly matched to the geography of the ACA health insurance exchange plans (Rating Areas, which are generally groups of counties). When there was not an exact geographic match, we aggregated up data for rating areas to the available CPS geography, and selected the most expensive of the second cheapest Silver plans in the aggregated area. Counties were aggregated to ACA Rating Areas using crosswalks from the Center for Medicare and Medicaid Services.[[7]](#footnote-7) We were able to match over 40% of CPS observations to the rating area that corresponds to their county of residence. Another 30% of observations were matched to aggregations of rating areas to Core Based Statistical Areas (CBSAs).[[8]](#footnote-8) In order to assign premium and nonpremium-MOOP-cap values for the CBSA, we selected the highest premium among the (second cheapest) Silver Plans in the included rating areas. For the CPS observations where the CBSA is not identified, the maximum premium plan (among the second cheapest Silver plans) for remaining rating areas in the state was taken to represent the basic health insurance need.

We used the premium for a 27-year old and adjusted it for other ages according to the Federal Standard Default Age Curve or state-specific curves.[[9]](#footnote-9) For each age between 21 and 64, this Standard defines the maximum premium increment for each year of age. The Standard also sets an amount for children, defined as age 20 and under. Premiums are only charged for up to 3 children in a family with no additional amounts charged for the fourth child and beyond. The age for which the premium was calculated as current age minus one because the CPS collects health insurance and income information for the prior calendar year

In New York and Vermont, which use family tier rating, premiums are based solely on the number of adults and children in the household. There is one rate for individuals with no children, another for single parents and children and a third for two-parent families (Center for Consumer Information & Insurance Oversight 2016).

While this study focused on children, children can be in SPM units that include older individuals whose health needs and resources (namely Medicare) can look quite different. For the most part, individuals over age 65 are covered by Medicare and are not eligible to purchase plans on the ACA exchanges. However, they may choose a Medicare Advantage Prescription Drug (MA-PD) plan. These plans cover all necessary care, including prescription drugs, and, often even vision and dental and can be considered the parallel to the Basic Plan for those over age 65. Therefore, to construct the HIPM, we designated the lowest-cost MA-PD plan available to the beneficiary as the Basic Plan.

The full plan cost of the MA-PD plan is the sum of the government contribution and the premium charged to beneficiaries. The government pays MA-PD plans an amount designed to be equivalent to what the government would pay for those enrollees’ “traditional Medicare” or Parts A and B. We estimated the government’s contribution as the average annual spending per beneficiary on Medicare. In 2014, this was $12,432 (Office of the Actuary, CMS and Board of Trustees 2015).

Medicare beneficiaries must also pay a premium for an MA-PD plan. We downloaded premium information in the CMS Landscape Files from the National Bureau of Economic Research’s county-level database for MA-PD and Part D plans in 2014 (NBER 2016). We selected the MA-PD plan with the lowest premium in the county of residence; if multiple plans have the same premium, we chose the one with the lowest nonpremium MOOP limit. In areas with no MA-PD plan—the entire state of Alaska and a number of rural counties in other states—there is a statewide Part D prescription drug plan available. We used this in place of the MA-PD premium for those areas.

Where there was not an exact match by county, we aggregated the data to the available CPS geography (CBSA or state), and selected the most expensive among the lowest-cost plans of each county in the aggregated area. As noted, we added the out-of-pocket premium for the MA-PD plan to the average government contribution to get the full costs of the MA-PD plan and therefore a Medicare beneficiary’s health insurance needs.

Medicaid premiums and cost-sharing were required to compute net health insurance resources and the limits for nonpremium MOOP for the Medicaid population. Information on premiums and cost-sharing requirements came primarily from annual surveys of State Medicaid programs conducted by The Kaiser Family Foundation. These describe Medicaid policies in place as of January 1 in each state and Washington, DC. In 2014, KFF did not conduct this survey because state Medicaid offices were occupied with implementing the Affordable Care Act (Brooks 2016). Therefore, we needed to fill in the information for 2014. We used several pieces of information to determine 2014 levels needed to assign premium caps and cost-sharing requirements. First, we compared tables in the 2013 calendar year survey (Heberlein et al, 2014) and the 2015 calendar year survey (Brooks et al, 2015). If information was unchanged, we took the 2015 information to be the same for 2014.

We also examined fiscal year surveys, also conducted by the Kaiser Family Foundation, which contain information about changes in Medicaid policies in the coming year for 2013-14 and 2014-15 (Smith et al. 2014, 2015). In many cases, we were able to identify which changes observed in 2015 might have been in effect in 2014.[[10]](#footnote-10) In some cases, these noted a change but did not give enough information to fill in the data. For children, we were able to fill in gaps with state-by state CHIP fact sheets published by the American Academy of Pediatrics and the National Academy for State Health Policy for California, Colorado and Indiana. Notes to the tables also filled in some gaps.

