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

Exploratory Study of Health Care Coverage and Employment of People with Disabilities:

Final Report

July 1998

Office of the Assistant Secretary for Planning and Evaluation

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This report was prepared under contract #HHS-100-96-0012 between HHS's ASPE/DALTCP and Lewin-VHI, Inc. 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 Kathleen Bond.

EXPLORATORY STUDY OF HEALTH CARE COVERAGE AND EMPLOYMENT OF PEOPLE WITH DISABILITIES: Final Report

David Stapleton
Gina Livermore
Scott Scrivner
Adam Tucker
David Wittenburg

Lewin Group, Inc.

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The opinions expressed and conclusions drawn in this report are the responsibility of the authors, and do not represent the official views of the U.S. Department of Health and Human Services, the Social Security Administration, other agencies, or the Lewin Group.

EXECUTIVE SUMMARY

A. Introduction

Most policymakers agree that the current structure of the Social Security Administration's disability programs creates substantial work disincentives for people with disabilities. One set of policy options concerns changing the links both between Medicare and the Social Security Disability Insurance (DI) program, and between Medicaid and the Supplemental Security Income (SSI) program. More generally, reforms that expand access to health insurance for people with disabilities who are not DI or SSI recipients could have an impact on both employment and program participation. The purpose of this study is to examine empirical evidence on the relationships among health insurance, employment, and program participation of people with disabilities. Specifically, we present the findings of an analysis of expansions in the income threshold for the SSI work incentive program established by Section 1619 of the Social Security Act; these expansions have allowed many working SSI recipients to maintain Medicaid eligibility even after their incomes rise above the level that makes them ineligible for SSI payments. This report also presents findings from an analysis of the employment, insurance and program participation status of people with disabilities using the 1993 Survey of Income and Program Participation (SIPP) and the 1994 National Health Interview Survey (NHIS). This analysis focuses on groups of people with disabilities who would most likely be affected by expansions in public health insurance.

B. Analysis of 1619(b) Threshold Expansions

Section 1619 of the Social Security Act allows SSI disability recipients who work and whose monthly earnings exceed the substantial gainful activity level (currently $500) to receive Medicaid benefits and to remain eligible for SSI, but with reduced or zero payments, provided that their "chargeable income" (income after certain reductions) remains below the 1619(b) threshold. The threshold is partly determined by mean Medicaid expenditures for disabled SSI recipients in the recipient's state. Recipients concerned about loss of their Medicaid benefits have a strong incentive to keep their incomes below the threshold. As a result of rapid growth in health care costs, the threshold has increased considerably since the program's inception in 1981. The increase has also varied considerably across states. If, in fact, some SSI recipients restrain earnings and employment to stay below the threshold, one should find that the earnings of SSI recipients increase as the threshold expands.

Our analysis utilizes the growth in thresholds since 1990, and cross-state variation in that growth, to assess the impact of expanding the threshold on the earnings, employment, SSI payments, and SSI program participation of the 4.1 percent of 1990 adult SSI recipients under the age of 50 who had earnings from jobs covered by

Social Security in 1990. The 50 percent of this group whose chargeable incomes were furthest below their state's threshold were used as a control group for the 50 percent with chargeable incomes close to their state's threshold ("full study group"), as well as for subgroups of the latter group.

Overall, we find very strong evidence that some SSI recipients who work substantially restrain their Social Security earnings to stay below the 1619(b) threshold. Results for 1990-91 earnings changes are especially strong. When we examined the 1990-91 period only, we obtained point estimates of the effect of a thousand dollar increase in the threshold on mean earnings for those in the full study group ranging from $117 to $482, depending on the specification used. All estimates were highly significant, and even larger estimates were obtained for the study group members whose chargeable incomes were closest to their state's threshold in 1990. It is difficult to know whether the "true" effect is near the bottom or top of the range indicated, but certainly the midpoint, $300, is a credible value. Such a value would be consistent with either 100 percent of those in the study group increasing their earnings by $300 when the threshold increases by $1,000, or 30 percent increasing their earnings by $1,000, or, more likely, some intermediate scenario.

Results for changes in earnings from 1990 to 1996 are much weaker, but still largely consistent with our predictions. The point estimates for the full study group range from $37 to $233. The weaker results for this period appear to reflect strong negative earnings trends for the recipients in our sample. These trends occur despite substantial overall growth of the economy over the period. It seems likely that deterioration in health conditions is a common explanation of earnings declines, and the weaker results may simply reflect the fact that the number in the sample for whom the threshold is of relevance declines over time.

The findings also are strongly consistent with the hypothesis that recipients reduce reported earnings to stay below the threshold when their chargeable unearned income increases. There is also some evidence, albeit not very strong, that threshold increases reduce SSI payments to those most likely to be restraining earnings. There is similar evidence that increases in chargeable unearned income reduce scheduled SSI payments of those whose initial earnings are closest to the threshold by less than statutory requirements, because of induced reductions in earnings. We find little evidence of impacts of threshold increases or unearned income increases on either employment or SSI participation. It appears that recipients make marginal adjustments to their earnings as a result of threshold and unearned income changes, not wholesale changes to their participation or employment status.

In examining the longitudinal data on 1619(b) participation, we noticed high monthly variability in participation. Past studies of participation have focused on point-in-time participation, without examining the dynamics of participation. The sample we constructed provided an opportunity for a limited dynamic analysis. We followed the monthly 1619(b) participation of those 1990 SSI recipients under the age of 50 who had earnings in 1990, from 1990 through 1996. We found that while only 33,000 of the

roughly 128,000 recipients in the sample (26 percent) participated in 1619(b) for at least one month in 1990, almost 57 thousand (44 percent) participated in 1619(b) for at least one month during the entire 1990-96 period. The latter number is about 2.4 times the number of SSI recipients reported by SSA as participating in the program in December 1990. *We conclude that point-in-time statistics on the share of SSI recipients participating in 1619(b) are much lower than the share of SSI recipients who ever participate, reflecting high variation in who participates from month to month.*

C. Further Research

The 1619(b) analyses performed for this report provides some interesting insights about the dynamic use of that program and, more generally, the dynamics of employment, earnings, and program participation of disabled adult SSI recipients. The general impression left by this research is that there are many more SSI recipients who have significant involvement in the labor force than cross-section data indicate, and that their involvement is not very stable. A clearer picture of the use of the Section 1619 program and, more generally, of the employment and earnings of SSI recipients, could be obtained by following SSI "award cohorts" -- groups of recipients who receive their award in a given period -- through their entire SSI spell and, to the extent feasible, beyond it. Social Security earnings can be followed indefinitely into the future, as can receipt of DI benefits and return to SSI. Post-SSI mortality can also be observed.

Further analysis of 1619 participation might examine the extent to which SSI recipients use the program to: (1) provide assistance during a transition from SSI to self-support through employment; (2) provide assistance until additional support is obtained from some other source (e.g., DI); (3) maintain for substantial periods a higher level of income than SSI payments alone would provide; and (4) allow them to work intermittently, as their health or job availability permits, without loss of health benefits or SSI eligibility. It would also be interesting to examine the length of time from award until employment and earnings are reported and participation in the work incentive program begins. We may or may not see, for instance, that Social Security earnings of significant numbers of recipients return to pre-award levels soon after award -- an indication of the extent to which the work incentive program "induces demand" for SSI and Medicaid benefits.

It would also be interesting to examine how the dynamics of employment and program participation are related to beneficiary characteristics such as age, sex, marital status, and impairment. For instance, such an analysis might show that individuals with chronic disorders that are characterized by temporary acute episodes, such as many musculoskeletal and psychiatric disorders, work intermittently. The ability to move in and out of work, without loss of health insurance, may be especially important to such individuals.

Other analysis that fit within this framework include analysis of: other Medicaid expansions for people with disabilities, including TennCare and the Oregon Health Plan;

the first introduction of 1619, in 1980; and the use of Impairment Related Work Expenses, Programs for the Achievement of Self Support, and individualized 1619(b) thresholds.

Newly matched data from SSA administrative records and the Survey of Income and Program Participation have created opportunities for longitudinal analyses of the employment of SSI and DI claimants both before and after they file disability claims. Such analyses could examine events that precipitate claims -- including job loss, insurance loss, and public policy changes, as well as the onset or worsening of a medical condition or impairment -- and how these events affect subsequent work activity.

All of these ideas rely on existing longitudinal data. Collection of new data from beneficiaries on their work histories, use of work incentive programs, use of other services, and support from families, counselors and employers would be useful to paint a clearer picture of the challenges that people with disabilities face when they seek to increase their earnings, and how those challenges can be overcome.

D. Employment, Insurance and Program Participation Status of People with Disabilities

Policies designed to expand health insurance coverage to persons with disabilities, or to de-link public health insurance eligibility from DI or SSI would:

- Allow non-program participants with disabilities who are employed but uninsured to obtain health care coverage without having to stop or reduce work effort; and
- Reduce incentives for disability program participants who can work to restrain their earnings in order to maintain cash benefits and health insurance coverage.

Our analyses of the 1993 Survey of Income and Program Participation (SIPP) sought to determine the size and characteristics of these two populations.

Using the 1993 SIPP, we estimate that there are 2.6 million persons with disabilities who are employed but uninsured. This group of people, which accounts for roughly nine percent of all persons with disabilities and 17 percent of all persons with disabilities who are employed, are the group for whom policies designed to make health insurance more widely available to persons with disabilities without requiring DI or SSI program participation will probably be most effective. These individuals would not be required to reduce their work effort in order to obtain eligibility for health insurance coverage. The effectiveness of such policies will depend, however, on the definition of disability used. The more stringent the definition, the lower the impact will be on the work effort of persons with disabilities. Based on a measure of severity that has been used in previous analyses of disability in the SIPP, over 2 million, or 78 percent, of the

employed and uninsured persons with disabilities are *not severely* disabled. However, using the same definition of disability, there are approximately 577,000 additional persons with *severe* disabilities who are employed and uninsured.

We also found that another 2.5 million persons with disabilities are both uninsured and unemployed. While this group would be part of the target population of policies that expand health insurance to persons with disabilities, it seems unlikely that such policies would have much effect on their work effort. This group is older, less educated, and more severely disabled than the group of uninsured employed persons with disabilities.

Finally, we found that of the estimated 5.7 million people receiving DI and SSI, 537,000, or nine percent, are employed. These participants, who show some capacity for work, represent the target population for policies to expand or de-link health insurance coverage from income support programs for persons with disabilities. These individuals are considerably younger, more highly educated, and less severely disabled than DI and SSI recipients who do not work.

We also used the 1993 Survey of Income and Program Participation (SIPP) along with the 1994 National Health Interview Survey (NHIS) to examine patterns of health insurance, employment, program participation, and other characteristics of persons with disabilities. The primary findings from this portion of the study are:

- While persons with severe disabilities are very unlikely to work, persons with non-severe disabilities are only slightly less likely to work than persons without disabilities.

- Among the employed population, persons with disabilities are almost as likely as persons without disabilities to have health insurance coverage.

- Persons with disabilities are generally less educated and more likely to be living in poverty than persons without disabilities.

- Persons with disabilities who participate in DI and SSI are more likely to have severe disabilities than persons with disabilities who do not participate in either program.

E. Overview

In **Chapter II**, we present the analysis of the 1619(b) threshold expansions. In **Chapter III**, we present the findings from the analysis of employment, insurance and program participation status of people with disabilities. A reprint of Section 1619 of the Social Security Act and a description of the SIPP and NHIS-D variables used in the analysis appear in the **Appendix**.

