U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

# A Synthesis and Critique of Studies on Medicaid Asset Spenddown

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This report was prepared under contract between HHS's Office of Family, Community and Long-Term Care Policy (now DALTCP) and SysteMetrics/McGraw-Hill. For additional information about this subject, you can visit the DALTCP home page at http://aspe.hhs.gov/_/office_specific/daltcp.cfm or contact the office at HHS/ASPE/DALTCP, Room 424E, H.H. Humphrey Building, 200 Independence Avenue, S.W., Washington, D.C. 20201. The e-mail address is: webmaster.DALTCP@hhs.gov. The Project Officer was John Drabek.

# A SYNTHESIS AND CRITIQUE OF STUDIES ON MEDICAID ASSET SPENDDOWN

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# TABLE OF CONTENTS

# LIST OF EXHIBITS AND TABLES

# PREFACE

This paper represents the compilation and synthesis of all major studies to-date on the issue of asset spenddown. These include several recent studies completed under contract to the Office of the Assistant Secretary for Planning and Evaluation. The authors would like to thank Mary Harahan and John Drabek of this office for their keen insights and guidance on this manuscript. The authors also want to acknowledge and thank those who provided unpublished studies for inclusion in this synthesis:

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- access to nursing home care
- consumer protection and regulation of long term care insurance
- the combined burden of acute and long term care expenses

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# EXECUTIVE SUMMARY

Asset spend-down in nursing homes is the process by which individuals enter nursing homes as private pay clients, deplete their available assets in paying for their care, and then enroll in the Medicaid program once they are impoverished. "Medicaid asset spend-down" is a source of considerable concern to disabled elderly persons who face the prospect of extended nursing home care. It is also a matter of considerable concern to State Medicaid programs, since Medicaid indirectly serves as a safety net for middle and upper class individuals who incur catastrophic nursing home costs.

Numerous studies of Medicaid spend-down have been conducted in the last five years, and much has been learned. This paper summarizes the results of recent research, with a particular emphasis on how research methods used in these studies have affected results. Not only has much been learned about the phenomenon of Medicaid spend-down itself; researchers have also come to recognize key relationships between research methods and estimates of asset spend-down.

**Two Measures of Medicaid Spend-Down**

Two different measures of Medicaid asset spend-down have been developed by researchers, each of which is informative, but which provide different perspectives on the problem. The first measure (Spend-Down I) examines spend-down from an "insurance" or "risk" perspective. It measures the percentage of persons **originally admitted to nursing homes as private payers who eventually convert to Medicaid prior to final discharge**. Spend-down I is therefore a measure of the risk to individuals of spending down to Medicaid over the course of their lifetimes, given the probability they enter a nursing home as private payers.

The second measure of Medicaid spend-down (Spend-Down II) measures **the percentage of Medicaid recipients in nursing homes who were not eligible for Medicaid when they were originally admitted**. Spend-Down II is useful in capturing the proportion of State Medicaid expenditures for nursing home care which is accounted for by those who spend-down.

**Summary of Estimates**

Several studies report widely varying estimates of these spend-down measures, based on several national and State level databases. The critical factor explaining differences among these studies is the length of time that persons are studied. The proportion of persons spending down during a single stay is much lower than the proportion of persons who spend-down over their entire lifetime, probably because half or more of these people have multiple stays. In general, studies using national data tend to show lower estimates of spend-down than do State studies because the latter data bases tend to observe people over longer time intervals.

Based on the studies conducted to date, it appears that **somewhere between one in four and one in five persons who originally enter nursing homes as private payers convert to Medicaid before final discharge (Spend-Down I)**. Although there is close agreement between comparable national and State studies on Spend-Down I, there are not enough State studies to determine the extent to which spend-down rates vary from State to State.

**On the other hand, estimates of Spend-Down II vary considerably across States, no doubt reflecting variations in Medicaid eligibility policies across States as well as other factors. For example, major studies are available for Michigan (27%), Wisconsin (31%), and Connecticut (39% to 45%)**. However, most national studies of Spend-Down II give lower figures, reflecting the shorter time periods that they cover.

**Other Findings**

In addition to estimates of Spend-Down I and Spend-Down II, other aspects of Medicaid spend-down have also been examined. One is the length of time it takes for people to spend-down to Medicaid after nursing home admission. On this question, the research is more consistent on the **median** time to spend-down than the **mean**. The results of existing studies are fairly consistent in reporting that **of those people who spend-down, the majority spend-down within a year of nursing home admission**. This finding suggests that most people who spend-down have limited assets when they first enter a nursing home, less than the cost of one year of care--about $32,000 in 1991. The research is less consistent in estimates of the mean time to spend-down, since means are disproportionately affected by the relatively few persons with extremely long lengths of stay prior to converting to Medicaid.

Studies in Connecticut, Michigan and Wisconsin also show that people who spend-down to Medicaid **spend more time on Medicaid after converting to Medicaid coverage than they spend as private payers prior to conversion**. The studies suggest that Medicaid-paid days account for at least 65-75 percent of all nursing home days used by those who spend-down. However, the research also shows that, once eligible for Medicaid, people who spend-down pay a greater proportion of total nursing home costs, through ongoing income contributions, than persons who are eligible for Medicaid at initial admission. Thus, spend-downers account for a somewhat lower percentage of total Medicaid expenditures than their percentage of Medicaid-covered nursing home days.

There is some evidence that females who enter nursing homes are at higher risk of spending down to Medicaid than males. This may be related to the fact that females admitted to nursing homes are less likely to be married, are less likely to be discharged alive, and have longer lengths of stay, an average, than males. Females may also have fewer available assets at nursing home admission than males, and thus spend down more quickly, other factors being equal. However, no research has directly tested this hypothesis.

Some studies have tried to estimate the out-of-pocket costs of privately paid care prior to conversion to Medicaid among people who spend-down. These estimates range widely, and are very dependent upon assumptions about the costs of private care, which are not available in any of the data sources used in the studies conducted to date. As the **median** and **mean** time to spend-down differ markedly, so does the median and mean cost of privately paid care prior to conversion among those who spend-down.

**Directions for Future Research**

Researchers now recognize several important relationships between research methods and estimates of Medicaid spend-down. First and foremost, researchers now know that it is extremely important to use longitudinal data bases that are able to track nursing home use by individuals **over multiple nursing home admissions**. There is a strong correlation between multiple admission, lifetime length of stay, and the likelihood of spending down. This finding has been borne out by the data. For example, the Connecticut data show that over 75 percent of all persons who spend-down to Medicaid have more than one nursing home admission.

Other important relationships between research methods and estimates of Medicaid spend-down include:

- The sample population must be appropriate to the Spend-Down measure being estimated.
- Estimates of Spend-Down I and Spend-Down II are also dependent upon the distribution of payment sources among all nursing home admissions.
- Estimates of Spend-Down I and Spend-Down II are improved with the length of time covered by the data.
- In addition to having data on sources of payment for individuals in nursing homes, it is important to have Medicaid **enrollment** data, preferably from Medicaid administrative data systems.

In sum, the research conducted to date has shown the definitive advantages of superior data sets in deriving more reliable estimates of Medicaid spend-down.

Much of the best research on Medicaid spend-down has been conducted on nursing home users in the State of Connecticut, since the best available data source for conducting spend-down research exists there. More spend-down research needs to be conducted in other States, but this, of course, must be preceded by the construction of comparable "all-payer" longitudinal data sets of nursing home users in these States. Spend-down research conducted from cross-sectional survey data will always encounter substantial data limitations, no matter how assiduously these surveys attempt to collect retrospective data on sampled members.

Work on the Connecticut data set should also continue, with more focused analyses of Medicaid spend-down, including changes in spend-down rates over time, the magnitude of out-of-pocket costs prior to Medicaid conversion, and the differential characteristics of persons who spend-down and those who remain private payers throughout their nursing home stays.

Finally, more research needs to be conducted on exactly what goes on during the process of Medicaid spend-down. There is speculation that in addition to paying for private nursing home care, many people spend-down purposefully by divesting or sheltering their assets. Similarly, better data is needed on other out-of-pocket expenses of nursing home users (e.g., expenses for acute care services and prescription drugs) which may accelerate their falls to impoverishment.

The policy relevance of Medicaid spend-down research is a better understanding of the number, characteristics and circumstances of people who experience high out-of-pocket costs for private nursing home care, forcing them into impoverishment and reliance on public assistance under Medicaid. This information is important in the consideration of strategies to build public and/or private risk pools that will help to mitigate the catastrophic potential of nursing home costs for future users. While much has been learned about Medicaid asset spend-down in the last few years, there is still much that remains unknown, or at least uncertain. Further research on Medicaid spend-down should continue to inform the policy process as alternative strategies for mitigating its impacts are debated and, hopefully, implemented.

