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INCORPORATING HEALTH ISSUES IN THE MEASUREMENT OF POVERTY

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Measures of poverty serve as important benchmarks for the overall well-being of our society. For 30 years, we have come to depend on accurate poverty measures to help make public policy. Comparisons across time help us assess whether we are meeting the basic needs of our population. Comparisons across groups help to tell us whether that progress is occurring equally within our population. Poverty rates provide ammunition for proposals for expansion or contraction in programs aimed at low income groups. Consequently, modifying and improving the basic measurement of poverty is more than a methodological exercise; it is also likely to influence attitudes and policy towards disadvantaged Americans.

The inclusion of in-kind benefits in general, and health benefits in particular, represents an important area for possible modification of the official poverty measure, which currently includes no in-kind transfers. Benefits from Medicare, Medicaid and employer-subsidized health insurance premiums certainly contribute to the well-being of families and individuals and have helped to alleviate poverty for many Americans. Since the passage of the public programs in 1965, health benefits have grown in importance as a share of families' budgets, making it critical to consider health benefits in cross-time comparisons. Moreover, since not all low income groups have equal access to public and private insurance, relative economic status across groups is also affected by eligibility for those benefits.

Why is it important to turn more carefully to this issue now? First, as will be discussed below, earlier efforts have not been sufficient to account appropriately for the role of health in poverty status. These efforts have tended to overstate the poverty-reduction impact of health benefits. But moreover, the size of these benefits relative to income is now so large that the inadequacy of ad hoc approaches is more apparent than ever. Inaccurate estimates of the value of

health benefits can swamp other improvements in measuring poverty. Finally, the debate over changes in national health policy raise further issues regarding the contribution that health benefits make to the well-being of Americans, making this a timely policy issue as well. To see how the magnitude of this issue has changed, it is useful to start with a short history of health care spending and benefits.

A BRIEF HISTORY

In 1965, when legislation establishing Medicare and Medicaid passed, one of the strong arguments in support of these programs was that nearly all of the elderly were poor or near-poor and thus could not afford to purchase insurance on their own (Marmor 1970). Thus, the problem of poverty was used as an appeal for enacting two new public programs for health care. But ironically, individuals writing about the problems of poverty in the 1960s were not citing lack of health care as a major issue. Subsistence needs centered on food and housing, and the original poverty thresholds were based on the thrifty food budget and the share of a family's income that would be devoted to food (Orshansky 1968). Health care was not a concern.

A generation ago, health care constituted a much smaller share of family budgets, on average, and hence was not nearly as much of an issue. For all persons, expenditures averaged $112, and for those over age 65, the average was $184 in 1963 (Andersen, Lion and Anderson 1977). Translated to 1990 dollars, this represented expenditures of $478 for all persons and $786 for persons over age 65. As a share of median income, these expenditures would represent 3.8

percent for all persons (U.S. Bureau of the Census 1969).[1]

And, at least initially, Medicare and Medicaid, the government programs for the elderly and poor, were relatively limited in scope as well. Even for the largest consumers of health care, the elderly, estimates of the value of Medicare in 1967 ranged from $188 to $469 per year and about $210 for Medicaid (Moon 1977).[2] This compares to a poverty threshold of $1600 for a single person over age 65 (Social Security Administration 1992). Combined Medicare and Medicaid benefits were likely to represent one-fourth to one-third of the poverty threshold during that period.

But health expenditures began to rise dramatically in the 1970s for all Americans. Between 1970 and 1990, per capita spending grew (in 1990 dollars) from $1,166 to $2,566 (Levit et al. 1991). Individuals' out-of-pocket share of these expenditures fell over the period, and the real dollar amount that individuals pay also fell, but just slightly from $650 to $597. Again, as a point of comparison, the $597 represents 4.2 percent of 1990 per capita median income (U.S. Bureau of the Census 1991). Government's share of spending increased from 37.3 percent to 42.4 percent, picking up some of the burden that individuals would otherwise have spent out of pocket.

This growth in spending on medical services also meant that the early approaches to valuing in-kind benefits used by the Census Bureau in its experimental measures began to yield

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[1]Median income is used here because the distribution of income tends to be more skewed than health expenditures. Consequently, dividing average health spending by median income tends to give a share closer to what would be obtained if each individual's own spending and income were compared.

[2]In 1990 dollars, these values are $736 and $1835 for Medicare and $822 for Medicaid.

very large additions to family resources as a share of the total poverty threshold, particularly for groups such as the elderly. For example, in 1986 the combined "benefit value" for Medicare and Medicaid as calculated by the Census averaged $3269 (or $3898 in 1990 dollars) for persons over the age of 65. The poverty line for an individual was $5255 in that year. This would mean that 62 percent of a poor elderly person's budget would go for health care--clearly an amount well beyond a reasonable share for that portion of spending.