I. INTRODUCTION

A. Background

The Office of the Assistant Secretary of Planning and Evaluation (ASPE) in the Department of Health and Human Services, using funds provided by the Social Security Administration (SSA), has contracted with The Lewin Group, Inc. to examine empirical evidence on the relationship between health insurance, employment, and program participation of people with disabilities. The Office of Disability, Aging, and Long-term Care (ODALTCP) in ASPE is directing the study.

This study is being conducted during a time of intense debate about reforms to federal programs that serve people with disabilities. Most policymakers agree that the current programs create substantial work disincentives for people with disabilities, but there is much less agreement about the actual impact of the various disincentives and their relative importance. One set of policy options concerns changing the links both between Medicare and the Social Security Disability Insurance (DI) program, and between Medicaid and the Supplemental Security Income (SSI) program. More generally, health insurance reforms that would expand access to health insurance for people with disabilities who are not DI or SSI recipients could have an impact on both employment and program participation.

This is the project's final report. In earlier work, we examined a variety of research ideas and reviewed the empirical literature on this issue (The Lewin Group, 1997a and 1997b). One of the key findings from the literature review is that, although DI and SSI beneficiaries frequently say they restrain their employment and earnings in order to maintain their health benefits, there is no direct empirical evidence of such behavior other than self-reports. Hence, a key objective for the remainder of the project became to conduct an empirical test of this proposition.

This report contains the findings from such a test, conducted through an analysis of expansions in the top income threshold for SSI's section 1619 work incentive program. In a subsequent project, we plan to conduct additional tests, based on recent Medicaid expansions in Tennessee and Oregon.

This report also presents our findings from an analysis of the employment, insurance and program participation status of people with disabilities using the 1993 Survey of Income and Program Participation (SIPP) and the 1994 National Health Interview Survey (NHIS).

B. Analysis of 1619(b) Threshold Expansions

Section 1619 of the Social Security Act allows SSI recipients who work and whose monthly earnings exceed the substantial gainful activity (SGA) level of $500 to receive Medicaid benefits and to remain eligible for SSI, but with reduced or zero payments, provided that their "chargeable income" (income after certain reductions) remains below the 1619(b) threshold. Recipients concerned about loss of their Medicaid benefits have a strong incentive to keep their income below the threshold. Those who are capable of obtaining greater income through increased earnings may, therefore, restrain their earnings and employment in order to maintain their Medicaid benefits.

The 1619(b) threshold is partly determined by mean Medicaid expenditures for disabled SSI recipients in the recipient's state. The threshold has increased considerably since the inception of the program, even after adjusting for inflation, because of rapid growth in health care costs. The size of the expansion has been large, and has varied considerably across states. If, in fact, some SSI recipients restrain earnings and employment to stay below the threshold, we should find that their earnings increase as the threshold expands.

We use the cross-state variation in the growth of the threshold since 1990 to assess the impact of expanding the threshold on the earnings, employment, program benefits, and program participation of a large subset of 1990 SSI recipients. These outcomes are followed in SSA administrative data, through 1996. Our empirical strategy is to divide the cohort into subgroups according to how close their 1990 chargeable incomes are to their state's 1990 threshold, and then examine growth in earnings across subgroups, holding initial earnings as well as age, sex, and impairment constant. Presumably those with 1990 chargeable incomes close to the threshold were restraining their earnings more than those with 1990 chargeable incomes further from the threshold, so post-1990 threshold expansions should have increased the former group's mean earnings relative to the latter's, other things constant, and the size of the relative increase should be positively related to the size of the threshold expansion.

C. Employment, Insurance and Program Participation Status of People with Disabilities

In an effort to gain a greater understanding of the relationship between employment, health insurance, and program participation for people with disabilities, we analyzed the 1993 Survey of Income and Program Participation (SIPP) and the 1994 National Health Interview Survey (NHIS). The primary focus of this effort was to determine the size and characteristics of the groups most likely to be affected by policies designed to expand health insurance coverage to persons with disabilities and to de-link health insurance coverage from DI and SSI program participation. We also used the surveys to compare the employment status, health insurance status, and other characteristics of persons with disabilities to that of persons without disabilities. Finally,

we examined how persons who participate in DI or SSI differ from persons with disabilities who do not participate in either program.

D. Overview

In **Chapter II**, we present the analysis of the 1619(b) threshold expansions. In **Chapter III**, we present the findings from the analysis of employment, insurance and program participation status of people with disabilities. A reprint of Section 1619 of the Social Security Act and a description of the SIPP and NHIS-D variables used in the analysis appear in the **Appendix**.

II. ANALYSIS OF 1619(b) THRESHOLD EXPANSIONS

A. Introduction

Section 1619 of the Social Security Act allows SSI disability recipients who work to receive Medicaid and remain SSI eligible, but with reduced or zero payments, even if their earnings exceed the substantial gainful activity level of $500, provided that their medical condition does not improve and that their "chargeable income" (income after certain reductions) remains below the 1619(b) threshold.[1] Recipients concerned about loss of their Medicaid benefits have a strong incentive to keep their income below the threshold. Those who are capable of obtaining greater income through increased earnings may, therefore, restrain their earnings and employment in order to maintain their Medicaid benefits.

The 1619(b) threshold is partly determined by mean Medicaid expenditures for disabled SSI recipients in the recipient's state. The threshold has increased considerably since the program's inception in 1981, even after adjusting for inflation, because of rapid growth in health care costs. The size of the expansion has been large, and has varied considerably across states. If, in fact, some SSI recipients restrain earnings and employment to stay below the threshold, we should find that their earnings increase as the threshold expands. In our analysis, we use the cross-state variation in the growth of the threshold between 1990 to assess the impact of expanding the threshold on the earnings, employment, program benefits, and program participation of a large subset of 1990 SSI recipients. These outcomes are followed in SSA administrative data, through 1996.

The remainder of this chapter is structured as follows: in **Section B**, we summarize the section 1619 work incentive program; in **Section C**, we describe the increases in the 1619(b) threshold since 1990; in **Section D**, we discuss the theoretical impacts of increases in the 1619(b) threshold; in **Section E**, we outline the empirical specification of the models used in the analysis; in **Section F**, we present descriptive statistics for the samples used in the analysis; in **Section G**, we present the results of econometric analysis; in **Section H**, we present findings from a longitudinal analysis of 1619(b) participation; and in **Section I**, we address potential additional analyses.

B. Summary Description of Section 1619 Work Incentives

To illustrate how the section 1619 work incentive program works, we present an annualized example of the relationship between earnings and SSI and Medicaid

[1] For the complete statutory language of the section 1619 work incentive program, see **Appendix A**.

benefits for a non-married individual living in Pennsylvania in 1996 (Exhibit II-1 and Exhibit II-2).[2]

For simplicity, we assume that the individual has no non-labor income other than SSI. A disabled SSI recipient with no earnings would receive $5,964 in SSI cash payments ($470 federal payment and $27 in state supplement per month) and, on average, $6,108 in in-kind Medicaid benefits, for a total of $12,072 in net benefits for 1996.[3] The SSI benefit calculation disregards an individual's first $85 of earned income per month; thus, an individual may earn up to $85 per month, or $1,020 per year, without experiencing a decline in benefits.[4] Income Related Work Expenses (IRWEs) and a Plan for Achieving Self-Support (PASS) are also disregarded, but we assume these are zero in the example. Beyond the disregard, the SSI recipient loses 50 cents for each additional dollar earned. Once a recipient earns $500 per month, or $6,000 in the annualized example above, the level of substantial gainful activity (SGA), he or she is no longer eligible for regular SSI, and transfers to 1619(a) status. Section 1619(a) eligibility allows individuals to increase their monthly earnings above SGA without completely losing their SSI cash payments; the recipient continues to lose 50 cents in benefits for each additional dollar of earnings until his or her benefits have fallen to zero.

EXHIBIT II-1: Earnings and Benefits for a Non-Married SSI Recipient Living in Pennsylvania in 1996

	Zero Earnings	SSI Disregard (no IRWEs)	SGA Level	SSI Breakeven Point	Section 1619(b) Threshold	Just Over the Threshold	Beyond the Medicaid Notch
Earnings	$0	$1,020	$6,000	$12,960	$19,068	$19,069	$25,175
SSI	$5,964	$5,964	$3,480	$0	$0	$0	$0
Medicaid	$6,108	$6,108	$6,108	$6,108	$6,108	$0	$0
SSI plus Medicaid	$12,072	$12,072	$9,588	$6,108	$6,108	$0	$0
Earnings plus SSI	$5,964	$6,984	$9,480	$12,960	$19,068	$19,069	$25,176
Total Income	$12,072	$13,092	$15,588	$19,068	$25,176	$19,069	$25,176

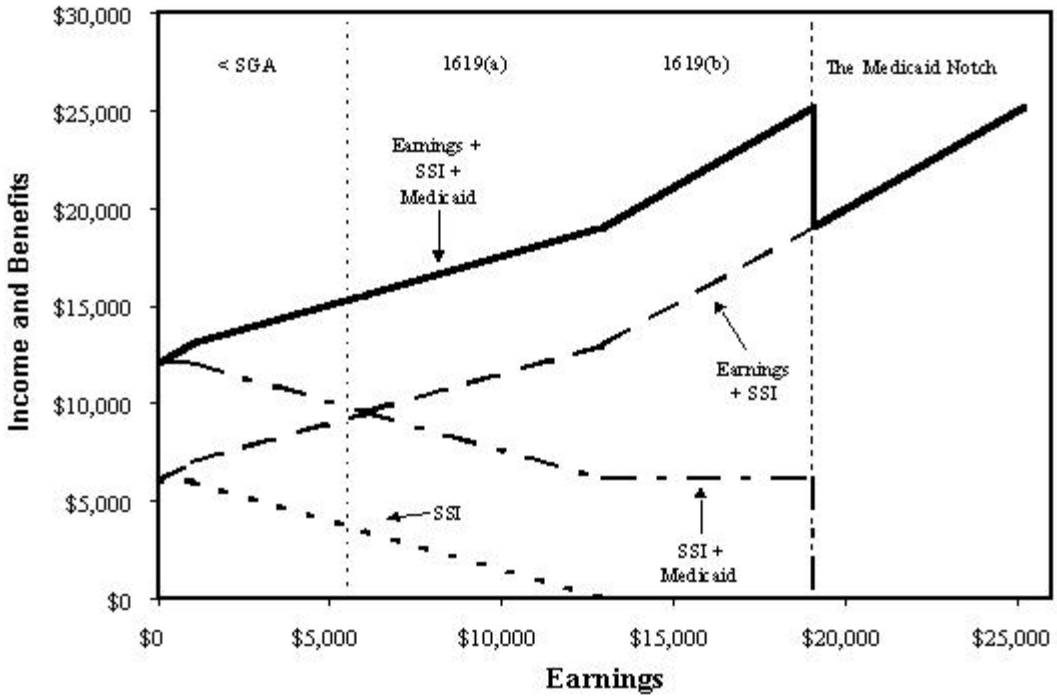
The illustrative recipient would lose all SSI cash benefits and transfer to section 1619(b) eligibility once his or her annual earnings reached $12,960, Pennsylvania's 1996 SSI "breakeven point." Section 1619(b) eligibility allows recipients to increase monthly earnings above the breakeven point without losing their Medicaid benefit or continuing eligibility for SSI if their earnings should fall. Eligibility under section 1619(b) continues until an individual's monthly earnings reach a "threshold amount," beyond which a person loses both Medicaid eligibility and continuing SSI eligibility. This amount is equal to the state's SSI breakeven point plus the average Medicaid expenditures for disabled SSI cash recipients in the state -- $6,108 in Pennsylvania in 1996. Thus, the illustrative recipient's threshold amount is $19,068.