# INTRODUCTION

It is commonly thought that many elderly persons who enter nursing homes, deplete all of their financial assets in the process of paying for their nursing home care, and then seek public assistance from the Medicaid program once their private resources are gone. This process is known as "Medicaid spend-down." Medicaid spend-down is a topic of considerable interest for the financing of long-term care because it is an indication of the catastrophic effect of long-term care expenses on individuals and increased cost to public programs. In recent years, many studies have tried to measure the magnitude of this phenomenon and relate findings to the current policy debate.

Policy concern about catastrophic long-term care costs has led to numerous long-term care financing proposals. These proposals range from "letting the market work" in developing private long-term care insurance instruments, to public-private partnerships for long-term care financing, to the full acceptance of all long-term care costs by a national social insurance program. In order to better inform this policy debate, better information about the catastrophic costs of long-term care on individuals, and on State Medicaid programs, is needed. Research on Medicaid spend-down is a critical part of this process.

The purpose of this paper is to provide a synthesis and critique of current research on Medicaid spend-down. The primary goal is to ask what these studies can tell us about the extent to which persons incur catastrophic expenses in nursing homes. A corollary goal is to examine how the data and research methods used in the various studies affect the "results" reported. We believe that results of Medicaid spend-down studies are frequently quoted in the media and by policymakers, without an adequate explanation of what these results actually mean. As a consequence, the public may have been influenced that spend-down is alternatively a smaller (or larger) problem than it really is, depending on which study is quoted.

The paper first provides some background on Medicaid eligibility as it relates to spend-down. Next, two measures of Medicaid spend-down that have developed in the literature are discussed. Data sources and methods used in developing these measures are then discussed. In this section we focus on how data sources and methods affect reported results. In the fourth section of the paper we present related findings, including the time persons spend before and after conversion to Medicaid. The final section discusses the implications of spend-down studies for future long-term care financing research and long-term care policy.

# SPEND-DOWN AND MEDICAID POLICY

Medicaid spend-down is generally defined as the process by which non-poor elderly persons enter a nursing home, use virtually all of their financial assets to pay for care, and once their assets are gone, apply for public coverage under Medicaid. This

definition conceives of Medicaid spend-down as a catastrophic financial event that can be as devastating emotionally as it is financially because it deprives the elderly of their entire net worth which they have built up over their lifetime, requiring them to rely on "welfare" for the remainder of their lives.[1]

Medicaid eligibility for long-term care coverage is complex, and it is not possible in this paper to discuss all the intricacies of Medicaid eligibility for long-term care. Readers who are interested in this topic are referred to other articles (Neuschler, 1987; Carpenter, 1989). However, it is important to point out some key features of Medicaid eligibility policy which affect Medicaid spend-down. To quality for Medicaid coverage, a single individual must have depleted his or her "countable" assets to a level of around $2,000 in 1991, the same level used in determining eligibility for the Supplemental Security Income (SSI) program. In some States, the asset level is somewhat lower; in a few States it is higher.[2] "Countable assets" do not include the recipient's primary residence of any value (as long as a spouse or dependent lives there or there is a reasonable expectation that the recipient will return there), a car, a burial space, up to $1,500 in funds specifically designated for a burial, a life insurance policy with a face value of less than $1,500, and personal belongings.

In all States, persons who may not quality for Medicaid coverage In the community due to excess income, may quality for Medicaid coverage in a nursing home, through special eligibility provisions.[3] States are also known to vary in the relative restrictiveness with which they apply Medicaid eligibility procedures for long-term care coverage. For example, some States are more restrictive than others in the degree to which they ensure that persons who apply for Medicaid coverage in a nursing home have not sheltered or divested income and assets which should be counted in determining Medicaid eligibility.[4]

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[1] In regard to definitions, it is important to distinguish between "income spend-down" and "asset spend-down." Individuals use both income and assets to pay their nursing home expenses and the length of time it takes to deplete assets is a function of both. Even after an individual depletes his/her assets and qualities for Medicaid coverage, he/she is still required to pay for part of their monthly nursing home expenses from their available income, while Medicaid pays the balance of the cost. In Federal and State administration of the Medicaid program, the term "spend-down" was originally coined to refer to this income amount. "Asset spend-down," on the other hand, only occurs before a person becomes eligible for Medicaid. This has occasionally led to confusion over the use of the term (Burwell, Adams and Meiners, 1990).

[2] Rules for married couples have recently changed under provisions of the Medicare Catastrophic Coverage Act. In 1991, States must now divide all non-exempt resources equally and protect a minimum Of $13,296 (or up to $66,480 at state option) for use by the non-institutionalized spouse. The law also requires that the non-institutionalized spouse be able to maintain a monthly income equal to at least 133% of the Federal poverty level.

[3] Thirty-one states allow any person who meets the asset test to quality for Medicaid coverage if the cost of nursing home care exceeds his or her ability to pay for care from current income. Nineteen states do not have such a medically needy program, but rather, have "special" (higher) income levels to determine Medicaid eligibility for nursing home versus community recipients.

[4] Some argue that this ability to divest or transfer assets precludes researchers from obtaining reliable measures of true asset "depletion," and hence Medicaid spend-down (Moses, 1990). In brief, some asset depletion results from private payment for nursing home care, while other (unmeasured) depletion involves the divestiture of assets to heirs. We discuss the implications of this argument later on.

Differences across State Medicaid programs suggest the importance of State-specific studies of Medicaid spend-down. One study suggests at least three factors that could differ across States: (1) the financial status of the State's elderly population, (2) access of Medicaid enrollees to nursing homes, and (3) State Medicaid eligibility policies for long-term care (Burwell, Adams, and Meiners, 1990). Cross-State comparisons are necessary to understand these influences and their public policy ramifications. National studies, while providing measures of the overall scope of Medicaid spend-down, do not provide information about the relationship between specific Medicaid policy variables and their effects on spend-down.

# TWO RATES OF ASSET SPEND-DOWN

A key question concerning spend-down is the number of people affected. Since this question cannot really be examined without considering the number of people exposed (e.g. users of nursing home care), the spend-down research has focused on the development of spend-down rates, or the proportions of "exposed" groups affected. This has led to some confusion in measuring and interpreting results since, although the term "rate" suggests the use of a common denominator, studies have presented two major types of rates, each based on different divisors. Consensus on the magnitude of the spend-down problem has thus been hindered, since these measures are not arithmetically comparable. The debate over whether the rate (or percent) of Medicaid spend-down is "large" or "small" must focus on a key issue: percent of what?

It is important to understand what measures of Medicaid spend-down actually mean as the policy debate continues. The two measures which have emerged approach the Medicaid spend-down from two entirely different perspectives.

The first measure, which we call SP1, addresses Medicaid spend-down from the individual or private, viewpoint:

- If an individual enters a nursing home as a private pay patient, what is his/her probability of depleting assets to Medicaid eligibility levels during that stay and/or subsequent stays?

Substantively, SP1 measures the probability that an individual who is not eligible for Medicaid upon admission, and enters as private pay, will experience a length of stay that is sufficient to deplete their assets to the Medicaid eligibility level.[5] SP1 is perhaps most informative to individuals considering the purchase of long-term care insurance, as a means of preserving their assets. To these individuals, SP1 is a measure of the financial risk of long-term care, i.e. the probability that a nursing home episode, or

[5] This rate has generally been derived by dividing the number of spend-downers in a given period by the number of individuals who were paying privately for services. Some studies, however, have lumped together private pay, Medicare, etc., into a non-Medicaid denominator.

multiple episodes, will impoverish them. This probability can be used in conjunction with the probability of ever needing nursing home care over the remaining years of life and the probability of entering as private pay, to inform both individual and insurer's decisions.

A second measure, which we call SP2, has also been presented in the literature. This measure uses only the Medicaid nursing home population as its denominator and approaches the issue from the States' perspective. It asks:

- Of the people using nursing home services in a State's Medicaid program over a certain time period, how many originally entered as private pay patients and spent-down to Medicaid?