By 1990, the comparable Census figures for combined Medicaid and Medicare for the elderly varied by state and ranged up to $9526 (in New York), while the individual poverty threshold for a person over the age of 65 was set at $8091 in 1990 (U.S. Bureau of the Census 1991). Thus in some states the estimated dollar value of benefits exceeded the poverty thresholds. But as will be discussed below, the definition used by the Census also changed, softening the impact of these otherwise enormous benefit amounts.

THINKING ABOUT THE ROLE OF HEALTH BENEFITS

While few researchers would question the importance of accounting for health benefits, difficulties arise in incorporating the value of these benefits into an appropriate poverty measure. For example, the most simplistic approach, adding benefits received to income, results in perverse measures of well-being. Those who are very sick receive more in publicly-funded medical benefits than do those who are healthy--but few analysts advocate calling the sick "better-off" because of these additional benefits.

The first approaches to seriously examine the value of in-kind benefits focused on

estimating their "insurance" value. To compute this value, spending on benefits is averaged across a group rather than attributed directly to specific individuals (Moon 1977, Smeeding 1977). But even this approach still generates a bias, this time against sicker groups. Those in demographic groups more likely to experience illness, such as the very old, will have higher insurance values for medical benefits than those less likely to be sick, even if the benefits they would receive in the event of illness are exactly the same. Again, it is not sensible to argue that the very old are better-off than otherwise comparable groups who are less likely to be sick just because they get more out of their medical insurance. Yet this is exactly what adding in non-cash benefits does. And when compared to a poverty threshold, the sickest groups show the greatest "declines" in poverty. These findings have then sometimes been translated into conclusions such as the "elimination of poverty" among the elderly (Anderson 1978).

Indeed, this overstatement of the impact of health benefits on alleviating poverty particularly affects comparisons between the elderly and the non-elderly, or among different age groups of the elderly, because persons over age 65 are more likely to receive--and to need--health care benefits than are those who are younger. Under some of the valuation methods formerly used by the Census Bureau, it was impossible for a single person over age 75 to be poor at all, because the insurance value of Medicare was greater than a poverty-line income (U.S. Bureau of the Census 1990). Under those methods, for example, a very elderly homeless person with no cash income at all still would not be counted as poor--certainly a nonsensical result.

These measurement difficulties have led to calls for excluding all medical care costs from a proper measure of income (Ellwood and Summers 1986). But that is not very satisfactory either since it implicitly devalues the benefits received. And this approach also ignores the

negative consequences felt by those who lack access to these programs. What is needed is a more systematic approach to adjusting our poverty measures for a range of health issues.

Some analysts have advocated continuing the approach of adding benefits to a family's resources, but with reductions in estimated values to bring them more in line with the rest of a poverty level budget. For example, work by Smeeding under this approach lowered the insurance value used, creating what he termed a "cash equivalent" value (Smeeding 1984). This built on earlier work directed at a similar issue in housing (Smolensky and Gomery 1972). But even creative ways of adjusting downward the value of health benefits received merely masks the problem rather than resolving it.

The Census Bureau has gone even further and now uses a method called "fungible value"--which begins to limit the value added to the amount that Medicare and Medicaid might free up for the family to use on other needs (U.S. Bureau of the Census 1990). This adjustment represents an attempt to recognize that these benefits are not equivalent to cash income, but in practice it is also only a partial solution. The definition explicitly excludes counting medical benefits received (such as Medicare or insurance) unless the family or individual has at least enough cash resources to pay for a subsistence level of food and housing. But above that, a reduced value for health benefits--based on the amount of resources above the basic cost of food and housing that a family has--is added to income. By allowing the value of benefits to fully fill in the gap between food and housing costs and the poverty line, the formula effectively assumes that all resources beyond food and housing would be devoted to medical expenses up to the poverty line. This is an improvement over counting the full value of medical benefits as part of resources, but it still has the essential problem of treating as fungible benefits that can be used for

only one purpose. For the elderly, it effectively establishes a new--and lower--poverty threshold equivalent to the food and housing minimum budgets.

OPTIONS FOR CHANGING THE POVERTY MEASURE

These efforts to date recognize problems with adding benefits to resources but fall short of a desirable solution. They often represent ad hoc approaches to make more palatable an approach that is flawed in two ways.

First, measures of poverty rely upon both a measure of economic resources and a measure of relative economic needs. Resources (usually cash income) are estimated for individuals, families or households and then compared against a poverty threshold which is designed to measure what a family requires to achieve a subsistence standard of living. These can be thought of as two sides of an equation; it is inappropriate to add to one side without adjusting the other. The impact of health care should be incorporated into both sides of the equation or the outcome will not be satisfactory. Previous work in this area has focused only on expanding the measure of resources and neglected appropriate adjustments to the measure of subsistence needs (the poverty threshold itself).