[2] The literature review for this project includes a history of the program and findings from previous research (The Lewin Group, 1997b).

[3] The actual value of Medicaid to an individual recipient may be greater or less than the average.

[4] The $85 in the example includes $20 that applies to any income and $65 that applies to only earned income.

EXHIBIT II-2: Relationship between Earnings and Benefits for an SSI Recipient Participating in 1619(a) and (b)



At the section 1619(b) threshold, the illustrative recipient's total income -- earnings plus Medicaid -- is $25,176, again assuming the value of Medicaid to the individual is the mean Medicaid expenditure per disabled recipient. If, however, the individual earns one more dollar, the individual loses his or her Medicaid benefit, and the individual's total income falls to $19,069. In order to obtain the same level of income the individual had at the section 1619(b) threshold, he or she must increase his or her annual earnings to $25,176. The segment of the income schedule from the 1619(b) threshold to the point where income is the same as at the threshold is sometimes called "the Medicaid Notch."

In addition to losing the acute care and pharmaceutical insurance benefits of Medicaid, an individual whose income rises above the 1619(b) threshold also loses many services offered by Medicaid that are not commonly available in employer-sponsored health plans, including: personal care services, supported employment services, case management, and long-term care services. Furthermore, because the services available through Medicaid vary considerably across states, the services to which an individual risks losing access depends, to a large degree, on the individual's state of residence. Thus, the true cost of losing Medicaid depends significantly on the nature of an individuals impairment and their relative ability to access necessary and/or desired services through Medicaid as opposed to some other public or private source.

Three simplifications are made in the example: the individual has no non-labor income other than SSI, the individual has no IRWEs or a PASS, and the individual is subject to the statutory threshold, not an individualized threshold. Many SSI recipients

do have some non-labor income, including especially the significant share who qualify for a DI benefit that is below the SSI maximum payment. Such income may reduce the SSI breakeven earnings level, but does not affect the 1619(b) income threshold. Furthermore, non-labor income in excess of the lowered SSI breakeven point would not only make an individual ineligible for regular SSI but also for 1619(a) and 1619(b) eligibility status. Many working SSI recipients also have IRWEs. All of the earnings thresholds in the example are reduced dollar for dollar by IRWEs, including the 1619(b) threshold. Finally, in instances when an individual's earnings exceed the statutory threshold, an individual may seek an individualized threshold which considers the person's actual Medicaid use, the State supplement rate for the person's actual living arrangement, and the value of publicly funded attendant care available to the person in the absence of his or her earnings. The provision for an individualized threshold assures that a person remains eligible for Medicaid until his or her earnings reach a level sufficient to afford private health care as well as normal living expenses.[5]

The interaction of section 1619 and DI is important. A person eligible for Medicaid under section 1619 must also be eligible to receive an SSI payment if his or her earned income were zero. Therefore, an SSI recipient who starts to receive DI benefits and other non-labor income above the maximum SSI benefit amount would lose eligibility for Medicaid under section 1619. One instance in which this might occur is when an individual applies simultaneously for SSI and DI. Assuming the individual meets the eligibility criteria for both programs, he or she would be eligible for SSI and Medicaid during the five-month DI waiting period. If, upon beginning receipt of DI payments, the combination of the individual's DI payment and other non-labor income exceeds the maximum SSI amount, he or she would lose both SSI and Medicaid eligibility. Another situation in which an SSI recipient might lose Medicaid eligibility is when a recipient who initially did not have enough quarters of coverage to be eligible for DI obtains sufficient quarters through work performed while on SSI. Again if the combination of the individual's DI payment and other non-labor income exceeds the maximum SSI amount, he or she would lose both SSI and Medicaid eligibility. It is our understanding, however, that the SSI recipient will not actually become DI eligible under this scenario until his or her earnings fall below SGA. Thus, there may be some SSI recipients who, paradoxically, lose their Medicaid coverage when their earnings fall. We do not have evidence on how often, if ever, this happens.

From a statutory perspective, an individual with 1619(b) status is considered a blind or disabled individual receiving SSI benefits for the purposes of Medicaid eligibility. This special eligibility status applies as long as the individual:

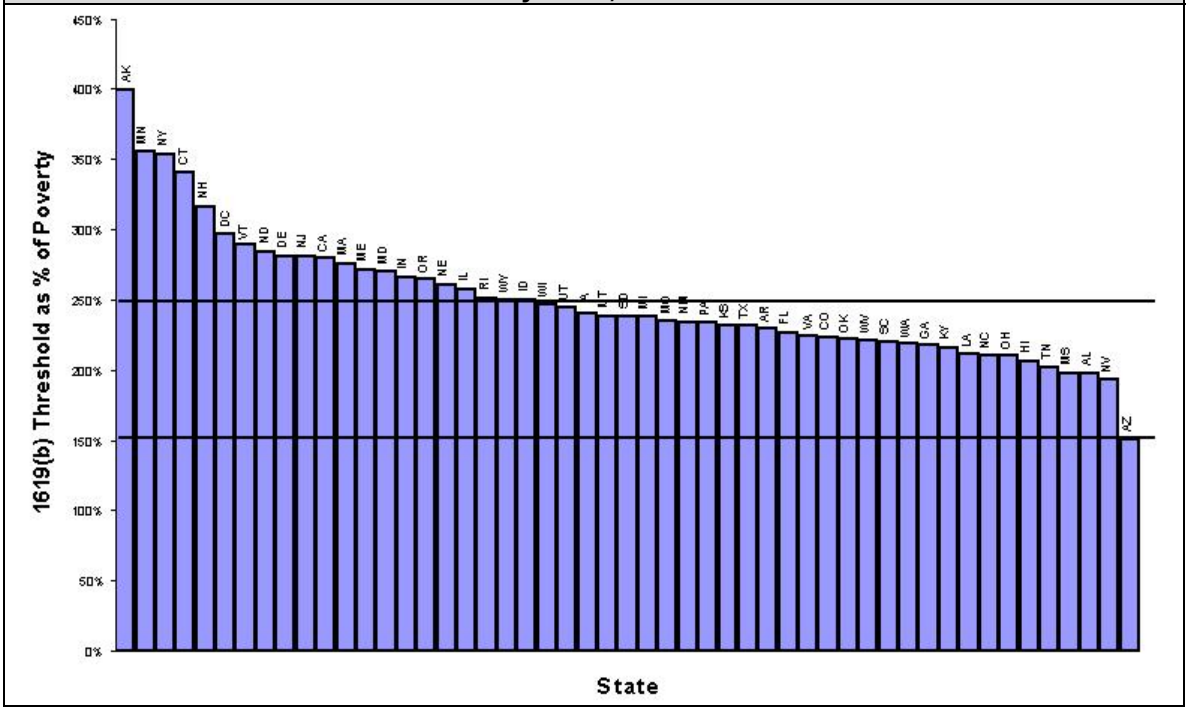
1. continues to be blind or have a disabling impairment;
2. except for earnings, continues to meet all the other requirements for SSI eligibility;
3. would be seriously inhibited from continuing to work by termination of eligibility for Medicaid services; and

[5] Ways and Means Committee, U.S. House of Representatives (1996).

4. has earnings that are not sufficient to provide a reasonable equivalent of the benefits (SSI, state supplementary payments, Medicaid, and publicly funded attendant care) that would have been available if he or she did not have those earnings.

An exception to this rule occurs in states that have the option of maintaining Medicaid eligibility criteria that are more restrictive than SSI criteria. In these states, commonly referred to as 209(b) states, workers may lose Medicaid eligibility before they reach 1619(a) or (b) status, if they did not have Medicaid coverage the month before they entered 1619 status. By federal mandate, however, 209(b) states must provide Medicaid coverage to SSI beneficiaries in 1619(a) or (b) status if they were eligible for Medicaid in the month before they obtained 1619 status.

EXHIBIT II-3: Section 1619(b) Threshold Relative to Federal Poverty Threshold by State, 1996



As illustrated in **Exhibit II-3**, the section 1619(b) threshold varies significantly across states. In 1996, Alaska maintained the highest threshold at nearly 400 percent of the federal poverty threshold. Arizona had the lowest threshold in 1996 at just over 150 percent of the federal poverty level. The thresholds of the vast majority of states in 1996 were greater than 200 percent, but less than 300 percent, of the federal poverty level.

C. Increases in the 1619(b) Threshold Since 1990

As illustrated in Exhibit II-4 and Exhibit II-5, rapid growth in average Medicaid expenditures for disabled SSI recipients has resulted in substantial expansion of the 1619(b) earnings threshold amount in almost all states since 1990. After adjusting for inflation, the median percentage change in state Medicaid expenditures per disabled recipient was 57.3 percent from 1989 to 1995 -- an average annual rate of 7.7 percent (from $4,257 in 1989 to $6,776 in 1995).[6,7] The SSI breakeven point has not changed over the period, after adjusting for inflation. For a recipient with only the minimum disregards, the median state 1619(b) earnings threshold increased by 29.6 percent over the period -- an average annual rate of 4.3 percent (from $15,016 in 1990 to $19,455 in 1996).[8,9]

Cross-state variation in the growth of the 1619(b) threshold was also substantial over this period. At the upper extreme, Medicaid expenditures per capita in Oregon increased by 61.7 percent over the period. In contrast, the 1619(b) threshold in neighboring Washington fell by 30.2 percent over the same 10-year period. The change in Washington appears to be the result of differences between the way Washington and most other states categorized Medicaid expenditures through 1989. From 1989 to 1990 alone, average Medicaid expenditures per disabled recipient in Washington fell from $14,598 to $6,984.

The causes of Medicaid expenditure growth per disabled recipient depend on a number of factors, including health care price inflation, changes in utilization patterns, changes in benefits covered, and changes in the composition of disabled Medicaid recipients and the services they need. While the impact on the 1619(b) income limit is independent of the cause of expenditure growth, when analyzing the impact of income limit growth on employment outcomes for SSI recipients it is important to keep in mind that changes in the factors underlying Medicaid spending growth may help explain, in a proximate sense, changes in employment outcomes.

[6] The Medicaid expenditure figures in this section are fiscal year expenditures while the threshold incomes are for calendar years.

[7] These figures are not inflation-adjusted. The CPI-U increased by 22.9 percent between 1989 and 1995 -- and average annual rate of 3.4 percent.

[8] Threshold increases lag Medicaid expenditure increases by a year. Hence, the threshold increase reported for 1990-1996 correspond to the Medicaid increased for 1989-1995.