SP2 is more relevant to the budgetary issues faced by State Medicaid programs. It asks, for a given period of time, how many of those whose services were paid for by Medicaid, had "convened" from another payor source. These persons were not eligible for Medicaid in the community nor upon admission to a nursing home. Hence, they are enrollees for whom Medicaid acts as a catastrophic insurance program. If the period of time over which SP2 is measured is a year, this rate provides valuable information for State budgetary purposes, i.e., what percentage of State Medicaid expenditures for nursing home care is attributable to people who spent-down? A series of such annual rates would be very informative to State (and Federal) Medicaid policymakers.

Table 1 and Table 2 provide the set of such SP1 and SP2 measures currently reported in the literature.[6] As one can quickly see, the various data sets and methods used have resulted in a fairly wide range of measures. The range for SP1 is between 10 and 23 percent. This range indicates that anywhere between 1 in 10 to almost 1 in 4 persons entering nursing homes as private pay may experience Medicaid spend-down. The range for SP2 is even larger, ranging from 14 to 45 percent. Measures at the upper end of the range certainly seem to indicate reason for Medicaid policy concern, especially given increasing demands on the Medicaid program, while the measures at the lower end suggest substantially less concern.

We contend that it is difficult to draw conclusions from these measures without a better understanding of the causes of their differences. We have identified several methodological issues which significantly influence the results reported, including:

- **the type of sample used;**
- **mix of payor source at initial admission;**
- **length of time covered by the data;**
- **data on payor source/dates of Medicaid eligibility; and**
- **observation of multiple admissions.**

[6] Some studies have also estimated measures based on private pay plus Medicaid as the denominator. We have not focused on this third type of "rate" (SP3) since only one study (Liu and Manton, 1989) presented only this type of measure.

We discuss each of these methodological issues in turn, noting their effect on the measurement of SP1 or SP2.

**TABLE 1. Estimates of the Proportion of Private Pay Admissions Who Eventually Spend-Down to Medicaid (Spend-Down I)**

| Source | Population | Sample(s) | Estimate | Comments |
|---|---|---|---|---|
| Arling et al. | Wisconsin (1988) | Discharge Sample | 23.0% | Omitted transfers from discharge sample (7%). |
| Bice (a) | Connecticut (1978-83) | 6 Admission Cohorts | 21.8% | Tail-end of stays and spend-down probabilities estimated by parametric survival models. |
| Bice (b) | Connecticut (1983-87) | 1983-84 Admission Cohort | 23.0% | Tail-end of stays and spend-down probabilities estimated by parametric survival models. |
| Farbstein et al. | Connecticut (1985) | Discharge Cohort | 17.3% | 75% of spend-downers had more than one admission. |
| Gruenberg et al. | Connecticut (1978-79) | Admission Cohort | 21.3% | Includes <65 population. |
| Liu and Manton | Connecticut (1977-86) | Synthetic Admission Cohort | 21.5% | Life table methodologies. |
| Liu, Doty & Manton | United States (1985) | Discharges | 10.8% | Payment data in NNHS limited to most recent admission. |
| Rice, Thomas & Weissert | United States (1985) | All Users | 18.2% | |
| Spence & Weiner | United States (1985) | Discharge Sample | 10.2% | Payment data in NNHS limited to most recent admission. |
| Spillman and Kemper | United States (1985) | Discharge Sample | 23.0% | Data supplemented by Next of Kin Follow-up Survey. |

**TABLE 2. Estimates of the Proportion of Medicaid Patients (or Medicaid-Paid Days) Who Spent-Down (Spend-Down II)**

| Source | Population | Sample(s) | Estimate | Comments |
|---|---|---|---|---|
| Arling et al. | Wisconsin (1988) | Discharge Sample | 30.6% | 35% of Medicaid days. |
| Bice (a) | Connecticut (1978-83) | 6 Admission Cohorts | 44.3% | 49% of Medicaid days. |
| Bice (b) | Connecticut (1983-87) | 1983-84 Admission Cohort | 44.9% | 32.4% of Medicaid nursing home expenditures. |
| Burwell et al. | Michigan (1984) | 1984 Medicaid Users | 27.2% | 25% of Medicaid expenditures |
| Farbstein et al. | Connecticut (1985) | Discharge Cohort | 38.9% | Also imputes national estimate of 37.6% from NNHS |
| Gruenberg et al. (a) | Connecticut (1978-79) | Admission Cohort | 39.3% | 41.3% of Medicaid days. |
| Gruenberg et al. (b) | Connecticut (1985) | Resident Sample | 39.3% | 38.7% of Medicaid expenditures. |
| Liu and Manton | Connecticut (1977-86) | Synthetic Admission Cohort | --- | 27.5% of Medicaid days. |
| Liu, Doty & Manton | United States (1985) | Discharge Sample | 16.6% | Payment data in NNHS limited to most recent admission. |
| Rice, Thomas & Weissert | United States (1985) | All User Sample | 16.9% | |
| Short et al. | United States (1987) | Resident Sample | 18.0% | From 1987 IPC/NMES |
| Spence & Weiner | United States (1985) | Resident Sample | 14.0% | Payment data in NNHS limited to most recent admission. |
| Spillman and Kemper | United States (1985) | Discharge Sample | 35.0% | Data supplemented by Next of Kin Follow-up Survey. |

# SAMPLE TYPES

The ideal data base for measuring spend-down would be one that tracks all health care use and costs for an elderly cohort from some sentinel event (e.g., hospitalization, onset of chronic illness, etc.) until death. Thus, one could track the impact of all health care expenses (as well as the impact of other life events, such as death of a spouse) on the financial circumstances of individuals. It is important to be able to track cohort sample members until death in order to develop reliable estimates of the cumulative effect of multiple nursing home episodes on the probability of Medicaid spend-down. Third, it is also important to collect detailed and accurate information of dates of Medicaid enrollment, including possible multiple spells of Medicaid eligibility.

Naturally, actual studies of Medicaid spend-down fall short of this ideal. Most studies have used either samples of current residents in nursing homes or nursing home discharge samples, and have relied on retrospective information on nursing home payment sources to measure spend-down rates and to draw inferences about spend-down. A smaller number of studies have used admission samples or "all user" samples, i.e., all users of nursing home care over a particular time period. Only one state's data has been sufficient to follow an admission cohort over an extended time period.

Since samples used in actual studies do not capture total lifetime use of nursing home care, each introduce some bias into measured spend-down rates. In reviewing individual studies, it is important to keep in mind the ***biases introduced by different sample types***. A discharge cohort, for example, has a downward bias in measuring length of stay since it measures length of stay only to the point of the observed discharge. Some of these discharges have subsequent nursing home admissions that are not observed, and some persons observed not to have spent down to Medicaid at the observed discharge may spend-down during a subsequent admission. Hence, discharge cohorts may provide a lower bound estimate of spend-down.

A current resident sample measures users and length of stay at a point in time, usually the day of a survey. Relative to an all-users sample, current resident samples oversample residents with long nursing home stays. Hence, measures of spend-down would be biased upward. On the other hand, resident samples also reflect truncated lengths of stay which may lead to downward biases in spend-down rates (i.e. some persons observed not to have spent down on the day of the survey will eventually spend down).

Some studies have used all-user samples (e.g. all those with at least one day paid for partly by Medicaid in a year). These samples represent a "blend" of the utilization patterns found in discharge and resident samples. As such, there is an "averaging" effect on factors such as length of stay. These types of samples are well-suited for measuring SP2 for a particular state and year.

A few spend-down studies, notably those using the Connecticut Nursing Home Patient Registry as a data source, have been able to estimate spend-down rates from pure **admission** samples. Yet, even these samples have posed some problems. First, these studies using admission cohorts must include methods to ensure that the observed admission is the true "first admission."[7] Second, the studies using admission cohorts have all had to deal with problems of "right-censoring." At the end of the period of observation, some proportion of the admission cohort will not be discharged. For example, Gruenberg et al. (1989) tracked a one-year admission cohort in the Connecticut Nursing Home Patient Registry for up to eight years. At the end of the observation period, 12 percent of the admission cohort had still not been discharged.

In one study (Liu and Manton, 1991) the authors attempt to address biases introduced by sample types by making adjustments to observed data for all nursing home users over a ten-year period (1977-1986). One adjustment was for left censoring, or "entry selection." That is, those who were patients in 1977 (at the beginning of the data period) were long-stay residents. The authors could not determine their risk of discharge for the portion of stay prior to 1977 since they do not observe his/her admission cohort and yet, these long stayers provide much of the empirical data to estimate the "tall" of the LOS distribution. Their exposure to discharge, therefore, was only counted in intervals for the portion of their stay occurring after 1977. This helps illustrate the statistical adjustments and consideration that must be made in using observed data to estimate total lifetime nursing home stays.