Second, even if changes are made to both measures, the issue of "fungibility" remains. As defined by Ruggles (1990), fungibility is "the extent to which benefits can be applied to different consumption needs, depending upon which is most pressing." Health entitlements do not do very well by this measure and it is thus easy to overstate their value. If the value of the benefits received (on the resources side of the equation) is greater than the level of benefits

assumed in the poverty threshold, families may appear to be nonpoor but still be unable to consume sufficient housing and food to achieve a subsistence standard of living. They are not able to "cash in" on the extra medical benefits they receive. This is why measures such as Smeeding's "cash equivalent" were developed, but Ruggles and others argue that this does not go far enough in avoiding treating in-kind benefits like cash.

Elements of both issues need to be recognized in developing improved measures, but as will be discussed below, this may be a difficult and cumbersome undertaking. Consequently, it is appropriate to first consider several additional intermediate approaches which could represent substantive improvements in the measure of poverty. But to fully tackle the two problems described above, a full or modified two-index approach would be most appropriate; those will be considered in the following two subsections.

Further Intermediate Adjustments

"Intermediate" approaches could be used to improve the existing measures of poverty but without creating a more complicated two-index structure. Moreover, the first of these would make adjustments only on the resources side of the equation, leaving the formal poverty thresholds unchanged.

Subtracting Out-of-Pocket Spending from Resources. The simplest approach would ignore the value of insurance received from other payers (e.g. Medicare) on both the resource and needs sides of the "equation." The only way in which health spending would be taken into

account would be to subtract health care spending from the financial resources of the household. Out-of-pocket spending on actual goods and services and the costs of any insurance premiums should be included in the total to be subtracted from resources. This measure would capture differences between households that had substantial benefits, and hence small out-of-pocket spending, and those with few sources of payment and much larger individual burdens for financing health care.

One important practical issue is whether to use individual spending or averages across certain groups. Unlike food or housing, which are likely to be relatively predictable expenditures, actual spending out-of-pocket on health care can vary enormously even within very homogeneous population groups. For example, for a program such as Medicare, which has no stop loss protection to limit total liability on spending, several hospitalizations may lead to large out-of-pocket burdens. Some elderly persons might consequently have few expenditures while others would have large burdens, even though they have identical insurance coverage. The impact of instead subtracting actual spending would be greatest for those who have little or no insurance since they are most at risk for wide swings in health care spending liabilities. A decision to use average or median spending as opposed to actual out-of-pocket expenses would result in a different composition of persons in poverty in many instances. This approach would most appropriately measure actual, not average, spending.

The advantages of this intermediate measure are several. First, it would require only that surveys used to measure poverty ask a few questions about insurance premiums and out-of-pocket costs. Adjustments would be at the specific household level so that they would reflect individual circumstances in much the same way that we measure financial resources. This would

also mean that the official poverty thresholds would remain unchanged--an advantage because most other approaches to adjust for health spending would result in the need for varying poverty thresholds by family circumstances such as age or health status.

But the advantage of making changes only on the resources side of the equation is also a disadvantage. It means that there is no recognition of the costs of health care spending reflected in the poverty threshold. Since this measure itself is often used as a benchmark to discuss subsistence level budgets and how incomes change over time, the poverty thresholds would be too low because they would not recognize health spending costs. One way to resolve this issue would be to add to the threshold an average level of out-of-pocket spending, so that the poverty threshold would more accurately capture subsistence budget needs. Subtractions on the resources side could then be limited to spending above the average level.[3] This would resolve the problem only for the average family, however. To the extent that health care spending systematically varies across types of families, the poverty thresholds would thus be biased.

A second disadvantage is that this approach effectively captures no benefits for persons who have insurance coverage but do not use it in a given year. Since one of the reasons that the experimental poverty measures were developed was to demonstrate the value of Medicare, Medicaid and other in-kind transfers, this approach formally ignores that. The value of such benefits are partially reflected in reduced out-of-pocket spending for those who have high levels of expenditures, but it does not do so in a systematic way for everyone. The perceived value of these benefits under this approach implicitly rises or falls with use of health care services.

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[3]And, for those who spend less than average out of pocket, resources could be raised.