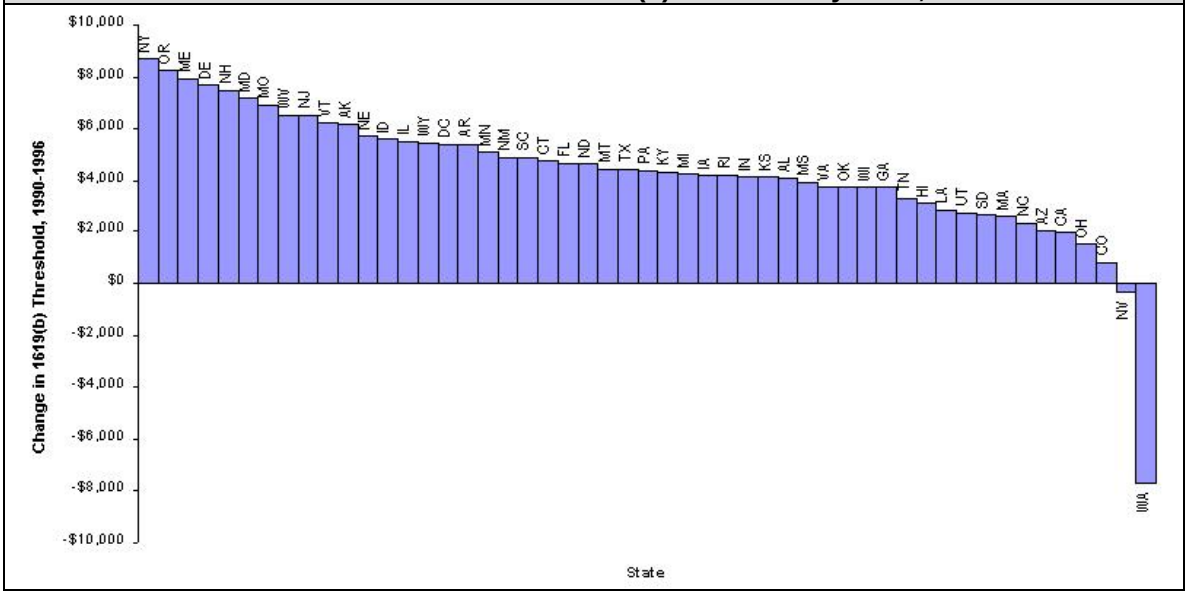
[9] The CPI-U increased by 20.0 percent between 1990 and 1996 -- an average annual rate of 3.0 percent.

EXHIBIT II-4: Section 1619(b) Threshold Amounts and Changes in Threshold Components by State, 1990-1996												
State	Section 1619(b) Threshold[1]							Change from 1990 to 1996				
								Threshold		Twice the Maximum Federal SSI Payment	Twice the State Supplement	State Medicaid Expenditures
	1990	1991	1992	1993	1994	1995	1996	Value	Percent Change			
Alabama	$12,075	$13,235	$13,982	$14,699	$15,173	$15,604	$16,146	$4,071	33.7%	$2,016	$0	$2,055
Alaska	$26,519	$28,649	$31,363	$31,456	$31,236	$32,504	$32,643	$6,124	23.1%	$2,016	$744	$3,364
Arizona	$10,284	$10,788	$11,148	$11,436	$11,724	$12,012	$12,300	$2,016	19.6%	$2,016	$0	$0
Arkansas	$13,327	$14,455	$15,037	$16,176	$16,544	$18,058	$18,704	$5,377	40.3%	$2,016	$0	$3,361
California	$20,860	$21,903	$22,268	$21,877	$25,479	$22,115	$22,816	$1,956	9.4%	$2,016	-$2,103	$2,043
Colorado	$17,407	$18,923	$20,742	$20,610	$21,418	$21,308	$18,224	$817	4.7%	$2,016	-$96	-$1,103
Connecticut	$23,041	$23,785	$23,710	$24,749	$24,207	$22,422	$27,813	$4,772	20.7%	$2,016	-$2,280	$5,036
Delaware	$15,308	$16,685	$20,486	$20,871	$21,920	$22,305	$22,952	$7,644	49.9%	$2,016	$0	$5,628
District of Columbia	$18,793	$20,471	$18,223	$19,372	$19,689	$20,326	$24,197	$5,404	28.8%	$2,016	-$247	$3,635
Florida	$13,852	$15,096	$16,059	$16,694	$17,278	$17,681	$18,501	$4,649	33.6%	$2,016	$0	$2,633
Georgia	$14,025	$15,050	$15,514	$16,133	$16,670	$17,227	$17,749	$3,724	26.6%	$2,016	$0	$1,708
Hawaii	$13,735	$14,722	$15,597	$15,178	$15,914	$16,718	$16,836	$3,101	22.6%	$2,016	$0	$1,084
Idaho	$14,838	$17,591	$19,514	$20,699	$20,420	$20,416	$20,400	$5,562	37.5%	$2,016	-$864	$4,410
Illinois	$15,575	$17,141	$17,530	$19,575	$19,916	$19,990	$21,054	$5,479	35.2%	$2,016	$0	$3,463
Indiana	$17,572	$19,125	$21,577	$21,074	$24,529	$23,548	$21,715	$4,143	23.6%	$2,016	$0	$2,127
Iowa	$15,422	$16,731	$17,658	$18,204	$18,394	$19,091	$19,629	$4,207	27.3%	$2,016	$0	$2,191
Kansas	$14,771	$17,407	$18,727	$18,856	$19,590	$19,834	$18,912	$4,141	28.0%	$2,016	$0	$2,125
Kentucky	$13,329	$14,746	$15,396	$16,386	$16,837	$17,060	$17,646	$4,317	32.4%	$2,016	$0	$2,301
Louisiana	$14,360	$15,622	$15,108	$16,884	$17,362	$17,060	$17,223	$2,863	19.9%	$2,016	$0	$847
Maine	$14,300	$15,926	$16,915	$18,959	$20,276	$21,215	$22,181	$7,881	55.1%	$2,016	$0	$5,205
Maryland	$14,889	$16,834	$17,801	$20,232	$19,944	$21,493	$22,021	$7,132	47.9%	$2,016	$0	$5,116
Massachusetts	$19,910	$21,549	$23,198	$23,830	$22,231	$22,757	$22,516	$2,606	13.1%	$2,016	$210	$650
Michigan	$15,166	$16,314	$17,872	$18,484	$18,854	$18,871	$19,412	$4,246	28.0%	$2,016	-$403	$2,633
Minnesota	$23,941	$27,258	$27,271	$26,071	$26,153	$26,823	$29,006	$5,065	21.2%	$2,016	$144	$2,905
Mississippi	$12,213	$13,054	$13,966	$14,475	$14,858	$15,459	$16,158	$3,945	32.3%	$2,016	$0	$1,929
Missouri	$12,260	$13,098	$14,210	$15,639	$17,249	$18,555	$19,166	$6,906	56.3%	$2,016	$0	$4,890
Montana	$15,016	$16,358	$16,946	$17,713	$18,105	$18,677	$19,472	$4,456	29.7%	$2,016	$0	$2,440
Nebraska	$15,614	$16,432	$18,595	$20,016	$20,857	$21,368	$21,303	$5,689	36.4%	$2,016	-$612	$4,285
Nevada	$16,066	$17,575	$13,764	$14,885	$15,168	$15,256	$15,676	-$299	-1.9%	$2,016	$0	-$2,315
New Hampshire	$18,335	$19,905	$23,246	$23,924	$24,613	$25,275	$25,810	$7,475	40.8%	$2,016	$0	$5,459
New Jersey	$16,424	$19,394	$21,373	$21,203	$22,219	$22,392	$22,932	$6,508	39.6%	$2,016	$0	$4,492

EXHIBIT II-4 (*continued*)												
State	Section 1619(b) Threshold[1]							Change from 1990 to 1996				
								Threshold		Twice the Maximum Federal SSI Payment	Twice the State Supplement	State Medicaid Expenditures
	1990	1991	1992	1993	1994	1995	1996	Value	Percent Change			
New Mexico	$14,221	$15,177	$15,933	$16,958	$17,267	$18,047	$19,090	$4,869	34.2%	$2,016	$0	$2,853
New York	$20,199	$21,975	$23,939	$25,082	$26,619	$27,190	$28,892	$8,693	43.0%	$2,016	$0	$6,677
North Carolina	$14,827	$16,518	$17,990	$18,695	$19,210	$19,849	$17,140	$2,313	15.6%	$2,016	$0	$297
North Dakota	$18,542	$22,909	$21,499	$22,527	$22,370	$22,991	$23,190	$4,648	25.1%	$2,016	$0	$2,632
Ohio	$15,626	$16,639	$16,280	$14,364	$15,305	$16,443	$17,133	$1,507	9.6%	$2,016	$0	-$509
Oklahoma	$14,361	$15,281	$15,595	$16,777	$17,129	$17,425	$18,099	$3,738	26.0%	$2,016	-$240	$1,962
Oregon	$13,362	$14,686	$16,529	$17,812	$18,340	$18,829	$21,608	$8,246	61.7%	$2,016	$0	$6,230
Pennsylvania	$14,724	$15,803	$16,590	$17,480	$18,034	$18,437	$19,071	$4,347	29.5%	$2,016	-$120	$2,451
Rhode Island	$16,331	$17,678	$17,977	$18,706	$19,173	$19,837	$20,509	$4,178	25.6%	$2,016	$0	$2,162
South Carolina	$13,108	$14,253	$15,210	$16,370	$16,856	$17,744	$17,975	$4,867	37.1%	$2,016	$0	$2,851
South Dakota	$16,770	$17,773	$18,106	$18,106	$19,100	$19,305	$19,455	$2,685	16.0%	$2,016	$0	$669
Tennessee	$13,173	$14,043	$14,759	$15,314	$15,670	$15,941	$16,470	$3,297	25.0%	$2,016	$0	$1,281
Texas	$14,439	$15,516	$15,978	$16,685	$17,675	$18,315	$18,892	$4,453	30.8%	$2,016	$0	$2,437
Utah	$17,206	$18,686	$19,410	$19,485	$19,639	$20,169	$19,931	$2,725	15.8%	$2,016	-$144	$853
Vermont	$17,443	$19,549	$20,726	$21,310	$21,277	$21,926	$23,626	$6,182	35.4%	$2,016	-$376	$4,543
Virginia	$14,541	$15,550	$16,342	$17,230	$17,432	$17,795	$18,284	$3,743	25.7%	$2,016	$0	$1,727
Washington	$25,554	$18,444	$16,354	$16,817	$17,441	$17,776	$17,843	-$7,711	-30.2%	$2,016	-$62	-$9,665
West Virginia	$11,561	$13,273	$14,822	$16,533	$17,743	$17,949	$18,078	$6,517	56.4%	$2,016	$0	$4,501
Wisconsin	$16,339	$17,360	$19,051	$19,758	$19,632	$19,853	$20,071	$3,731	22.8%	$2,016	-$454	$2,170
Wyoming	$15,002	$16,142	$17,477	$19,271	$19,313	$21,258	$20,431	$5,429	36.2%	$2,016	-$247	$3,660

1. Higher thresholds apply to blind SSI recipients and those with individualized limits.

EXHIBIT II-5: Growth in the Section 1619(b) Threshold by State, 1990-1996



D. Theoretical Impacts of Increases in the 1619(b) Threshold

We assessed the impacts of 1619(b) threshold increases on employment outcomes (employment and earnings) and program outcomes (participation and payments) for individuals who were SSI recipients before the increase. In this section we discuss the theoretical impacts of threshold increases on existing recipients and how they may vary with the recipient's initial earnings and income.

We would expect employment and program outcomes for most recipients to be unaffected by an increase in the 1619(b) threshold. Some, however, are likely to increase reported earnings, and their SSI payments may fall as a result. Entry into the labor force may also occur, and exits from SSI may fall, but changes in employment and participation status seem less likely than changes in earnings and payments. Increases in chargeable unearned income will also have impacts on reported earnings and other outcomes if recipients restrain their reported earnings to stay below the threshold.

Restraint of reported earnings to stay below the 1619(b) threshold implies seven testable predictions concerning the effect of increases in the threshold and chargeable unearned income on reported earnings, SSI payments, SSI exits, and employment. All of these predict that changes in these factors will have different effects for those whose initial chargeable income is close to the threshold and those whose initial chargeable income is well below the threshold.

1. Reported Earnings

If an SSI recipient is restraining earnings to stay below the 1619(b) threshold, then an expansion in the threshold will likely result in increased earnings for that

recipient. If we examine a group of SSI recipients, the size of the earnings effect will depend on the number of individuals in the group whose earnings are constrained by the threshold. We would expect little or no effect for recipients whose chargeable incomes, including any chargeable unearned income such as DI benefits, are well below the threshold. If we stratify SSI recipients with earnings by the difference between their pre-expansion chargeable income and the threshold, we would expect to find that mean earnings increase more for those with initial chargeable income close to the threshold than those with initial chargeable income well below the threshold.