# EFFECT OF PAYOR MIX AT ADMISSION ON SPEND-DOWN MEASURES

Another factor, independent of the particular research methods used, which affects measures of spend-down "rates" is the initial payor mix (at admission) of the study sample. There is an inherent mathematical relationship between SP1 and SP2 measures derived from the same sample, which depends upon the relative proportion of private pay and Medicaid-eligible patients at first admission. To illustrate this relationship, consider the hypothetical admission cohorts and spend-downers presented in Exhibit 1. ***For the same number of persons affected by spend-down***, SP1 and SP2 measures are complementary to each other **and dependent** on the payor mix of the admission cohort from which the spend-downers are drawn. Algebraically, the smaller the value of one measure, the greater the other, for varying private-public-payor mix at admission. The greater the representation of private pay (Medicaid) admissions in a cohort, the lower is the SP1 (SP2) ***rate for a given number of spend-downers***. Thus, very different SP2 measures, actually involving the same number of people, may

[7] In the Connecticut studies, the method used by the researchers was to include all admissions during a selected year (e.g. 1987) none of whom had any observed nursing home use during the prior year (e.g. 1986). Relatively small biases may exist in these studies due to unobserved prior admissions (e.g. in previous years, or in facilities not included in the data base, such as out-of-State facilities).

be observed in two states, for example, one with restrictive eligibility policies and the other generous. In the generous state, the Medicaid at admission cohort will be larger and, algebraically, the SP2 measure, smaller.

| EXHIBIT 1. Relationship of Spend-Down Rate Measures | | | | |
|---|---|---|---|---|
| Admission Pay Source | | Number of Spend-Downers | SP1 | SP2 |
| Private | Medicaid | | | |
| 60 | 40 | 10 | 17% | 20% |
| 40 | 60 | 10 | 25% | 14% |
| 20 | 80 | 10 | 50% | 11% |
| | | | | |
| 60 | 40 | 20 | 33% | 33% |
| 40 | 60 | 20 | 50% | 25% |
| 20 | 80 | 20 | 100% | 20% |
| Totals | | | | |
| 240 | 360 | 90 | 38% | 20% |

This issue actually relates back to the issues raised by sample type since sample type may also affect the payment mix at admission. That is, the representation of the payor mix at admission varies by the type of sample--discharge, resident, or user--used in the analysis. Each of these samples (other than a true admission sample) represents a "blend" of prior admission cohorts, not a single admission cohort. In addition to measuring different length of stay patterns, then, a discharge cohort may also systematically represent a different mix of private pay versus Medicaid-eligible admissions. Given that a number of studies have found private pay admissions to have shorter stays than those who are Medicaid at admission, a discharge sample may represent admissions cohorts with relatively higher private pay admissions.

# LENGTH OF OBSERVATION PERIOD

In general, longer observation periods of nursing home use yield more reliable measures of spend-down than shorter observation periods. However, long observation periods are more critical to measures of SP1 than SP2. Indeed, since SP2 is by definition, more of a cross-sectional measure (what percent of Medicaid patients are spend-downers?), point in time estimates can be reliably used to develop measures of SP2. The issue then becomes one of generalizabillity to other observation periods. (Is a measure of SP2 taken on a particular day, for example, the same as the measure of SP2 that would be observed for the entire year and/or subsequent years?)

While shorter periods of time may allow for reliable measures of a SP2 ***rate***, samples observed over long time periods are much preferable in order to observe the true nursing home experience of spend-downers, and to estimate their contribution to total nursing home use. This is confirmed by two observations which have become

increasingly clear from the spend-down research that has been conducted to date. First, the mean length-of-stay for persons who spend-down in nursing home is very long. For example, Bice (1991) estimates that the mean length-of-stay for spend-downers is 4.3 years. Second, nursing home users with very long lengths of stay consume the vast majority of all nursing home days observed over a cohort or during a year. The measurement of a spend-down rate is only part of the information needed to fully understand spend-down. Longer periods add to that understanding.

Since all studies conducted to date are less than ideal in that they are not able to observe all sample members from their first nursing home admission until death, researchers have used a variety of methods to estimate the tail-end of stays that are not observed. Since the probability of someone spending down increases with the length of stay, the statistical methodologies used to estimate the tail-end of length of stay distributions from observed data should be carefully considered when interpreting SP1 measures derived in this fashion.

# OBSERVATION OF MULTIPLE ADMISSIONS

Independent of the length of the observation period, the research on Medicaid spend-down conducted to date has demonstrated the importance of observing nursing home users over multiple nursing home admissions. Although these two methodological issues are related, they are not identical. For example, Arling et al. (1991) were able to observe a discharge cohort over a long time period, but since their sample was comprised of nursing home users in a sample of facilities, they were not able to observe nursing home use for sample members who were discharged, then readmitted to a non-sample facility. Lack of information on multiple admissions can have significant effects on all facets of spend-down since they affect the measurement of admission rates, source of payment at admission, length of stay and the number of people who convert to Medicaid.

The drawbacks of using data sets that do not observe sample members over multiple nursing home admissions to estimate spend-down rates was best illustrated by Farbstein et al (1989). Using the Connecticut Nursing Home Patient Registry to measure spend-down rates over an 8-year period, the authors observed that over 75 percent of spend-downers had more than one nursing home admission during this period. Second, using the same data set, the authors estimated two SP1 and SP2 spend-down rates, one based on ***only the most recent admission and one based on all admissions observed for that individual***. Based on only the most recent admission, SP2 was estimated at 16.5%. In comparison, when spend-down was measured over **all** nursing home admissions, SP2 was estimated at 38.9%. Similarly, SP1 measures were also found to more than double when multiple admission, rather than single admissions were observed. Estimates of SP1 increased from 8 percent to 17.3 percent when multiple admissions were included. This study provided strong evidence of the need to measure spend-down over cumulative, or multiple, nursing home stays.

# PAYOR SOURCE/MEDICAID ELIGIBILITY DATA

To accurately measure Medicaid spend-down rates, researchers also must have reliable data regarding when nursing home patients become eligible for Medicaid coverage. Many of the data bases used for measuring spend-down pose a problem in terms of the detail available on Medicaid eligibility. Generally, two sources of data have been used. The majority of studies have simply relied on facility survey data to obtain information about when patients became Medicaid eligible. In these studies, patient records in nursing facilities are often used to obtain historical information on dates of Medicaid enrollment and/or sources of payment. The second source of data used in spend-down studies has been automated Medicaid administrative records maintained by State Medicaid agencies (i.e. Medicaid Management Information System files). The latter is a more reliable source of information about Medicaid eligibility dates, because the data come from the same system used by States to approve the payment of Medicaid claims. Another deficit of survey data is that it generally collects information on Medicaid eligibility only at specific points in time, such as the date of admission or the date of the survey. Medicaid administrative records have the advantage of conveying the exact date of Medicaid enrollment, which permits more detailed analysis of spend-down patterns.

Another issue that has become apparent is that it is not sufficient simply to obtain data on the source of payment used to pay for nursing home care. This is because ***some persons who do not have Medicaid as a source of payment nonetheless are Medicaid eligible***. This usually occurs when Medicaid enrollees have the initial portion of their nursing home stay covered by Medicare, if the patient entered the nursing home from a hospital. Other data sources have a problem in that the payor source at admission is identified by the principal payor, these data may categorize some people who are actually Medicaid eligible at admission as private pay if they pay more than 50% of the bill through their personal contribution.

# DISCUSSION OF SPEND-DOWN ESTIMATES IN CONTEXT OF METHODOLOGICAL ISSUES

## National Data

The results presented in Table 1 and Table 2 represent the major findings on the magnitude of SP1 and SP2 completed to date. Each of these results have had to deal with one or more of the foregoing methodological issues. While the complexity of measuring spend-down makes it difficult to generalize about the relative reliability of these estimates, we do believe that some data sets are stronger than others in providing more accurate estimates of either SP1 or SP2. One conclusion we feel it is

safe to draw is that national data bases, particularly the earlier ones, are ill-suited for measuring SP1 or SP2 and, indeed, provide estimates that are seriously downward biased. This is regrettable since it is highly desirable to have information at the national level.

As we see in Table 1 and Table 2, the lowest estimates of SP1 and SP2 tend to be from the national data; the lowest SP1 measure, 10.8%, was based on the 1985 National Nursing Home Survey. This survey, as well as the Next of Kin Follow-up Survey, the 1982 and 1984 National Long-Term Care Survey, and the 1987 National Medical Expenditures Survey have been used to analyze spend-down for the country as a whole. In general, these surveys are limited in their ability to accurately measure spend-down because they:

- have source of payment data on only the most recent admission
- payment data are not detailed enough; and
- data are largely for discharge samples.