In many cases, premiums and cost-sharing vary by more than age and family size. Importantly, they vary according to the ratio of household income to the Federal poverty levels (FPL) or guidelines, whether the coverage is from Medicaid, CHIP, traditional Medicaid, expansion Medicaid, a waiver program or state-run health insurance program for the poor.[[11]](#footnote-11) We compiled this information to apply to our CPS Medicaid HIUs for adults and children. Since the KFF tables do not always clearly indicate which premiums are for Medicaid rather than CHIP and the CPS does not distinguish between type of Medicaid for adults (traditional, expansion or waiver), we rely primarily on the % FPL and family characteristics to apply the appropriate premium and cost-sharing amounts.

For children, the KFF reports State premium information for four ranges of % FPL: 151-200%, 201-250%, 250-300 and 301-351%. These do not always overlap with the state premium schedules—for example, premiums might change at 175% FPL in a state. Other tables indicated if premiums and cost-sharing were required under Medicaid and/or CHIP, and if so, at what % of FPL these costs begin. Notes to the KFF tables also included information about premiums that followed a more irregular schedule such as when the premium charged was a % of household income or had an irregular schedule. To the extent that the data were clear, non-linear price schedules were incorporated.[[12]](#footnote-12)

For adults, there is less premium and cost-sharing information. Policies regarding premiums and cost-sharing differed according to how adults qualify for Medicaid and the CPS makes no distinction in how adults qualify for Medicaid. The KFF tables for adults often only indicated if a premium was charged for Traditional or Expansion Medicaid and if so, the % FPL at which premiums began. Some additional information was found in the notes, particularly when a Medicaid waiver program was in place.[[13]](#footnote-13) Given the lack of data for 2014 and uncertainty under which part of Medicaid the adult received coverage, we took a conservative approach with adults. Since the Medicaid expansion permitted states to charge premiums of up to 5% of income for adults who gained Medicaid eligibility (KFF 2013b) we assigned a premium cost of 5% of income to adults on Medicaid whose income is greater than 138% of FPL (100% in nonexpansion states) .[[14]](#footnote-14) In reality, the amount that was deducted from the value of the plan in HI resources was essentially zero for over 90% of the Medicaid recipients.

In terms of cost-sharing, we used information on whether there was cost-sharing and if so, the %FPL at which cost-sharing began. These were defined separately for children and adults.

**B. Health Insurance Need**

The health insurance need added to the SPM material needs threshold consists of the full cost of the plan (whether based on the ACA Silver Plan or Medicare), aggregated first to the HIU and then to the SPM unit for all persons in the sample. For the special case of HIUs where there is a Medicare recipient who also covers dependents with an employer policy or an individually-purchased plan, the health insurance need is the sum of the Medicare need for this person plus the Basic Plan need for the dependents (Remler, Korenman and Hyson 2017, Appendix Section 3).

Together, the ACA Silver Plan and MA-PD plans allowed us to define health insurance needs for nearly everyone in the CPS with one exception: undocumented immigrants in Vermont and Washington, DC. Undocumented immigrants cannot purchase plans on the exchanges, but because, generally, they can purchase off-exchange plans subject to community rating and guaranteed issue, their health insurance needs can be determined. Vermont and DC did not allow off-exchange purchases in 2014, and therefore we dropped SPM-units in VT or DC that included people imputed to be undocumented. We imputed undocumented immigration status using the method developed by Borjas (2017).

**III. Health Insurance Resources, Including Premiums and Non-premium MOOP Deductions**

*This section is taken directly from Appendix Section 4 of Remler, Korenman and Hyson 2017 with a few additions*.

The previous section described how we determine the health insurance need. Valuing health insurance resources depends on what, if any, health insurance benefits the HIU receives. For those who receive insurance benefits, we add the value of the Basic Plan minus required premium payments, in order to calculate their net insurance resources. Someone without insurance benefits of any kind has no insurance resources, thus no net insurance resources, and therefore no reason to deduct premium payments from their resources; the HIPM considers whether they have sufficient resources to pay for health needs from cash income. The deduction of premium out-of-pocket expenditures is therefore only for those who receive insurance benefits and only as part of the net insurance benefit calculation.

As noted in Section IX of the report, cost-sharing to obtain needed health care is accounted for in the HIPM by deducting them from resources. Cost-sharing needs are measured as out-of-pocket expenditures on medical care (nonpremium MOOP). However, we do not allow either deduction—the deduction of premium MOOP to obtain net health insurance resources or the deduction of nonpremium MOOP to account for cost-sharing needs—to exceed the corresponding maximum payment necessary to obtain the Basic Plan or a plan at least as good.

These minimum required contributions depend on the price of health insurance but also any subsidies, caps or other benefits the person might qualify for depending on their income or the type of health insurance they have. Table A.1 describes net health insurance benefits, including caps on premium MOOP deductions, as well as the caps on non-premium MOOP deductions for each health insurance type.