Finally, this approach does not distinguish among individuals on the basis of necessary health care versus personal choice for higher expenditures. Persons with high preferences for spending on noncovered health services would appear to be worse off than those who choose to spend their financial resources elsewhere. This leads to a need to distinguish among out-of-pocket expenditures--complicating the required data that must be gathered to obtain appropriate measures.[4]

Incorporating Health Benefits and Adjusting for Out-of-Pocket Spending. A second alternative would go a step further and add medical benefits received to the resources side of the equation and incorporate average total spending on the needs side. Actual out-of-pocket spending greater than the average would be subracted from resources. In cases where benefits are very comprehensive, such as full year receipt of Medicaid, this would simply add the same amounts to both sides of the equation.

This would essentially allow the poverty threshold amounts to reflect the need for basic health expenditures. Further, this measure avoids one of the major problems with subtracting out-of-pocket spending from resources by explicitly distinguishing between those receiving health benefits and those who do not. This alternative measure would, however, require a larger number of discreet poverty thresholds with distinctions beyond family size. Once the decision is made to add health needs to the thresholds, one per capita or per household number is not

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[4]Under the best of circumstances, out of pocket spending measures are subject to considerable error if the question requires a full year recall. Successful surveys have tended to ask over no more than 3 month intervals. This is likely to be even more critical if out-of-pocket spending is divided into a number of categories to focus on necessary spending.

sufficient. The large variation in spending needs for different groups argue for multiple needs estimates.

A problem arises for persons with high health risks where insurance may not be available at the estimated price (or perhaps at any price), meaning that someone could be classified as above poverty but not be able to purchase insurance. For example, average health needs for a young family with two children might total $3000 to $4000 annually. But a family without access to group insurance may not be able to purchase insurance (or the actual price might be double that amount). Such a family with enough additional resources beyond other subsistence expenditures to be above poverty if they could purchase insurance will still be at risk if that coverage is not available or unaffordable. This approach would also overstate the well-being of persons with both Medicare and Medicaid who would have benefit values on the resources side higher than their needs, again conflicting with the goal of not treating these as fungible benefits.[5]

Even these two intermediate approaches can quickly become complicated. If effort is going to be devoted to adding health to poverty measures, it may make sense to adopt an even more comprehensive approach. A more promising alternative tackles directly the two issues of adjusting both resources and needs to measure poverty and creating an explicit treatment for the issue of fungibility. That is the two-index approach described in more detail below.

A Two-Index Approach

[5]The amount added to resources could be constrained to be no more than what is added on the needs side.

Because health care benefits play a different role in enhancing the well-being of households than the role of cash and other near-cash benefits (such as food stamps), one strategy is to create a two-index or two-tier poverty threshold. Needs and resources would be split between health expenditures and other resources. To be non-poor, a family or individual would need to exceed the threshold both for other general resources and for health expenditures. But these two components would not operate symmetrically; extra general resources could be used to help supplement health benefits, but medical benefits above the health needs threshold could not be shifted back to help meet expenses for food and housing, for example. This approach thus explicitly accounts for the issue of recognizing health spending on both the needs and resources side of the poverty equation, and accounts for the fungibility problem with public and private insurance coverage. It also separates the measure into two components so that the impact of each can be assessed.

The composition of this health component of a poverty measure could have a number of variations. At its simplest level, it could establish an actuarially determined premium for particular groups (the definition of which will be discussed later) to serve as the health poverty threshold, and include on the resources side of the equation the value of health benefits received. If the value of Medicare, Medicaid or private insurance received were large enough to cover the full needs of the individual, then this part of the poverty measure would indicate "nonpoor with regard to health needs."

Two further adjustments need to be factored into any measure. First, for those receiving private or public insurance, there are often still substantial out-of-pocket expenses that must be met--sometimes as a condition of receiving the insurance coverage. In that case, the needs

measure should represent an insurance amount for a fully-funded plan that requires no copays or deductibles. The resources side of the equation would have to "borrow" cash from the other component in order to meet the poverty threshold for many persons. Consider the case of Medicare. If an individual has only Medicare, required premiums, deductibles and copayments can be substantial--averaging about $1002 for all beneficiaries in 1990 (Ways and Means 1992). Other non-covered services raise required spending even further. These needed expenditures should be taken into account in determining whether individuals can meet the tests of adequate health coverage.

A further problem arises for those who have no insurance coverage. In this case, individuals are at great risk. While spending for the person might actually stay within the bounds of an actuarially fair premium, there is no protection to limit it to that amount. In that case, it becomes difficult to describe what resources are needed to assure that an individual can meet his or her health care needs. Under these circumstances almost anyone could be designated as "poor." If health insurance were available on demand to anyone who could pay for it, then a health expenditure threshold could still be valid: it would require substantial resources, but if the family had enough to meet general needs and to buy insurance, we could term them as "not poor." However, at present, workers changing jobs who have a sick family member may not be able to buy insurance at any price, or may have to pay exorbitant premiums. In this circumstance, to certify that a family is above poverty would likely require more than an actuarial premium equivalent for the health needs standard--estimating how much more is difficult and is discussed in more detail in the section on implementing such a measure.