In the above discussion we refer to "reported" earnings. Recipients may not report all of their earnings, and staying below the 1619(b) threshold may be an important reason to not report earnings. Thus, any effect of the change in the threshold on reported earnings may be larger than the impact on actual earnings.

If restraining reported earnings to stay below the 1619(b) threshold is a common phenomenon, it is probably not limited to those whose initial chargeable income is close to the threshold, at least on an annual basis. One reason is that it is not easy to fine-tune earnings to ensure that chargeable income is just below the threshold.[10] Recipients may be faced with job choices that either leave their chargeable incomes well below the threshold, or that push them above it. Predicting earnings, income and the share of each that will be considered chargeable in a month may not be easy for some, so they may allow a substantial margin for error. A second reason is under-reporting of earnings. Revealing part of the earnings from a job may be difficult to do without revealing all of the earnings because the employer could presumably reveal total earnings to SSA if asked. A third reason that applies to annual data is that the 1619(b) threshold is applied to monthly chargeable income. Earnings for some may vary significantly from month to month, and such recipients may have to restrain their earnings in some months to stay below the threshold, but not in others. Their annual chargeable incomes, however, may be well below the annualized threshold. This would be true for those employed only seasonally. A fourth reason is misunderstanding about how the program works. Finally, while we have not seen definitive evidence, some have suggested that recipients keep earnings below $500, the SGA amount, for fear of triggering a CDR and, as a result, potentially losing their benefits.

There are many reasons that an individual's earnings may change from one year to the next other than a change in the 1619(b) threshold. The data we analyze show that the mean earnings of recipients with earnings falls over time. This is presumably due to deterioration in the health and functional status of a significant number of recipients, although others may reduce earnings to stay below the 1619(b) threshold as their chargeable unearned incomes increase. Some may increase earnings because of rehabilitation or improved accommodations. Beyond these reasons are the same job market and personal reasons that can affect any individual's earnings.

[10] Although the option of having an individualized threshold is likely to reduce somewhat the need to fine-tune earnings, it is unlikely to eliminate completely the restraining of earnings.

These real world considerations make it more difficult to observe earnings growth that is caused by an expansion in the 1619(b) threshold, but none of them would reverse the following fundamental prediction:

Prediction 1: If recipients restrain reported earnings to stay below the 1619(b) threshold, an increase in the 1619(b) threshold will typically increase the reported earnings of those whose chargeable income is initially close to threshold relative to reported earnings for others.

Testing Prediction 1 is the focus of our empirical analysis. A second prediction follows from the fact that the implicit chargeable *earnings* threshold is the 1619(b) threshold minus chargeable *unearned* income:

Prediction 2: If recipients restrain reported earnings to stay below the 1619(b) threshold, an increase in chargeable unearned income will typically reduce reported earnings for those whose initial chargeable income is close to the threshold relative to reported earnings for others.

One complication is that the effect may depend on the source of the increase in unearned income. If the increase occurs because the recipient has become eligible for DI, the recipient presumably will have kept earnings below $500 per month in advance of the increase for at least the five-month DI waiting period to qualify, and may continue to do so thereafter to maintain eligibility. If so, no change in earnings may be observed. There may also be reverse causality in some cases. That is, a sudden earnings loss due to an increase in disability may result in an increase in unearned income from other sources such as DI.

2. Scheduled SSI Payments

In general, if an SSI recipient's reported earnings increase by $1.00, their payment falls by $.50. Exceptions occur when the earnings are not chargeable, or when the recipient is a 1619(b) participant, in which case the payment is already zero. This leads to a third prediction:

Prediction 3: If recipients restrain reported earnings to stay below the 1619(b) threshold, an increase in the threshold will reduce the mean SSI payments of those beneficiaries whose initial chargeable income is close to the threshold relative to those whose initial chargeable income is well below the threshold. The mean for those beneficiaries with a moderate difference between their initial chargeable income and the threshold is also likely to fall relative to those beneficiaries whose initial chargeable income is well below the threshold. Furthermore, the mean benefit for those beneficiaries with a moderate difference between their initial chargeable income and the threshold may also fall relative to the mean for those whose initial income is close to the threshold because those in the intermediate group have more payments to lose.

An increase in chargeable unearned income will result in a reduction in payment that is determined by statute, but induced changes in recipient behavior may mitigate this effect. Specifically, if the recipient responds by reducing earnings to stay below the 1619(b) threshold, then SSI payments may decline by less than the statute would otherwise dictate. Thus we have:

Prediction 4: If recipients restrain reported earnings to stay below the 1619(b) threshold, an increase in chargeable unearned income will reduce SSI payments of those beneficiaries whose initial chargeable income is close to the threshold by less than it will for those whose initial chargeable income is well below the threshold, even after controlling for the fact that payment reductions are limited by the size of initial payments, which are relatively small for those whose chargeable incomes are close to the threshold. The reason is induced earnings reductions (Prediction 2).

3. Exits from SSI

An increase in the 1619(b) threshold will increase the attractiveness of staying in SSI relative to the attractiveness of exiting. Hence, we expect that a threshold increase will reduce exits from SSI, other things constant -- except for exits due to death. We expect the effect to be greatest for those whose chargeable income is initially close to the threshold, because they are more likely than those with chargeable income well below the threshold to have their exit decision affected by a small threshold increase. Thus,

Prediction 5: If recipients restrain reported earnings to stay below the 1619(b) threshold, an increase in the 1619(b) threshold will reduce exits from SSI among those whose initial chargeable income is close to the threshold relative to others.

Prediction 5 implies that an assessment of the impact of expansions in 1619(b) thresholds that examines changes in outcomes only for those who, after the expansion, stay on SSI only ("stayers"), will be subject to selection bias. If a stayers-only analysis found that an increase in the threshold was associated with an increase in the earnings of stayers whose initial chargeable income is close to the threshold relative to others, we would not be able to distinguish between the following hypotheses: 1) the stayers increased their reported earnings as a result of the threshold increase; and 2) the increase in the threshold simply allowed them to stay on SSI despite their earnings increase.

4. Reported Employment

We do not expect an increase in the threshold to have much impact on whether or not an individual is employed, holding other things constant. Adjustments in earnings appear to be much more likely than changes in employment status. It is possible that

reported employment will increase by more, however, because the incentive to hide employment is reduced. We do not expect this effect to be large, however.

Prediction 6: If recipients restrain reported earnings to stay below the 1619(b) threshold, a given increase in the threshold will reduce exits from employment for those whose initial chargeable income is close to the threshold relative to others.

If an employed recipient receives an increase in chargeable unearned income, he or she may stop work, or stop reporting work, to keep chargeable income below the 1619(b) threshold. The size of this effect should be greatest for those whose initial chargeable income is close to the threshold. Thus,

Prediction 7: If recipients restrain reported earnings to stay below the 1619(b) threshold, a given increase in chargeable unearned income will increase exits from employment for those whose initial chargeable income is close to the threshold relative to others.

As with Prediction 2, the effect described in Prediction 7 may depend on the source of the increase in chargeable income. If DI is the source, and if the recipient had stopped work to qualify for DI, then the exit from employment will have preceded, not followed, the increase.

E. Empirical Specification

1. Empirical Strategy

The strategy we use to test the above predictions compares the relationship between changes in thresholds and changes in earnings and other outcome variables for SSI recipients whose initial difference between chargeable income and the threshold is small to those whose initial difference is large, controlling for some other observable factors that affect earnings growth, such as impairment and initial earnings. Beneficiaries with a large initial difference between their chargeable income and the threshold serve as a natural control group for beneficiaries whose chargeable income is relatively closer to the threshold. Although the methodology is somewhat complex, the fundamental ideas can be illustrated through simple examples. In what follows, these ideas are discussed in relatively non-technical language, and then incorporated in specifications of econometric models.

a) Illustration 1: Estimating the Impact of a Threshold Increase on Reported Earnings

Suppose we had two groups of SSI recipients with earnings in a base year in a single state, those recipients whose chargeable income is relatively close to the threshold (Study Group) and those whose chargeable income is well below the threshold (Control Group). Suppose further that the threshold in that state increases in

the following year. Then, according to Prediction 1, we expect the earnings of those in the Study Group to increase by more (or decline by less) than the earnings of those in the Control Group, at least on average. The difference between the change in mean earnings for the Study Group and the change for the Control Group should, according to the prediction, be positive. Further, if we assume that the true effect on the Control Group is zero, the difference in the changes is an estimate of the impact of the threshold increase on the mean earnings of the Study Group, and if we divide by the difference by the size of the threshold increase we obtain an estimate of the change in mean income per dollar increase in the threshold.

This interpretation of the simple "difference in differences" findings might be hard to defend. Other systematic differences between the characteristics of those in the two groups could account for the differential earnings growth, or perhaps impacts of external factors other than the threshold increase have differential impacts on mean earnings of the two groups. To strengthen the test, we can control for observable differences in the characteristics of those in the two groups. For instance, although most recipients in the Study Group have greater initial earnings than those in the Control Group, this is not uniformly so because group assignments are determined by the threshold and total chargeable income and not simply the difference between the threshold and total earnings; unearned income, IRWEs and PASS plans can mean that people with the same initial earnings may be very far from or very close to the threshold. Hence, we can compare earnings growth for individuals who have approximately equal initial earnings but for whom the difference between the threshold and total chargeable income is substantially different.

We could also repeat this analysis across states and assess whether the net earning gains for members of Study Group increase with the size of the increase in the threshold. Confirmation that they do would reinforce the above interpretation of the finding for a single state. We could also control for cross-state variation in changes in other factors that may explain why the earnings of the Study Group increase by more than those of the Control Group, such as reductions in the unemployment rate.

b) Illustration 2: A Test of the Effect of an Increase in Chargeable Unearned Income on Reported Earnings

To illustrate how we can test Prediction 2, concerning the effect of an increase in chargeable unearned income on earnings, consider again the Study Group and the Control Group within a single state. Within each group, select the subgroup that experiences an increase in chargeable unearned income in a specified range (e.g., $2,000 - $3,000 annually). According to Prediction 2, we expect the mean earnings of those in the Study Group to decline by more than the mean earnings of those in the corresponding Control Group subgroup because more recipients in the former group will reduce their reported earnings to stay below the threshold. To increase the power of the test, we might: control for other characteristics; compare earnings increases for subgroups sharing other values for the change in chargeable unearned income; compare findings across states; and compare findings from varying time periods.

c) Treatment of Exiters

One substantive issue we have not addressed in the strategy described above is the treatment of those who exit SSI between the base year and the follow-up year. While we observe the outcome variables for "exiters," we cannot observe other key information, including unearned income. Further, exiters enter into a different "regime," where the 1619(b) threshold is presumably irrelevant, but other factors that affect earnings may be. For instance, some exit when they become eligible for DI, but DI eligibility imposes a different set of restrictions on work. Exiters may also be more likely to have private health insurance coverage than "stayers," or have lesser health care needs. A full analysis would require that we model the alternatives to SSI participation, and examine how changes in characteristics of these alternatives affect exits, but we do not have the information needed to pursue such an approach.

One solution is to examine the behavior of stayers only, but findings from such an analysis may be explained by the effects of threshold and unearned income changes on sample selection, rather than on earnings. Because we only observe changes in unearned income for stayers, however, we adopt this approach. We then examine the sensitivity of the findings to dropping unearned income and including those who exit for reasons other than death in the analysis.