The level of family income compared to the federal poverty guidelines determines eligibility for ACA premium subsidies, non-premium MOOP caps, and Medicaid premiums and cost-sharing caps (KFF 2014, American Academy of Pediatrics 2014, Heberlein et al. 2013, Brooks et al. 2015, Smith et al. 2013, 2014). We use the IPUMS HIU as the family unit for measuring income in these determinations. The IPUMS HIU is defined for use in estimating Medicaid eligibility in the CPS, so the income of the IPUMS HIU is appropriate for estimating Medicaid premiums and cost-sharing. Premiums and cost-sharing subsidies and rules for the ACA are also based on a family unit’s income, not just the income of those who purchase plans on the health exchanges. Therefore, using family income based on our HIU to estimate ACA premium subsidies and cost sharing reductions would not be accurate. The ACA uses a measure of family income based on modified adjusted gross income (MAGI) as reported on a family’s tax return—joint filing is required for couples—to determine subsidy eligibility. Thus, we used IPUMS HIU income as a reasonable approximation to MAGI.

We use a variable that is the ratio of IPUMS HIU income to the federal poverty guideline to determine the subsidy or caps on expenditure that apply to each IPUMS HIU. We allocate our HIU premiums and nonpremium MOOP on a per person basis to avoid double counting when we aggregate to the HIU or SPM unit.

Persons who do not qualify for any public health insurance programs or ACA benefits include those covered by employer health insurance, Tricare, or someone outside the household,[[15]](#footnote-15) and persons with individual policies who are in an IPUMS HIU with someone who has employer coverage. For these persons, the health insurance resources are simply the premium for the Basic Plan minus actual premium MOOP spending as measured in the CPS and aggregated to the SPM unit. The premium MOOP subtracted is capped at the premium for the Basic Plan.

For those with health insurance from the individual market,[[16]](#footnote-16) we compute ACA premium subsidies, if they are eligible. Anyone with Medicaid or with income less than 100%[[17]](#footnote-17) or greater than 400% of Federal poverty level (FPL) is not eligible for subsidies. Therefore, premium subsidies are calculated only for those with HIU income between 100% of FPL and 400% of FPL in non-expansion states and between 133% of FPL and 400% of FPL in expansion states. The subsidy is the difference between the full cost of the Basic Plan and the maximum percentage of income a household at their income (relative to the federal poverty guidelines) should pay for health insurance. From 100% to 133% of FPL, premiums cannot exceed 2% of income; from 133% to 150% of FPL, premiums cannot exceed 3-4% of income; from 300% to 400% of the poverty level, premiums cannot exceed 9.5% of income (KFF 2013a). When the maximum percentage of income that can be spent on premiums is a range corresponding to an interval of the percentage of FPL, we used linear interpolation to assign the maximum percentage of income that can be spent on premiums for each percentage of FPL. For non-premium MOOP, we capped non-premium out-of-pocket expenditures on care at $2,250 for individuals and $4,500 for families between 100 and 200% FPL; $5,200 and $10,400 for individuals and families between 200 and 250% FPL; and $6,350 and $12,700 for all others (KFF 2014).

Premium subsidies are not available to persons with individual insurance in families where any one member has access to employer-sponsored health insurance (or Tricare) if the employer-sponsored insurance is considered qualified and if coverage for the *employee only* is considered affordable—the “family glitch” (e.g., Brooks 2014). Since the CPS does not collect information about whether an employee plan is qualified and affordable, we assumed all employer plans were qualified and affordable and that anyone in the family[[18]](#footnote-18) of someone with employer provided insurance is not eligible for subsidies. This assumption could lead us to understate somewhat the impact on poverty of premium subsidies.

For persons on Medicaid, net health insurance resources are the difference between the value of the Basic Plan and the premiums paid. No premiums are charged for Medicaid recipients with income below 138% of FPL in expansion states and below 100% of FPL in nonexpansion states. Some states impose premiums for children with family incomes above 138% of the poverty level while others impose them only for adults, and others vary premiums by income level. We assigned program parameters by state, %FPL, family size and composition of the HIU and computed premiums at the HIU level. In Michigan and Minnesota,[[19]](#footnote-19) premiums were specified for adults over 138% FPL. Since the Medicaid expansion permitted states to charge premiums of up to 5% of income for adults who gained Medicaid eligibility (KFF 2013b), we assigned a premium cost of 5% of income to adults on Medicaid whose income is greater than 138% of FPL (100% in nonexpansion states). For children, premiums are charged in more than half the states, but sometimes not until income exceeds 200% of FPL.[[20]](#footnote-20) The average annual premium among children who had to pay Medicaid premiums was just under $300.