A number of analysts have suggested a two-index alternative (Ruggles 1990, Aaron

1986), but there has been little effort to operationalize this approach until recently. Weinberg and Lamas (1992) have defined and estimated a simple approximation of a two-index approach as one of their alternative poverty definitions. They have provided some basic adjustments to account for the issues raised above, but they do so in the context of the resource side of the equation only. Their approach is a useful starting point, but a full two-index approach would, I believe, offer some further advantages.

Weinberg and Lamas offer two alternative adjustments for medical benefits. The first alternative would exclude medical benefits from the noncash measures calculated by the Census Bureau. But this would then ignore the fact that receipt of insurance helps low income families. To account for that, Weinberg and Lamas treat the lack of insurance as a problem likely to keep people in poverty--or to shift them there. They count anyone as poor if they live in a family that has no public or private insurance and has an income below 8.5 times the poverty level.[6] The second alternative builds on the first and subtracts from income the average estimated out-of-pocket spending by various subgroups of the population. In the Weinberg-Lamas approach, the poverty threshold is also reduced by 3.6 percent to reflect average out of pocket spending. This implicitly assumes that medical spending is included in the threshold measure. The impact on poverty is thus only felt for those with spending greater or less than average.

Some of their findings are summarized in Table 1. The standard alternative of adding all noncash benefits received drops the estimated number of persons in poverty from 12.8 percent to 10.4 percent in 1989. If medical benefits are excluded from this measure and if anyone without

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[6]They chose that amount, assuming that persons above 8.5 times poverty could afford to self insure.

insurance of some type is automatically treated as poor, the poverty rate rises to 14.7 percent. The second alternative, which excludes out-of-pocket spending from resources, raises poverty rates even higher to 20.1 percent. The elderly, whose poverty rate under the first two definitions is lower than that for the rest of the population, ends up with a poverty rate above the overall average. And poverty rates jump by 10 percentage points for persons in families with female householders and no spouse present. These findings are likely indicative of the results from a true two-index measure.

But there are a number of areas where a full two-index approach could improve upon the approximation of Weinberg and Lamas. First, it is useful to have poverty thresholds that reflect true resource needs. By subtracting out-of-pocket spending from the resource side and by failing to add in medical benefits directly to either side of the equation, the poverty thresholds remain unchanged. It is consequently difficult to observe easily differences in resource needs across population groups. And the higher rates of inflation that have occurred in the health sector will not be reflected in year-to-year comparisons. We should not ignore the fact that the official poverty thresholds in themselves are often of interest and used as benchmarks for a variety of reasons. If the threshold is to be a measure of what is needed to achieve subsistence level income, then it should contain all appropriate budget items including health care spending.

Further, to more carefully estimate the differences across individuals, the threshold measures should be based on averages, while the resource side should reflect exactly what benefits the individual receives. Health benefits are now quite complicated. An individual might only receive Medicaid for part of a year, perhaps after spending down, for example. The Qualified Medicare Beneficiary (QMB) program fills in the cost sharing requirements under

Medicare for low income elderly and disabled persons. Thus, the elderly and disabled may have Medicare and either Medicaid, QMB or private supplemental coverage. These programs create notch effects of large changes in benefit amounts over a narrow range of income that would be useful to study in terms of poverty impacts.

Finally, the Weinberg-Lamas approach to the issue of insurance offers an imperfect solution--although this is an area where improvements upon that will be difficult to come by. At what level does lack of insurance reflect individuals' consumption choices and at what level is it simply unaffordable? In the first case, we presumably would not want to categorize such an individual as poor even if he or she lacked insurance. Further, even if we could agree upon a tip point (such as the 8.5 times poverty figure that Weinberg and Lamas used), we need to take into account the possibility that insurance may simply not be available at any price.[7] Further, our poverty measures are often expressed by family or household; insurance--especially for low income groups--is often available for only part of the family unit. Sorting out who has what insurance can be a very difficult task.[8]

A Modified Two-Index Approach?

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[7]This issue would likely be resolved by health reform. Indeed, one of the very first steps likely is to guarantee that anyone who can pay will be able to buy insurance. Subsidies to help with affordability may be phased in more slowly.

[8]For example, since employers sometimes heavily subsidize employee coverage but require large employee premium contributions for dependents, workers may be covered but children in a household may not be.

