Rethinking Elderly Poverty:

Time for a Health Inclusive Poverty Measure? *

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Abstract

Census's new Supplemental Poverty Measure (SPM) nearly doubles the elderly poverty rate compared to the Official Poverty Measure (OPM), fueling calls to protect or expand assistance for the elderly. Can the elderly, despite massive Medicare, Medicaid and Social Security transfers, remain among the most impoverished Americans? The much higher SPM elderly poverty rate is due to the subtraction of medical out-of-pocket (MOOP) expenditures from income. Moreover, neither the SPM nor OPM counts health benefits or assets as resources.

We review empirical validity studies, including new analyses conducted at our request, which assess various poverty measures' prediction of indicators of material hardship and which gauge the sensitivity of hardship measures to health shocks. Subtracting MOOP expenditures from resources worsens a poverty measure's predictive validity and excluding assets exacerbates this bias, since assets fund MOOP expenditures. Health shocks do not result in reported material hardship for the elderly but do for the near-elderly.

We analyze the inter-related reasons that MOOP expenditures were excluded and health benefits not counted as resources for the SPM—a health exclusive poverty measure—even though that approach was considered "second best." We determine conditions that make a Health Inclusive Poverty Measure (HIPM) feasible: conceptualizing the need as health *insurance*, rather than health care, and the universal availability of health insurance plans with non-risk-rated premiums and caps on MOOP. We illustrate how recent changes to Medicare Advantage Plans and the full implementation of the Affordable Care Act will make HIPM implementation possible.

Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care.

From Article 25, The Universal Declaration of Human Rights, adopted by the United Nations, December 1948.

Introduction

Emerging from the Great Recession, the United States faces critical decisions about fiscal and social priorities. Current policy is unsustainable even under optimistic growth scenarios: the Federal fiscal imbalance—the present value of deficits projected under current tax and spending law—is estimated to be $70 trillion (Kotlikoff 2009; Kotlikoff and Burns 2012). Laurence Kotlikoff (2009) estimates that expenditures on the elderly[1] already average over $30,000 per person aged 65 and older, and…

> by 2030, when baby boomers are fully retired, the average benefit per oldster…will be at least $50,000 (measured in today's dollars) and represent more than 100 percent of per capita United States GDP**.** The remarkably high levels of oldster benefits, current and projected, are due, in the main, to the growth in the health care component of total Social Security, Medicare, and Medicaid outlays

As of 2007, annual expenditures on these three programs exceeded $1.2 trillion, the vast majority of which flow to the benefit of older persons (Ben-Shalom, Moffitt and Scholz, 2011, Table 1). Expenditures on these programs may have exceeded 10% of GDP in the Great Recession and are projected to climb sharply in the years ahead with accelerating growth in the population over 65 and the continued escalation of health care costs.

While social spending privileges health care for the elderly, technological and globalization shocks to the labor market have led to calls for increasing spending elsewhere, particularly for education and training (Autor, 2010) or income support to help working-aged adults and their children. To make good use of limited government funds, we need accurate information about the costs and benefits of government programs and the economic welfare of our citizens. Knowing who is poor is critical to protecting the neediest to the greatest extent possible as we seek to restore fiscal balance.

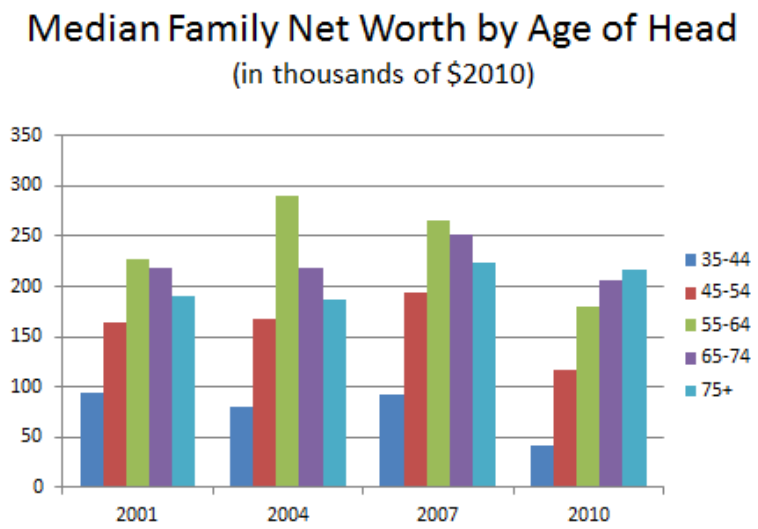
Beyond public transfers, successive cohorts have experienced higher lifetime earnings and arrive at older ages with greater net worth than the preceding cohorts (e.g. Scholz and Seshardi, 2008), and some cohorts have experienced increases in net worth at older ages, at least between age 65 and 75 (Poterba, Venti and Wise, 2010).

Exhibit 1, based on the Federal Reserve's Survey of Consumer Finances (Bricker, Kennickell, Moore & Sabelhaus, 2012), shows the striking change in the age-distribution of net worth over

[1] We use the term "elderly" to refer to those aged 65 and over.

the past 10 years. In 2001, 2004 and 2007, median wealth rises with age at younger ages, peaks at age 55 to 64, and falls with age at older ages, consistent with standard "life-cycle savings" behavior. The decline at older ages reflects both the tendency of retirees to draw down assets to finance consumption, and higher life-time earnings and wealth enjoyed by younger cohorts as a result of long-term economic growth. This figure reveals changes in the age-profile of wealth over the past decade. Perhaps most striking, in 2010 the inverse-u-shaped wealth pattern that typically characterizes age-wealth profiles had disappeared, and the oldest age group (aged 75+) is now the richest (at least at the median).

Exhibit 1: Wealth by age, 2001 to 2010



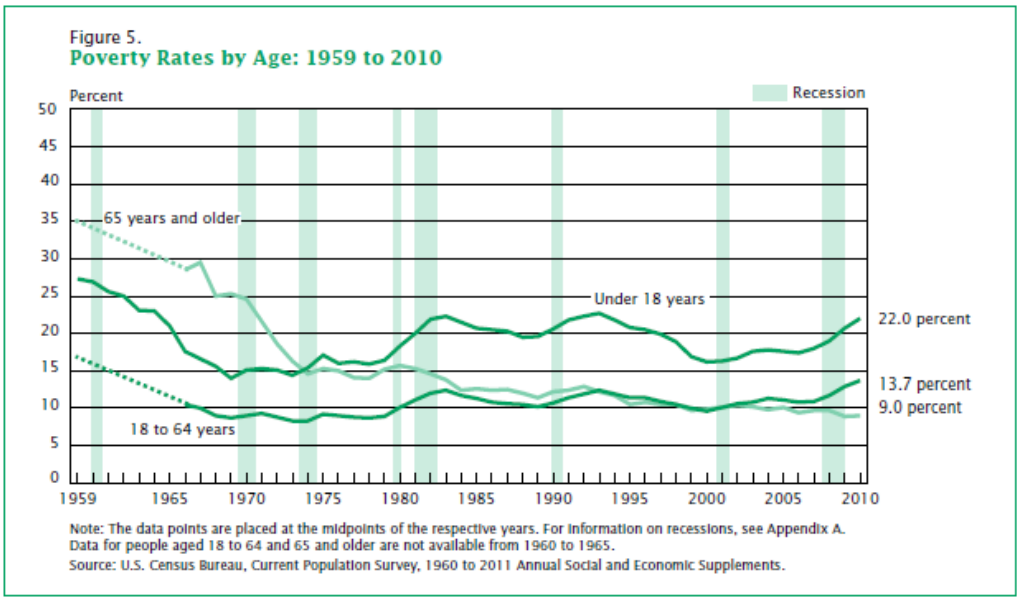
Source: Bricker, J., Kennickell, A., K. Moore & J. Sabelhaus. 2012. Changes in US family finances from 2007 to 2010: Evidence from the Survey of Consumer Finances. *Federal Reserve Bulletin 98*(2): June. Table 4.

The change in the age-wealth distribution occurred in part because of cyclical factors: cohorts under age 75 were hit harder by the Great Recession than those aged 75 and older. But it may also reflect secular changes: namely, increasing wealth among the older population. For example, the net worth of the older population increased notably between 2001 and 2007, while 35 to 44 year-olds saw no increase in wealth and 45 to 54 year-olds had only modest gains. Taking a somewhat longer view, the Pew Foundation reported that, between 1984 and 2009, the median net worth of households headed by someone aged 65 or older increased 42%, from $120,000 to $170,000 (in constant 2010 dollars), faster than any other age group; for example, after inflation adjustment, median net worth rose by only 10% among 55-64 year olds, and fell for those under age 55 (Pew 2011). So while some closing of the age-based wealth gaps is to be expected as the economy recovers, it is by no means assured. Moreover,

these same cohorts will be asked to foot the bill for Social Security and Medicare for the baby-boom retirees, and to begin to fill in the enormous fiscal hole that grew deeper in the Great Recession.

The combination of increasing public transfers and increasing wealth has driven down poverty rates among the elderly by more than 25 percentage points over the past 50 years, from over 35% in 1960 to 9% in 2010 (Exhibit 2; US Census P60-239, figure 5, 2011). The poverty rate for older persons, mostly retired, has been lower than the poverty rate for working-age adults since 2000, and is currently less than half the poverty rate for children, which stands at 22%.

Exhibit 2: Poverty rates by age



Elderly poverty also appears largely immune to economic recessions (periods shaded in Exhibit 2), most strikingly, falling through the severe recessions of the early 1980s and late 2000s, as rates for children spiked.

These trends are based on a poverty measure that does not count health insurance or health care provided by government or employers as income or "resources" available to the elderly. Yet health insurance and health care are arguably the transfers the elderly find most valuable since, due to chronic conditions and health risks of advanced age, many would have difficulty purchasing private health insurance. Indeed, insurance market difficulties are the primary economic efficiency justification for the (near) universal provision of health insurance for the elderly through Medicare (Barr, 1992). Although traditional Medicare has many gaps in coverage, if an elderly person is poor and has few assets, her out-of-pocket medical expenses will be covered by Medicaid. Thus, Medicaid serves as backstop "Medigap" (secondary)

insurance and means-tested long-term care for many persons who did not have low incomes over the working ages (i.e., the middle class).

In stark contrast to the broad access to public health insurance enjoyed by the older population, approximately 18% of persons under the age of 65—10 percent of children and 22 percent of adults aged 18 to 64—were uninsured in 2010 (U.S. Census 2011; P60-239, Table 8). Although poor children are generally eligible for Medicaid, until the Medicaid provisions of the 2010 ACA (Patient Protection and Affordable Care Act, PL 111-148) go into effect in 2014, many low-income adults, including many poor adults, are not entitled to Medicaid.[2] Higher-income persons, including the elderly who had higher incomes during their working lives, are more likely than lower-income persons to have employer-provided health insurance; private insurance is also not included in resource measures for poverty calculations. Thus, not only do the elderly on average have more wealth and lower poverty rates than children and working-aged adults, all else the same, counting health insurance (public or private) as a resource would widen further their economic advantages. Given these facts about income, wealth, and health insurance, scholars generally agree that increases in real expenditures on the elderly coupled with private income growth have markedly improved their relative economic status and markedly reduced their poverty (Scholz, Moffitt and Cowen, 2009; Engelhardt and Gruber, 2004) relative to other age groups.

Surprisingly, however, cracks in this consensus have begun to appear, centered on poverty measurement. Flaws in the OMB/Census "official" poverty measure (OPM) are well known with the first critiques dating to nearly its birth (e.g., Friedman, 1965; see Citro and Michael 1995 pp. 24-25 for a succinct description of the development of the OPM). The Census Bureau has for many years pursued efforts to improve its poverty measure and has published alternative poverty series. In 2011, the Bureau began to publish the Supplemental Poverty Measure (SPM) as part of its P60-series Current Population Reports (Short, 2011). The SPM's many revisions to the OPM were guided by recommendations of a 2010 inter-agency working group on poverty measurement (see Appendix 2) which, in turn, based recommendations on the 1995 National Academy of Sciences (NAS) report, *Measuring Poverty: A New Approach* (Citro and Michael, 1995) as well as research over the 15 years since its publication. The New York City Center for Economic Opportunity (NYCCEO) publishes poverty statistics for New York City using a measure also based largely on the NAS recommendations (e.g., NYC CEO 2011), beginning with poverty rates for 2005.

Key differences between the OPM and Census SPM include, following (Short, 2011):

1. New **poverty thresholds**, set to 33% of the median expenditures on "FCSU" (food, clothing, shelter and utilities) by families, with two children, multiplied by 1.2, adjusted with a "three parameter" equivalence scale formula for units with different numbers of adults and children, for housing status (renter, owner with mortgage, owner without a mortgage), and for regional differences in housing costs.

[2] Some states now say that they will not expand Medicaid. We return to this issue in the discussion.

2. A new **measurement unit** (economic unit) that includes all related individuals, co-resident unrelated children, cohabiters and their children.

3. A new **resource measure** that includes the value of some near-cash in-kind government benefits (e.g., SNAP (food assistance), housing assistance, home energy assistance), but subtracts taxes (or adds tax credits), some work expenses, child support payments, and Medical Out-of-Pocket (MOOP) expenditures.