2. Implementation of the Strategy

At the end of this section, we present detailed specifications for the econometric models used to implement the above strategy. Many who are interested in the findings, but who do not have technical training in econometrics, will find that presentation inaccessible. For such readers, we present here enough information about the data and variables used in the implementation of the strategy described in the previous section to understand the findings.

a) Sample

We started with a cohort of SSI recipients with Social Security earnings in a base year, 1990. We excluded those with no initial earnings, a very large number of cases, because we did not want the sample to be dominated by cases that were likely to be unresponsive to any factors that might influence earnings. We also excluded some other groups that we thought would include large numbers for whom economic incentives would have relatively little impact on earnings, or for whom the 1619(b) threshold seemed irrelevant for other reasons:

- Those under 18 or over 49 in 1990;
- Those who were classified as SSI-Blind recipients;[11]

[11] SSI –Blind recipients were excluded, because, in some states, they face different 1619(b) thresholds than SSI-Disabled recipients.

- Those whose impairment is in the "infectious disease" category. We noticed that earnings for those with 1990 earnings in this group fell precipitously relative to earnings of those with other impairments. A large share of those in this group have AIDS, and presumably the loss in earnings reflect the progress of the disease. The period examined precedes the triple-drug therapies that have significantly improved the health of many AIDS victims, so we thought it unlikely that cases in this category would be responsive to threshold changes.

- Those living in Oregon or Tennessee in 1990. Both of these states implemented significant Medicaid expansions under 1115 waivers in 1994, which presumably reduced or nullified the relevance of the 1619(b) program. Also, a 1985 court order in Tennessee prevented the state from removing SSI recipients from the Medicaid rolls when they exited SSI. We are studying these expansions under a separate project.

- Those who received their SSI award after June 1989. This eliminated anyone who would leave SSI after their five-month DI waiting period had expired.

- Those living in Washington in 1990. The 1619(b) threshold dropped by over $7,000 between 1990 and 1991 due to a change in how the State Medicaid agency categorized certain Medicaid sub-populations. This change reduced the average Medicaid expenditure for SSI disability recipients from $14,598 in FY1989 to $6,984 in FY1990.

Because of the selection issue described above, we estimate some models with exiters included in the sample and some without. In all models, we exclude recipients who exited before the end of the relevant period because they died or who moved across state boundaries. We estimated models for two analysis periods: 1990 to 1991 and 1990 to 1996. The sample sizes for the analyses appear in **Exhibit II-6**.

EXHIBIT II-6: Sample Sizes by Study Period

Study Period	Total	Stayers	Exiters
1990-1991	121,913 100.0%	110,989 91.0%	10,924 9.0%
1990-1996	116,659 100.0%	78,198 67.0%	38,461 33.0%

NOTE: See text for sample selection criteria. The smaller total for the 1990-96 analysis reflects the exclusion of SSI beneficiaries known to have migrated to other states or to have died in the interim.

b) Study and Control Groups

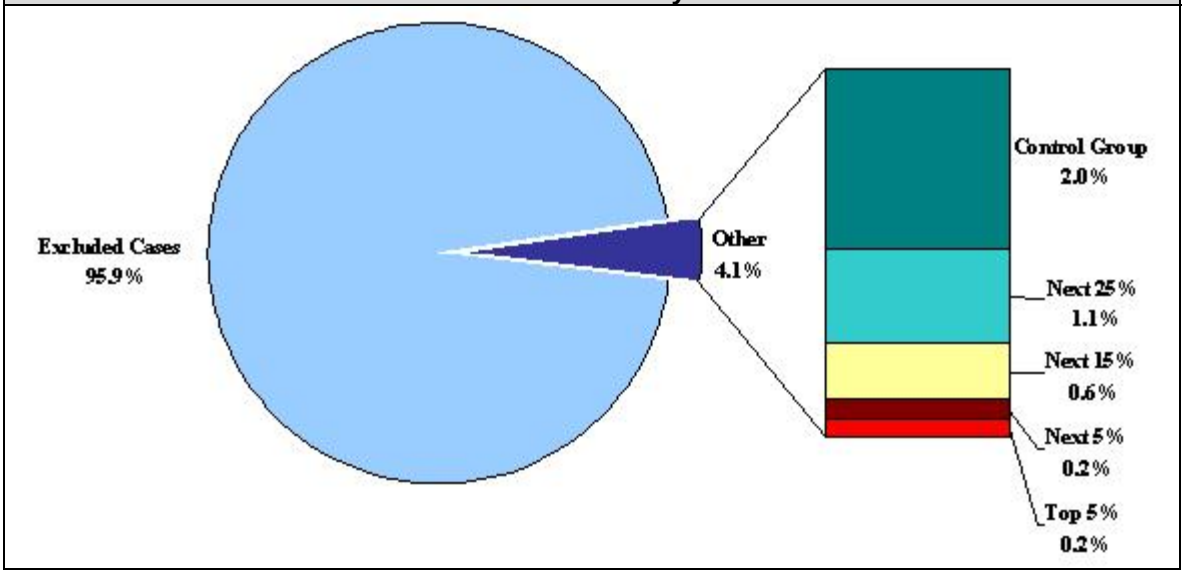
We divided all those not excluded by the first five reasons above into five groups based on the difference between the annualized state 1619(b) threshold in the individual's state of residence and his or her annual chargeable income in 1990. Individuals with the largest difference between the threshold and chargeable income,

defined as those whose difference is above the 50th percentile for all recipients in the 1990 sample, are used as the control group. We refer to the four other groups as "study" groups -- the groups for which we think impacts of threshold changes and unearned income are most likely:

- Top 5% -- those with initial differences below the 5th percentile.
- Next 5% -- those with initial differences between the 10th and 5th percentile;
- Next 15% -- those with initial differences between the 25th and 10th percentile; and
- Next 25% -- those with initial differences between the 50th and 25th percentile.

The cases used in the 1990-91 analysis are a small share of all SSI recipients in 1990. As illustrated in **Exhibit II-7**, the entire sample of 121,913 SSI recipients used in this analysis represents only 4.1 percent of the 1990 adult SSI disabled population. Moreover, the study groups include only 2.15 percent of the 1990 caseload. The Top 5% Group includes only about 0.2 percent of the entire adult SSI disabled population.

EXHIBIT II-7: 1990 Adult SSI Disability Beneficiaries Included and Excluded from the 1990-91 Analysis



The 1990-96 analysis sample is smaller than the 1990-91 sample because more people died or moved between states in the 1990-96 period than in the 1990-91 period. Furthermore, we did not redefine the study groups for the 1990-96 analysis. Consequently, the actual percentage of the 1990-96 sample in a study group does not precisely correspond to the name of the study group (e.g., the 1990-96 Top 5% Group has somewhat fewer than 5 percent of the cases).

c) Comparison of Outcome Changes for Study and Control Groups

We analyzed changes in four outcome variables: annual Social Security earnings, annual SSI payments; Social Security employment (i.e., whether the individual continues to have positive Social Security earnings); and SSI participation, defined to include 1619(b) participation.

For each of the five groups we estimate changes in outcomes associated with changes in the recipient's 1619(b) threshold controlling, in all instances, for: the recipient's 1990 state of residence (to control for changes in labor market and program factors that are specific to that state and potentially affect outcomes for all recipients in the state); sex; age; initial Social Security earnings; and, initial unearned income.[12] When we exclude exiters from the analysis, we are also able to include changes in unearned income as an explanatory variable, as discussed further below. We use multiple regression to make the adjustments, as specified at the end of this section. Estimated effects for the control group are netted out of the effects for the study groups to obtain the estimated effects of the threshold change on each outcome variable for the study groups.

Each regression produces two estimates of the "net" effect of a one thousand dollar change in the annualized threshold on the outcome variable for each study group; i.e., the effect for the study group net of any effect for the control group. We call the first estimate for each study group the "within-state" estimate, because it is based on net outcome changes for the study group cases per thousand dollar change in the threshold *within states*, holding other things constant. It assumes that, apart from random noise, and after controlling for other variables in the model, the only reason mean earnings for the study group in a state would increase by more than mean earnings for the control group in that state is an increase in the state's threshold.

We call the second estimate for each study group the "across-state estimate," because it is based on across-state covariation between earnings changes and threshold changes, holding other things constant. This estimate assumes that the only reason for such covariation after holding other things constant is the effect of the threshold change on the outcome variable. Thus, for instance, we expect increases in net study group earnings to be positively correlated with the size of a state's threshold increase, holding other things constant, and assume that any such relationship we observe is due to the effect of the threshold increase. Both of these estimates are subject to various sources of bias. We discuss these later, in the context of interpreting the findings.

[12] About 1.8 percent of cases in the non-exiting sample changed states between 1990 and 1991, and about 4.9 percent changed between 1990 and 1996. For these cases, we used the change from the 1990 state's threshold in 1990 to the later year state's threshold in the later year as the threshold change. The change in the unemployment rate was measured analogously.

d) Models Estimated with Stayers Only

When only stayers are included in the analysis, we can estimate changes in three outcomes (all but SSI exits) associated with changes in the threshold and other variables. Limiting the analysis to stayers enables us to incorporate changes in unearned income into the analysis. We present two variants of models using stayers only:

Model A: In this model we incorporate changes in chargeable unearned income in two ways:

- First, we allow for the effect that income increases may have on the dependent variables for individuals in all groups. The dependent variable most likely to be affected is scheduled SSI payments, because of the statutory requirement that payments be reduced by one dollar for each dollar increase in chargeable unearned income. The specification used allows for the fact that the maximum reduction in the scheduled payment is the base year scheduled payment;

- Second, we allow an increase in chargeable unearned income to have an additional, perhaps offsetting effect, on each dependent variable for each study group. If Prediction 2 and Prediction 4 are correct, this effect should be negative in the earnings equation (some recipients reduce earnings to stay below the 1619(b) limit when unearned income increases) and positive for scheduled payments (induced reductions in earnings result in reductions in payments that are less than statutory rules would require if earnings did not change).

Model B: In this model we leave out changes in unearned income entirely. We estimate this model for comparison to a model estimated when we include exiters in the sample, for whom we do not know unearned income in the current year.

e) Models Including Exiters

As discussed above, we estimate models including exiters because results for models without exiters may reflect selection effects. When exiters are included, however, we cannot include changes in unearned income because changes in this variable are not observed for exiters. Hence, we estimate only:

Model C: This is identical to Model B except for the inclusion of exiters.

f) Specification Details

Summary

The models we estimate are all linear regression models. We estimate a series of models using data for 1990 to 1991, then repeat the series for 1990 to 1996. In the latter case, we do not use the data for the intermediate years. For each period we estimate a set of models using stayers only, then a second set in which we also include those who exit the program during the period for reasons other than death.

Each model has three equations, one for each of three dependent variables. Each dependent variable is a change from the base year (1990) to the current year (1991 or 1996):

- *Change in annual Social Security earnings*;
- *Change in annual scheduled SSI payments*; and
- *A dummy variable for exit from Social Security employment*.[13]

An additional equation is estimated for each model when data for both exiters and stayers are used, namely

- *A dummy variable for exit from SSI*.[14]

Econometric Model

Each of the models we estimate fits the following general specification:

$$\Delta Y_i = a, + \alpha_T \Delta T_s + \sum_{j=1}^{J} \alpha_j \Delta Z_{ij} + \sum_{k=1}^{K} \beta_k X_{ik} + \gamma_{g0} + \gamma_{gT} \Delta T_s^* + \sum_{j=1}^{J} \gamma_{gj} \Delta Z_{ij}^* + \varepsilon_i$$

where:

ΔY_i is the change in the model's dependent variable for recipient *i* from 1990 to the specified current year (1991 or 1996). For the Social Security employment and SSI participation variables, the change is specified as 1 for exit and 0 for continuation;

α_s is the intercept for control group cases in the state in which recipient *i* resides, *s* (fixed state effects);

[13] This variable is one if the recipient's Social Security earnings are zero in the current year. All sample recipients had positive Social Security earnings in 1990, by design.

