

ANALYZING IN-KIND BENEFITS USING
THE 1979 ISDP PANEL DATA

by

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I. INTRODUCTION¹

Widespread attention has been given recently to the need for information on the reciprocity of in-kind benefits and to the idea of accounting for in-kind benefits in assessing the economic well-being of the poor and the aged populations. In-kind, or "noncash," benefits arise from the provision by government, employers, or other parties of a consumption good directly to an individual or household. Conceptual considerations suggest that recipient values of in-kind benefits should be included in a general measure of income or well-being if the well-being of various groups is to be compared.

Improving the measurement of a number of components of income, broadly defined, was a primary goal of the Income Survey Development Program (ISDP). As part of the preparation for a major new survey, the Survey of Income and Program Participation, which was planned for fielding in 1982, the 1978 and 1979 ISDP Research Panels were designed by and conducted for ISDP. These panels represent a major step forward in survey design and collection of data on in-kind benefits not previously available from household surveys.²

In response to a Congressional mandate for information on the topic, the U.S. Bureau of the Census added some questions on major in-kind benefit types to the March Consumer Population Survey (CPS), beginning with 1981. The Bureau has presented estimates of the number and characteristics of in-kind transfer benefit recipients (Census, 1982), and has also reported on alternative estimates of those benefits and their effect on poverty (Smeeding, 1982).

The purpose of this paper is to analyze the receipt of in-kind benefits using the 1979 ISDP panel data, to compare those estimates with the CPS estimates, and to recommend alternative specific methods for valuing in-kind benefits. The paper focuses on public and subsidized housing, Medicare, and Medicaid using the second wave of the data, and on subsidized private health insurance, using the Wave VI data. The benefit types analyzed here are the only types of housing and medical benefits on which information was obtained in the 1979 ISDP survey. Certain benefit types which were included in the July wave of the 1978 ISDP panel, namely FHA, VA, and FHMA mortgages, privately subsidized housing benefits, and medical benefits from the military and VA, are not included in the 1979 survey. If information on in-kind benefit receipt is to be used in an assessment of the distribution of income and well-being among all members of society, it would be essential to include these and other items as well; see Manser (1981).

II. RECEIPT OF GOVERNMENT-PROVIDED IN-KIND HOUSING AND MEDICAL BENEFITS

Table 1 presents weighted counts of households by receipt of government-provided housing and medical benefits and the percentage distributions by selected economic and demographic characteristics, based on the Wave II ISDP panel data.³ Because standard errors for the 1979 ISDP data were not available at the time these estimates were prepared, caution should be exercised in drawing conclusions regarding small apparent differences.

Comparison of the ISDP and CPS Reciprocity Estimates

Each wave of the 1979 panel contains questions on (a) residence in public housing and (b) whether the rent is lower because the government is paying all or part of the cost. Our Wave II ISDP estimate of the number of recipients of these housing benefits based on the responses to these questions⁴ refers to May, June, or July, 1979, depending on rotation group, as compared to the CPS estimate, which refers to March, 1980. The CPS count of 2.511 million households in public or subsidized housing is 16.4 percent higher than the ISDP estimate of 2.158 million. Suitable administrative data for assessing the relative quality of the data are not available. However, the 1979 Annual Housing Survey, a major government survey intended to provide information on the characteristics of housing units in the U.S., yields an estimate of 2.232 million public housing units or private housing units with a government subsidy in 1979. This information, collected in personal interviews from September to December, 1979, seems more in line with the ISDP than with the CPS estimate.