The redefinition of the measurement unit has proven relatively uncontroversial, as have the revised equivalence scales and the inclusion of near-cash in-kind benefits that can be used to meet food, clothing, shelter and utility needs. More controversial are the linking of thresholds to national consumption expenditures, which effectively converts the poverty measure from an indicator of absolute deprivation to one of relative deprivation, and the exclusion from resources of the recipient value of health insurance and the deduction from resources of actual MOOP expenditures.[3] The first of these issues is predominantly philosophical and disagreements about it are unlikely be resolved by analysis.[4] The second, though also partly philosophical, is more conceptual and empirical—as well as difficult and contentious—and it is our focus.[5]

The Supplemental Poverty Measure and the other poverty measures based largely on recommendations of the NAS Report show the elderly to be far poorer than previously thought (US Bureau of the Census 2011b, NYCCEO 2011). The Census Bureau's SPM for 2010 put the elderly poverty rate at 15.9%, far higher than the OPM rate of 9.0%. Although the OPM rate for the elderly falls substantially below the OPM rate for non-elderly adults (13.7%) and children (22.0%), the SPM rate of 15.9% for the elderly slightly exceeds the corresponding rate for non-elderly adults (15.2%), and approaches the SPM rate for children (18.2%).

Results such as these have fueled calls to sustain or even develop new policies for the elderly, as in Butrica, Murphy and Zedlewski (2006):

> Higher alternative poverty rates among older adults and especially high rates among some subgroups show the importance of protecting low-income older adults when considering reforms that reduce the cost of government programs for retirees. They

[3] John Cogan, a member of the Panel on Poverty and Family Assistance responsible for the 1995 NAS report, raised several of these objections in a dissent (Citro and Michael, 1995, Appendix A).

[4] However, it is often noted that relative poverty measures have the uncomfortable feature that they can rise during economic booms (as famously occurred in Ireland in the 1990s as absolute poverty was nearly eliminated by strong economic growth; Smeeding 2006); and may fail to register economic downturns. The NYC CEO measure originally failed to increase noticeably between 2008 and 2009 as the economy descended into the Great Recession. However, the CEO poverty rate increased substantially between 2009 and 2010 (by 1.3 percentage points). This recent increase reflected a revision in the threshold methodology to align with the Census method that is intended to improve cyclical responsiveness of the SPM. Under the revised method, the CEO thresholds increased three percent (by $735) between 2008 and 2010, compared to a decrease of two percent ($490) that would have occurred using the original method (NYC CEO 2012, Appendix B). See also Ravallion and Chen (2011).

[5] Burtless and Siegel note that Corbett (1999) reported that only about one quarter of all participants at a conference on poverty measurement (social scientists and policy analysts) affirmatively approved of the NAS recommended treatment of medical expenses (see Burtless and Siegel, 2004, footnote 2).

also underscore the importance of considering new policies to boost the incomes of the poorest older adults. Medicare reforms that increase cost sharing should exclude the lowest-income older adults.

In short, the supplemental poverty figures imply that, despite spending an amount equal to 70% of per capita GDP on each person over age 65, on average, the elderly remain among the most economically vulnerable groups of American society. How can that be? Are the elderly "greedy geezers," a powerful, organized force that uses the political process to extract maximum transfers out of an increasingly strained working-age population, making elderly poverty largely a relic of the past? Or are many older persons teetering on the precipice of homelessness or malnutrition? With such stark differences in indicators of the absolute and relative poverty of the elderly, how should the process of policy reform move forward, restore fiscal balance, set spending priorities and revise tax policy, while at the same time protecting the most economically vulnerable members of our society?

The answer to these questions begins with the recognition that, empirically, the difference between the OPM and SPM elderly poverty rate results from their different treatment of MOOP expenditures. The SPM subtracts MOOP expenditures from family income, while the OPM ignores MOOP expenditures altogether. When the Census makes all SPM adjustments to the OPM other than subtracting MOOP expenditures, the elderly poverty rate falls slightly, from 9.0% to 8.6%. When it then subtracts MOOP expenditures, the elderly poverty rate rises to 15.9%, the SPM elderly poverty rate (US Bureau of the Census 2011b, Table 3a; see Exhibit 3 below). Clearly, many older persons have substantial MOOP expenditures, making elderly poverty rates highly sensitive to their treatment.

Although the OPM and SPM differ in their treatment of MOOP expenditures, neither measure counts health insurance benefits as a family resource. The exclusion of health insurance benefits from resources is especially noteworthy because one of the least controversial aspects of the SPM is the addition to family resources of a value for several in-kind benefits such as government food and housing assistance. The exclusion of both MOOP expenditures and the value of health insurance benefits from resources stems from a decision to base the SPM on non-medical needs and non-medical resources (food, clothing, shelter, utilities and "a little more", sometimes called "FCSU"). A primary purpose of this paper, therefore, is to assess whether the SPM's treatment of MOOP expenditures and public and private health insurance benefits results in an improved measure of poverty. By an improved measure we mean one that better discriminates between the "needy" and "non-needy", better reflects differences in the relative need of different demographic groups at a given time, and better reflects changes over time in need overall and within groups (Meyer and Sullivan 2010b).

One might argue that our goal is inappropriate because, as the name suggests, the SPM is intended to supplement, not replace the OPM. We disagree. First, many proponents of the SPM clearly hope that it will come to be regarded as superior to the OPM and, over time, replace the OPM. Second, the decision to base the SPM on non-medical needs and resources is sometimes justified by the claim that health care deprivation is best measured separately from "material" deprivation (Citro and Michael Chapter 4, Blank 2008). Blank (2008) in particular

argues that multiple measures of deprivation provide a more complete picture of need than any one measure can. We agree, but nonetheless believe that calculation of multiple measures does not reduce the importance of creating the best OPM possible. In part, this depends on the use or uses of the measure or measures, and the users. A commentary by Douglas Bernheim (1998) provides a useful, if slightly cynical view on the subject:

> I suspect that we have focused on poverty rates primarily to satisfy the demands of politicians and the press, who generally seem to limit their attention to single numbers. To the extent that economists wish to affect the policy process, it may be necessary to cater to the demand for oversimplification; thus one justifies the exercise in this paper by arguing that, if politicians insist on using a single number, we should make sure that it is the best number possible. But then the ultimate point of this paper seems to be that the construction of a truly "good" poverty number is impossible.[6]

We conclude that subtracting MOOP expenditures and excluding the value of health insurance results in an inferior measure of elderly poverty, distorting assessments of the neediness of the elderly relative to other populations. In particular, the treatment of MOOP ignores the provision of largely publicly funded, non-risk rated insurance to the elderly, their access to Medicare Advantage Plans that can limit MOOP, and the fact that the elderly save to provide assets to fund MOOP.

The second purpose of this paper, therefore, is to examine whether it is possible to create a poverty measure that incorporates health care and health insurance into both needs and resources. The NAS Report explicitly considered its approach a second best necessitated by practicalities due to the existing US health care system (p. 237), but which, "as changes are made to the US system of health care, it will be important to reevaluate" (p. 69). Cogan, an NAS panel member dissented from excluding health care and insurance, while Moon (1993) was particularly concerned that health insurance be properly valued as part of a full picture of poverty. Given the substantial changes that have occurred and will soon occur in the US health care system, we believe it is time to determine whether including health care and insurance in US poverty measurement is now practical.[7]

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[6] It is somewhat coincidental that the paper on which Bernheim was commenting is titled "Measuring Poverty Among the Elderly" (Deaton and Paxson, 1998). However, that paper focused on a set of issues about poverty thresholds that are not directly relevant to the core issues of our paper.

[7] Since writing this paper we have become aware of a National Research Council-Institute of Medicine process under way to develop a measure of medical care economic risk and of a related paper by Betson (2012). Meier and Wolfe (2011) provide the conceptual framework, and both papers raise several of the issues that we raise in this paper. However, unlike this paper, Meier and Wolfe do not focus on distortion of elderly poverty rates in by Supplemental Poverty Measure and they envision the medical care economic risk index as separate from the SPM poverty measure (page 12). Betson (2012) proposes three approaches to including medical care in poverty measurement. The first, an allowance for a fixed proportion of income, he rejects. The second is analytically equivalent to the SPM approach. The third, using a model to project the probability of high out-of-pocket costs

We first identify some conditions that permit incorporation of health into poverty measurement. Specifically, health insurance plans whose premiums are not-risk rated and that cap additional MOOP expenditures must be universally available. We conclude that, although not without some lingering practical problems, incorporating health care and insurance is possible for the elderly today and will be possible in 2014 for the non-elderly.

Poverty measures that incorporate health care and insurance will provide more accurate statistics to help guide the difficult and momentous policy changes that lie ahead. To pick just one example, unlike the SPM, a poverty measure that incorporates health can show how a state's decision to extend Medicaid to newly-eligible low-income populations reduces poverty of the non-elderly. It does so by helping meet basic health/insurance needs, which has a poverty reduction value that includes but exceeds the reduction in MOOP expenditures.

The paper is structured as follows. We have described the SPM and specifically its treatment of MOOP and health insurance and the impact of these adjustments on poverty rates. We next cover premises, including what makes a good poverty measure, and definitions, and then further analyze the impact of the treatment of MOOP on poverty measurement. Next we review empirical studies that have attempted to assess the impact of making health adjustments on the correspondence between the poverty measure and other measures of material hardship. We then describe the logic of the NAS Report's discussion of medical care and insurance, listing the barriers to including health care in poverty measurement. We determine a set of health care and insurance system characteristics that could eliminate or dramatically reduce those barriers and describe the steps for more holistic (i.e., health inclusive) poverty measurement. Since conceptualizing health insurance as a need is essential for those steps, we examine that issue conceptually. We then turn to whether the conditions are met today for the elderly and will be met after full implementation of the ACA in 2014. Finally, in our discussion, we consider potential criticisms, caveats and related issues to the potential health-inclusive poverty measure.

Premises and Definitions

The first purpose of this paper is to answer the question: Does the Supplemental Poverty Measure's (and similar) treatment of health insurance and medical out-of-pocket expenses result in a "better" measure of poverty? Of course, the answer to this question depends in part on the answers to a set of inter-related questions: what is poverty? what constitutes a "better" measure? what is the purpose of poverty measurement? Although different scholars and analysts have answered these questions differently, we begin with a set of premises, definitions and priorities that we believe are widely accepted and that will set the stage for further analyses.

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based on observed characteristics has conceptual similarities to Meier and Wolfe (2012). We believe our approach, treating medical "need" as a need for insurance rather than as health care requires fewer assumptions in modeling, and may have conceptual and practical advantages in implementation as we discuss below.
A detailed description and evaluation of these papers is outside the scope of the present paper.

We believe there is broad consensus that poverty is the inability or failure to attain "basic needs." Basic needs may simply reflect social norms about a minimally acceptable level of subsistence or, in principle, be derived from scientific study of the resources required for survival, full human function or full participation in society. For the purposes of this paper, however, it suffices to agree on the following: First, there is some minimum material consumption deemed "basic." These are generally influenced by social norms. Second, health care is an essential part of basic needs.[8] The latter might seems obvious, since health care is often essential for survival, full human function or full participation in society, but its meaning is complicated by the differences between and inter-relationships of health, health care and health insurance. Conceptually, one may define "needs" as resources needed to maintain survival or function, but for some individuals in some medical conditions, that is impossible. For example, some forms of cancer are incurable, no matter what resources are used. So, we cannot define health care needs purely in terms of health. In modern society, health care is often largely funded through health insurance. Is, then, health insurance a basic need? We return to this issue later, and note for now that it is essential to distinguish health care and health insurance, as well as to understand their myriad inter-relationships.

Having defined poverty as the inability or failure to attain a set of basic needs that includes health care, what would constitute a good measure of poverty? There are, broadly speaking, two measurement approaches. The first determines whether a family actually "consumes" an amount greater than the level of basic need. (If the set of basic needs includes different dimensions—health care, shelter, food-- then a determination may need to be made about consumption on more than one dimension.) The second method determines whether the family has adequate resources overall to support consumption at or above the basic needs level, whether or not it actually consumes the level and types of goods deemed "basic needs." Conceptually, resources are anything that allows the family to meet basic needs, no matter the source (market, government, gifts), form (cash, in-kind) or period earned (current income, savings out of past income).

The quality of a statistic cannot be judged apart from how it is used. Different measures may be needed for different uses. We believe there is broad consensus that a poverty measure should adequately reflect the overall level of deprivation in society, and, perhaps more importantly, describe differences in deprivation between groups at a given time, changes in deprivation over time, and changes over time in group differences in deprivation (i.e., group specific trends and differences). Trends and group differences in deprivation help analysts judge the health of the economy as well as social and political institutions, and to understand the impact of social programs and other policies on material hardship or deprivation.

[8] We note that the OPM thresholds trace their origins to the Emergency Food Plan, intended to capture the amount of income necessary to provide a nutritionally adequate diet on an emergency basis. This is a diet intended to maintain nutritional health. In a background paper for NAS report, Angus Deaton (1985) argued that early research showed the Emergency Food Budget to exceed the income required to avoid malnutrition and nutrition-related disease. He further explained why using the food budget share at the average family income (1/3) does not provide a logically consistent (scientific) basis for defining or updating poverty thresholds as long as the average income exceeds the poverty line. Although it may lack a firm scientific basis, there is no denying the appeal of a definition of poverty linked to inadequate nutrition (i.e., suboptimal health).

What difference does it make?

As shown in Exhibit 3, the Census Bureau's Supplemental Poverty Measure shows vastly higher poverty among the elderly relative to the official measure and relative to other age groups. Furthermore, subtracting MOOP expenses from income accounts for the entire difference between the official and supplemental measures of elderly poverty.

Exhibit 3: Official and Supplemental Poverty Rates (%), 2010

	ALL	*<18*	*18-64*	*65+*
OPM	15.1	22.0	13.7	9.0
SPM, not subtracting MOOP	12.7	15.4	12.4	8.6
SPM	16.0	18.2	15.2	15.9

Source: Official: Census 2011a, Table 4 (P60-239). Supplemental: Short 2011, Table 3a (P60-241).