A modified two-index approach to incorporating health benefits might look much like the first intermediate option. That is, the second (health) tier could be retained but be treated more as an optional extension for measuring poverty. In a sense, this is a way to think about moving health care out of the "experimental" category toward becoming a routine aspect of poverty measurement. But there may be times when it is reasonable to set aside health care issues. A two tier approach is reasonable in this regard because the two pieces can be separated. The full two-index measure demands a number of distinctions across various family characteristics. For example, it may be quite useful to be able to report only a limited number of poverty thresholds--perhaps based on the general or "fungible" poverty budget. Thus, a modified approach might formally recognize that this separation of the two parts of the measure would routinely be made.

To avoid the problem of taking no account of health in the formal poverty thresholds, a modified two-tier approach of this sort might adjust for average out-of-pocket spending in the first tier. This would blur the line between health and non-health spending, however. Moreover, if only an overall average were used, the poverty thresholds would be too low for some and too high for others. For example, this would understate the number of poor elderly as compared to younger families. Thus, this adjustment would only modestly improve the measure over the current official measures. Perhaps the better approach is to encourage use of the full two-index measure but recognize that the second tier might not always be incorporated. The single index measure could then be thought of as the "net-of-health" indicator of poverty.

IMPLEMENTING A TWO-INDEX POVERTY MEASURE

For purposes of studying the impact of medical benefits on poverty, a number of practical issues must be resolved. It may not be possible to come up with an ideal, but we need at least some conventions to fall back on while understanding how they may bias the results. Several of these are discussed below in order of their importance.

Defining Health Needs Standards

One of the first issues that will need to be settled is to establish a method for determining an adequate amount of health coverage. One option would be to use the actuarial equivalent of a package of basic benefits. It should assume no copayments or deductibles since the goal is to measure the amount a low income family could spend to obtain comprehensive, but basic protection. It would vary by population characteristics, such as age, reflecting differences in needs.

For purposes of measurement, one application might collect rate schedules from several insurance companies for a standard benefits package. Such rates are generally available by age and family status. They represent insurance companies' best estimates of the full cost of supplying a given benefit package. These amounts include loading factors for administrative costs, reserves and profits. The estimates could be reduced to effectively eliminate some of these factors.

A more likely approach for analytic purposes would rely upon estimates of health expenditures collected from data bases such as the National Medical Expenditure Survey (NMES) (perhaps adding an administrative load factor to account for administrative costs of such

coverage). But it would not be appropriate to simply take aggregate spending for all persons in a given age or other group. As shown in Table 2, there are large differences within various groups depending upon insurance status. Not surprisingly, persons who were uninsured for the full year in 1987 had substantially lower spending, likely reflecting lack of access to care as well as potential differences in taste for insurance. It would be better to use only those with insurance to estimate the needs package, although receipt of insurance may encourage some overuse of services as well.[9] Despite these problems, using spending estimates, appropriately adjusted, is probably the most appropriate way to capture needs.

Second, a basic benefit package may exclude some of the services that are now part of total expenditures. Fine distinctions would be difficult (such as plastic surgery vs. other surgeries), but it might be appropriate to exclude some categories such as home health or dental services. Table 3 indicates the share of personal spending by type using the categories defined by national account data (Levit et al. 1991).

If we have health care reform, the basic benefit package which is defined as the standard for most families would likely become the framework for estimating a needs standard. Since that package may have deductibles and coinsurance, it would also need to be adjusted as described above. Alternatively, it is likely that there will be a separate definition of the package for persons below poverty who would be fully subsidized; this variation of the basic benefits package could be costed out for use with the poverty measure.

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[9]There is an additional bias between Medicaid and the uninsured population which might otherwise be eligible for Medicaid. By definition, the medically needy population has such medical expenditures high enough to drive the family into poverty. Consequently, we should not be surprised to find very high levels of spending for these program beneficiaries.

This is an important issue for establishing a benchmark for comparison with other subsistence needs of households. Moreover, it will be important for comparisons across groups since the need standard should vary by individual or household characteristics.

How Many Different Needs Standards are Appropriate?

Thus, one of the most basic practical issues is how to subdivide the population to come up with varying needs standards. Two obvious candidates are age and family size. Number of family members is certainly an issue, although private insurers often do not distinguish number of children in pricing policies. Rather, they tend to count number of adults and presence or absence of children in the unit. If actual expenditures are used for need standards, the estimates could reflect family size as well as composition. Another practical issue that arises is the fact that some benefits are extended just to individuals and not the family. Medicare is a per capita entitlement; other family members over age 65 are only eligible if they meet specific conditions and family members of disabled persons are explicitly not covered. Similarly, some children are eligible for Medicaid, but their parents and other siblings may not be. While private insurance policies are often family policies, here again not all members of a family are always covered when one person receives insurance. In fact, this disparity is becoming increasingly common as private insurance becomes more expensive and employers cut back on their subsidies. These issues require special care on both the needs and resources side of the equation.