Each wave (I-V) of the ISDP panel asks about Medicaid coverage during each of the preceding three months; thus, when all five waves are used together, it will be possible to construct an annual coverage estimate which should involve less nonresponse and recall error than the CPS question, which asks in March about coverage at any time during the preceding year. For our estimates, we imputed Medicaid coverage to persons reporting AFDC or SSI receipt, as did the Census estimates (which, however, exclude nonreporters who resided in one of the 15 states in which SSI recipients are not automatically eligible for Medicaid). The Wave II ISDP estimate of 7.312 million households covered by Medicaid during the spring quarter is 8.5 percent lower than the CPS count of households covered by Medicaid at any time during the year. However, because there is extensive turnover of persons on the Medicaid program, these figures are not directly comparable. Evidence on the relationship between Medicaid

coverage for adults during a quarter and Medicaid coverage during a year can be obtained from the National Medical Care Expenditure Survey (NMCES), a major household survey designed to collect medical care data for calendar year 1977. The difference between the ISDP and the CPS estimates (both for households and for adults) is less than the corresponding difference in the NMCES estimates for the corresponding quarter versus the year; the NMCES estimate of coverage during the spring quarter of 1977 (April-June) was 35.3 percent lower than the estimate of those covered at any time during 1977. This suggests that the ISDP procedure may indeed have captured a relatively larger proportion of Medicaid recipients during the relevant time period than does the CPS approach.

Because of the virtual absence of turnover on Medicare, the second questionnaire of the ISDP panel included a check item on whether the person was covered by Medicare at the time of the last interview. Only persons who were not covered at the previous interview date were asked the set of questions on Medicare coverage, by type, and on use of service paid for by Medicare. Our Wave II ISDP estimate is constructed based on coverage reported in Wave I plus coverage reported in Wave II by those not reporting coverage in Wave I. The Census Bureau estimate of Medicare coverage refers to persons who, at the time of the March interview, reported coverage during the past year. The ISDP count of 18.259 million households is only 1.4 percent lower than the CPS count of 18.526. However, the Census Bureau assigned Medicare coverage to about 300,000 elderly persons with reported coverage by Medicaid by not Medicare, which was not done for our counts. The ISDP person count is 94.2 percent of the HCFA estimate of actual enrollment in May-July 1979, and the CPS person count is 95.4 percent of the HCFA estimate of actual enrollment for Dec., 1979, adjusted to exclude decedents and the institutionalized.⁵ However, it seems that an upward adjustment to the HCFA estimate to account for possible turnover (presumably, of the disabled population) on the program would also be appropriate for comparison with the CPS estimate. In sum, these surveys seem to do roughly the same in providing estimates for this program.

Recipient Characteristics

The ISDP data show, as expected, that recipients of benefits from public or subsidized housing or from Medicaid, which are means-tested programs, tend to be in poverty and to receive cash public assistance and food stamps in far higher proportions than is the case for the U.S. population as a whole. Further, recipients of these benefits differ from the U.S. population as a whole on the basis of the socio-demographic characteristics shown here. In particular, as compared with U.S. households as a whole, a far higher proportion of recipients of these benefits are black, of Spanish origin, or are in female-headed households; while the differences on the basis of age of head are not great, a somewhat higher proportion of the recipients of these benefits are elderly than is the case for

the population as a whole. By contrast, the characteristics of Medicare-recipient households differ considerably from the characteristics of Medicaid and public housing recipients. These differences, of course, are to be expected because Medicare is not means tested and serves only the aged and disabled populations.

Both the ISDP and the CPS estimates show similar distributions of recipients of all these benefit types by poverty status, race, and family origin; tabulations on the other characteristics considered here are not reported in Census (1981).⁶

III. RECEIPT OF SUBSIDIZED PRIVATE HEALTH INSURANCE

The information on receipt of private health insurance (HI) benefits on the 1979 ISDP research panel is contained in the sixth wave, the annual income roundup. For each of the three most recent jobs held during the year, there were questions about coverage by a health insurance plan obtained through that job. For each HI plan obtained through the job, there was a question on whether the employer paid for all, part, or none of the cost of the plan. In this section, we examine the receipt of HI through the job, and the amount of the subsidy, using the information for the job contained on the first wage and salary record. The estimate of coverage by an employer-provided HI plan thus obtained is expected to understate coverage by an employer-provided plan at any time during the calendar year by a small amount.

It is possible that participating in a group health insurance plan obtained through the employer confers benefits even if the employer pays none of the cost of the premium. At the extreme, persons who might not be able to obtain coverage on their own due to past health history would be included, and the premiums may generally be less than for individual plans. Therefore, workers who obtain HI through the employer but for whom the employer pays none of the cost are distinguished from workers who do not obtain HI through the employer.