The 1985 NNHS, for example, may categorize some who are Medicaid enrolled as private pay since observations are categorized by primary payor. More recent national surveys such as the 1989 NLTCS are designed to correct some of these problems but, while they are an improvement, problems remain.

Data on payor source and Medicaid eligibility were particularly problematic in the 1985 NNHS, as noted, since the survey only contained data on payor source for the most recent admission and no information on the date of first Medicaid eligibility. This means spend-down measures are most likely understated since persons entering as Medicaid may have spent-down in an earlier period. The effect of this can be seen in the low spend-down measures presented based on national data.

Using the 1985 National Nursing Home Survey, Spence and Weiner (1990) used data with a 40.6% private pay and 35.2% Medicaid mix at admission. Based on the discharge sample in that data, both SP1 and SP2 equaled 10.2%. Spence and Weiner also compared these results to data from the comparable NNHS resident survey. Although they don't give the mix of private versus Medicaid admissions in this resident sample, they do report higher rates; the SPJ rate was 16% and the SP2 rate equaled 14%. They speculate that, given the different length of stay distributions of the resident and discharge cohorts, the resident sample represents an upper bound while the discharge cohort represents a lower bound.

A variety of approaches have been used by researchers faced with the problems of the NNHS. Rice and his colleagues presented their spend-down estimates by the number of previous stays (none, one, two or more). They note that the proportion of those starting as Medicaid increased with the number of previous stays (32.6%, 41.4%, 47.2%) while the proportion of private-pay/Medicare declined (47.0%, 40.6%, 32.5%). This suggests the extent to which spend-down occurs in previous stays. Perhaps because of the difficulty of interpreting a combined private pay/Medicare admission

group in measuring spend-down, the rate of SP1 by the number of previous stays changed little by the three "stays" groups (1 8.1%, 18.5%, 18.5%) in the Rice et al study. The SP2 rate, on the other hand, declined (20.0%, 14.2%, 10.3%) due to the higher proportion of persons who were Medicaid enrolled at subsequent admissions.

Recognizing the limitations of the NNHS, Spence and Weiner used information from a study of lifetime nursing home use (Kemper and Murtaugh, 1991) derived at the point of death (National Mortality Followback Survey), to adjust their measures of spend-down for aggregated, or lifetime, lengths of stay. This adjustment significantly increased their SP1 measure (based on discharges) from 10.2% to 15.6%; their SP2 estimate increased from 10.2% to 13.3%. A second, separate adjustment was made by Spence and Weiner to account for multiple admissions. Using information from one state study (Michigan, Burwell, et al.) data were adjusted and the SP2 measure increased to 25%.

A recent paper by Spillman and Kemper (1991) also tried to circumvent the problem of only observing the most recent stay in the NNHS data. This study used the Next-of-Kin Follow-up Survey which included dates of all nursing home stays before and after the NNHS sampled discharge (for those dying at age 65 or older) to estimate the effect of lifetime nursing home use on spend-down measures. Their measure of SP1 for a single stay increased to 23% using the lifetime measure; their estimate of the SP2 measure increased from 13% to 35%. Differences across these studies apparently reflect methodology and differences in the survey used for adjusting lengths of stay.

The more recent Institutional Population Component (IPC) of the 1987 National Medical Expenditure Study is better equipped than the 1985 NNHS to give national measures of the spend-down phenomenon. Payment sources at admissions were more clearly defined since payment source was gathered for the start of the ***most recent episode of continuous care***, not the most recent stay (Short et al., 1991). Their SP2 measure, 18%, was based on a resident sample, and is higher than the unadjusted (10.2%) or adjusted (15.6%) measures provided by the NNHS (Spence and Weiner) based on this type of sample. To the extent residents had prior ***episodes*** of care, however, the NMES data still provides underestimates of cumulative lengths of stay and spend-down at the national level.

## State Studies-Connecticut

Another conclusion that is now clear is that a longitudinal data set is superior for measuring SP1 or SP2. The Connecticut data is probably the best presently available to study the issue of spend-down since it contains all admissions (and readmissions) for the entire period, 1978-1986, linked to Medicaid files for eligibility information. As such, it provides the only data on pure admission cohorts currently available.

Using all Connecticut admissions during fiscal year 1979 and tracking their subsequent use until the end of fiscal 1986, Gruenberg and his colleagues (1989) found that most of the admissions (88%) had been discharged and not readmitted by the end

of the study period. The remainder were still in the facility as of September 30, 1986 so most, but not all, final outcomes were known. Of this group, 75% were identified as non-Medicaid (private pay, Medicare, other) at admission while 25% were Medicaid eligible. This study illuminated several important findings, due to the length of time people would be tracked. First, the total length of time spent in a nursing home by those spending-down was 4.3 years, more than twice as long as the average patient. Total length of stay combined several stays for some; over half of the cohort had more than one nursing home admission. Gruenberg et al. (1989) also reported a significant number of persons who were able to pay privately throughout their nursing home stay(s). Using a double-decrement life table approach, they estimated almost 40% of those entering as private pay ***could have continued*** to pay privately even after seven years in a home.[8]

As seen in the results (Table 1 and Table 2), the Connecticut measures are some of the highest reported. The SP1 measures derived from Connecticut data range from 17-23 percent while the SP2 measures take on a low value of almost 39 percent and a high value of around 45 percent. While Connecticut, as a State, may have characteristics that would make spend-down a more prevalent phenomenon than other States (e.g., higher personal wealth) we feel these measures are more reliable based purely on methodological grounds.

In addition, due to the flexibility of the data base, the Connecticut data have been used to derive alternative spend-down estimates that provide some idea of the magnitude of the biases introduced by some of the methodological issues raised earlier. As noted earlier, the Connecticut data clearly illustrated the effect of measuring spend-down over multiple versus singular admissions; measures of SP1 and SP2 were virtually doubled when multiple admissions were taken into account. In the more recent Gruenberg et al. (1991) study of Connecticut data, the authors note the effect of using a resident versus an admission cohort on the measure of SP1. Using a 1978-79 admission cohort in the Connecticut data, the SP1 estimate was found to be around 21%; using the one-day 1985 resident view, the authors measured SP1 as almost 40%! As they argue, this illustrates the effect of the considerably greater lengths of stay represented in the resident sample in Connecticut.

These measures may have been closer if the 1978-79 cohort could have been followed over their <u>entire</u> stay. That is, even with an admission cohort followed over a long time, data such as Connecticut's can fail to give an accurate measure if the time period covered is inadequate to capture the complete stay; the data are "truncated" for those whose discharge is not observed. Two additional studies using the Connecticut data (Bice, 1990, 1991) have used statistical methods to estimate these unobserved portions of nursing home stays. The two studies by Bice result in remarkably close measures of SP1 (21.8% and 23%) and SP2 (44.3% and 44.9%). The first study was based on a series of six admission cohorts over the 1978-83 time period. Bice estimated both the tail-end of stays and the probability of spend-down using a Weibull

[8] The author used this approach to estimate, hypothetically, the number who would have spent-down in each succeeding interval of time, if they had not been discharged. The theoretical work underlying this approach was developed in studying mortality data (Jordan, 1967).

function.[9] For the latter cohorts in the first study, the "truncation" was more problematic since more stays were incomplete and the results, more dependent on the statistical assumptions. The second study, therefore, used only an earlier cohort and focused more on the impact of spend-downers on total Medicaid days and expenditures in Connecticut. These results are discussed later.

## State Studies-Other States

There are several other States' data which has been used to measure either SP1, SP2 or other aspects of the spend-down process. Two studies, one in Michigan (Burwell et al.) and one in Wisconsin, offer additional state measures while also Illustrating the effect of some of the methodological issues outlined.

The Michigan study offers another perspective for estimating spend-down, an all-user nursing home cohort, but could only measure SP2. By combining the utilization patterns of discharges and residents, the all-user cohort creates an averaging effect on factors such as length of stay. The SP2 estimate derived by Burwell and his colleagues was 27.2%. For comparison, a cohort of "discharges" was separated from the user cohort and the SP2 was recalculated on this basis to be 24.0%. This, too, fits with the thesis that discharge data, by comparison, yield lower measures of spend-down.