Specifically, making all changes except subtracting MOOP expenditures from income lowers the poverty rate of the elderly from 9.0% to 8.6% (right-most column), whereas making that one further adjustment raises the elderly poverty rate from 8.6 percent to 15.9 percent. Can it be that elderly poverty is nearly twice as high as we thought, and as high as child poverty rates? (Burtless and Siegel (2001) make a similar point.)

The NYC CEO measures poverty for New York City with a method similar to the NAS/Census SPM with similar results (Exhibit 4). Subtracting an estimate of MOOP expenditures raises poverty by nearly five percentage points among the elderly, by three percentage points among children and 2.6 percentage points among working-aged adults. Compared to the OPM for New York City, making all CEO adjustments cuts the gap in poverty between children and the elderly by more than half, from 13.5 percentage points to 4.6 percentage points. However, the contribution of the MOOP adjustment in age differences in poverty is smaller in the CEO estimates for NYC than in the Census estimates for the country as a whole. Although there are many possible explanations for such differences, we note that the two agencies use very different methods to estimate MOOP. The Census Bureau uses actual MOOP expenditures reported in the March CPS (beginning in 2010), while the NYC CEO imputes MOOP .

Exhibit 4: NYC CEO 2010: Official and CEO Poverty Rates (%), 2010

	ALL	*<18*	*18-64*	*65+*
OPM	18.8	29.5	15.8	16.0
CEO, not subtracting MOOP	18.0	22.8	16.7	16.5
CEO	21.0	25.8	19.3	21.2

Source: **The CEO Poverty Measure, 2005 – 2010 A Working Paper by the NYC Center for Economic Opportunity April 2012 and special tabulations provided by Mark Levitan, NYCCEO.**[9]

While subtracting MOOP expenditures from income markedly increases elderly poverty, not surprisingly, adding the value of health insurance to resources, which neither the OPM nor SPM does, markedly reduces elderly poverty. Several studies found that adding a value of Medicaid and Medicare to income markedly reduced elderly poverty rates, sometimes to near zero (e.g., those cited by Ellwood & Summers 1985; see Meyer and Sullivan 2010a for estimates that add an insurance value of Medicare and Medicaid to consumption in their calculation of rates of consumption-poverty).[10] For example, in 1986, the elderly poverty rate would have fallen (approximately) from 12.4 percent to 4.1 percent if a market value of Medicaid and Medicare were added to income (Citro and Michael, 1995, Table 4-2). This approach is problematic, because it inconsistently adds the value of health insurance to resources without adding health insurance to the needs threshold. But as an accounting exercise, it illustrates the magnitude of the effect of health insurance.

A slightly different take on this issue is provided by Ben-Shalom, Moffitt and Scholz (2011). They show (see their Tables 4 through 6) that, in 2004, the pre-transfer monthly poverty gap among the elderly (the aggregate amount by which the elderly's pre-transfer income fell below the poverty line) was $8.8 billion in 2007 dollars. The post-transfer poverty gap—calculated by adding to pre-transfer income cash and near-cash transfers, but not Medicare or Medicaid—

[9] See NYCCEO (2012) Appendix H for details on NYC CEO's the imputation methods and Banthin (2004) for a discussion of related issues.

[10] Burtless and Siegel (2004) show that adding predicted "reasonable" MOOP expenditures to the poverty threshold has a similar effect on poverty rates as subtracting actual MOOP expenditures from resources.

was $0.6 billion. Therefore, cash and near-cash transfers closed 93% of the pre-transfer poverty gap among the elderly. Furthermore, adding a value of Medicaid based on the costs of HMO plans eliminates $10 billion of the monthly US poverty gap for persons of all ages, though that figure includes spending on poor pregnant women and children in addition to the low-income elderly. Adding a value of Medicare based on costs of PPO plans would close $10 to $11 billion of the US poverty gap for persons of all ages, though that figure includes spending on non-elderly disabled individuals. Nonetheless, it is quite likely that $20+ billion in monthly Medicaid and Medicare spending on the poor through programs that overwhelmingly target the elderly would, if counted, eliminate the remaining $0.6 billion elderly poverty gap, even if heavily discounted to reflect a recipient or fungible value. Clearly, for judging changes in economic inequality, and the effects of policy and priorities for intervention, it is a matter of some importance whether the poverty rate of the elderly is about the same as the shamefully high child poverty rate (as indicated by the SPM), or about half the child poverty rate (as with the OPM), or near zero (as with consumption poverty or after the addition of a market value of public benefits).[11]

Deducting MOOP from resources also exacerbates the bias in the income-based US poverty measures due to not counting assets towards resources. Most people save explicitly to support income (and fund consumption) after retirement—the usual life-cycle path of savings and consumption. That excluding savings from resources systematically upwardly biases poverty measures, particularly for the elderly, has been recognized. Having substantial MOOP while elderly is not uncertain, although the timing and precise magnitude of MOOP expenditures are, and therefore people also save to support MOOP expenditures (De Nardi et al). Deducting MOOP, which is potentially quite large for the elderly, thus exacerbates the upward bias due to assets exclusion in the SPM as a poverty measure for the elderly. Consider two elderly people with the same income, one of whom has higher assets and uses them to purchase better (higher premium) health insurance and/or better care conditional on insurance. Using the SPM approach of not counting assets and deducting MOOP, the individual with higher assets and better medical insurance/care would be deemed poorer.

While it is clear theoretically that deducting MOOP exacerbates the upward bias in SPM due to asset exclusion, the magnitude of the effect is unknown. Particularly relevant is the elasticity of MOOP with respect to wealth. Several studies, all using the Health and Retirement Study data, show that MOOP (not including premiums) is sensitive to wealth, although more sensitive to health status (Goldman and Zissimopolous, 2003; Marshall, McGarry and Skinner, 2010; Webb and Zhivan, 2010). For example, Webb and Zhivan (2010) find, all else the same, that being in the top wealth quintile raises MOOP by 28% relative to the middle quintile, while having diabetes raises MOOP by 55%.[12] Marshall, McGarry and Skinner (2010) show that end-of-life

[11] Critics of this interpretation would point out, however, the inconsistency of adding Medicare and Medicaid benefits to resources without adding health needs to the poverty thresholds. We discuss this issue below.

[12] Two caveats to interpreting these results as causal stand out. First, all these studies control for insurance status, but as we describe later, insurance choice is likely a major mediating pathway from wealth/income to MOOP. Insurance status should not be controlled if the objective is to determine the total (direct and indirect) effect of wealth/income on MOOP expenditures. Second, since health and wealth are known to be associated, it is possible

MOOP spending on long-term care (nursing home, home care, helpers, home modifications) is particularly sensitive to wealth. In summary, deducting MOOP substantially raises the measured poverty rate for the elderly and this approach exacerbates the bias in poverty measurement from not including assets in resources.

Material Hardship Validations of the SPM and OPM

If we built a better measure of poverty, how would we know? Researchers have attempted to validate poverty measures empirically by examining how measures correlate with indicators of "material deprivation" of various types. In this section, we summarize key results from five studies that use this approach, some of which also explore the treatment of health insurance and MOOP expenditures among the elderly: Meyer and Sullivan (2010a); Charles et al. (2006); Levy (2009); Butrica et al. (2008); Butrica et al. (2009). We provide more detailed reviews and summaries of these studies in Appendix 3 because, in some instances, the authors furnished updated, new, or unpublished results at our request. These results may not have been discussed elsewhere. We also discuss Butrica et al. (2008) in detail in Appendix 3 because we believe that their conclusion--that subtracting MOOP expenditures from income results in poverty measures that accord better with material hardship --rests on a faulty interpretation of their data, which, in fact, is inconclusive.

These assessments generally consist of comparisons of correlations between different poverty measures and reported experiences of material hardship of various types, an approach (to our knowledge) pioneered by Christopher Jencks and colleagues Susan Mayer and Barbara Boyle Torrey (Mayer and Jencks 1989; Jencks and Torrey, 1988).[13] Material hardship is measured by indicators such as missed meals, delayed or foregone medical care or dental care due to lack of resources, substandard housing conditions or crowding, and the absence of household durables such as a washing machines. The studies we review consider the sensitivity of results to the inclusion or exclusion of MOOP expenditures from consumption or income, or to the addition of an estimate of the fungible value of employer-provided or public health insurance. We also include information from an additional study (Fisher et al. 2009) that does not correlate poverty measures with measures of material hardship, but which nonetheless describes clearly the relationship between consumption and income poverty, as well as asset holdings among the elderly.

The key results <u>for the older population</u> from this literature are the following:

1. Income poverty does not accord well with material hardship; the income poor consume much more than their income, presumably due to their assets (Meyer and Sullivan, 2010a; Charles et al., 2006). For example, Fisher et al. (2009) report that nearly three quarters of

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that these estimates ascribe to health status what are in fact wealth effects mediated by prior medical care, a notoriously difficult issue.

[13] Although they do not study the effects of subtracting MOOP expenditures, it is relevant that Mayer and Jencks (1989, p. 111) conclude "Official poverty statistics appear to exaggerate the extent of material hardship among the elderly and underestimate its extent among children."

income-poor persons aged 65 and older are not consumption poor.[14] Among the income poor who are not consumption poor, median assets (and net worth) total $70,000 to $80,000, based on data from the Consumer Expenditure Survey (CEX) pooled over the period 1983-2003, in dollars of 2003 (Fisher et al. 2009, Table 5).

2. Consumption poverty also does not accord perfectly with material hardship because many consumption poor have income above the poverty line, and may have assets, but are "thrifty" (Charles et al., 2006; Meyer and Sullivan, 2010a; Fisher et al., 2009).[15]

3. The proportion of the consumption poor that is income poor is much higher than the proportion of the income poor that is consumption poor. Thus, consumption poverty is the more sensitive indicator of hardship in terms of indicating the simultaneous occurrence of consumption and income poverty. Charles et al. (2006), using data from the Health and Retirement Survey (HRS), report that only two to three percent of the older population is both consumption poor and income poor. Hurd and Rohwedder (2006) report a corresponding figure of 1.4% based on a slightly different sample from HRS. The corresponding figure for those aged 65 and over in the CEX is three to four percent (Fisher et al. 2009, Table 3), though, again, these figures refer to data averaged over 1983 to 2003, and would likely be lower today since elderly poverty rates have fallen (see Exhibit 2 above).

4. Subtracting MOOP expenditures from income does not improve prediction of material hardship (Levy 2009). Subtracting MOOP from income ***weakens*** the relationship between income and both food hardship and medicine hardship, suggesting that it is increases in income (not income net of MOOP) that reduces hardship. Interestingly, subtracting MOOP from income also reduces the estimated effect of poverty (not income) on food hardship, but not on medication hardship. This finding suggests that elderly persons may protect other dimensions of material well-being from the effects of medical expenditures, though, admittedly, Levy presents information on only one non-medical hardship dimension (food). Nonetheless, this evidence clearly raises doubts about the idea that MOOP expenditures represent non-discretionary (e.g., health-shock-driven) reductions in resources available to support non-medical dimensions of material well-being.

5. Among the elderly, and even the low-income elderly, health care spending does not "crowd out" other types of spending. Specifically, in HRS data that follows the same individuals over time, increases in the number of reported health conditions do not significantly or substantively lower non-medical expenditures among those over age 65 (Butrica et al. 2009). In fact, this study concludes:

> "The results suggest that high out-of-pocket health care spending does not generally force older Americans to reduce their living standards. However, low-income adults ***in their fifties and early sixties*** appear to curtail their non-health spending in response to

[14] The three-quarter figures is our calculation based on figures that Fisher et al. report separately for those aged 65-74 and 75+ in their Table 3, page 6. Although both Meyer and Sullivan (2010a) and Fisher et al. (2009) use CEX data, Fisher et al. include MOOP expenditures in consumption but Meyer and Sullivan do not.

[15] Evidence of asset holdings for this small group is mixed; for example, Fisher et al. (2009 Table 5) report median net worth of $3,140 and $34,311 for this group at age 65-74 and 75+, respectively.

high health care expenses when they develop multiple medical conditions. These findings suggest that Medicare and Medicaid generally protect older adults from high out-of-pocket health care costs, but that important gaps in the health care safety net exist for older people who have not yet reached the Medicare eligibility age of 65" (emphasis added).

This conclusion is all the more surprising since the last year covered by their data is 2005, a year before Medicare Part-D began paying for prescription drugs.

6. Assets matter for older person's experience of material hardship, controlling for income (Levy 2009; and, indirectly, Meyer and Sullivan 2010a).

Indeed, the importance of integrating income, consumption and wealth in poverty measurement is emphasized by the Commission on the Measurement of Economic Performance and Social Progress (Stiglitz, Sen and Fitoussi, 2009, Executive Summary): "But for many purposes, it is also important to know what is happening at the bottom of the income/wealth distribution (captured in poverty statistics), or at the top. Ideally, such information should not come in isolation but be linked, i.e. one would like information about how well-off households are with regard to different dimensions of material living standards: income, consumption and wealth. After all, a low-income household with above-average wealth is not necessarily worse-off than a medium-income household with no wealth."

In sum, these papers show that subtracting MOOP from income does not improve the correspondence between income poverty and non-medical material hardship among the elderly. Furthermore, older persons use their savings/assets to support their consumption (and MOOP expenditures) and material well-being, so ignoring assets and subtracting MOOP from income distorts measures of the material status of the elderly. Although additional study is warranted, this is the strongest evidence to date against the conceptual justification underlying the SPM treatment of medical care and insurance. We turn to a closer examination of this justification in the next section.