The tabulations relating to in-kind benefits from employer-provided HI are presented in table 2. Of the estimated total of 105.876 million workers, there are valid responses to the question on whether a health insurance plan was obtained through the first job for 95.1 percent. Of persons responding to the question, 58.4 percent said they had private HI through the employer and 41.6 percent said they did not. Of those who obtained private HI through the employer and responded to the question on how much the employer paid, 44.5 percent said the employer paid all, 49.5 percent said the employer paid part, and 6.0 percent said the employer paid none of the cost.

The estimates presented here based on the ISDP data and the Census Bureau (1981) estimates based on the CPS seem fairly similar. The Census estimate of the number of workers, 113.326 million, is somewhat higher than that reported here, but the definition of "worker" may differ somewhat. The Census estimate of the percent of workers covered by a group health

insurance plan obtained through any job in 1979 for which the employer paid all or part of the cost is 53.8 percent. Excluding nonresponses, the ISDP estimate is 57.2 percent of workers with a health insurance plan for the first job, which was paid for in total or in part by the employer. The Census estimate would have been expected to be slightly higher than our estimate based on the first job only, aside from considerations of the manner in which the information was elicited.

There are substantial differences in receipt of employer-provided HI benefits depending on earnings, with a greater percentage of workers who obtain private HI through the employer being in the higher categories of earnings from the job than are workers who do not. The ISDP data do not show very large differences in receipt of employer-provided HI benefits on the basis of the worker's race or ethnicity; of those responding to the question on whether they had private HI through the employer, 59.2 percent of whites versus 53.1 percent of blacks and 55.8 percent of Hispanics said "yes." In contrast, there are substantial differences on the basis of sex in the percent of workers who obtained private HI through the employer: 68.0 percent of men as compared with 47.5 percent of women. However, many women without private HI through their employer may be covered under an HI plan obtained from the husband's employer. There are far greater differences in the characteristics of workers with and without private HI obtained through the employer than there are among workers with private HI through the employer but with differing extents of employer subsidy.

IV. VALUATION POSSIBILITIES

In order to assess the well-being of low-income persons, some decision must be reached on how benefits from the major in-kind programs should be accounted for (even the usual approach requires a decision to ignore them). The standard economic theory of consumer behavior indicates that the cash-equivalent value (CEV) approach is preferred for valuing them.⁷ The CEV approach values in-kind benefits as equal to the amount of a cash transfer (or, by analogy, of after-tax money wages in the case of employer-provided goods) that would make the recipient equally well off. Thus, the CEV can fall short of the market value of the goods, which can also diverge from the cost to the government of providing the benefit. Another approach which takes individual preferences into account is the funds-released approach, which values the in-kind benefits as equal to the amount of income released to be spent on other goods; this approach will understate the CEV because it assigns no value at all to amounts of the transferred good over and above the amount that would have been consumed with a cash transfer of equal cost to the government. Theoretically, the funds-released approach provides a lower-bound estimate of the CEV.

Empirical estimates of recipient values following either the CEV or the funds-released approach suffer from shortcomings due to lack of data suitable for estimating them, as discussed

in detail in Manser (1981, 1982). The conceptually-preferred approach to obtaining estimates of CEVs is to estimate a system of consumer demand equations consistent with a utility function which is not overly restrictive; from the estimated demand equations, estimated utility function parameters and cash equivalent values can be constructed.

Assuming there are only three goods, housing, health insurance, and a composite commodity comprised of all other consumption goods, employing this approach would be straightforward given all the necessary data. What is required is an appropriate data set, containing information on expenditures for housing and for medical care, in-kind benefits of housing and medical care received, relative prices of housing, medical care, and all other goods, and disposable income. The ISDP data contain information on expenditures on these two goods and on disposable income.⁸ More problematic is the treatment of relative prices. Because the information on expenditures is provided only on one wave of the ISDP panel, the use of intertemporal price indexes is of course not possible. However, when area identifiers are included, even if only for major Census regions and a metropolitan/nonmetropolitan classification, it would be possible to use interarea price indexes; however, more detailed geographic information would be desirable.