[14] This variable is one if the recipient was not in SSI current pay status or considered SSI eligible under 1619(b) at any time in the current year. All sample recipients had been in SSI current pay status or considered SSI eligible under 1619(b) for at least one month in 1990, by design.

ΔT_s is the change in the threshold for the recipient's state from 1990 to the current year, expressed as a deviation from the mean change for those in the recipient's study group;

α_T is the estimate of the effect of a change in the threshold for the control group cases;

ΔZ_{ij} is the change in the explanatory variable Z_j for recipient i from 1990 to the current year;

α_j is the estimate of the effect of a change in explanatory variable Z_j for the control group cases;

X_{ik} is a characteristic of recipient i measured in 1990;

β_k is the coefficient of X_{ik};

γ_{g0} is the intercept shift for the individual's study group g (g = 1, … ,4);

ΔT_s^* is the change in the threshold for the recipient's state from 1990 to the current year, expressed as a deviation from the mean change for those in the recipient's study group;

γ_{gT} is estimated effect of a threshold change on the dependent variable for those in study group g, net of the effect on the control group (g = 1, … ,4);

ΔZ_{ij}^* is the change in explanatory variable Z_j for recipient i from 1990 to the current year, expressed as a deviation from the mean change for those in the recipient's study group;

γ_{gj} is the estimated effect of a change in explanatory variable Z_j on the dependent variable for those in study group g, net of the effect on the control group (g = 1, … ,4); and

ε_I is the random disturbance for recipient i.

The fifth, sixth and seventh terms of the equation's right-hand side are group specific, and drop out for the control group. In the sixth and seventh terms, an asterisk (*) appears on the changes in the threshold and other explanatory variables to indicate that they are expressed as deviations from their respective study group means. As a result, the shift in the study group intercept, γ_{g0}, is the shift at the group mean for changes in these variables, rather than at the projection for zero changes. The "within" estimate for study group g is obtained by dividing the estimate of γ_{g0} by the mean of the change in the threshold for those in the study group. The "across-state" estimate is the estimate of γ_{gT}.

Explanatory Variables

All models include the following base-year recipient characteristics (the X_k):

- *Base year Social Security earnings*, both by itself and interacted with each of the study group dummy variables;

- *Dummy variables for four Social Security earnings groups in 1990* (top 5% of earners, next 5% of earners, next 15% of earners, and next 25% of earners);

- *Mean annual Social Security earnings during the 1987-89 period;*

- *Base year chargeable unearned income*, along with its square and its interactions with each of the study group dummy variables*;*

- *Base year* values of each of the following:
  - *Dummy variables for five age groups* (18-24, 30-34, 35-39, 40-44, 45-49; the omitted group, 25-29, serves as the base group);
  - *Dummy variable for sex*;
  - *Dummy variables for primary impairment* (neoplasm's, endocrine and blood, mental disorders, mental retardation, central nervous system, circulatory, respiratory, digestive, genet-urinary, other, musculoskeletal, congenital, and injury; primary impairment missing serves as the base group);
  - *Dummy variable for permanent/non-permanent disability*;
  - *Dummy variable for missing permanent disability indicator*;
  - *Dummy variable for alcoholism*; and
  - *Dummy variable for drug addiction*.

The three equations for Model A, which are estimated for stayers only, all include changes for the following explanatory variables (the Z_j):

- *Change in chargeable unearned income.* The coefficients on these interactions are estimates of the effect of increases in chargeable unearned income on earnings of study group cases after netting out the effect due to the statutory treatment of unearned income. For the control group, we divide this variable into two separate variables to more accurately reflect the statutory treatment of chargeable unearned income.
  - *Change in chargeable unearned income up to the amount of base year scheduled SSI payments*; and,
  - *Any residual change in chargeable unearned income above base year scheduled SSI payments*;

  We expect the first component to have a coefficient near negative one in the scheduled payment equation, because payments are reduced dollar for dollar to offset chargeable unearned income, while the second variable should have a

coefficient near zero in that equation. In other equations, the magnitudes of the coefficients may be similar to each other.

- *Change in the unemployment rate.* These are included to capture any differential effects that changes in the state's labor market may have on the study and control groups. They are omitted for the control group (i.e., do not appear in the third term on the right-hand side of the equation because they vary across states only;[15] and,

- *Change in the maximum state SSI supplement.* This variable is also omitted for the control group (i.e., do not appear in the third term on the right-hand side of the equation because they vary across states only.

Models B and C

The explanatory variables in Model B and Model C are the same as for Model A except that we exclude all variables measuring changes in unearned income. These variables are not observed for exiters, who are included in Model C; Model B is estimated for comparison purposes, using stayers only.

F. Descriptive Statistics

Exhibit II-8 and Exhibit II-9 present descriptive statistics for selected variables from the 1990-91 and 1990-96 analysis samples. We present the statistics by study and control groups and by stayer/exiter status. In the following discussion, we focus on the descriptive statistics for the 1990-91 sample and then highlight characteristics for the 1990-96 sample that contrast significantly with those for the 1990-91 sample.

The mean difference between the 1619(b) threshold and a beneficiary's chargeable income differs significantly across the 1990-91 study and control groups, by design. For the Top 5% Group, it is $6,468, while for the Control Group, it is over 2.5 times larger, at $16,772.

Chargeable income also differs significantly across the 1990-91 study and control groups because of the way the groups were designed; beneficiaries in the Top 5% Group have the highest chargeable income and beneficiaries in the Control Group have the lowest chargeable income. The amount of mean chargeable income that is earned also increases from the Control Group ($749) to the Top 5% Group ($2,275), but the range is much narrower than the range for chargeable income. The implied substantial variation in chargeable unearned income means that the groupings used do not simply reflect chargeable earnings variation. The proportion of chargeable income that is earned is roughly constant across the study groups, but the primary source of

[15] Note that the common effect that the labor market changes have on the dependent variables for all groups are captured by the state dummies.

chargeable income is noticeably different between stayers and exiters. Exiters had, on average, nearly 2.25 times as much chargeable unearned income as stayers ($3,795 vs. $1,693), but only about 1.25 times as much chargeable earned income as stayers. In fact, in all four of the study groups, exiters actually had less chargeable earned income than stayers did.

EXHIBIT II-8: Descriptive Statistics for Selected Variables From the 1990-91 Analysis

Variable		Study Group				Control Group	Total
		Top 5%	Next 5%	Next 15%	Next 25%		
1990-1991 Stayers							
Sample Size		3,860	4,993	16,347	28,807	56,982	110,989
1990 Mean	Threshold Minus Chargeable Income	$6,897	$9,035	$10,600	$12,620	$16,779	$14,097
	Chargeable Unearned Income	$4,075	$3,202	$2,823	$1,697	$1,074	$1,693
	Chargeable Earned Income	$2,499	$1,687	$1,234	$1,003	$738	$984
	Social Security Earnings	$5,623	$4,132	$3,278	$2,919	$2,365	$2,836
	SSI Scheduled Payments	$585	$851	$1,256	$2,364	$3,762	$2,788
	Some Participation in 1619(b)	74.6%	64.8%	49.1%	22.8%	13.5%	25.6%
	Mean Months in 1619(b) for Participants	7.3	6.4	4.3	3.6	3.5	4.5
Mean Change from 1990 to 1991	Social Security Earnings	-$579	-$485	-$296	-$275	-$229	-$275
	SSI Payments	$142	$135	$95	$87	$116	$107
	Unearned Income	-$575	$144	$269	$342	$288	$263
	1619(b) Threshold	$1,119	$1,185	$1,268	$1,326	$1,521	$1,404
	% Exiting Social Security Employment	11.7%	11.4%	12.6%	15.0%	18.0%	15.9%
1990-1991 Exiters							
Sample Size		2,289	1,230	2,389	2,367	2,649	10,924
1990 Mean	Threshold Minus Chargeable Income	$5,742	$8,985	$10,493	$12,493	$16,637	$11,252
	Chargeable Unearned Income	$6,727	$4,417	$3,562	$2,770	$2,100	$3,795
	Chargeable Earned Income	$1,899	$1,322	$1,142	$975	$969	$1,242
	Social Security Earnings	$6,695	$5,539	$5,357	$4,844	$4,831	$5,419
	SSI Scheduled Payments	$588	$760	$1,007	$1,211	$1,413	$1,034
	Some Participation in 1619(b)	34.6%	31.5%	27.8%	27.8%	26.4%	29.3%
	Mean Months in 1619(b) for Participants	4.5	4.3	4.1	3.7	3.3	4.0
Mean Change from 1990 to 1991	Social Security Earnings	-$2,340	-$1,973	-$1,771	-$1,103	-$740	-$1,518
	SSI Payments	-$587	-$5,760	-$1,006	-$1,210	-$1,411	-$1,033
	1619(b) Threshold	$1,249	$1,269	$1,350	$1,433	$1,660	$1,413
	% Exiting Social Security Employment	33.1%	31.5%	29.4%	28.1%	21.7%	28.3%
1990-1991 Stayers							
Sample Size		6,149	6,223	18,736	31,174	59,631	121,913
1990 Mean	Threshold Minus Chargeable Income	$6,468	$9,025	$10,587	$12,609	$16,772	$13,842
	Chargeable Unearned Income	$5,062	$3,442	$2,917	$1,779	$1,119	$1,882
	Chargeable Earned Income	$2,275	$1,615	$1,222	$1,001	$749	$1,007
	Social Security Earnings	$6,022	$4,410	$3,543	$3,065	$2,475	$3,068
	SSI Scheduled Payments	$586	$833	$1,224	$2,276	$3,657	$2,631
	Some Participation in 1619(b)	59.7%	58.2%	46.4%	23.1%	14.1%	25.9%
	Mean Months in 1619(b) for Participants	6.7	6.2	4.3	3.6	3.5	4.4
Mean Change from 1990 to 1991	Social Security Earnings	-$1,234	-$779	-$484	-$338	-$252	-$386
	SSI Payments	-$129	-$42	-$45	-$11	$48	$5
	1619(b) Threshold	$1,167	$1,202	$1,278	$1,335	$1,528	$1,405
	% Exiting Social Security Employment	19.6%	15.4%	14.8%	16.0%	18.1%	17.0%
	% Exiting SSI	37.2%	19.8%	12.8%	7.6%	4.4%	9.0%

Mean Social Security earnings are substantially higher than mean chargeable earnings for all groups, and the difference in means increases from $1,726 to $3,747 for

the Top 5% Group. This difference likely reflects substantial use of IRWEs and PASS among those in the study groups as well as a positive relationship between use of these deductions and Social Security earnings.

In contrast to the finding that mean chargeable earned income was higher for stayers, stayers' mean Social Security earnings were lower. This finding suggests that exiters were more likely than stayers to utilize earned income exclusions such as PASS and IRWEs, or at least had larger exclusions than stayers did. It may also mean that those in the stayer group had more earnings from jobs that were not covered by the Social Security system. As with chargeable income, the Top 5% Group had the highest mean Social Security earnings ($6,022) while the Control Group had the lowest mean ($2,475).

On average, members of the Control Group had higher SSI scheduled payments ($3,652) than members of any study group. As expected, the Top 5% Group had the lowest mean SSI scheduled payments ($583). Although, on average, stayers in the Control Group, and in the third and fourth study groups had significantly higher payments than exiters in the same groups, there was very little variation in payments between stayers and exiters in the two top study groups.