Beyond the conceptual issues, these studies also speak to the "face validity" of the SPM by presenting evidence on the extent of material deprivation among the elderly. They demonstrate that consumption poverty corresponds better to material hardship than income poverty, and that those experiencing both income and consumption poverty appear to be the neediest. Moreover, the consumption poor are a much smaller proportion of the older population than the income poor: about 5% to 6% of the older population roughly twenty years ago (Fisher et al. 2009); or 4% or today (Meyer and Sullivan 2010a). The joint occurrence of income and consumption poverty is even rarer (about 1% to 4% of the older population). These studies suggest that the elderly poverty rate should be lower, perhaps much lower than the OPM, not far higher, as suggested by the SPM.

NAS Rationale: MOOP Expenditures, Insurance & Poverty Measurement

We have seen that subtracting MOOP expenditures from resources and not including the value of employer-provided and government-provided health insurance dramatically increases measured poverty among the elderly. At the same time, there is little evidence that these adjustments make the poverty measure a better predictor of material hardship. In this section, we review the reasoning that led the committee responsible for the NAS Report to make this recommendation (Citro and Michael, 1995). As we shall see, the Committee considered ways to broaden the measure to include health needs and resources. However, in doing so, they encountered a variety of conceptual and practical barriers that led them ultimately to recommend excluding health care from both income and needs. In the next sections we review their analyses, and we argue that a combination of changed circumstances (including changes in the extent and nature of public health insurance programs) and a restating of health needs as health insurance needs allow us to overcome the most significant conceptual and practical barriers. In sum, we conclude that it is now possible to construct a single poverty measure that incorporates health needs and resources, and we provide the outlines for such a measure that we refer to as the "Health-Inclusive Poverty Measure" (HIPM).

The decision in the NAS report to separate medical and material poverty—to exclude medical insurance and deduct MOOP from resources—was based on several inter-related issues: 1) Resources and needs thresholds must be defined consistently; 2) valuing health care needs is difficult because they vary greatly with health status; 3) valuing health insurance is difficult because its value and availability vary with health status and other factors; 4) MOOP expenditures are highly variable and skewed; 5) needs must be met *ex pos*t (actual health care needs), rather than *ex ante* (expected health care needs); 6) health insurance benefits are not fungible; 7) health care expenditures are non-discretionary.

We briefly describe each of the issues, as described in the NAS Report, before analyzing them in depth more fully in the next section.[16]

#1 Consistent resource and needs definition As originally developed by Mollie Orshankski in the early 1960s (Fisher, 1992), the OPM threshold includes spending on necessities other than food through the use of a multiplier of food needs, thus implicitly including out-of-pocket health care expenditures and excluding health care funded through insurance or charity. Leaving aside whether the MOOP component of the OPM threshold is obsolete, it would be illogical to include the value of insurance in resources if the thresholds include only MOOP needs.

#2 Difficulty valuing heterogeneous health needs Health care needs vary enormously with health status. A healthy person might need nothing; someone with diabetes needs regular outpatient care and supplies; and someone who had a heart attack needs large amounts of intensive hospital care. Thus, adding an expected/average health care need to the threshold would represent poorly the needs of both the healthy and the sick.

[16] The Report drew on prior work, particularly by Ellwood and Summers (1985) and commissioned work by Moon (1993).

#3 Health insurance value and availability varies widely An alternative approach to valuing health care needs is to value health insurance needs. However, the actuarially fair premium for health insurance depends on age and health status, making insurance, like health care, difficult to value in both needs and resources. Moreover, availability of health insurance varies with health status, and premiums and other payments vary with other factors such as employment status. Determining the resources needed to purchase sufficient health insurance for each individual is a daunting task.

#4 The distribution of MOOP expenditures has a high variance and is skewed (i.e., a small number of people have very large expenditures) Because health status varies greatly and sick people consume vastly more health care than healthy people (Berk and Monheit 2001; Yu and Ezzati-Rice 2005), MOOP is high variance and skewed. Thus, actual health care needs can be very high.

#5 Needs must be met ex post, not ex ante One approach to incorporating health care into poverty measurement is to include expected (*ex ante*) health care costs in the needs threshold. However, as discussed in #2 and #4 above, actual (*ex post*) health care needs may be much higher than expected. Alternatively, in principle, people could meet their needs by purchasing health insurance *ex ante*, but in practice, that is not always possible. As discussed above in #3, insurance premiums may be related to health status (i.e. risk-adjusted) and thus not truly *ex ante* to health status. Additionally, cost-sharing (e.g., deductibles) means that some out-of-pocket health care spending still depends on actual (*ex post*) health status.

#6 Health insurance is not fungible Health insurance, however valuable, can be used only for health care, and is not available for purchases of FCSU. A generous health insurance benefit does not help someone meet FCSU needs.

#7 Health care expenditures are non-discretionary The notion that health care expenditures are not a matter of choice underlay the decision to deduct MOOP expenditures from resources.

The Report recognized that excluding health care/insurance entirely would result in a poverty measure that does not register unmet health care/insurance needs, or the fulfillment of those needs. In fact, the committee considered (using an analysis by Moon (1993)) several approaches that incorporate health care/insurance into both needs and resources. Ultimately, the difficulty of valuing health care/insurance needs seemed insurmountable. If health care/insurance could not be added to resources, then, for consistency, MOOP expenditures must be deduced from resources (see #1).

Debate about the Report's recommended treatment of health care/insurance in poverty began with its publication. For example, in his dissent, Cogan asserted that consuming health care is a choice, similar to other economic goods (Citro and Michael, pp.388-390) and therefore discretionary. Burtless and Siegel (2001) highlighted the distortion in age-comparisons of poverty rates created by deducting MOOP and not valuing government- and employer-provided health insurance, one of our central concerns.

There are three major problems with not valuing health insurance, particularly for the elderly. First, leaving health insurance out of the needs threshold implies that it is not a necessity.[17] This causes some non-elderly persons who do not have their needs met (by being uninsured) to be classified as nonpoor, again distorting the comparison between age groups. Second, Medicare, Medicaid and employer-sponsored health insurance provide the elderly and insured non-elderly with a great deal of tremendously valuable health care (e.g., Cutler 2004). Leaving health insurance out of resources misses the way in which the elderly—unlike many non-elderly today—not only have their basic health insurance needs met but also receive a tremendously valuable service (Burtless and Siegel, 2001).[18] Third, health insurance protects the assets of the elderly. The Report acknowledged many of these drawbacks and noted that, as the structure of the health care and insurance system change, their recommendations should be revisited (page 69):

Finally, as changes are made to the US system of health care, it will be important to reevaluate the treatment of medical care expenses in the definition of family resources. As an example, if relatively generous health insurance coverage is made available to everyone, the amount of out-of-pocket costs that is subtracted from income should likely be subject to an upper limit or cap.

We believe that, for the elderly, this situation exists today, implying that MOOP deductions should be capped today. Moreover, it is now possible to value health insurance. While some barriers to valuing all health care/insurance in needs and resources remain, we believe they have been lowered enough that a revised approach is feasible and warranted. Moreover, in the years ahead, as the provisions of the ACA go into effect and implementation advances, valuing health insurance and limiting MOOP deductions will be a viable approach for the non-elderly.

In the next section, we further analyze the NAS rationale and consider some conditions sufficient to surmount the difficulties they describe.

Incorporating Health Care and Insurance into Poverty Measurement

In order to incorporate health care and health insurance into poverty measurement, two kinds of conditions must be met. The first are conditions about the health care and insurance system. The second is agreement about what constitutes "needs" for health care and/or insurance—a partially philosophical and political issue. By specifying health needs as a need for health insurance, we are able to incorporate health care and insurance into poverty measures. Therefore, we first describe some sufficiency conditions and then in the following section discuss insurance as a need. In considering what conditions permit incorporating health care and insurance into poverty, we initially focus on their general form, rather than the specifics of the US health care system as it is now, was once, or might become in the future.

[17] The NAS Report stated, "an objection to our proposed approach, voiced by Moon (1993), is that it does not explicitly acknowledge a basic necessity, namely, medical care that is just as important as food and housing. Similarly, the approach devalues the benefits of having health insurance, except indirectly." (p. 236)

[18] Burkhauser, Larrimore and Simon (2011) find that including the value of employer-provided insurance in income reduces income inequality.

First, some nomenclature: In the poverty literature, MOOP refers to both health insurance premium payments and payments for medical care made out-of-pocket. In the health economics literature, by contrast, MOOP often refers only to payments for medical care, which we will refer to as "non-premium MOOP." Payments for medical care consist of both payments for uncovered care[19] and the cost sharing (e.g., deductibles, co-payments) that accompanies covered care. We follow the poverty literature convention in the discussion that follows. In particular, we will use the term "premium MOOP" to mean out-of-pocket payments by individuals towards the purchase of insurance. We will use the term "plan full cost" to refer to the total cost of the insurance. Often government or employers pay directly for insurance (partially or fully), rather than providing funds to the individual to purchase insurance. The plan full cost is often referred to as the "actuarially fair premium"—the average cost of all medical care—plus essential administrative costs. The actuarially fair premium depends on the population that is pooled.

Let us first conduct a thought experiment. Imagine that everyone is able to select a health insurance policy that has no premium or non-premium MOOP. The plan covers a certain class of medical care—that which is socially defined as essential—which we call the basic full plan. We will define "non-discretionary" care (tautologically) as the care covered by this basic full plan.[20] Since there are no premiums or cost-sharing for individuals with the basic full plan, then by definition all MOOP expenditures by persons holding such policies are discretionary, representing a decision to pay for care outside the plan. In contrast to the basic full plan, other plans may cover some discretionary care and have premiums and/or cost-sharing. Anyone who chooses a non-basic-full plan, with the resulting premium and/or non-premium MOOP, has thus *chosen* to have MOOP, making it discretionary. Thus, if such a basic full plan were available, all MOOP expenditures would be discretionary and should not be subtracted from resources under the NAS recommended poverty measure. An analogy would be the situation in Britain where the National Health Service covers all the politically determined basic care, rendering any MOOP the result of a decision to go outside of the NHS and receive care that the society has deemed discretionary.[21]

[19] Uncovered care consists of all care for the uninsured (unless provided free), care uncovered by an individual's policy (such as vision care for those with only traditional Medicare) and according to some definitions (including the SPM), over-the-counter (OTC) purchases which are not covered by any insurance, such as cough medicine. One might also include all long-term care (LTC) not paid for by insurance, although the SPM appears not to.

[20] To determine if care is essential, one must consider the clinical context. For example, a brain MRI would be essential under come clinical conditions but not others (Glied and Remler; Remler and Khajavi). Insurers enforce these standards primarily through utilization management, as well as by profiling and selection of physicians and other providers.

[21] British National Health Service does have some small copayments for doctor visits and some drugs, but many, including pensioners, are exempt.

Two conceptual points about the world with a basic full plan are important. All health care (basic) needs can be met *ex ante*, rather than *ex post*.[22] MOOP is discretionary due to insurance choice, irrespective of whether health care is discretionary.

Now consider a second thought experiment with a somewhat more complicated basic plan. Imagine that everyone has available a less-than-comprehensive basic plan, which we will refer to as the capped basic plan. The capped basic plan, again, covers all essential care, so that it is "complete" in the events, treatments and procedures covered. However, it is "incomplete" in two respects. First, a premium MOOP payment is required to purchase the capped basic plan. But that premium is not risk-rated: it does not depend on health status. (It could depend on age and geographic region, in a clearly designated and limited fashion.) Moreover, information about the premium is readily available. Second, the capped basic plan has cost-sharing (non-premium MOOP) with strict limits. Specifically, non-premium MOOP is capped at a moderate level, no matter health status.[23]

We explore the implications of the availability of this capped basic plan because it approximates the situation today for the elderly and, after full ACA implementation, for everyone. For now we abstract from details in order to provide conceptual clarity.

Premium and non-premium MOOP for the capped basic plan are "non-discretionary"—essential for meeting basic needs, since the plan covers all basic needs. For those who do not choose the capped basic plan, MOOP premium expenditure above that of the capped basic plan is discretionary as is non-premium MOOP above the cap—they could have chosen the capped basic plan. However, the discretionarity of other plan holders' non-premium MOOP below the capped basic plan maximum is unclear. More generous policies (perhaps taking the form of less stringent utilization review) mean that even non-premium MOOP below the cap could be discretionary.

We now describe how the existence of a capped basic plan eliminates or substantially reduces barriers to including health care or insurance in the poverty measure identified in the NAS Report.

Barrier #3 The value and availability of health insurance varies widely Since everyone can purchase the capped basic plan, and the premium does not depend on health status, its availability does not vary widely. While health insurance is, in some sense, more valuable to those in poor health, since the price of health insurance does not depend on health status, the addition to poverty thresholds or resources to account for health insurance also do not depend on health status. We return to this issue later.

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[22] Since health status evolves over time, *ex ante* cannot be thought of as before a one-year insurance contract. Rather, it should be thought of as behind the veil of ignorance, before one knows health status at all. Alternatively, it can be seen as a form of social insurance, pooling everyone together.

[23] We have in mind that cost-sharing takes the form of co-pays for doctor's visits and medications, rather than high deductibles for inpatient (hospital) care, so that even non-premium MOOP under the cap is not too sensitive to health status.

Barrier #6 Health insurance is not fungible Health insurance is, of course, still not fungible. Therefore, no matter how generous a government- or employer- provided health insurance plan, it cannot increase resources available to meet basic needs (including basic health insurance needs) by more than value of the capped basic plan. If however, we limit the contribution of health insurance to resources to the health insurance amount included in the threshold, fungibility is no longer an issue. In fact, the NAS Report (pages 231-235) considered a single poverty index that incorporated health insurance/care in roughly this manner but rejected it as impractical.

Barrier #1 Consistent resource and needs definition By including health insurance in both resources and needs, consistency is achieved.