Without having any measures of relative prices, or as an alternative approach assuming no price variation, one could estimate only the "Engel curves" relating expenditures on the commodity to total expenditures or income, but could not derive all the parameters of the corresponding utility function or, consequently, the CEV.⁹ However, these Engel curve estimates could then be used in estimating a variant of the funds-released approach. The ISDP data are particularly attractive for use in obtaining estimates of recipient values from health insurance benefits, an area where existing estimates are, in the view of this author at least, particularly weak.¹⁰ Two procedures for doing so are possible, as detailed in Manser (1982).

If the full Survey of Income and Program Participation is fielded at some time in the future, it could also be important to obtain enough information to obtain suitable estimates of recipient values. An alternative would be to add enough questions to the Consumer Expenditure Survey to overcome the problems faced with using the 1972-73 data for the purpose of estimating recipient values.

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FOOTNOTES

¹This paper is based on research conducted under MPR's contract as Survey Development Research Center on Income, for the Department of Health and Human Services, Income Survey Development Program, as reported in Manser (1982). The author wishes to thank Constance Citro, Denton Vaughan, and T. Cameron Whiteman for helpful comments on this work. Any opinions expressed herein are of the author, and do not necessarily reflect opinions of MPR or of the Department of Health and Human Services.

²For a description of this effort, see, for instance, Ycas and Lininger, (1980).

³These estimates are based on the preliminary weights constructed by the Census Bureau. This set of weights has been shown to yield an undercount of female-headed households. As a result, they are likely also to yield an undercount of recipients of the in-kind benefits considered in this paper.

Weighted counts of persons for medical benefits and unweighted counts for both persons and households are also presented in Manser (1982).

⁴This estimate excludes home-owners who answered "yes" to either of these questions on housing benefits.

⁵This figure was constructed by the ISDP staff.

⁶Distributions for additional characteristics are also considered in Manser (1982).

⁷See Smeeding (1982) for a summary of other arguments by economists regarding how they should be valued.

⁸The ISDP Research Panel information on expenditures refers to out-of-pocket expenditures for three broad categories of medical services. No question was included on the amount paid by the employer for private health insurance; employees are unlikely to know this information, and a linked employer-employee survey was thought to be needed to obtain reliable data. But the estimation could proceed without this information if an estimate of the average employer subsidy were obtained from another source.

Information on total expenditures rather than on disposable income is felt by many researchers to be preferable for estimating systems of consumer demand equations; however, data on total expenditures are not available from the ISDP Research Panel.

⁹An exception to this is the Cobb-Douglas form, but the restrictions it entails have been very widely rejected as too restrictive for use in empirical demand analysis; methods for estimating a linear expenditure system without price data have also been put forth, but would not be appropriate here.

¹⁰Previous estimates of benefit ratios for health insurance have been based on estimates of out-of-pocket expenditures for medical care, which do not control for whether or not any in-kind health insurance benefits were received. (Estimates obtained using the 1960-61 Consumer Expenditure Survey (CES) data, which refer to a period prior to the implementation of the Medicare and Medicaid programs, may suffer less distortion from this omission.) Further, the 1960-61 and even the 1972-73 CES data are not very recent and spending patterns by non-recipients have probably changed in the interim. Because the ISDP panel contains recent information on employer-provided HI and other fringe benefits, it can be used to obtain superior estimates of recipient values from in-kind health insurance benefits.