Since many of our public policies are aged-based, cross-sectional comparisons warrant disaggregation by age as well. Health expenditures do vary considerably by age as shown in

Table 2. In fact, some insurance companies differentiate on a year by year basis for individual policies. Groupings of 5 to 10 year increments are likely to be sufficiently detailed, however. Some of these differences reflect differences in health status, particularly among adults.[10] In this case, age effectively becomes a proxy for health status, particularly if no other health status adjustments are made.

Does it bias a poverty measure to provide adjustments by age for differences in health spending? Part of the answer rests in the variability of health spending. If age differences largely arise only or mainly because one age group (likely the elderly) experiences a slightly higher percentage of catastrophic spending on health care, then an age adjustment would create a bias. If, however, there is a consistent pattern of differences in spending, then age may serve as a proxy for health status.

One simple way to examine this issue is to consider differences across age groups in mean versus median spending on health care. Table 4 illustrates the ratio of spending of insured persons over age 65 to children (under age 18) using both mean and the median income in 1980.[11] The higher ratio of 5.57 from the mean estimates as compared to the median (3.09) indicates that the elderly do have a greater share of persons with high expenditures which increase mean spending compared to that for children. But at the same time, considerable differences remain when comparing medians. If an adjustment by age is employed, it would likely be more

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[10]In addition, within each age group some variation in spending reflects variation in the shares of persons with and without insurance.

[11]In practice this meant taking all the elderly, since 99 percent of them have some insurance, and only those children with insurance.

appropriate to rely upon median spending levels, but that would still result in considerable differences across poverty thresholds.

This type of adjustment would not, of course, capture differences within age groups that arise because of health differences. Some persons in a particular age group would need reasonable basic expenditures less that what is assumed necessary to achieve subsistence health care. Others would have to spend more. This variability is different than what we normally believe is reasonable for necessities such as food and housing and thus will create some problems for integrating health expenditures into poverty measures.

Alternatively, the population could be further subdivided to explicitly deal with variation in health status. This is likely to be most critical for issues surrounding disability and chronic illness. Health needs depend on health status, as well as other factors, but attempting to use health status as a specific adjustor for needs poses important measurement challenges. A number of measures are possible. Generally, health measures rely on self-reporting, although the various alternatives differ substantially in terms of the subjectivity of the questions asked. The most common poses the issue as: "compared to others your age, how would you rate your health status?" Answers are usually restricted to excellent, good, fair or poor. Nonetheless, a number of health researchers have found this very basic measure to be quite a reliable indicator. Mossey and Shapiro (1982) have argued that such measures are actually better indicators of health status than more objective measures. They found that self-reported status was a strong predictor of subsequent mortality. Other researchers have noted that self-reported status and more medically determined indicators are highly correlated (Maddox and Douglas 1973).

Findings from the National Medical Expenditure Survey from 1987 illustrate these

differences. For example, persons aged 65 and over in excellent or good health (and who had both Medicare and some private insurance) had average total expenditures of $2,575 compared to those in fair or poor health who spent $6,459. For persons under 65 with some private insurance, the differences were even greater--$1,047 for those in excellent or good health and $3,152 for those in fair or poor health (Lefkowitz and Monheit 1991).

Two other types of self-reported health status are measures of activities of daily living (ADLs) and instrumental activities of daily living (IADLs) (Stewart, Ware and Brook 1981). These questions are less subjective since respondents are asked about ability to perform certain basic activities such as bathing, dressing, transferring, toileting and eating (ADLs) and ability to manage finances or prepare meals (IADLS). The ADL measures indicate functional limitations, while the IADL measures are often believed to be better indicators of cognitive problems. Surveys that have used these measures have, however, varied in the ways the questions are specifically asked, thus leading to some difficulty in making comparisons over time or across surveys (Wiener, Hanley, Clark and Van Nostrand 1990). These measures remain among the most commonly applied to the elderly, although they have been subjected to considerable criticism. Since they refer to functional limitations, they are most likely to be valuable in identifying persons with disabilities. They have been used frequently for assessing status among the elderly, but less often for examining younger groups.

Making Comparisons Between Needs and Actual Benefits

Implicit in the two-index measure is the need for carefuls estimate of the value of any

benefit package received by individuals. This measure deals with the problem of not over-valuing a very generous benefit package. But another issue remains. It is possible that two equally expensive benefit packages would not equally satisfy the needs standard. If one package had very generous benefits in an area that went beyond the basic package, but was deficient in other areas, it ought not be valued at its full cost. Only those parts of a benefit package that are coincident with the needs standard ought to be included. This is also a fungibility issue--in this case fungibility within the health benefits area.