The following barriers remain, but are much reduced by the existence of a capped basic plan.

Barrier #5 Needs must be met ex post, not ex ante It would be possible to meet all needs *ex ante*, by choosing the full basic plan, if it existed. However, not all health care needs can be met *ex ante* through the capped basic plan: some non-premium MOOP will be essential and will depend on *ex post* health status. However, due to the cap on non-premium MOOP, the needs that must be met *ex post* are limited.

#2 Difficulty valuing heterogeneous health needs This difficulty remains. But it is now limited to the difficulty of valuing needs for non-premium MOOP under the capped basic plan, which is not highly sensitive to health status, and cannot exceed the cap.

#4 The distribution of MOOP expenditures has a high variance and is skewed Premium MOOP under the capped basic plan has no variance (or has limited age and geographical variance). Non-premium MOOP under the capped basic plan has much lower variance and skewness than it would for a population that also included the uninsured, the poorly insured and the well insured with no caps.

#7 Health care expenditures are non-discretionary Even if health *care* expenditures are largely non-discretionary, MOOP expenditures above the capped basic plan premium and non-premium MOOP cap are discretionary since they result from insurance choice: One could have chosen the capped basic plan and strictly limited MOOP expenses.

Steps for including health insurance in poverty measurement

With a capped basic plan widely available, the SPM could be modified to incorporate health care/insurance in the following manner:

- Add the Plan Full Cost for the capped basic policy to the needs threshold for everyone[24]
- For those provided insurance by employers and government, add the Plan Full Cost of the capped basic policy to resources *less* the actual premium MOOP payment required (subject to a limit, discussed below).
- For everyone else, premium MOOP payments are *not* deducted from resources

[24] This will vary for individuals and families. If premiums vary by family size, so too must the threshold.

- Several approaches to non-premium MOOP are possible:

HIPM-a:

- For those provided insurance by employers or government, deduction for premium- and non-premium MOOP expenditures will be allowed up to the maximum MOOP exposure that would be faced under the capped basic plan.
- For everyone else, deduct non-premium MOOP expenditures from resources, up to the cap (maximum) for the capped basic plan

HIPM-b: Add expected non-premium MOOP under the capped basic plan to the threshold (or deduct expected non-premium MOOP from resources)

HIPM-c: Treat non-premium MOOP as the SPM treats FCSU needs

HIPM-d: Make no deductions for non-premium MOOP

None of these approaches is perfect but the problem of incorporating all of health care/insurance into the poverty measure (with potential for huge errors in measurement) has been reduced to the more manageable problem of handling the substantially limited non-premium MOOP expenditures under the capped basic plan. Capping the MOOP deduction at the capped basic plan maximum (HIPM-a) is similar to the SPM and avoids mis-classifying people who are poor due to health care needs as non-poor. However, to the extent that medical care is discretionary, this approach classifies those buying more care as poorer than they "really" are. (We return to discretionarity of medical care in the discussion.) This is exactly the source of bias in the current SPM but it is reduced in HIPM-a by capping MOOP deductions. This approach can be considered an upper bound to the poverty measure.

Adding expected non-premium MOOP under the capped basic plan to the threshold (HIPM-b) risks mis-classifying people for a different reason. Those with higher-than-expected non-premium MOOP due to worse health status are poorer than measured, while those with lower non-premium MOOP due to better health status are better off than measured. This error is not systematically biased. The same error was described in the NAS Report when the approach was considered for all MOOP, but the magnitude is smaller, since only non-premium MOOP under the cap is relevant. Deducting expected non-premium MOOP has the same effect and is thus another, equivalent means of implementing this approach (Burtless and Siegel).

Treating non-premium MOOP in the same manner as FCSU (HIPM-c) is more problematic. This approach would set poverty thresholds at 33% of the median family spending on "FCSU+non-premium MOOP." However, the empirical distribution of non-premium MOOP includes people who chose more generous plans than the capped basic plan. Thus, the resulting threshold is both definitionally inconsistent with the capped basic plan premium threshold and likely to be overly generous.

Making no deduction for non-premium MOOP (HIPM-d) will systematically reduce measured poverty. This approach can be considered a lower bound to the poverty measure.

For purposes of discussion, unless otherwise noted, we will focus on HIPM-a, because it is most similar to the current SPM. When our analysis applies to all approaches, we will refer to the HIPM.

Summary: Incorporating Health Care and Insurance into Poverty Measurement

Thus, we have described a health care and insurance system that makes incorporating health care and insurance into the SPM feasible. That system includes a capped basic plan available to all with the following features: (1) All necessary care (as defined by society) is covered. (2) The premium is not-risk-rated. (3) The non-premium MOOP is capped. (4) The cost-sharing terms beneath the cap are not too sensitive to health status. (5) The premium and non-premium MOOP cap are known.

Such a system permits health care/insurance incorporation in poverty measurement, resulting in several advantages: it allows more valid comparisons between groups, does not ignore fundamental health insurance/care needs and can show the effect of providing health insurance on poverty. The last consideration loomed large for Moon (1993), who anticipated that the Clinton Health Care Reform might bring about universal health coverage. By the time the NAS Report was released in 1995, universal health coverage seemed remote and thus the need for a measure with the potential to demonstrate the effect of health insurance on poverty may have seemed less urgent. Now, however, with the passage of the ACA and continued controversy, consideration of such measurement issues is again timely.

Before turning to how our present and future health care system meet these, we turn to health insurance as a need, another condition for our proposal.

Health Insurance as a Need

We have so far argued that many of the difficulties of incorporating health into poverty measurement can be overcome by including health insurance in both the poverty threshold and the resource concept. Therefore, incorporating health care in poverty measurement is possible only if health *insurance*—not simply health *care*—is considered a need. Insurance must be considered a basic need *no matter an individual's health status*—i.e., something that is essential and not wasted if an individual *ex post* has used little or no health care, but even for someone *ex ante* with little expected health care usage.

The NAS Report conceptualized health care needs as a need for *care* rather than *insurance*. It noted that the need could be met through health insurance, as well as through payment for care, but the fundamental need was for care. Indeed, the Report suggested that health insurance was wasted if, *ex post*, the individual did not need health care: "someone in a high-risk health category may have a good year and need only minimal medical care, but no one can have a year in which he or she does not need to eat" (p. 235). However, like fire insurance, which has value even if there is no fire, health insurance is valuable no matter the outcome in any period (Blinder, 1985). Even Moon (1993), who was concerned that the poverty measure be

sensitive to the value of health insurance in meeting needs and reducing poverty, conceptualized the need as care, not insurance.

The Report also ties this issue to fungibility, stating, "the 'extra' benefits received from insurance (or free care) to cover, say, expensive surgery are not likely to free up money commensurately" (p. 68). Essentially they are comparing two individuals with limited means: one who has insurance and one who does not, both of whom have a condition that would benefit from surgery. The covered individual receives expensive surgery, aiding his health. The uncovered individual does not have sufficient funds to pay for the surgery. The uncovered individual would likely have to do some of the following: go without surgery (common for cancer), receive free care (common for heart attack or trauma, conditions for which hospitals are required to treat patients irrespective of ability to pay), use up available assets, or go into debt. In many of those scenarios, having surgery paid for by insurance does not "free up money commensurably," because, in the counterfactual (uninsured) situation, the individual would not have had sufficient resources to pay for the surgery. But if we view health insurance as a basic need, then being provided insurance frees up funds that would have been needed for insurance premiums.

Considering care, rather than insurance, to be the fundamental need is understandable. Poverty is not having sufficient resources to maintain health and well-being and care can be obtained through means other than insurance. We argue, however, that insurance should be considered a need. First, although obvious, it is worth stating that health care is largely obtained through insurance. Second, for the elderly we have recognized this need and, since 1965, have increasingly met it, through public insurance. Third, for poor children (and many of their parents) and pregnant women we have recognized and implemented this need through Medicaid. Fourth, with the ACA, we have recognized this need for all poor adults and for nearly the entire citizenry.[25] Fifth, the authors of the NAS Report clearly wished to include health in poverty measurement were it feasible to do so, but they could not solve the problems of assigning needs and valuing health for practical reasons. We have shown that solving those problems is feasible (under certain insurance system conditions) by conceptualizing the need as a need for insurance—a practical argument.

Are the conditions met for the elderly today?

Recall our conditions for including health care and insurance in poverty measurement, that the system makes available to everyone a capped basic plan with the following features: (1) All necessary care (as defined by society) is covered. (2) The premium is not-risk-rated. (3) The non-premium MOOP is capped. (4) The cost-sharing terms beneath the cap are not too sensitive to health status. (5) The premium and non-premium MOOP cap are readily known.

To what extent is this met for the elderly today? Traditional FFS (fee-for-service) Medicare had many but certainly not all of these characteristics: prescription drugs were not covered and cost-sharing was not capped and could be substantial. However, today's Medicare Advantage –

[25] However, the Supreme Court decision appears to make the truth of this statement depend on the state of residence, with the vast majority of states projected to offer Medicaid coverage for all low-income persons.

Part D (MA-PD) plans meet essentially all these criteria. These plans cover all necessary care, including prescription drugs, and generally vision and dental. Their premiums are not risk rated. Premium information is available for all plans through CMS. As of 2011, all MA-PD (non-premium) MOOP is capped at $6700 (the 95th percentile in costs in the traditional Medicare fee-for-service) and CMS encourages plans to make the cap $3400 (the 85th percentile in the traditional Medicare program) (Biles, Nicholas and Guterman 2006). Finally, CMS has cracked down on forms of cost-sharing that were particularly sensitive to health status that had made some Medicare Advantage plans disadvantageous for those in poorer health, sometimes less advantageous than traditional Medicare and Medigap (Biles, Nicholas and Guterman 2006). (For example, plans had substantial cost-sharing for chemotherapy.)

The terms and features of MA-PD plans vary considerably. Yet there is no denying that the elderly have available a capped basic plan and that expenditures above the cap are discretionary. However, identifying which of the many MA-PD plans should be regarded as "the" capped basic plan is not trivial: plans may trade-off premium MOOP and non-premium MOOP. Major metropolitan areas (e.g., New York City) have plans with no premium MOOP above the Part B premium, no co-pays, no deductibles and a $3400 cap, which matches well our theoretical ideal of a basic capped plan. But some areas might not have such plans available.

Several objections could be made to applying this approach to present-day elderly. First, studies characterizing MOOP expenditures among the elderly, even among MA-PD plan members, show substantial MOOP (e.g., Biles, Nicholas and Guterman 2006). But the actual MOOP of the elderly is not the issue; what is relevant is MOOP that they would have had if they had chosen the basic capped plan. Second, choosing among many plans is a cognitively difficult task, particularly for elderly who have some cognitive impairments (McWilliams et al. 2011). This is not a conceptual objection to the poverty measure we propose, but rather a pragmatic concern. This problem has a policy solution: The government could itself identify the basic capped plan, and even make it the default (e.g., Thaler and Sunstein 2008), warning seniors who select another plan that they will face greater MOOP. Finally, the non-premium MOOP cap is still quite high, often $3,400 and possibly as high as the $6,700 cap enshrined in law. However, if non-premium MOOP is deducted up to that cap (HIPM-a), this objection simply means that our proposed measure would reduce but not eliminate the bias in the SPM.

Will the conditions be met for the non-elderly in 2014?

The full implementation of the ACA involves two major kinds of change: Medicaid expansion and a cluster of reforms: a mandate to purchase health insurance, income-based subsidies for both premiums and cost-sharing, insurance exchanges for those not eligible for Medicaid, and others (Focus on Health Reform, 2011).

For those who will be provided Medicaid, all five conditions are clearly met. Those who are not Medicaid-eligible (above 133% of the OPM poverty level) will have access to plans on the exchanges. All five conditions are basically met. The exchange plans will cover all essential care,

as determined by social norms, the political process and the medical profession. Premiums cannot be tied to health status. They may be tied to age, with a maximum variation of 3 to 1.[26]

Non-premium MOOP is capped according to the maximum for the high deductible plan associated with a Health Savings Account (HSA), which is roughly $6,000 for an individual. For those below 400% of the poverty line, the cap is reduced with income according to a specified sliding scale (Focus on Health Reform 2011a). For example, up to 200% of poverty, the maximum is one third of the HSA maximum, now around $2,000.

The fourth condition, that cost-sharing beneath the cap not be too sensitive to health status, is more difficult to assess. ACA law is based on the actuarial value (share of total medical care expenditures paid by insurance) for a standardized population, and insurance plans can meet those guidelines in a variety of ways (Focus on Health Reform 2011b). In principle, plans might have fairly punitive cost-sharing for some conditions, such as substantial deductibles for chemotherapy.

The fifth condition, that premium information be readily available to both the agency responsible for measuring poverty and households making plan choices, is mostly met: the exchanges have all necessary information about premiums and caps. Adjustments based on income and age could be calculated from information in the CPS (Current Population Survey). However, identifying the basic capped plan is, again, difficult, since premiums could be traded off against both the level and form of cost-sharing, as well as other plan features.

A final complication is that the ACA provides for income-based subsidies to cost-sharing. These will be based on actuarial value of the plans and could be implemented in a variety of ways. Provided the CPS collects MOOP expenditures net of subsidies (or can impute the subsidies), there is no problem. This could be imputed based on income as the EITC and taxes are for the calculation of the SPM.