TABLE 1
 RECEIPT OF GOVERNMENT-SUBSIDIZED HOUSING AND MEDICAL BENEFITS
 WAVE II, 1979 ISDP RESEARCH PANEL
 (Weighted Counts of Households)

	Total	Public or Subsidized Housing	Medicaid			Medicare
			Total	Reported	Not Reported, AFDC or SSI Recipient	
Total (in thousands)	80,583	2,158	7,312	5,508	1,805	18,259
<u>Poverty Status</u>						
In Poverty	14.7%	54.9%	42.5%	49.9%	19.9%	16.9%
Not In Poverty	85.3	45.1	57.5	50.1	80.1	83.1
<u>Race and Spanish Origin</u>						
White	87.7%	62.4%	66.8%	66.8%	66.9%	90.0%
Black	10.8%	35.9	31.6	32.2	29.9	9.0
Spanish Origin ^a	5.1	15.0	9.4	12.1	1.2	3.1
<u>Sex of Head</u>						
Male	75.5%	44.1%	44.0%	39.0%	59.3%	59.4%
Female	24.5	55.9	56.0	61.0	40.7	40.6
<u>Age of Head</u>						
<25	8.4%	9.7%	8.3%	9.4%	5.3%	0.4%
25-44	39.9	41.6	29.0	27.2	34.4	3.9
45-64	31.2	22.2	29.8	28.9	32.6	11.4
65+	20.5	26.5	32.9	34.6	27.8	84.4
<u>Received Food Stamps</u>						
Yes	6.7%	38.9%	52.5%	59.0%	32.9%	7.7%
No	93.3	61.1	47.5	41.0	67.1	92.3
<u>Received Public Assistance</u>						
Yes	8.0%	39.2%	88.4%	84.5%	100.0%	12.3%
No	92.0	60.8	11.7	15.5	0.0	87.7

SOURCE: Mathematica Policy Research ISDP Income Center, computations from the WAVE II, Stage II Master Income Extract ISDP data tape.

^apersons of Spanish origin may be of any race.

TABLE 2

RECEIPT OF EMPLOYER-SUBSIDIZED PRIVATE HEALTH INSURANCE BENEFITS
 FROM THE FIRST JOB, WAVE VI, 1979 ISDP RESEARCH PANEL
 (Weighted Counts of Workers 16 and over)

	Has Private Health Insurance through the Employer				Has No Private Health Insurance through the Employer	Unknown
	Employer Pays All	Employer Pays Part	Employer Pays None	Type of Subsidy Unknown		
Total (in thousands)	24,868	27,667	3,360	2,871	41,932	5,170
Earnings from First Job:						
None Reported	4.4%	4.1%	5.0%	14.9%	6.0%	77.4%
\$ 1-2499	5.2	5.4	4.2	9.4	42.7	5.4
2500-4999	5.7	5.5	5.6	3.9	16.3	4.7
5000-7499	9.6	7.3	15.7	6.4	10.4	1.1
7500-9999	11.6	10.8	10.8	7.7	5.1	0.7
10000-14999	22.2	22.2	21.1	15.0	5.4	0.1
15000-34499	34.3	37.3	28.8	21.4	3.6	0.6
34500+	3.8	2.9	3.9	3.6	0.3	0.0
Unknown	3.2	4.1	4.7	17.6	10.2	10.1
Race and Spanish Origin						
White	89.2%	88.0%	82.1%	85.9%	85.2%	84.3%
Black	9.1	10.9	16.3	13.2	13.1	13.7
Spanish Origin ^a	3.1	6.4	7.4	6.0	5.6	7.1
Sex						
Male	60.3%	64.4%	53.9%	57.4%	40.7%	51.6%
Female	39.7	35.6	46.1	42.6	59.3	48.4
Family Status						
Head or spouse	74.4%	76.7%	76.8%	65.5%	55.7%	56.3%
Child or other relative	9.3	8.4	9.8	21.9	31.6	30.2
Secondary family member	0.2	0.1	0.5	0.0	0.1	0.1
Unrelated individual	16.1	14.8	12.9	12.7	12.6	13.4
Age						
< 25	14.6%	14.4%	13.6%	18.3%	40.4%	31.3%
25-44	53.8	50.3	56.3	47.0	36.7	30.3
45-64	29.8	33.3	28.3	32.4	17.8	25.9
65+	1.8	2.0	1.8	2.4	5.1	12.5

SOURCE: Mathematica Policy Research ISDP Income Center, computations from the Wave VI, 1979 ISDP Research Panel Questionnaire Image File.

^aPersons of Spanish origin may be of any race