This study offers view by "looking backward" from a certain point for as long a period as possible; this could conceptually extend over the person's entire lifetime. Yet, this study suffered from possible errors in admission dates and the measurement of multiple stays. While the Michigan data base measured length of stay over multiple admissions, this was an overestimate since interruptions in stay could not be deducted from total days. Of the 10,040 users they identified as spend-downers, 34% had breaks in the period covered by their Medicaid claims, indicative of multiple nursing home stays. As noted, Spence and Weiner used these results to adjust their SP2 measure for spend-down during earlier stays.[10]

Many of the data bases used for measuring spend-down pose a problem in terms of the detail available on Medicaid eligibility. The Michigan Study (Burwell et al.) contains the most detail--monthly eligibility going back to 1980. The authors could distinguish those who were Medicaid-eligible in the community prior to, at and after admission. This study found 37.5% of 1984 Medicaid users were enrolled prior to admission and 35.3% at admission. They still found anomalies in the data, however, such as persons who were Medicaid-eligible but with no Medicaid-paid claims for some period after admission (beyond the 20 days that would be fully paid by Medicare).

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[9] Bice visually inspected the distribution of lengths of nursing home stays observed in the Connecticut data and judged the Weibull function to be the appropriate statistical model. After this function was fit, it was used to extrapolate the observed trends. Ultimately, the reliability of these measures rests on the statistical assumptions of the model.

[10] The Michigan data was also used by Liu et al. to adjust their overall spend-down rate, or spend-down as a percent of all admissions (SP3). After adjusting for prior stays, this measure increased from 7% to 10%.

The Wisconsin study is based on a discharge sample, and hence carries those biases. The measures presented, however, are not low by comparison; their SP1 measure equaled 23% and SP2, 30.6%. The authors omitted discharges for 30 days or less from these samples; as they note, this may introduce a slight bias and lower estimates of SP1 and SP2. Also, they were not able to capture re-admissions to facilities other than the 72 sampled (7% of the original sample). Otherwise, the Wisconsin study had complete information on length of stay, changes in payment status and discharge. A point raised by the authors is that since a discharge cohort embodies a series of admission cohorts and, given changes in the Wisconsin nursing home population over the last 5-10 years, the characteristics of their discharge cohort are not likely to represent those of a current admission cohort.

Another issue raised by the Wisconsin results is that of non-Medicaid, non-private pay admissions. In the discharge survey, 20% had been admitted on Medicare of whom only 9% were discharged on Medicaid while 26% were discharged private pay. It Is not clear how these extra transitions would have affected the spend-down measures, but it would seem the effects would be small. The issue of how non-Medicaid non-private admissions are handled in spend-down studies is one which should be considered, however. This group equaled 16.5% in the recent Connecticut study (Bice, 1991). Hence, variations across samples and the treatment of these admissions in measuring spend-down may be non-trivial issues.

# OTHER FINDINGS

Although gauging the number of people affected by spend-down gives us an idea of the overall magnitude of the problem, we clearly need other information to put these measures in perspective. An understanding of the financial magnitude of spend-down on individuals and their families as well as its subsequent impact on state budgets is very important to the policy debate. Many of the studies reviewed here have provided valuable insight and information on these issues. We have organized results related to:

- **time to spend-down;**
- **effect of spend-downers on Medicaid;**
- **determinants of spend-down;**
- **process of spend-down; and**
- **spend-down in the community.**

Information in each of these areas helps "round out" our current understanding of the spend-down phenomenon. Many of the earlier methodological considerations should be kept in mind in reviewing the study findings; most of the results in this section are based on state studies and, hence, avoid some of the pitfalls of the national data.

## Length Of Time to Spend-Down

One very important piece of information for the policy debate is how long it takes to deplete their assets. Are most of the elderly close to Medicaid asset levels and, hence, spend-down soon after admission, or do they possess significant wealth which is depleted over long periods of time? If we find people convent quickly after admission, it may be difficult to term the costs they have incurred as "catastrophic" in nature. Indeed, Medicaid can be viewed as a relatively protective insurance program for these "near-poor" individuals.

Some of the foregoing studies have provided data on time to spend-down. Tables 3-7 present data on the distribution of spend-downers by categories of time before Medicaid conversion. Each study indicates that this distribution is bi-modal, or that there are two groups. There is a large proportion who spend-down in a very short time period, and yet a sizable minority who apparently deplete assets over a long time period. This is perhaps consistent with the heavy concentration of wealth within a small percentage of the elderly population (U.S. Department of Commerce, 1990). In all studies, over one-half of those who spend-down do so in less than a one-year time period.

While there is a wide range in the estimated percentage that spend-down within a year, this is largely due to the Florida data which inevitably reflects a data issue.[11] In Connecticut, only 53% spend-down within a year, while in Florida virtually 82% are reported to do so. The national percentage, based on 1987 NMES (Short) data is 63%. Thus, the individual state estimates may be accurate and the variation may reflect the myriad of factors affecting such time to spend-down: the income and wealth of retired persons in the state; Medicaid eligibility and payment policy; the sex, race, and age distributions of nursing home admissions, etc. It is also affected, as we see later, by individual behavior vis-a-vis conversion of assets such as home equity. The data and methodology used in the various studies also affect the measures presented, especially for Florida.

At the other end of the distribution, we see that there is a significant minority of spend-downers who deplete assets over a longer period of time. The percentage of those who "spent-down" for more than a three year period is rather consistent for the Connecticut (Bice), Wisconsin (Arling et al.) and National (Short) studies; this percentage ranges from 13% in the Wisconsin study to almost 17% for the nation as a whole. While both the Wisconsin and national study likely underestimate the number of true spend-downers, the Bice study most likely captures all spend-downers. Yet, it is only one State and Connecticut is a State in which the elderly residents are more wealthy, on average.

[11] The Florida data on which this measure is based are episode-based, not person-based. Thus, the length of time to spend-down only reflects the length of stay during which the person convened to Medicaid, not their cumulative stay. Florida data are currently being linked across episodes to correct this.

| TABLE 3. Bice (a) (CT) | |
|---|---|
| <1 Year | 52.5% |
| 1-3 Years | 32.9% |
| >3 Years | 14.6% |

| TABLE 4. Burwell et al. (MI) | |
|---|---|
| <3 Months | 38.4% |
| 3-6 Months | 16.8% |
| 6-12 Months | 18.8% |
| 1-2 Years | 15.1% |
| 2-3 Years | 5.4% |
| >3 Years | 6.6% |

| TABLE 5. Fla. Dept of Ins. (Fla.) | |
|---|---|
| <3 Months | 53.7% |
| 3-6 Months | 19.2% |
| 7-12 Months | 9.5% |
| 1-2 Years | 8.5% |
| 2-3 Years | 4.5% |
| >3 Years | 4.7% |

| TABLE 6. Gruenberg et al. (CT) | |
|---|---|
| <3 Months | 26% |
| 3-6 Months | 13% |
| 6-12 Months | 17% |
| 1-2 Years | 19% |
| 2-3 Years | 11% |
| >3 Years | 14% |

| TABLE 7. Short et al. (US) | |
|---|---|
| <2 Months | 20.9% |
| 2-3 Months | 15.7% |
| 4-6 Months | 13.0% |
| 7-12 Months | 12.6% |
| 1-2 Years | 14.6% |
| 2-3 Years | 6.3% |
| >3 Years | 16.9% |

The skewed distribution of time to spend-down is also reflected in the mean and median time before conversion, as shown in Table 8 (Burwell et al.; Liu and Manton; and the Florida Dept. of Insurance). In each of these studies, the mean time to spend-down is significantly higher than the median (10.3 versus 5 months) in Michigan, 19.7 versus 11.1 months in Connecticut; 7.3 versus 2.6 months in Florida), reflecting the relatively small percentage of spend-downers who take very long to deplete assets. Here, too, the differences across States may reflect differences in wealth, Medicaid policies, individual behavior or many other factors.

These and earlier results can be compared to a widely noted work, originally done for Congress, that simulated the likely spend-down patterns of Massachusetts "at risk" elders, based on self-reported income and assets (Branch et al., 1988). In many ways, this study was the "conventional wisdom" prior to the work that we have synthesized here. This study estimated that 46% of Massachusetts elders, age 75 and over, who lived alone would become eligible for Medicaid after 13 weeks in a SNF. The percentage of those entering as private pay and spending-down is no where near 46% and only in Florida where there is a data issue, is the spend-down period that short. Interpretation of the Branch study should have been done with caution since ***it made the simplifying assumptions that everyone was admitted and stayed until death***. As we have seen, the reality of nursing home admission, length of stay and time to spend-down is quite complex.