Discussion: Caveats, Critiques and Ambiguities

The foregoing discussion has pointed the way toward an improved measure of poverty that includes health (insurance) in both the thresholds and in resources, the HIPM. Although we believe the HIPM, such as HIPM-a, represents an improvement over the SPM and OPM, ultimately that judgment will rest on empirical predictive validity evaluations such as those for the OPM described earlier in the paper. And, although we believe the advantages of the HIPM outweigh the disadvantages, we do not wish to dismiss the potential weaknesses of the HIPM as we have described it. Awareness of weaknesses and unresolved issues will improve interpretation of statistics that involve the HIPM and indicate areas for further revision. Some weaknesses are specific to the HIPM while others are shared by the OPM and SPM. We discuss five of the most important issues: 1. Discretionarity of non-premium MOOP; 2. Insurance value being independent of health status; 3. Savings/assets; 4. How should the poverty measure treat spending on long-term care and over-the-counter medications? 5. Ex-ante vs. ex-post perspectives in poverty measurement.

[26] Variation of premiums due to tobacco use is also permitted, with a maximum range of 1.5 to 1.

Is non-premium MOOP nondiscretionary?

Central to our proposed adjustments to the SPM is the notion that the characteristics of the health *insurance* someone has involve choice among available insurance options. MOOP expenditures that result from the choice of plans can be discretionary. We postponed discussion of the discretionarity of health *care*, which, philosophically and empirically, determines the merits of the various approaches to non-premium MOOP in poverty measurement.

While almost everyone considers some health care discretionary and some care non-discretionary, perspectives on the quantitative magnitudes vary considerably. The NAS approach represents one extreme in the treatment of care as nondiscretionary, citing as examples of discretionary care, "elective cosmetic surgery…extra laboratory tests or ineffective drugs" (p.232), which suggests that nearly all care is essential or largely outside of an individual's control (footnote 29, p. 236). At the other extreme, Cogan, in his dissent, advocates a "consumer choice approach" to health care and describes "health as an economic good, responsive to both income and price changes," citing work by health economists Pauly, Grossman and Newhouse.[27] Indeed, in an economic framework, it makes little sense to describe anything as essential without specifying the outcome for which it is essential. Like Cogan, we recognize that insurance involves choice and that some health care decisions are choices made by individuals based on preferences, income, wealth and price. And we know of no *conceptual* description of socially defined medical care needs, above which care will be deemed "discretionary."[28]

The following facts suggest that relatively little health care is discretionary to individuals. First, the overall price elasticity of health care is -0.2—relatively inelastic. Second, only certain forms of health care (such as initial doctor's visits) and certain kinds of individuals respond elastically to price (Newhouse and RAND HIE Group; Remler and Greene). Third, physicians and other providers largely drive health care decisions (e.g., Wennberg et al. 2002); individuals have little control or information for making decisions.

Although a particular instance of health care might not be discretionary to individuals, it may still be discretionary from the perspective of societal resource allocation if it does not, in expectation, improve health or does not improve health sufficiently to justify its cost. Wennberg *et al.*(2002) suggest that there is a significant amount of such care[29]. It is quite possible, therefore, that our ideal capped basic plan would be less generous than even the least expensive MA-PD plans. However, determining the ideally covered care, even conceptually, is

[27] Cogan (in Citro and Michael 1995) did not distinguish between health, health care and health insurance, which, while intertwined, are distinct entities with distinct features. Our analysis has shown the importance of distinguishing insurance and care when describing needs and resources. While maintaining health itself is the key motivation for incorporating health into the poverty thresholds, using health itself as a standard is impossible since so many drivers of health (such as random causes of cancer) are beyond anyone's control.

[28] Cogan suggests using a relative expenditures approach similar to the SPM treatment of FCSU.

[29] White, however, disagrees (2011).

difficult since health care needs are inevitably defined socially and politically, and ever changing due to advances in medical technology. While health plans can define and enforce standards through coverage policies, utilization management and other cost containment techniques, government may need to play some role, perhaps through cost-effectiveness studies and regulation, in ensuring that truly basic plans exist. Although this is an important issue for resource allocation, between elderly and non-elderly, between health care and other goods, it cannot be addressed through poverty measurement.

Still, the amount of basic care, however defined, in both the capped basic plan and other plans determines the best approach to treating non-premium MOOP. HIPM-a, in deducting all non-premium MOOP below the cap of the capped basic plan, leads to an overstatement of poverty, However, the extent of overstatement must be reduced relative to the SPM.[30]

Insurance value independent of health status

Our proposed HIPM uses a health insurance needs threshold that does not vary with health status. An objection to this approach is that the value of health insurance greatly depends on health status. However, as a practical matter, it is not *value* that should determine the poverty threshold but *price*—what the individuals must pay. Food is more valuable to someone who is hungry, but we do not vary the food needs threshold, because the price of food does not vary with hunger. Of course, the *cost* of providing food does not vary with hunger while the cost of providing health insurance does vary with health status. Sicker people use more health care and so the cost (actuarially fair premium) of their insurance is higher. If the differences in costs are reflected in differences in prices (premiums) paid by individuals, as they are today for many non-elderly, then the threshold should vary. However, if premiums are not risk rated then the poverty threshold need not vary.[31]

Saving, Assets, Retirement and MOOP

The empirical evidence reviewed earlier in this paper demonstrates both that, on average, the elderly have substantial assets (net worth), and that they use those assets to avoid material hardship and to fund MOOP expenditures. Yet neither the OPM, SPM nor the different versions

[30] The only way to avoid entirely including non-premium MOOP in the poverty measure without causing an underestimation of poverty is to have available a plan with zero or very little cost-sharing. Such plans are not likely today in the US. Cost-sharing is considered an effective cost-containment technique. It may be the only viable cost-containment technique for general doctor's visits and thus never eliminated entirely, although other approaches are likely better for more expensive care for severely ill persons.

[31] However, if the concern is not poverty measurement but redistribution, one could argue that this approach fails to value the redistribution from healthy to sick within the insured pool. This criticism is certainly valid. On the other hand, even from a redistribution perspective if we take a truly *ex ante lifetime* perspective, going behind the "veil of ignorance" to where no one knows anything of their health status in life, then the value of health insurance is the same for everyone.

of the HIPM counts assets as resources. A HIPM would improve upon the SPM in this respect by limiting MOOP deductions from income.

However, HIPM-a allows substantial non-premium MOOP deductions, and therefore may suffer from a bias similar to the SPM. While not counting assets in resources upwardly biases the poverty rate, and deducting MOOP exacerbates this bias, particularly for the elderly, including assets in resources is difficult for both practical and conceptual reasons. People of all ages save for precautionary reasons; the exclusion of assets from resources for the non-elderly may reflect a notion that younger people must save for retirement and therefore face a hardship if they cannot meet basic needs from current incomes. Indeed, the ACA's new eligibility rules for Medicaid eliminated the asset test for the non-elderly while maintaining it for the population over age 65. Implicit in this distinction is the expectation that that the elderly's needs, including health care needs, will normally be met in part from assets.

As noted, the importance of accounting for assets in poverty measurement has recently been recognized (Stiglitz, Sen and Fitouzzi, 2009). How best to do so is a subject of continuing research and no consensus has been reached (Brandolini, Magri and Smeeding 2009). A few possibilities come to mind, each of which has some drawbacks: (1) Count all assets as being fully available in any period. Once assets are exhausted, the only resource available to meet basic needs is income. (2) Calculate an annuity equivalent of the assets, based on life expectancy, with perhaps a margin of error for longer life and precautionary savings. This converts assets into a flow that is larger than the annual income flow from the assets since the principle would be drawn-down and, on average, depleted by the end of life. Brandolini, Magri and Smeeding (2009) call this the "income net-worth concept," which they attribute to Weisbrod and Hansen (1968). However, they hesitate to recommend this option because, as they explain: "We might be reluctant to impose so much structure on the measurement, especially when we take into account the profound implications that such a measure has for the age structure of poverty. Accumulated assets at older ages with a shorter annuity horizon increase the income net worth of the elderly as compared to younger person with longer time horizons and fewer accumulated assets." However, we shouldn't be reluctant to use the income net-worth concept if the resulting age structure of poverty more accurately describes the "true" ability to meet needs. (3) Do not count assets, leaving the resource measure biased downward and poverty rates biased upward.

Although options (1) and (3) are upper- and lower-bounds for counting assets as resources available to meet basic needs, there is a broad consensus that more research is needed on this topic. At this point, we simply note that ignoring assets in poverty measurement amounts to a normative position that the elderly should be able to meet their basic needs from current income, despite having accumulated assets during their working lives for the express purpose of meeting basic needs in old age. Ironically, according to the SPM, having assets can only make one poorer, by allowing higher expenditures on MOOP, which are then deducted from income to determine resources available to meet basic (FCSU) needs. Taking this approach to its logical conclusion one might argue that, if government's role is to fight poverty, then government should protect the elderly from having to use savings to meet basic needs including health needs. Setting eligibility standards for public assistance accordingly, the result

would be to make eligible for means-tested assistance elderly persons who were rich and middle- class on a lifetime basis, even if they continue to have substantial savings in old age. Such eligibility standards would, in effect, transfer income from the average taxpayer to the asset-rich elderly, protecting not only their assets but the fortunes of their heirs. Arguably, this is not an appropriate objective for means-tested assistance programs. Recognizing this, our safety-net programs for the elderly (Medicaid, SSI) include asset tests for eligibility. If including an asset test reflects social norms about need, then perhaps our poverty measure should do the same.

Long-term care and over the counter drugs

Based on the CPS questions on MOOP, the SPM implementation of MOOP deductions does not include long term care (LTC) expenditures. Much LTC, whether at home or in an institution, consists of help with personal care and housekeeping. As such, quality can vary just as with any service or amenity. One would expect, therefore, that the scope for discretionary LTC is great. Indeed, Marshall, McGarry and Skinner (2011) find that LTC is highly wealth elastic. On the other hand, LTC can certainly be essential and a basic need for those unable to care for themselves. So, not including LTC in the threshold or deductions understates poverty. Nonetheless, we agree with the SPM treatment of LTC. Not only is much LTC discretionary, but long-term care is provided through Medicaid for low-income elderly persons, subject to an asset test. Thus, it is arguably the case that Medicaid is available to remove from poverty those who would fall into (pre-transfer) poverty as a result of basic long-term care needs.

On the other hand, the CPS Questions on MOOP include spending on over the counter (OTC) drugs. While some OTC drugs may clearly be essential (e.g., children's Tylenol), others are not. Moreover, since spending on OTC drugs is not likely to be skewed or even very high variance, a better way of incorporating them into the thresholds is through the FCSU threshold (times the "1.2" multiplier).

Ex post Poverty Measurement Only?

By default, the HIPM includes the price of the capped basic health insurance plan in both the resource measure and the threshold. All HIPMs, even the most generous HIPM-a, do not allow unlimited deductions of MOOP from resources. Someone who has extensive MOOP because they unwisely (in retrospect) did not choose the capped basic plan might not be counted as poor under the HIPM but would be under the SPM. Betson (2000) has argued that, in this case, the SPM approach is the correct one since poverty measurement must take an "ex post" not an "ex ante" perspective. For example, he notes, we take the number of children in a family as "given" in poverty measurement (p. 14) so that families with many children and low income are considered poor even if their income would allow them to escape poverty had they chosen to have fewer children. Similarly, we consider a family with unemployed members poor even if they would not be poor had they worked (p. 15). By analogy, he argues, poverty measures

should deduct MOOP expenditures from income *ex post* because, at that point, families with high MOOP expenditures will have less to spend on FCSU.

However, it is unclear that the examples of unemployment and large families provide an analogy useful for thinking about the treatment of health insurance as a need and resource in our proposed HIPM. First, the analogy to family size is inappropriate because government does not offer families the option to buy highly subsidized insurance that would protect them from impoverishing themselves though "excessive" childbearing. And while the SPM subtracts MOOP from resources, it does not subtract out-of-pocket expenditures related to other insurable events such as damage to a family's house from fire or water, or damage to their cars from traffic accidents. Instead, it takes an *ex ante* perspective (at least in principle) by including the cost of home insurance as a shelter expense in the FCSU threshold, and the cost of automobile insurance in the "1.2 multiplier" of FCSU intended to capture necessary transportation expenses. In these cases, if a family has sufficient income to cover fire and auto insurance expenses, they are not counted as poor even if an event occurs that requires the family to pay a substantial amount out of pocket because they were uninsured or underinsured. So it is not true that the SPM (or OPM) consistently takes an *ex post* perspective.

Nonetheless, we understand that some will object to our taking an *ex ante* (insurance) perspective. The most obvious objection is that the HIPM will not measure hardship among people who fail to take advantage of opportunities to substantially reduce the risk of high MOOP expenses. Yet if they had resources sufficient to purchase the capped basic plan and the plan was available to them, and if that purchase would have allowed them to avoid substantial MOOP expenses and therefore escape poverty, can we say that they lacked adequate resources to meet their basic needs? In SPM poverty measurement, no one monitors whether families actually spend their income on FCSU items up to the FCUS poverty threshold, only whether they have resources sufficient to do so.

Any disadvantage in taking the *ex ante* insurance perspective must be weighed against the ability to value the benefit of public and private health insurance as a resource, to show their impacts in reducing poverty, and to have poverty thresholds reflect health (insurance) needs. The HIPM also has the advantage of reducing the distortion in the SPM caused by the combination of a failure to count assets as resources and the deduction of all MOOP from annual income. Finally, borrowing on the insights from behavioral economics, rather than change the poverty measure to recognize shortsighted decisions, we would advocate making the low MOOP-risk insurance option (i.e., the capped basic plan) the default plan choice in Medicaid and, at least for lower-income persons, in Medicare and ACA insurance exchanges.