We annualized monthly premiums for persons who receive Medicaid for the full year.[[21]](#footnote-21) We pro-rated by the number of months for persons who receive Medicaid for only part of the year. The CPS data we used for 2014 only records if a person had Medicaid and the number of months.[[22]](#footnote-22) Since we could not know for certain if the individual had other coverage during any of the months they did not receive Medicaid, we did not credit them with any insurance resources for their non-Medicaid months.[[23]](#footnote-23) Their net health insurance resources are simply the value of the Basic Plan for the part of the year they have coverage minus the capped premium MOOP for the number of months.

For nonpremium MOOP, we assigned the Medicaid caps that apply to their family income level.[[24]](#footnote-24) We used information on whether there was cost-sharing and if so, the %FPL at which cost-sharing began to assign the nonpremium MOOP cap. These were defined separately for children and adults. If the household income was above the cost-sharing cutoff, we set the nonpremium MOOP cap to be 5% of IPUMS HIU income for the all members of our HIU.

For Medicare beneficiaries, even those under 65, we use the Medicare Advantage Prescription Drug (MA-PD) plan information to value resources and cost-sharing needs. In terms of net health insurance resources, Medicare recipients have the full cost of the MA-PD plan as described in Section 3, less any out-of-pocket premium payments up to the sum of the Part B premium and premium of the lowest-cost MA-PD plan in their area (county if identified). The national cap for nonpremium MOOP for all medical care provided by an MA-PD plan to a beneficiary is $6700, and many plans use lower caps. If a MA-PD plan was assigned, the non-premium MOOP cap is from that plan; if there was no MA-PD plan for the Medicare recipient, the applicable cap is $6700.

MA-PD plans fall short of our ideal Basic Plan because they lack an explicit cap on prescription drug nonpremium MOOP spending. Several features of the plans and of Federal regulations reduce prescription drug nonpremium MOOP and create *de facto* caps. For all beneficiaries, once the catastrophic level of nonpremium MOOP is reached ($4550 in 2014), cost sharing is substantially reduced (MedPAC, 2012). Still for the results presented here, actual nonpremium MOOP, rather than a capped amount, is used for Medicare recipients.[[25]](#footnote-25)

The dual-eligible—those who receive both Medicare and Medicaid—have resources reflecting their two programs. Their net health insurance resources are the Medicare value of insurance minus the cost of premiums up to the maximum Medicaid for their state, and their nonpremium MOOP is capped at the same level as Medicaid recipients. Those with Veterans Administration or Military health insurance pay no premiums, so no premium MOOP is deducted. Further, in most cases, their cost-sharing is determined by military service-related disability status and other factors that are not observed in our data, so we simply apply the Basic Plan nonpremium MOOP caps.

As detailed earlier, the uninsured have no health insurance resources and no protection limiting their out-of-pocket expenditure on care. Therefore we credit them with no net health insurance resources and deduct their actual nonpremium MOOP expenditure. However, we conduct two sensitivity analyses as described in Section X of the report that give the uninsured:

1. Net health insurance resources equal to subsidies they could qualify for under the ACA
2. Net health insurance resources equal to the implicit insurance value of free care

The first alternative credits the uninsured with any ACA premium subsidies they would be eligible to receive, if they were to purchase insurance. This approach is motivated by the ACA mandate to purchase insurance. The subsidy that the uninsured person would qualify for is computed and given as their net health insurance resources. Their nonpremium MOOP is capped at the applicable BP cap, where income-based lower caps apply unless a family member has employer insurance.

The second alternative assumes that the uninsured have access to free care and that current Medicaid beneficiaries would also have access to free care if their Medicaid benefits were removed (the counterfactual for “Medicaid losers”). The implicit insurance value of free care is set to 60% of the value of the unsubsidized premium of the second-cheapest Silver plan based on results of the Oregon Health Insurance Experiment reported in Finkelstein, Hendren and Luttmer (2016). Specifically, it is the ratio of the actuarial value of free care received by the randomly-assigned control group to the actuarial value of Medicaid-funded care received by randomly-assigned Medicaid treatment group (see discussion in section VIII for additional details).[[26]](#footnote-26) Medicaid recipients are also assumed to get this same value of free care in the counterfactual to estimate the Medicaid program impact. For both groups however, nonpremium MOOP caps are unchanged.