For most measures that are contemplated here, this may be too fine a distinction to spend a great deal of time with, but there are a few practical applications where it is relevant. In the case of copayments or deductibles, individuals are essentially required to pay as a condition of receiving the overall benefits. This ought to be reflected as a gap between benefits and needs that would have to be filled by individuals out of their general cash resources. This is likely to be most at issue for private insurance benefits. It would be useful to include questions on surveys about the size of required deductibles and copays, particularly for private insurance with values below a certain amount.[12] Such an effort could provide a simple screen for measuring the so-called "underinsured."

Another practical issue about coverage is related to Medicaid spend down. Some low income families only become eligible for Medicaid benefits after spending down most of their assets and a sufficient amount of income to effectively become poor. Thus, these individuals

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[12]That is, expensive policies nearly always are more comprehensive in terms of these out-of-pocket requirements. Any screen for inadequate coverage could be limited to less expensive policies and oriented mainly toward the issue of the size of the deductible.

will have had very large out-of-pocket expenditures before becoming eligible for Medicaid. It is thus important to distinguish between those who receive Medicaid all year and those who become eligible part way through the year after spending down.

Geographic Variations

Health expenditures vary substantially across the U.S., as do health benefits from Medicare and Medicaid. The issue of whether to generate estimates by state or other geographic breakdown is consequently important. It is also likely to be influenced by changes in other parts of the poverty measure and should be treated consistently with other changes.

But while it is often the case that high health care spending is associated with areas with high costs of living, health care does not track exactly with such other living costs. For example, a recent analysis of Medicare per capita spending found the highest levels in Florida but the lowest in San Francisco, an area where other expenses are high (Miller, Welch and Wennberg 1993). This implies that separate geographic adjustments might be needed for health care as compared to broader cost of living adjustors. Again, this would represent a very sophisticated measure, and one for which good regional or state data are lacking.[13]

Additional Issues Concerning Health

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[13]Cost of living adjustments for health care are likely to be developed as infrastructure for possible health reform. The Health Care Financing Administration is presumably working on updated measures of state health care spending, for example.

A subtler problem with incorporating health effects into measures of poverty is that health status can itself affect not only needs for medical care but also a whole host of other needs. People with disabilities may require special assistance with transportation, shopping, or even basic activities of daily life like dressing and eating. Children with developmental problems may have special educational needs and needs for supervision or monitoring. The costs of these additional services ought to be taken into account if realistic measures of resources relative to needs are to be constructed, especially if the needs measure distinguishes among individuals on the basis of health status. This implies a poverty threshold adjustment for "general" expenses for persons with disabilities to take into account differences in needs across those with health status differences. In this case, thresholds would be higher for both the health and "general" measures of need. A simple factor increasing the dollar level of needs might be used for those with long term problems, for example.

CONCLUSION

While there are many practical issues that may serve as impediments to improving poverty measures to account for health benefits and burdens, this area of reform ought to be a high priority for future change. The experimental measures that people use may provide misleading information about changes over time and relative poverty status of groups at different points in time. At the very least, the experimental measures should be modified. A two index approach would require some important changes, particularly in the thresholds themselves, but it would represent an important and timely effort. If a modified or full two-index approach is not

adopted, does it make sense to instead incorporate an intermediate adjustment? If that adjustment does not change the poverty threshold but is billed as incorporating health issues, it could be very misleading.

Some of the practical issues described here may be treated differently depending upon the specific application of the measure. For example, more detailed adjustors might be used when a study is focusing specifically on health issues. If a study seeks to explain differences within the elderly population in composition of poverty, it may be very important to use an adjustor for health status. In addition, poverty standards for program eligibility raise different concerns than efforts to improve measures for strictly research purposes. The official thresholds may need to be kept as simple as possible with few variations by family characteristics.

The current debate over health care reform does not imply that these changes should be given a low priority. Even if such reform is enacted into law, there will likely be a long phase-in period. The success of any health plan in reducing poverty ought to be one of the important standards established to judge reform. For example, it is very likely that out-of-pocket costs will remain for persons just above the poverty level and measures that indicate how well special subsidies for low income groups keep families and individuals above poverty could aid in policy analysis. Further, if there is state flexibility in the plan, variations across states in protecting residents would be important to evaluate.

Moreover, not only would there still be a need for this measure after passage of health care reform, such reform might help resolve some of the current problems with measurement. For example, once a standard benefit package is designed, it could become the norm for the health threshold measure. Such a package would be risk-adjusted across a number of

characteristics such as age--and these could serve as the basis for variations in the poverty threshold. If there is very little geographic variation in out-of-pocket costs after reform, it might not be necessary to adjust for differences by region or state.

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