Unlike the SPM, the HIPM would directly measure unmet health insurance needs, and therefore poverty, that results from the unavailability of a basic health plan to some families. Take, for example, a childless low-income couple that has no access to private insurance and that resides in a state that elects not to extend Medicaid eligibility to childless low-income families. In that case, the health insurance need amount added to the poverty threshold could be estimated from the ACA exchange (even if the family is not eligible for a subsidy in the exchange). Non-

premium MOOP expenses would then be deducted from income up to the cap of the basic capped plan. This procedure would improve poverty measurement relative to the SPM in that it can show how poverty is reduced when basic health needs are met by Medicaid or the ACA insurance exchanges.

Summary and Conclusions

The HIPM we have described, while not perfect, is a sensible and practical first step in incorporating health needs and resources into poverty measurement. At the time of the NAS Report, a HIPM had been regarded as an unattainable ideal. Yet the Report anticipated that the day would come when the US health care system would provide universal health insurance, permitting the construction of a HIPM. The ACA will bring (near) universal availability of non-risk-rated insurance plans that also cap non-premium MOOP, so that day is near.

The SPM improves poverty measurement in many respects, but takes a step backward in excluding health insurance benefits and deducting all MOOP expenditures. The step backward upwardly biases the measure of poverty among the elderly, distorting economic statistics at the center over critical policy debates about intergenerational equity and restoring fiscal balance. Moreover, the exclusion of health insurance benefits and MOOP from resources lacks face validity, and the available evidence suggests that subtracting MOOP expenditures from resources does not improve predictive empirical validity of poverty measures.

The goal of a single measure of poverty that incorporates health care needs and resources is longstanding yet illusive (Moon,1993; Citro & Michael 1995). The NAS Report, Blank, and others have advocated a "second best" two-index approach, with separate "material poverty" and "health poverty" measures. Although multiple measures of deprivation may provide a more accurate picture of each of several dimensions of need, the calculation of multiple measures does not reduce the importance of creating the best possible overall measure of poverty since the public and policymakers consider the poverty rate a fundamental indicator of economic performance and policy efficacy.

Perhaps the chief contribution of the HIPM is its conceptualization of health *insurance* as the core health need. As we have shown, if health needs are conceptualized as health *care*, it is exceedingly difficult to describe and measure basic health care needs appropriate to individuals. The "tails" of health care expenditures are notoriously long. Moreover, where an individual fits in the tails—the amount of expenditure—is sensitive to a great deal of clinical detail and virtually impossible to define with sufficient precision without health care data. The purpose of health insurance, however, is to deal with those tails. If everyone has insurance, then we know that their health needs can be met, even if they should have large expenditures. To be precise, everyone needs basic insurance that caps MOOP, though they will also need sufficient resources to pay for the (limited) MOOP expenditures should they get seriously ill.

Much work remains to implement a HIPM and see its effect on the elderly poverty rate. A first step is a preliminary implementation of HIPM-a, and possibly HIPM-d, to get upper and lower bounds on the elderly poverty rate. Prior to the full implementation of the ACA, we will not

have designated basic capped plans for the non-elderly. But we should be prepared to implement a HIPM for the non-elderly upon implementation of the ACA.

A HIPM would be particularly useful to assess the economic protection that health policies including the ACA provide to low-income populations. For example, a HIPM can show the effect on poverty rates of state decisions to take up or not take up the ACA option to extend Medicaid eligibility to new populations such as low-income childless adults under age 65.

Second, the fiscal crisis makes it essential to correctly target public assistance spending on the poor. Funds available for redistribution may become increasingly scarce due to the Great Recession, possible structural reductions in the rate of economic growth (Gordon 2012), massive debt, political difficulties in increasing taxes, and looming fiscal imbalance due to the growth of popular social insurance entitlement programs. Yet, labor market shocks due to technology changes and trade suggest that working age adults and their children may increasingly need direct income support and human capital investments. Thus, it is particularly important that our poverty measures be accurate and specifically, not be biased upwards for the elderly, those who already receive massive public transfers that will only grow in the years ahead. We believe a health-inclusive poverty measure will not only reduce this bias in the SPM but will demonstrate the marked progress made toward reducing poverty among the elderly, and how far we may yet have to go for the remainder of the population.

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Appendix 1: Current Population Survey, 2011 Annual Social and Economic Supplement (ASEC) Medical Expenditure Questions

MEDICAL EXPENDITURES

HIPREM

During 2010, about how much did (name/you) pay for health insurance premiums for yourself/himself/herself) or others in the household, after any reimbursements?

Please include premiums paid for HMOs, Fee for Service Plans, Commercial Medicare Supplements, or other special purpose plans, such as vision or dental plans. Include prescription drug insurance such as Medicare Part D premiums, and Medicare Advantage premiums. DO NOT include Medicare Part B premiums.

OTCMEDAMT

During 2010, about how much was paid for (name's/your) for over-the-counter health related products such as aspirin, cold remedies, bandages, first aid supplies, and other items?

Include any amount paid on (your/his/her) behalf by anyone in this household, that was not reimbursed**.**

MEDAMT

Aside from over-the-counter items, during 2010, about how much was paid for (name's/your) own medical care, including payments and co-payments for hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies?

Include any amount paid on (your/his/her) behalf by anyone in this household, that was not reimbursed.

COTCAMT

How about (name)? During 2010, about how much was paid for (name's) over-the-counter health related products such as aspirin, cold remedies, bandages, first aid supplies, and other items?

Include only amounts paid that were not reimbursed**.**

CMEDAMT

Aside from over-the-counter items, during 2010, about how much was paid for (name's) own medical care, including payments and co-payments for hospital visits, medical providers, dental services, prescription medicine, vision aids, and medical supplies?

Include only amounts paid that were not reimbursed.

Appendix 2: Observations from the Interagency Technical Working Group on Developing a Supplemental Poverty Measure, March 2010 (Excerpt on Family Resources, including MOOP issues).

B. Estimating Family Resources:

The resource definition indicates the family resources that are taken into account in the poverty measure. Each family's resources are compared to the appropriate threshold. If their resources are below the threshold, all persons in the family are counted as poor. The resource definition should indicate the resources the family has available to meet its food, shelter, clothing, and utilities needs, "plus a little more."

Following the recommendations of the NAS report, family resources should be estimated as the sum of cash income, plus any Federal Government in-kind benefits that families can use to meet their food, clothing, shelter, and utility needs, minus taxes (or plus tax credits), minus work expenses, minus out-of-pocket expenditures for medical expenses.

The family unit should include all related individuals who live at the same address, any co-resident unrelated children who are cared for by the family (such as foster children), plus cohabitors and their children. This is consistent with the way in which family units are constructed in developing the reference sample for the threshold.

The Census Bureau has long experience in estimating in-kind benefits and taxes and they should continue to improve these estimates. Along with taxes, payments for child support should also be included in subtractions to income, to the extent that data are available to do this.

As outlined by the NAS panel, work expenses include both standard expenses associated with commuting as well as child care. These expenditures can be thought of as subtractions from earnings, and they should be accounted for in order to calculate a „net wage" that indicates the resources families actually have to spend from their work income.

o Ideally, for child care expenses this adjustment would be based on actual reported expenses. In the absence of these data, the Census Bureau should make the best imputation possible of actual expenses. Many families find ways to meet their child care needs outside the market, so there is a great deal of variance in actual child care expenses. Any imputation method should take this skewness into account.

o For other work expenses, the Census Bureau should investigate the comparative advantages and disadvantages of trying to measure actual expenses versus assigning an average amount to all working adults. Measuring actual work expenses is more attractive if other work expenses are highly variable across families.

o The level of total work expenses subtracted from any family"s resources should be capped by the earning level of the lowest-earning adult.

As outlined by the NAS panel, medical out-of-pocket expenses (MOOP) should be subtracted from income in calculating the resources available to a family. Accounting for out-of-pocket medical expenditures in this way assures that dollars spent on medical care are not considered available to purchase food or shelter. This recommendation has been debated, with some arguing that medical expenses belong in the threshold. There are valid arguments for including medical expenses in the threshold as well as drawbacks to this approach. There are valid arguments for subtracting medical expenses on the resource side and there are drawbacks to this approach as well. Given pluses and minuses to both approaches, these observations stay with the NAS recommendations and propose to subtract MOOP from family resources. There is great variation in the share of their medical care that families pay for directly and in the dollars that they spend on their medical care. This makes it difficult to determine the appropriate amount of dollars for medical care that should be placed in a threshold for family-based expenditures. Given the data currently available, it does seem operationally easier to subtract MOOP from family resources if we are able to obtain reasonably good self-reported data on medical expenses. These self-reported data would resolve the problem of trying to impute a very skewed expenditure into family resources. In comparison, taking account of MOOP in the thresholds would require estimating a series of adjustment factors based on variables that reflect the skewed medical expenditures within specific demographic groups; thresholds would then differ for every variable on which the adjustment factors were based, creating a very large number of thresholds.

o Self-reported out-of-pocket medical expenses will be collected in the Current Population Survey (CPS) for the first time in 2010. If this proves to be reasonably reliable for statistical adjustment purposes, then these data should be used as the MOOP adjustment for each family. If these data do not appear reliable, then MOOP will have to be imputed in a way that takes into account the skewness in medical expenses within demographic groups. In either case, capping medical expenses above a certain level should be considered.

o It has been argued in the past that an adjustment to MOOP should be made for the uninsured, who may be spending less than is customary because they lack health insurance and cannot pay for health services. The Census Bureau should investigate the pros and cons of such an adjustment and its computation. If policy changes make health insurance coverage more broadly available, those without insurance are more likely to have preferred this status. In this case, an adjustment for lack of insurance seems less attractive.

o It is important to emphasize that this approach does nothing to estimate the value of medical care that families are receiving relative to their needs. Additional and improved measures of the affordability of medical care and/or the quality of medical care which U.S. families receive may be highly useful and important, but these are different statistics and will need to be separately developed and funded.

Appendix 3: Detailed Literature Review on Poverty and Hardship Measures of the Elderly

Meyer and Sullivan (2010a)

Meyer and Sullivan use data from the CPS and CEX (Consumer Expenditure Survey) to explore of the sensitivity of poverty levels and trends to analytical choices in poverty measurement such as the price index, equivalence scale, valuation of in-kind benefits, exclusion of tax payments from and inclusion of tax credits in income, use of consumption or expenditures, inclusion of owned housing services flows in consumption, and the inclusion of a "fungible value" of health insurance in income and consumption. As they and others have found (Meyer and Sullivan, various; Culter and Katz; Slesnick 1993; Charles et al. 2006), consumption-based poverty rates are lower than income-based poverty rates. Furthermore, among the elderly, consumption-poverty rates have fallen much faster than income-poverty rates since 1980. Strikingly, the elderly consumption "deep poverty" rate has fallen markedly but elderly income "deep poverty" rate has increased. The income-poverty gap increased significantly, while the consumption poverty gap declined among the elderly.[32]

Meyer and Sullivan note several advantages of consumption over income in poverty measurement including under-reporting of income (especially distributions from retirement investments such as IRAs) and the importance of savings in financing consumption of the elderly. Indicators of material well-being such as ownership of homes, cars, appliances, central air conditioning as well as indicators of housing quality are substantially higher among the income-poor elderly than the consumption-poor elderly (Table 3). Although reported median financial wealth is low among both groups, at and above the 75th percentile, financial wealth is much higher for the income-poor than the consumption-poor.

Meyer and Sullivan show considerable evidence of improvement in the material well-being of both the consumption poor and the income poor over the past 50 years, consistent with the trends in consumption-poverty but in contradiction to increases in deep income-poverty and the income-poverty gap. Finally, consistent with Charles et al. (2006, summarized below), figures on material well-being suggest that the income poor who are not consumption poor are not a particularly needy group.

Meyer and Sullivan also investigate the impact on poverty trends of adding a value of health insurance to income and consumption, though they exclude MOOP from consumption. In discussing their treatment of health insurance and MOOP expenditures they write:

"Differences across individuals in their spending are not a good measure of well-being if they reflect differences in health or differences in coverage. These types of differences are likely to generate cases where more spending means worse well-being. A better approach is to omit out of pocket spending… and account for a value of health insurance provided through an employer or by the government."

While we agree with much of what Meyer and Sullivan have written, we believe they err in equating higher MOOP expenditures to "worse" insurance coverage and, thus, diminished well-being. In fact, among the elderly in Medicare, the opposite situation may well pertain; an older person with adequate resources may choose a Medicare plan that, in return for higher quality care (better physician choice, wider out-of- network coverage, greater control over service intensity, etc.), requires more MOOP expenditures (at least in expectation).

[32] Meyer and Sullivan, page 22-23. The "deep poverty" rate is the proportion of elderly with family income or consumption below half the poverty threshold; the "poverty gap" is the average (per poor family) difference between income or consumption and the poverty threshold.

Meyer and Sullivan show the sensitivity of trends in income poverty and consumption poverty to the inclusion or exclusion of a value for employer-provided or government-provided health insurance. For income-poverty, they add the CPS-imputed value of health insurance to income. However, they note that "Census imputes a fungible value of Medicare and Medicaid only when income exceeds an amount they assume families will spend on food and housing. Thus, these fungible values imply that public health insurance has no value for families whose income is below this level, which surely understates the value of health insurance for this group." For consumption-poverty Meyer and Sullivan impute separate values for employer-provided and public health insurance. To arrive at a fungible value, which should be lower for people with lower incomes, they cap the insurance value at one-third of total family expenditures (though they plan to refine this procedure; p. 12).

To gauge the effect of adding the value of health insurance to income, Meyer and Sullivan first adjust the OPM using several SPM revisions. This "adjusted" elderly poverty rate declines much more rapidly after 1980 than the OPM (see their Figure 2). However, when they add a fungible value of health insurance to income, the adjusted poverty rate declines much more slowly, though still a bit faster than the OPM. As they write: "If the CPS's imputed value of health insurance is also included, the result shows a more modest decline in poverty than is evident for a money income based measure starting in the late 1980s, *due to Medicaid and Medicare becoming less important* for the poor elderly at this time" [emphasis added].