**Table A.1: Health Insurance Resources & MOOP Deductions by Health Insurance Type**

**(Modification of Table A.1 in Appendix to Remler, Korenman and Hyson 2017)**

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| --- | --- | --- |
| **Health Insurance Type** | **Health Insurance Resources** | **Nonpremium MOOP Deduction** |
| **Employer sponsored (includes Tricare)** | Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to BP premium) | Actual nonpremium MOOP  (up to BP nonpremium MOOP cap; income-based lower caps apply unless family member has employer-sponsored insurance)1 |
| **Individually Purchased** | Subsidy to premium  (unless family member has employer sponsored insurance)2,3 | Actual nonpremium MOOP  (up to BP nonpremium MOOP cap; income-based lower caps apply unless family member has employer-sponsored insurance)3 |
| **Covered by Someone Outside SPM Unit** | Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to BP premium)4 | Actual nonpremium MOOP  (up to BP nonpremium MOOP cap; no income-based lower caps as relevant income is unknown) 4 |
| **Full-year Medicaid or CHIP** | Basic Plan Unsubsidized Premium – Actual Premium MOOP (up to state-level Medicaid premium cap)5 | Actual nonpremium MOOP  (up to low Medicaid nonpremium MOOP cap) 6 |
| **Part-year Medicaid** | Basic Plan unsubsidized premium pro-rated to number of months covered by Medicaid – Actual premium MOOP (up to state-level Medicaid premium cap) | Actual nonpremium MOOP  (up to low Medicaid nonpremium MOOP cap) 7 |
| **Medicare (< age 65)** | Full cost of Basic MA-PD plan – Actual Premium MOOP (up to MA-PD BP premium)8 | Actual nonpremium MOOP9 |
| **Medicare (age 65+)** | Full cost of Basic MA-PD plan – Actual Premium MOOP (up to MA-PD BP premium)8 | Actual nonpremium MOOP9 |
| **Medicare-Medicaid dual eligible** | Full cost of Basic MA-PD plan – Actual Premium MOOP (up to state-level Medicaid Premium cap) | Actual nonpremium MOOP  (up to low Medicaid nonpremium MOOP cap) |
| **Veterans Affairs or ChampVA** | Basic Plan Unsubsidized Premium10 | Actual nonpremium MOOP10  (up to BP nonpremium MOOP cap; income-based lower caps apply unless family member has employer-sponsored insurance) |
| **Indian Health Service** | None | Zero for income < 300% FPL  Actual nonpremium MOOP  (up to BP nonpremium MOOP cap)11 |
| **Uninsured** | None12 | Actual nonpremium MOOP |

**Notes:**

**BP = Basic Plan; MOOP = Medical Out-of-Pocket Expenditures; MA-PD = Medicare-Advantage-Prescription Drug; IPUMS-HIU = Integrated Public Use Microsample Health Insurance Unit**

(notes continue next page)

Notes to Table A.1 (continued)

1 Nonpremium MOOP caps are those available with the BP.

2 Subsidy is the difference between the BP unsubsidized premium and maximum premium MOOP allowed, based on household income and the sliding scale set by law.

3 *Family* (IPUMS-HIU)income determines maximum MOOP premiums and nonpremium MOOP caps even if only part of the household purchases insurance on the exchange. Those in a family with someone with employer sponsored insurance are not eligible for subsidized premiums and are therefore capped at the unsubsidized BP premium and MOOP caps.

4 As coverage comes from outside the SPM unit, the relevant income for subsidies or reduced caps was unknown, so the premium was unsubsidized and the entire MOOP subtraction was at the BP cap.

5 For states that require Medicaid recipients to pay premium MOOP, premium MOOP payments up to the maximum amount required would be deducted.

6 States determine nonpremium MOOP caps for Medicaid.

7 Ideally, we would cap nonpremium MOOP for those with part-year Medicaid at the sum of the pro-rated applicable Medicaid cap plus the full-year BP cap. Exceptions to the method described in the table include Michigan and New Hampshire where Medicaid expansion took effect on April 1 and August 15, 2014. In MI and NH, we applied the prorated Medicaid cap for the portion of the year that Medicaid expansion was in effect, and the full Basic Plan nonpremium MOOP cap (reduced as appropriate by % FPL) for the balance of the year.

8 We assumed Medicare recipients’ BP is the cheapest available MA-PD plan. The MA-PD plan premium cap was the Part-B premium plus the additional MA-PD premium, if any. Health insurance resource and need was the full cost of the MA-PD plan, the sum of the additional MA-PD premium and the government spending per beneficiary on Medicare.

9 In alternative estimates, MA-PD nonpremium MOOP caps for medical care were used. Caps still do not exist for prescription drug coverage but we substituted the level of prescription drug spending where catastrophic coverage kicks in: $4550 in 2014. It made no difference in our results on child poverty.

10 VA eligible individuals do not pay any premiums and so no premium MOOP was deducted. Cost-sharing requirements, however, depend on disability status and other factors. Therefore, we did deduct non-premium MOOP expenditures and capped only at the available BP limit.

11 Indian Health Service is not considered a qualified health plan. However, there is no cost sharing for income less than 300% FPL.

12 We also estimated an alternative set of HIPM poverty rates where the uninsured were given premium subsidies as a sensitivity analysis. See Section X and Table 5 of the main report.

**Appendix References**

American Academy of Pediatrics, and National Academy for State Health Policy. 2014. 2014 CHIP Fact Sheets, various states. The David and Lucile Packard Foundation. <http://www.nashp.org/sites/default/files/CHIP/2014/NASHP-2014-California-CHIP-Fact-Sheet.pdf>

Annual Update of the HHS Poverty Guidelines, 79 Federal Register 3593 (Jan 22, 2014).