## Effect of Spend-Downers on Medicaid

Conversion to Medicaid is really only the beginning of the story for those concerned with Medicaid costs. We cannot stop at measuring the ***number of persons*** who are always private pay, always Medicaid, or spend-downers. Unless we consider the length of stay and funding of expenses ***after Medicaid conversion***, we cannot understand the relative impact of spend-downers on public programs. The longer stays of those who spend-down, for example, generally results in their contributing more than their share to the total number of days of care used by a given cohort. In Connecticut, for example, the spend-down group accounted for 16% of all the patients admitted but 35.5% of total patient days observed over the combined stays observed in the data (Gruenberg, 1989). In Wisconsin, the comparable figures were 12% of the patients and 22% of the total days.

Much of the more recent work (Bice, 1990, 1991; Gruenberg et al., 1991; and Short et al., 1991) has focused on the implication of asset spend-down for Medicaid and have improved their approach and analysis. The first study of Connecticut spend-downers, for example, calculated that 68% of the total days of those who spent down were paid at least partly by Medicaid; this reflects the fact individuals must continue to "income spend-down" even after assets are gone. In order to translate these days under partial Medicaid coverage into actual dollar expenses for Medicaid, however, we need to consider the relative shares paid by Medicaid and the individual. The more "income spend-down" there is, the smaller the role played by Medicaid.

**TABLE 8. Estimated Mean and Median Time to Spend Down**

| Source | Mean | Median |
|---|---|---|
| Burwell et al. (MI) | 10.3 Months | 5 Months |
| Bice (a) (CT) | 19.2 Months | NA |
| Bice (b) (CT) | 22.8 Months | NA |
| Fla. Dept. of Ins. | 7.3 Months | 2.6 Months |
| Gruenberg et al. (a) | 16.6 Months | NA |
| Liu & Manton (CT) | 19.7 Months | 11.2 Months |

While most of the available studies focused only on asset spend-down due to lack of data on "Income spend-down," the Michigan (and more recent Connecticut) studies have been able to address this issue. The Michigan study reported that elderly persons in the spend-down group contributed an average of $427 compared to $235 for those eligible before admission and $352 by those eligible at admission. On average, then, the majority of the monthly bill was still paid by Medicaid for all groups. The larger personal contribution of spend-downers, however, served to slightly offset the effect of spend-downers on the total Medicaid nursing home bill. While they comprised 27% of the Medicaid nursing home users in Michigan, they accounted for 25% of that state's Medicaid nursing home bill during 1984. The Michigan study did not calculate percentages over the entire stay of a cohort since stays were not complete in the user sample.

The Connecticut data were not so constrained. The Bice (1990, 1991) studies estimated that spend-downers account for 49% of Medicaid days in the six admission cohorts studied, when measured over their entire stay. Using only the earlier cohort, Bice (1991) estimated spend-downers account for almost 45% of Medicaid-eligibles but a significantly smaller percentage (32.4%) of Medicaid nursing home expenditures.[12] This study, like the Michigan and the more recent Gruenberg et al. study, found this is due, in part, to the higher personal contribution made by spend-downers. Indeed, the monthly contributions found for Connecticut spend-downers ($420) is virtually the same as found in Michigan (Gruenberg et al., 1991). Bice (1991) also found that spend-downers were more likely to have private pensions as a source of income (almost 40% versus 25%) than those who were always Medicaid and the dollar amount was almost 40% higher, on average. This may reflect a generally higher earnings history of spend-downers which, in turn, allowed more savings and accumulation of assets prior to retirement.

The Bice (1991) study estimated that the Connecticut Medicaid program would eventually pay for 50% of the total nursing home charges for those who became spend-downers. As noted above, this dollar amount would approximate a ***third*** of total Medicaid nursing home expenses for this cohort. If long-term care insurance or other policies could shift some of these costs, the burden of Medicaid would be reduced. A recent study (Short et al., 1991) provided simulations on the effect of extended long-term care coverage (public or private) on benefits now covered by Medicaid. While it purports to relate to asset spend-down, the simulations are based on all Medicaid days, regardless of whether they are for spend-downers; yet, the results are informative, especially in light of what we have learned about time to spend-down and length of stay of spend-downers.

If a new Federal policy were to cover the first 6 months of a nursing home stay, 16% of residents on any given day would be affected. Reflecting the differences in length of stay of residents by payment source, nearly one-quarter of all private-pay residents would quality for the new front-end benefit; only 1 out of 10 Medicaid residents would. The benefit with a 24-month wafting period would affect 56% of residents, since more would have had this length of stay, and it would have a bigger effect on Medicaid. While the private-pay proportion would drop from 36% to 20% of all residents, the Medicaid proportion would decline from 61% to 22% under such a policy.[13]

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[12] This difference is somewhat puzzling since Bice reports spend-downers have much longer stays (4.7 years) on Medicaid compared to Medicaid throughout (3.1 years) and only pay a somewhat higher percentage of total charges (22% versus 18%). Since all dollar amounts were expressed in 1989-90 dollars it may be that expenses for spend-downers are "deflated" relative to those for Medicaid throughout since the nursing home stays of spend-downers extend past 1990.

[13] These simulations are retrospective rather than prospective in nature; that is, Short et.al. do not simulate what the coverage of the first 6 months of stay for an admission cohort would have done to the spend-down rates for that cohort. They note that a resident sample, given its representation of long-stay patients, is appropriate for budgetary analysis since long-stay patients account for a large share of nursing home days and expenditures.

## Determinants of Spend-Down

If public or private policies are to be developed to address the effects of spend-down, it would be helpful to know what type of person is more vulnerable. The studies which have examined the characteristics of spend-downers have painted a fairly consistent picture. One of the studies done with national data found that spend-down rates did not vary much by age, sex, marital status, and functional dependency at discharge (Spence and Weiner, 1990). Prior living arrangement did affect SP2, with those living alone having three times the rate of those coming from another facility, and almost twice the rate of those previously living with others. The spend-down group was somewhat more likely to be female, unmarried, and functionally dependent at discharge than those always private pay. Compared to those always Medicaid, spend-downers were more likely to be female, age 75 and older, white, and to have previously lived alone.

The second Gruenberg (1991) study of Connecticut data makes an important contribution in this area. By using a multivariate analysis of those entering as private pay, Gruenberg examined the effect of certain individual characteristics on the probability of spending-down, independent of length of stay. The findings indicate that being older, female, and having a severe disability were positively related to the probability of spend-down. The single most important variable was psychiatric history; those with such a history are less likely to spend-down. This latter result is puzzling since while we might expect these persons to be lifetime poor, it seems they would enter as Medicaid-eligible, not private pay.

## Process of Spend-Down

Very little is known about what has actually taken place for the individuals whom the foregoing studies have identified as asset spend-downers. Indeed, we cannot actually be sure these individuals have depleted assets; most of the studies can only identify that a change in payor source has taken place. Special studies in Wisconsin and Florida have been done to further clarify the circumstances behind nursing home admission and subsequent conversion to Medicaid.[14]

In Wisconsin, a sample of first time admissions (from those included in the nursing home survey) was chosen. Their family members were interviewed within 6 weeks of admission and at follow-up, (6-9. months later) to assess changes in economic status and to determine factors leading to discharge and subsequent use of care. Among the Wisconsin respondents nearly all received Social Security (99%) and more than a third (37%) received a private or public pension. Only a quarter had income over $1,000 and 10% had income over $2,000 so most needed to supplement the nursing home bill from personal savings. Forty-four percent owned homes at admission with a median value of $45,000 and virtually no one (95%) held a mortgage. The total asset

[14] The response rates and sample sizes for both these studies suggest caution in generalizing the findings.

distribution was found to be quite skewed with about half having less than $25,000 but 33% with $50,000 or more.

By follow-up, more than a third of the Wisconsin sample had died (39%). Of those alive, 75% were still in the nursing home and the rest were at home. While the report on this survey does not give information of the relationship between resources and nursing home use, it does note that those who remained in nursing homes experienced the greatest decline in income and assets with 18% converting to Medicaid compared to 11% of those who were at home. Another interesting finding was that 18% of those in the nursing home no longer owned homes. There was no change in ownership for those returning to the community.

In Florida, two sample surveys were done, one of nursing home residents who applied for Medicaid and one of nursing home patients who had been private pay for six months or more. It was found that, while private pay respondents were similar to the Medicaid groups in terms of age and gender, they differed in the proportion who lived with family prior to admission. The report speculates this may have helped these persons preserve their assets. Once in the nursing home, the study found that participation by payors other than the patient is rare although it was slightly more likely with Medicaid applicants than private pay patients. However, even in this group less than a quarter reported any family involvement. As in the Wisconsin study, a significant portion were found to have liquidated their homesteads. In Florida, 29% of those still paying privately or who had already spent-down had given up their homes.