Given the explosion in per capita spending on the elderly through Medicare and Medicaid since 1980, this result is counter-intuitive, to say the least. The dampening of the decline in the adjusted elderly poverty rate when the fungible value of health insurance is added to income likely results from the increase in the measured income deep-poverty and the resulting assignment of a fungible value of zero to health insurance for an increasing fraction of the poor elderly.[33] In contrast, Meyer and Sullivan's consumption poverty measure declines more rapidly when they add a value of health insurance to consumption, using their method that caps the fungible value at one-third of expenditures (see their Figure 3).

Charles, Danziger, Pounder and Schoeni (2006, and updated tables)

Charles et al. challenge the conclusion that consumption-based poverty measures are superior to income-based measures. They use data from the HRS to compare relations between poverty, defined by either low income or low consumption, with the experiences of material hardship of "mature people" (age 53+). They consider the sensitivity of some of their results to excluding MOOP expenditures from consumption (but not from income).

Charles et al. find a higher fraction of older persons are income poor than consumption poor (9.6% versus 4.6%).[34] Only one-quarter of the income poor are also consumption poor, whereas about half of the consumption poor are also income poor (revised Table 1). Thus, 2.3% of the mature population is both income and consumption poor, 7.3% are income-poor, consumption non-poor, and only 2.3% are consumption poor, income-nonpoor. If being poor according to both income and consumption is a better indicator of "true deprivation" than either alone, we should prefer consumption poverty to income poverty for its greater sensitivity to true deprivation.

[33] In a personal communication, Meyer and Sullivan agreed that this is a possible explanation of their evidence.
[34] When possible, we use figures from the revised and updated tables generously provided to us by the authors.

When they exclude MOOP expenditures from consumption, consumption poverty rises to 5.8%, the fraction of the income poor that is consumption poor rises slightly, to 28%, and the fraction of the consumption poor that is income poor falls slightly, to 48%. The percentiles of the two measures of resources-to-need (income/poverty threshold and consumption/poverty threshold) are moderately correlated (0.54), (p. 8).

Charles et al. compare the bottom quintiles of each distribution and show that socio-demographic characteristics and economic well-being are similar (Table 3 revised). They find small and not statistically significant differences in 12 indicators of physical health; five indicators of mental health; and three indicators of housing and neighborhood quality. Material well-being for the bottom quintile of the "consumption minus MOOP" distribution also differs little from that of the bottom quintile of the income distribution (revised Table 4).

Charles et al. compare how income/needs percentiles and consumption/needs percentiles correlate with well-being using separate multiple regression models (revised Table 5). Nearly always, the estimated effect per-percentile of income/needs is larger (in absolute value) than the effect per-percentile of consumption/needs, which suggests to the authors that income tracks material wellbeing better than consumption. However, these results are reversed when income and consumption are measured in dollars rather than percentiles (revised Table 6), indicating that, when both are measured in dollars, consumption is more highly correlated with well-being than is income.[35]

Charles et al. cross-classify the sample according to the two poverty measures. As they note (page 14) "…the most interesting numbers in Table 7 are for those persons who are poor by one definition, but not poor by the other. Are income-poor/consumption non-poor households worse off than consumption poor/income non-poor households? And what does the difference in their objective indicators of wellbeing suggest about the degree to which low consumption among the elderly reflects an aspect of choice rather than of resource constraint?" In a supplemental table similar to Table 7 but in which the sample is restricted to families with a head aged 65 or older (supplemental Table 8, not revised), they present statistics for two groups: the income-poor/consumption-non-poor and the consumption-poor/income-non-poor. For simplicity, we call the first group "the dis-savers" and the second "the thrifty." On average, the dis-savers have MOOP expenditures of $4,200, which amounts to 14.4% of their total consumption of $29,166. Assuming an average household size of two persons, the poverty line would be, on average, about $11,000. Since the dis-savers are all income poor, their average income must be well below $11,000, so they must be consuming roughly triple their annual income, on average. In contrast, the thrifty group spends only $800 on MOOP, or 10.9% percent of their total consumption of $7,339. Although the low-income, higher-consumption group has much higher MOOP expenses, greater MOOP expenses account for only about one-fifth of the difference in overall consumption between the dis-savers and the thrifty. Between 2000 and 2002, mean wealth fell by 61% for the dis-savers, while it rose by 86% for the thrifty group. (The change in median wealth for the two groups was 0% and +26%, respectively.)

Despite much lower levels of consumption, the thrifty group appears to experience higher levels of material well-being than the dis-savers. For example, the thrifty are less likely to be food insecure (3%

[35] This reversal most likely reflects a more compressed consumption distribution compared to the income distribution so that a one percentile increase in consumption is smaller in dollar terms than a one percentile increase in income. Charles et al. do not repeat this exercise using non-MOOP consumption. For our purposes, it would be useful to estimate models that focus on effects of income and consumption on wellbeing for those below or near the poverty line.

vs. 9%), in poor/fair health (37% vs. 42%), or to live in homes in fair/poor condition (12% vs. 21%). (Significance levels are not indicated in this table.) Figures such as these lead Charles et al. to conclude that "…the elderly consumption poor who are not income poor do not seem to be particularly needy." Yet we must also ask whether we should consider particularly needy the dis-saver group (income poor/consumption non-poor) who manage to consume nearly triple the poverty line, on average, despite their low incomes. They argue that: "For mature persons, a complete picture of poverty seems to require knowing about both the degree to which both household income and consumption do not rise to particular levels (p. 4)." If the neediest elderly are both income poor and consumption poor, the good news is that this population comprises about half the consumption poor and only one quarter of the income poor, and, in the HRS, only 2% to 3% of the mature population (aged 53+).

Charles et al. also conclude that "consumption seems to [do] a worse—and certainly does not do a better—job of identifying hardship for mature persons than do income based measures." However, we believe this conclusion needs to be tempered by the recognition that their updated analyses show that this result is reversed when resources are measured in dollars rather than in percentiles.

In sum, while combining income and consumption should provide a better measure of need than either measure alone, these figures (and others) also seem to make a strong case for the incorporation of wealth or assets into measures poverty and economic wellbeing of the elderly, given the important role of assets in financing the consumption of the low-income elderly. Most importantly, information on assets can help to identify low consumption levels that result from thrift rather than lack of resources (i.e., need).

Levy (2009)

Levy (2009) uses HRS data to estimate regression models that relate the elderly's experience of material hardship to their income and health. Material hardship is measured by indicators of: A. food cutbacks ("not always had enough money to buy the food you need"; or "skipped meals or eaten less that you felt you should because there was not enough food in the house"); B. Medication cutbacks ("ended up taking less medication than was prescribed for you because of the cost"); or C. Either A or B.

Levy finds that better health and higher income reduce material hardship (Table 5). In discussing alternative interpretations of the health effect on hardship, Levy notes that one "…explanation is that the burden of out-of-pocket spending for medical care reduces resources available for food and medicine; this is the notion underlying criticisms of the fact that the official poverty measure does not take out-of-pocket medical spending into account (p. 12)," However, in supplemental analyses[36], Levy finds that subtracting MOOP expenditures from income ***weakens*** the statistical relationship between income and hardship (the coefficient of log income is reduced by one-third to two-thirds). Interestingly, subtracting MOOP from income weakens the effect of poverty on "food cutbacks," but strengthens considerably the effect of poverty on "medication cutbacks." Taken at face value, these results suggest that what matters most for an elderly person's experience of food hardship is how much income she has, not how much income she has net of MOOP expenditures. But income net of MOOP expenditures matters most for medication cutbacks. Together these results suggest that low-income elderly reduce the impact of MOOP expenditures on non-medical hardship by cutting back on medication.

[36] See supplemental Table 5B. We thank Helen Levy for her generosity in responding to our questions and requests for supplemental analyses.

Levy also finds little evidence that MOOP expenditures mediate or explain the relationship between bad health and material hardship, controlling for income. Specifically, controlling for either income or income net of MOOP expenditures does not weaken the health-hardship relationship. This finding is inconsistent with the idea that, among the low-income elderly, MOOP expenditures typically result from health shocks (or declines in health) that, ultimately, cause material hardship.

Other supplemental analyses (Table 5A) demonstrate that assets matter for the elderly's experience of material hardship. Higher assets are associated with reduced material hardship, whether or not income is controlled. Controlling for assets reduces the effect of income on "food cutback" by half, and the effect of income on "medication cutbacks" by nearly one quarter. Finally, controlling for assets weakens slightly the health-hardship relationship.

In combination with our reading of Meyer and Sullivan and Charles et al., Levy's findings provide evidence that combing income and assets holds higher promise for predicting material hardship than either income alone or consumption alone.

Butrica et al. (2008)

Butrica et al. (2008) use HRS data to test whether several alternative measures of poverty correspond more closely than the OPM to subjective assessments of wellbeing. We focus on their "Alternative IV" which, among other adjustments, subtracts MOOP expenditures from income. In their HRS sample, the elderly poverty rate is 6.5% according to the OPM but 12.3% according to Alternative IV, similar to the comparison between the OPM and SPM in other contexts (Short 2011; NYC CEO 2012).

Butrica et al. attempt to validate poverty measures against six subjective measures of well-being: 1. Difficulty paying bills; 2. Have enough money for food; 3. Skipped meals (among those without enough money for food); 4. Depression; 5. Retirement satisfaction; 6. Self-reported health status.

They write:

> Comparing the alternative poverty measures with subjective measures of well-being collected in the HRS can help us evaluate the measures' ability to capture self-reported economic need. The alternatives generally track individuals' assessments of well-being better than the official poverty measure (table 7). For example, 47.8 percent of older adults who are classified as poor when health expenses are accounted for (measures III and IV) report having extreme difficulty paying bills, compared with only 31.5 percent using the official measure.

It is clear that, in the quote above, the authors have misinterpreted a result reported in their Table 7; the 47.8 and 31.5 figures are clearly poverty rates and not proportions of the poor in different categories of well-being. In particular, 31.5 is not the percentage of the poor that has extreme difficulty paying bills, but rather the fraction of those who have extreme difficulty paying bills that is classified as poor under this measure. Since the poverty rate for Alternative Measure IV is higher overall than the OPM rate (12.3 vs. 6.5), it is not surprising that the Alternative Measure IV rate is higher than the OPM within each category of well-being. A poverty measure should be considered "better" than another if it discriminates better between the needy and non-needy. It is difficult to make such an assessment from the information provided in the table.

Butrica et al. offer what we believe to be a correct interpretation of other figures in the table. They note that "…20.9 percent of those saying they do not have enough to pay for food are poor using the official measure, compared with one quarter or more using measures III through IV." This would appear to

show that Alternative Measure IV better identifies the needy as needy. However, their figures also demonstrate that the OPM is better than Alternative Measure IV at identifying the non-needy as non-needy: only 5.8% of those who have enough money for food are classified as poor by the OPM compared to 11.3% for Alternative Measure IV. Again, it is difficult to assess whether one poverty measure better distinguishes between the needy and non-needy from the information they present.

Finally, Butrica et al. write: "Higher alternative poverty rates among older adults and especially high rates among some subgroups show the importance of protecting low-income older adults when considering reforms that reduce the cost of government programs for retirees. They also underscore the importance of considering new policies to boost the incomes of the poorest older adults. Reforms to the SSI program that increase asset limits from levels set back in 1972 should also be considered to allow more of the poorest older adults to gain eligibility (p. vi-vii)." Of course, this conclusion is justified only if the alternative measure of poverty is a better indicator of need than the OPM.

Butrica et al. (2009)

Butrica et al. (2009) examine the responsiveness of health care spending and total spending to medical conditions for a panel from the HRS in 2001, 2003 and 2005. They use two health care spending variables: total MOOP and MOOP less premium payments (since they do not expect premiums to vary much with health status for older persons). They also examine two total spending outcomes: spending other than MOOP, and spending other than MOOP or housing. When they restrict the sample to low-income (<$15,000 per capita in $2007) elderly households, they find that the presence of health conditions increases MOOP expenditures substantially, especially non-premium MOOP expenditures. However, more health conditions do not reduce non-MOOP expenditures; in contradiction to the idea that non-discretionary MOOP expenditures crowd out other spending, the coefficients are positive, though not statistically significant. These results come from regression models that control for income and assets. Although one might attribute this (null) result to measurement problems or the like, the same analyses for low-income 51 to 64 year olds yields the expected result: among this younger group, more medical conditions associate with much higher MOOP expenditures and lower non-medical expenditures.

They conclude:

> It is no surprise, then, that low-income people in their fifties and sixties would have to lower their living standards to cover their health expenses when they develop medical problems. Many are uninsured or underinsured, generally causing out-of-pocket health care costs to increase sharply when they develop chronic conditions. They typically lack the financial resources to maintain their consumption levels when medical costs surge, such as by dipping into their savings. Unlike many people ages 65 and older with adult children who are well-established in their careers, people in their fifties and sixties may lack family members who are able to provide financial help.
>
> More surprising is our finding that health care spending does not crowd out other types of household spending for adults ages 65 and older, even among those with low incomes. Although virtually all Americans ages 65 and older receive Medicare benefits, the coverage gaps are well known. Beneficiaries usually face substantial cost-sharing requirements, including high

deductibles and significant copays. Premiums for coverage of outpatient services are expensive. And several services are excluded from the basic Medicare package, most notably prescription drug coverage during the period covered by this study. Although Medicare began covering prescription drugs in 2006, coverage remains incomplete today (Schneeweiss et al. 2009). Many older adults supplement Medicare with private coverage from former employers or insurance companies, but premiums for supplemental coverage are expensive.