Borjas, George. 2017. “The Labor Supply of Undocumented Immigrants.” *Labour Economics*. 46(2017):1-13.

Brooks, Tricia. 2014. "The Family Glitch." *Healthy Policy Briefs*. November 10. Available at [http://www.healthaffairs.org/healthpolicybriefs/brief.php?brief\_id=129](https://mail.baruch.cuny.edu/owa/redir.aspx?C=q_NMUrPUVUyay4axUXWpMlEOnCqK_dEI0UBfvC7euXgmlEDhRX0qC4PfCih3krlUmTDfv3CSpAc.&URL=http%3a%2f%2fwww.healthaffairs.org%2fhealthpolicybriefs%2fbrief.php%3fbrief_id%3d129)

Brooks, Tricia, Joe Touschner, Samantha Artiga, Jessica Stephens and Alexandra Gates. 2015. “Modern Era Medicaid: Findings from a 50-State Survey of Eligibility, Enrollments, Renewal, and Cost-Sharing Policies in Medicaid and CHIP as of January 2015.” The Kaiser Commission on Medicaid and the Uninsured. Washington, DC: The Henry J. Kaiser Family Foundation. <http://files.kff.org/attachment/report-modern-era-medicaid-findings-from-a-50-state-survey-of-eligibility-enrollment-renewal-and-cost-sharing-policies-in-medicaid-and-chip-as-of-january-2015>

Brooks, Tricia. 2016. Email correspondence August 12.

Center for Consumer Information & Insurance Oversight, Center for Medicare and Medicaid Services. State Specific Rating Variations. 2013. Accessed July 6, 2016 at <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/state-rating.html> and <https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/Downloads/state-specific-age-curve-variations-08-09-2013.pdf>.

Center for Consumer Information & Insurance Oversight, Center for Medicare and Medicaid Services. Market Rating Reforms State Specific Geographic Rating Areas. 2014. Accessed July 26, 2016 at <https://www.cms.gov/cciio/programs-and-initiatives/health-insurance-market-reforms/state-gra.html>

CMCS Informational Bulletin 2014 Federal Poverty Standards. 2014. Department of Health and Human Services, Center for Medicare and Medicaid Services <https://www.medicaid.gov/Federal-Policy-Guidance/Downloads/CIB-02-07-2014.pdf>.

Center for Consumer Information and Insurance Oversight, Centers for Medicare and Medicaid Services. 2016. HHS-Operated Risk Adjustment Methodology Meeting Discussion Paper. March.

Heberlein, Martha, Tricia Brooks, Joan Alker, Samantha Artiga and Jessica Stephens. 2013. “Getting into Gear for 2014: Findings from a 50-State Survey of Eligibility, Enrollment, Renewal, and Cost-Sharing Policies in Medicaid and CHIP, 2012-2013.” The Kaiser Commission on Medicaid and the Uninsured. Washington, DC: The Henry J. Kaiser Family Foundation. <https://kaiserfamilyfoundation.files.wordpress.com/2013/05/8401.pdf>

Kaiser Family Foundation. 2016. Fact Sheet: The Medicare Part D Prescription Drug Benefit. September. <http://files.kff.org/attachment/Fact-Sheet-The-Medicare-Part-D-Prescription-Drug-Benefit>.

Kaiser Family Foundation. 2014. Issue Brief: Explaining Health Care Reform: Questions about Health Insurance Subsidies. October.

Kaiser Family Foundation. 2013a. Focus on Health Reform: Summary of the Affordable Care Act. April.

Kaiser Family Foundation. 2013b. Medicaid: A Primer. March. <http://kff.org/medicaid/issue-brief/medicaid-a-primer/>

King, Miriam, Steven Ruggles, J. Trent Alexander, Sarah Flood, Katie Genadek, Matthew B. Schroeder, Brandon Trampe, and Rebecca Vick. Integrated Public Use Microdata Series, Current Population Survey: Version 3.0. [Machine-readable database]. Minneapolis, MN: Minnesota Population Center [producer and distributor], 2010.

Korenman, Sanders D. & Dahlia K. Remler. 2016. Including health insurance in poverty measurement: The impact of Massachusetts health reform on poverty. *Journal of Health Economics*. December.

Medicare Payment Advisory Commission (MedPAC). 2012. “Status Report on Part D, with Focus on Beneficiaries with High Drug Spending” in Medicare Payment Report to Congress, March 2012.

NBER. 2016. *CMS Landscape Files Data - Descriptions of the Drug Plans*, machine readable data files, downloaded December 2016 from <http://www.nber.org/data/cms-landscape-files-data.html>

NBER. nd. National Bureau of Economic Research CPS Supplements. Downloaded April 2016 and October 2016 from [www.nber.org/data/current-p](http://www.nber.org/data/current-p)opulation-survey-data.html

Norris, Louise. 2016. “Maine and the ACA Expansion.” September. The Health Insurance Resource Center. St Louis Park, MN. September. Available at <https://www.healthinsurance.org/maine-medicaid/>.