These findings and the lack of further information affect our ability to make strong statements about the spend-down process. A major limitation is that there is virtually no information on the application of income to the cost of care prior to Medicaid eligibility nor the extent to which divestiture of resources occurs. To the extent asset transfer varies across admission cohorts, it could result in fewer persons admitted as private pay and perhaps, (depending on the resources and cost of those remaining in the private pay pool) higher SP1 measures. It may also result in quicker spend-down if people are able to transfer and/or hide assets ***after admission***.

We would like to stress this issue, as many argue that conversion to Medicaid is simply part of prudent estate planning by many elderly. Indeed, asset transfer has become a favorite recommendation of estate planners and attorneys specializing in services for the elderly (Budish, 1989). In a recent review of this issue Burwell (1991) found common strategies such as the conversion of "countable" to "exempt" assets, sheltering assets in trusts, annuities and other instruments "not available" to the patient and transferring assets through joint accounts. Most of those interviewed felt these practices were growing. If this is true, achieving savings for the Medicaid program (from spend-downers) may require not only increased insurance coverage but stricter application of rules against asset transfer and sheltering to establish Medicaid eligibility.

To the extent resource transfer occurs, it renders the measurement of spend-down meaningless, since those with resources simply "look poor" but in reality, are not

(Moses, 1990). Yet, the studies cited here provide evidence that there are a significant number of people who enter a home and pay privately for long periods before spending-down, indicative of "true" asset depletion. Florida data indicate private payments prior to conversion were the largest in total ($60 million out of $86 million paid by private persons, insurance, Medicare and V.A.) as well as on average ($19,221 per patient), (Florida Department of Insurance, 1989). Furthermore, these underestimate the true dollars, given the way Florida collects these data.[15]

## Spend-Down In the Community

Relatively little attention has been paid to the possibility that spend-down may be related to the use of either long-term care **or** other health care services in the various stages of a spell of Illness preceding nursing home use. One study used the 1982 and 1984 National LTC Survey (Liu et al., 1990) to examine conversions to Medicaid that occurred for a sample of disabled elderly in the community and found evidence that a significant number did convert to Medicaid without nursing home expenses. This is an intriguing finding even with the several caveats that apply to the data and analysis.[16] Nonetheless, the authors concluded that more people converted to Medicaid due to costs incurred in the community than due to the costs of a nursing home stay. Furthermore, medical expenses (e.g., drug expenses) were judged to be more of a cause of spend-down in the community than community long-term care.

These conversions may not be comparable since conversions in the community may be temporary, more related to one-time expenses and not reflective of a continuous depletion of assets. In States with medically needy programs, for example, elderly can come onto Medicaid as they experience a costly illness and go off after expenses subside. Furthermore, these conversions may reflect enrollment in SSI (and therefore Medicaid) by the elderly, which may reflect entry into poverty for reasons unrelated to high health care costs, such as the death of a spouse. A recent study of first-time elderly enrollees (no enrollment for four years prior) in California and Georgia (Adams, 1991) concluded this may be the cause for enrollment of the majority of new elderly enrollees. This study found (81% in California and 66% in Georgia) appeared to enroll in Medicaid due to reasons not related to nursing home use or costs. Of these, only 14% in California and 21% in Georgia had evidence of an acute care stay over the study period. Other expenses (e.g., drugs or non-health related expenses), or some other "life change" (e.g., loss of a spouse) was judged as more likely the cause of the new enrollment in Medicaid (Adams, 1991).

[15] Although the survey asks facilities to enter the dollar amount over all prior stays, state officials believe facilities often report dollars during current stay only.

[16] The authors used the two-year follow-up of the 1982 disabled community residents along with information on whether any nursing home use had occurred. If nursing home use had occurred, they assumed the conversion was due to nursing home costs even though this was not certain. Also, the two-year follow-up is not very long and the sample represents only those functionally disabled in 1982, not all elderly.

# DISCUSSION

As we have shown, the issue of nursing home spend-down is complicated from virtually all perspectives. As a public policy issue it involves the eligibility rules of Medicaid as they relate to dollar amounts, and processes by which individuals can qualify. Conceptually, it relates not just to the spending of assets, but also to income, and the interrelationship between these two over a lifetime. We have focused primarily on the research perspective of measuring spend-down, and as we have stressed, this involves a difficult set of measurement challenges, including tracking the use of services throughout a spell of illness and noting when transitions in payment source take place. Many of these difficulties have only recently begun to be recognized, and while research has become more sophisticated, there is still "misinformation" and debate.

Much of the current conventional wisdom - that asset spend-down is not as important a factor in nursing home payment as had been thought - may be based on recent analyses done with the national surveys which are seriously flawed in terms of their ability to measure asset spend-down. The 1985 National Nursing Home Survey, as shown, has several problems which cause downward bias in the measurement of asset spend-down. Some adjustments (for full length of stay; multiple admissions) researchers have made to the estimates from the raw data clearly result in higher percentages. However, these higher estimates have sometimes been derived from using individual State estimates, and hence, may not be applicable at the national level. The recent use of the NMES data base adds to our understanding at the national level, but it too, as noted, has downward biases.

A major improvement in the measurement of SP1 and SP2 has been made with the availability and extended use of the Connecticut data base. Clearly, the length of time over which admission cohorts can be followed and the improved information of the timing of Medicaid eligibility has made this the most desirable data base for measuring SP1 and/or SP2. This data set as noted, has generally resulted in the highest measures of SP1 and SP2. Yet, Connecticut offers a sample of one state and one which is likely to be non-representative of others. It is worth noting that the Connecticut admission cohorts have significantly high proportions of private pay at admission. This, as noted, leads to lower measures of SP1 and higher SP2, all other factors held constant.

Our goal in this paper was to use the results of the various spend-down studies to illustrate what we have learned about spend-down, highlight that we must be careful in using and interpreting the two major measures SP1 and SP2, and to discuss additional information concerning the nature of the spend-down phenomenon that is still lacking. We have proceeded from the assumption that spend-down is significant from both the private and public perspective and simply tried to clarity what is known about it. In general, the measurement of SP1 and SP2 has become increasingly sophisticated and as we judge it, more accurate. In this process estimates of the magnitude of the problem have tended to increase. We stress that more information is needed, however, to assure ourselves that SP1, SP2 indicate true asset depletion. This is particularly true given the information on the popularity of estate planning and asset transfer. Our review

of these studies and methodological issues, however, lead us to believe the following are fairly safe conclusions:

- **Approximately 1 in 4 persons admitted as private pay stay long enough to deplete assets to Medicaid levels;**
- **Approximately 1 in 3 persons eventually covered by Medicaid were not eligible when admitted; and**
- **Around 30-40% of Medicaid expenditures for nursing home care can be attributed to these asset spend-downers.**

A question remains as to what is still needed with respect to spend-down research. Clearly, better national estimates of the number of elderly affected are desired. The national data bases have not provided good estimates nor much additional information on the process of spend-down. Even if we were able to get good estimates nationally, however, each State needs to know how its specific characteristics (bed supply, Medicaid eligibility and payment policies, elderly population, etc.) differentiate them from the national average. Only then can the information on spend-down numbers help them plan for the effect of changes in state policies which affect admissions, length of stay, etc. While the Connecticut data have allowed us to better understand the significance of issues such as multiple admissions, sample types, etc., we remain uncertain as to whether the Connecticut measures would prevail elsewhere. That is, are the higher measures found there due to better data or actual experience? In addition to better measures of SP1, SP2, more information and understanding of the ***process*** of asset spend-down and the people affected is needed. If, for example, the elderly are liquidating home equity, this may be imposing an undue and unfair burden on some families and not others. On the other hand, the transfer of assets may be unfairly excluding some resources that could be used to finance the costs of long-term care. We clearly need to know far more about the behavior of individuals as it relates to income and asset levels as well as family structure.

Finally, if we are to incorporate the findings of the type of studies reviewed here, we need to know more about the sensitivity of asset spend-down to changes in the characteristics of elderly cohorts over time as well as other factors (e.g., government policy) which change over time. That is, the measure of the magnitude and the nature of the spend-down process might be quite different for a 1980 versus a 1990 admission cohort. Any policies put into place in the coming years will affect cohorts in the near and distant future. We need to know what the analysis on historical data tell us about the likely experience of these future cohorts.

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