Office of the Actuary, Centers for Medicare and Medicaid Services and Board of Trustees of the Federal Hospital Insurance and Federal Supplementary Medical Insurance Trust Funds. 2015. 2015 Expanded and Supplementary Tables to the 2015 Annual Report of the Boards of Trustees of the Federal Hospital Insurance Trust Fund and Federal Supplementary Medical Insurance Trust Fund. July. [https://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/ReportsTrustFunds/Trustees-Reports-Items/2012-2016.html?DLPage=1&DLEntries=10&DLSort=0&DLSortDir=descending](https://mail.baruch.cuny.edu/owa/redir.aspx?SURL=kw_9-Iou_lBgGJ4HW_..&URL=https%3a%2f%2fwww.cms.gov%2fResearch-Statistics-Data-and-Systems%2fStatistics-Trends-and-Reports%2fReportsTrustFunds%2fTrustees-Reports-Items%2f2012-2016.html%3fDLPage%3d1%26DLEntries%3d10%26DLSort%3d0%26DLSortDir%3ddescending%2c).

Patient Protection and Affordable Care Act; Health Insurance Market Rules; Rate Review, 77 Federal Register 70584 (Nov 26, 2012)

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): 1828-1837.

Robert Wood Johnson Foundation. 2014. Robert Wood Johnson Foundation. 2014. HIX Compare 2014 Dataset. March. Machine Readable data files downloaded December 2016 from <http://www.rwjf.org/en/library/research/2014/03/hix-compare-2014-dataset.html>.

SHADAC (State Health Access Data Assistance Center). 2012. “Defining ‘Family’ for Studies of Health Insurance Coverage.” May. Available at <http://www.shadac.org/publications/defining-family-studies-health-insurance-coverage> .

Smith, Vernon K, Kathleen Gifford, Eileen Ellis, Robin Rudowitz and Laura Snyder. 2013. “Medicaid in a Historic Time of Transformation: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2013 and 2014.” The Kaiser Commission on Medicaid and the Uninsured. Washington, DC: The Henry J. Kaiser Family Foundation. <http://files.kff.org/attachment/report-medicaid-in-a-historic-time-of-transformation-results-from-a-50-state-medicaid-budget-survey-for-state-fiscal-years-2013-and-2014>

Smith, Vernon K., Kathleen Gifford, Eileen Ellis, Robin Rudowitz and Laura Snyder. 2014. “Medicaid in an Era of Health & Delivery System Reform: Results from a 50-State Medicaid Budget Survey for State Fiscal Years 2014 and 2015.” The Kaiser Commission on Medicaid and the Uninsured. Washington, DC: The Henry J. Kaiser Family Foundation. <https://kaiserfamilyfoundation.files.wordpress.com/2014/10/8639-medicaid-in-an-era-of-health-delivery-system-reform3.pdf>

US Bureau of the Census. 2013. Current Statistical Area Lists and Delineations. February. Excel file downloaded July 31, 2016 from https://www.census.gov/geographies/reference-files/time-series/demo/metro-micro/delineation-files.html.

1. See Remler, Korenman, and Hyson (2017) for a HIPM estimate of the US population under age 65. [↑](#footnote-ref-1)
2. We also did not include any SPM units in which one or more persons receive disability payments in 2014. Large resource transfers from programs such as Supplemental Security Income, Social Security Disability Income, and Medicare to the disabled overwhelm the impacts of programs targeted to the general low-income population. [↑](#footnote-ref-2)
3. An implausibly large number of persons reporting Medicaid coverage had a value of zero for months of Medicaid so these were assumed to be full-year recipients. [↑](#footnote-ref-3)
4. We thank Brett O’Hara of Census for clarification regarding the CPS health insurance questions. [↑](#footnote-ref-4)
5. There was only one complex mix of health insurance types that we found too complicated to assign HI needs and resources to: cases where someone reported both Medicaid and Medicare, but also was listed as being the policyholder for dependents on an employer or individual policy. Only a small number of HIUs fell into this category. [↑](#footnote-ref-5)
6. For those with individual insurance, employer-provided insurance, or Medicare, these same data sources are used to determine the nonpremium MOOP caps needed to fully calculate cost-sharing needs (discussed in the HIPM Methods section of the report). [↑](#footnote-ref-6)
7. In some states, particularly California and Nebraska, Rating Areas were defined according to 3-digit zip codes. We used the US Department of Housing and Urban Development’s USPS 2014 Zip Code Crosswalk file in order to map 3-digit zip codes to counties. When aggregating, we selected the most expensive of the second low-cost Silver plan premium across the zip-codes within a county. Accessed on July 27, 2016 at [https://www.huduser.gov/portal/datasets/usps\_crosswalk.html](https://mail.baruch.cuny.edu/owa/redir.aspx?C=2xj_olRMKUijn4bk2HAtCzDtftgncdQIqUbl3ZycTMMvnmlUvPBjQMVkFdySPpHN0EWzZnCLCBg.&URL=https%3a%2f%2fwww.huduser.gov%2fportal%2fdatasets%2fusps_crosswalk.html). [↑](#footnote-ref-7)
8. We used the US Census Bureau’s crosswalk mapping CBSAs to counties and aggregated Rating Areas up to the CBSA level. [↑](#footnote-ref-8)
9. The District of Columbia, Massachusetts, Minnesota, New Jersey and Utah received approval to use have state-specific age curves (Center for Consumer Information & Insurance Oversight 2016), so we applied those curves to sampled households from those states. [↑](#footnote-ref-9)
10. These surveys were also important to identify Medicaid details for states like Michigan and New Hampshire whose Medicaid expansions took effect after January 1, 2014 (only changes as of January 1 are noted). [↑](#footnote-ref-10)
11. Age of child also can determine the threshold percent of FPL above which premiums are charged and in some cases, these differ for Medicaid compared to CHIP. Given that we already needed to fill in data for 2014 and cannot accurately distinguish between Medicaid and CHIP (see note in main text), we chose to abstract from these differences and simply assign the summary premium that KFF reports for each range of % FPL. [↑](#footnote-ref-11)
12. In a few cases, the premium schedule was dependent on length of enrollment, healthy behaviors or whether the family had access to other insurance. In these cases, we had no way to know if the lower amounts applied, so took a conservative and applied the higher premiums or cost-sharing amounts. [↑](#footnote-ref-12)
13. For example, Minnesota Care charged premiums to adults over 100% FPL in 2013 but in 2014, premiums were only charged above 138% and after 200% FPL, adults were no longer eligible (Smith et al, 2014). [↑](#footnote-ref-13)
14. Wisconsin expanded Medicaid to low income adults under 100% of FPL but did not charge premiums. Prior to the ACA, Maine had expanded Medicaid to low income adults but eliminated eligibility for childless adults in 2014. Specific premium information for Michigan and Minnesota was given so these amounts were applied rather than the 5% of household income cap. [↑](#footnote-ref-14)
15. For those covered by someone outside of the household, they may be eligible but we have no way of knowing so we conservatively assume they are not eligible. [↑](#footnote-ref-15)
16. We also conduct a sensitivity analysis where premium subsidies are calculated for the uninsured. [↑](#footnote-ref-16)
17. Less than 133% of FPL in Medicaid expansion states. [↑](#footnote-ref-17)
18. SHADAC (2012) have constructed family units (which we refer to as IPUMS HIUs) for the IPUMS CPS. IPUMS HIUs are based on family definitions for exchange and Medicaid rules. (See Appendix Section I.) [↑](#footnote-ref-18)
19. Wisconsin expanded Medicaid to low income adults under 100% of FPL but did not charge premiums. Prior to the ACA, Maine had expanded Medicaid to low income adults but eliminated eligibility for childless adults in 2014. Vermont, an expansion state, charged family premiums. [↑](#footnote-ref-19)
20. In California and Wisconsin, premiums are not charged for children under age 1 and in MN, for children under age 2. [↑](#footnote-ref-20)
21. Michigan required further adjustment as their Medicaid expansion took effect 4/1/2014 and premiums only were charged after 6 months in the program, so at most, an adult could have been charged premiums for 3 months in 2014. New Hampshire only expanded in August 2014, so like Michigan, recipients’ benefits are pro-rated. Delaware’s premium schedule allowed for one month free for every 3 months paid, so annual premiums were multiplied by .75. [↑](#footnote-ref-21)
22. A large number of Medicaid recipients reported zero months of Medicaid. Anyone who reported zero months of Medicaid was assigned full-year coverage. [↑](#footnote-ref-22)
23. While we know if someone reports employer or individual insurance, we would have had to make an assumption about what months a part-year Medicaid recipient had this other coverage. [↑](#footnote-ref-23)
24. The exceptions were Michigan and New Hampshire, where Medicaid was expanded part-way through the year. For the portion of the year that Medicaid expansion was in effect, we pro-rated the Medicaid nonpremium MOOP cap to the months that the expansion was in place, and added to that the nonpremium MOOP cap value associated with the Basic Plan in their geographic area (reduced for those with incomes between 100-250% of FPL). [↑](#footnote-ref-24)
25. In results not shown, we have tested the sensitivity of estimates to capping nonpremium MOOP for Medicare recipients at the MA-PD catastrophic limits and the results for child poverty are not affected. [↑](#footnote-ref-25)
26. Specifically, these are values estimated for “control group compliers” and “treatment group compliers”. [↑](#footnote-ref-26)