Participation in section 1619(b) varied significantly across the 1990-91 study and control Groups as well as between stayers and exiters. Nearly 60 percent of the beneficiaries in the Top 5% Group were in 1619(b) status for at least one month in 1990, with an average of 6.7 months. In contrast, only 14.1 percent of the Control Group were in 1619(b) status for at least one month in 1990, and those who were in that status were in it for fewer months -- 3.5, on average. Stayers in the top three study groups were considerably more likely to participate in 1619(b) than exiters in the same group, but the reverse is true for the fourth study group and the control group.

Between 1990 and 1991, Social Security earnings declined, on average, for all of the study groups and the control group. This decline is in part the result of deteriorating health and ability to work, and may also reflect the recession that occurred during that period. The Top 5% Group experienced the largest drop in mean earnings ($1,234). The likely explanation for this is simply that they had the most to lose.

On average, SSI payments increased by only $5 between 1990 and 1991 for the entire sample. For those who remained on SSI, however, SSI payments increased by $107.

The average 1619(b) threshold increased by $1,405 between 1990 and 1991. Those in the Control Group were, on average, living in states with relatively large increases (mean of $1,528), while members of the Top 5% Group lived in states with relatively small increases (mean of $1,167).

The share of beneficiaries exiting Social Security-covered employment between 1990 and 1991 did not vary significantly across the study and control groups. Only 17

percent of the entire sample exited Social Security-covered employment between 1990 and 1991. There was, however, substantial variation in the share exiting Social Security-covered employment between exiters and stayers, with over 28 percent of exiters leaving Social Security-covered employment and only 16 percent of stayers exiting Social Security-covered employment.

While only nine percent of the entire 1990-91 sample exited SSI during the analysis period, the rate of exit increased as the initial difference between the 1619(b) threshold and chargeable income decreased. Over 37 percent of the Top 5% Group exited SSI by the end of 1990. Having excluded beneficiaries who died before 1991 from the sample, we suspect that the majority of these beneficiaries either earned their way off of SSI or became eligible for DI.

The most notable difference between the 1990-91 and 1990-96 samples is the share of beneficiaries who exited SSI during the sample period for some reason other than death. One-third of the 1990-96 sample exited SSI prior to 1996. Moreover, over 68 percent of the Top 5% Group exited SSI prior to 1996. The higher number of exits in the 1990-96 sample results in a general convergence of the characteristics of stayers and exiters. This convergence, however, by no means eliminates most of the differences between stayers and exiters discussed above.

Another notable difference between the 1990-91 and 1990-96 samples is the share of beneficiaries who exited Social Security-covered employment prior to 1996. In contrast to the 1990-91 sample, exiters in the 1990-96 sample were less likely to exit Social Security-covered employment than stayers were (32.7 percent vs. 39.7 percent). Within the Top 5% Group, however, exiters and stayers were about equally likely to exit Social Security-covered employment (40.6 percent vs. 39.3 percent). The higher rate of exit in the longer analysis period is reflected in the decline in the average SSI payments over the 1990-96 period.

Mean Social Security earnings decreased by less for the entire 1990-96 sample than for the entire 1990-91 sample (-$356 vs. -$386). These are nominal earnings, however, so real earnings declined. Given that there was considerable growth in the economy over the longer period, we think the likely explanation of real earnings decline is deterioration in health. Another possible explanation is growth in unearned income.

Mean earnings in the Top 5% Group fell by much more during the 1990-96 sample period than during the 1990-91 sample period (-$1,554 vs. -$1,234). Larger increases in chargeable unearned income may explain this. Another interesting finding is that the mean earnings of stayers in the 1990-96 sample decline significantly more than the earnings of their counterparts in the 1990-91 sample. Correspondingly, mean earnings for exiters in the 1990-96 sample decline by less than for those in the 1990-91 sample. A reasonable explanation for this finding is that stayers in the 1990-96 period generally experienced more substantial declines in their health status and ability to work than exiters, thus reducing their ability to earn their way off of SSI, or to earn their way on to DI.

EXHIBIT II-9: Descriptive Statistics for Selected Variables From the 1990-96 Analysis								
Variable		Study Group				Control Group	Total
		Top 5%	Next 5%	Next 15%	Next 25%		
1990-1996 Stayers							
Sample Size		1,860	2,776	9,937	20,186	43,439	78,198
1990 Mean	Threshold Minus Chargeable Income	$7,083	$9,040	$10,620	$12,636	$16,827	$14,447
	Chargeable Unearned Income	$3,840	$2,955	$2,562	$1,536	$957	$1,449
	Chargeable Earned Income	$2,167	$1,560	$1,197	$948	$686	$885
	Social Security Earnings	$5,029	$3,832	$3,158	$2,717	$2,167	$2,562
	SSI Scheduled Payments	$673	$991	$1,422	$2,516	$3,990	$3,098
	Some Participation in 1619(b)	73.2%	81.7%	45.4%	20.9%	11.3%	20.4%
	Mean Months in 1619(b) for Participants	7.1	6.2	4.1	3.4	3.4	4.3
Mean Change from 1990 to 1996	Social Security Earnings	-$1,582	-$1,007	-$668	-$474	-$314	-$455
	SSI Payments	$588	$484	$339	$142	-$163	$20
	Unearned Income	-$122	$706	$845	$960	$1,088	$982
	1619(b) Threshold	$4,458	$4,804	$4,510	$4,311	$4,336	$4374
	% Exiting SS Employment	39.3%	36.5%	36.1%	36.7%	42.1%	39.7%
1990-1996 Exiters							
Sample Size		3,973	3,164	8,052	9,655	13,617	38,461
1990 Mean	Threshold Minus Chargeable Income	$6,183	$9,016	$10,548	$12,548	$16,605	$12,617
	Chargeable Unearned Income	$5,646	$3,902	$3,394	$2,315	$1,642	$2,777
	Chargeable Earned Income	$2,317	$1,631	$1,235	$1,101	$938	$1,241
	Social Security Earnings	$6,434	$4,806	$3,943	$3,721	$3,409	$4,026
	SSI Scheduled Payments	$540	$686	$968	$1,763	$2,597	$1,677
	Some Participation in 1619(b)	56.4%	58.6%	50.6%	31.7%	25.1%	37.2%
	Mean Months in 1619(b) for Participants	6.5	6.2	4.6	3.9	3.7	4.8
Mean Change from 1990 to 1996	Social Security Earnings	-$1,542	-$576	-$243	$81	$234	-$154
	SSI Payments	-$540	-$686	-$967	-$1,762	-$2,597	-$1,676
	1619(b) Threshold	$4,578	$4,492	$4,260	$4,162	$4,408	$4,340
	% Exiting SS Employment	40.6%	32.0%	31.6%	31.3%	32.3%	32.7%
1990-1996 Total							
Sample Size		5,833	5,940	17,989	29,541	57,056	116,659
1990 Mean	Threshold Minus Chargeable Income	$6,470	$9,027	$10,587	$12,607	$16,773	$13,844
	Chargeable Unearned Income	$5,070	$3,460	$2,929	$1,788	$1,121	$1,887
	Chargeable Earned Income	$2,269	$1,598	$1,214	$998	$746	$1,002
	Social Security Earnings	$5,986	$4,351	$3,509	$3,042	$2,463	$3,045
	SSI Scheduled Payments	$582	$829	$1,219	$2,272	$3,658	$2,629
	Some Participation in 1619(b)	61.7%	60.1%	47.7%	23.8%	14.6%	25.9%
	Mean Months in 1619(b) for Participants	6.7	6.2	4.3	3.6	3.5	4.6
Mean Change from 1990 to 1996	Social Security Earnings	-$1,554	-$778	-$478	-$295	-$183	-$356
	SSI Payments	-$180	-$139	-@245	-$474	-$744	-$439
	1619(b) Threshold	$4,575	$4,638	$4,398	$4,263	$4,354	$4,363
	% Exiting SS Employment	40.2%	34.1%	34.1%	34.9%	39.8%	37.4%
	% Exiting SSI	68.1%	53.3%	44.8%	32.4%	23.9%	33.0%

G. Results

1. Summary

Overall, we find very strong evidence that many SSI recipients who work substantially restrain their Social Security earnings to stay below the 1619(b) limit. Results for 1990-91 earnings changes are especially strong. In every specification, both the within-state and across-state estimates of the effect of a threshold increase on

mean earnings for the Top 5% study group are large positive values, as per Prediction 1, and very statistically significant. There is, however, substantial variation in the point estimates. The across-state estimates are much smaller than the within-state estimates, but even the smallest of the former implies that a thousand dollar increase in the annualized threshold increases the mean Social Security earnings of the top group by $272 -- an estimate that is consistent with either 27.2 percent of group members each increasing their earnings by $1,000, or 100 percent of them increasing their earnings by $272, or some combination, holding other things constant. The smallest within-state estimate is over $800. We also consistently found significant, positive effects for the other study groups; as to be expected, these effects are smaller than for the Top 5% Group. For all study groups combined, the within-state estimates range from $404 to $482 and the across-state estimates from $117 to $237. While some of the larger estimates may be biased upward for various reasons, it seems likely that the main explanation for the strong findings is that many recipients who work do, in fact, restrain their earnings to stay below the 1619(b) threshold.

Results for changes in earnings from 1990 to 1996 are much weaker, but still largely consistent with the predictions. For all study groups combined, the within-state estimates range from $69 to $233 and the across-state estimates from $37 to $58. The weaker results appear to reflect the strong negative earnings trends that we have previously noted for recipients with earnings in the base year, coupled with the fact that raising the threshold can have no impact on the earnings of those whose earnings fall because of health or other unrelated reasons. The weaker results may also be related to the smaller samples and the relatively large share who left the program for reasons other than death, especially among the top three study groups.

The findings also are strongly consistent with the hypothesis that recipients reduce reported earnings to stay below the threshold when their chargeable unearned income increases (Prediction 2), although the negative relationship found between these variables could be explained in other ways. There is some evidence that threshold increases do reduce SSI payments to those most likely to be restraining earnings (Prediction 3), but it is not very strong. There is similar evidence that increases in chargeable unearned income reduced scheduled SSI payments of those in the Top 5% Group by less than statutory requirements because of induced reductions in earnings. We did not find evidence that threshold increases reduce the chance of exit from SSI (Prediction 5). In fact, both the within-state and across-state estimates for the Top 5% imply that the opposite is true. Finally, we found weak evidence that threshold increases reduce the probability of exit from Social Security-covered employment (Prediction 6), while increases in chargeable unearned income reduce the probability of exit (Prediction 7).

2. Social Security Earnings

a) Threshold Increases

1990-91 Changes

The within-state point estimates for Model A imply that a thousand dollar increase in the threshold increases mean earnings of the Top 5% Group by $948 net of any effect on the control group, holding other things constant, while the across-state estimate implies an increase of $272 (**Exhibit II-10**). While substantially different in magnitude, both are very large, and are significant at the 1 percent level. The within-state estimate is consistent with either 94.8 percent of the top group increasing their earnings by one thousand dollars -- the amount of the threshold increase -- or 100 percent of them increasing their earning by $948, or some combination. This estimate seems implausibly large. The cross-state estimate seems quite plausible, however.

It may be that both the within- and across-state estimates are partially capturing selection effects. As we will show later, however, threshold increases are associated with increases in exits, not reductions, for those in the Top 5% Group. Further, comparison of estimates for Model B and Model C provides mixed evidence on this. Recall that Model B, like Model A, includes stayers only, but excludes variables constructed from changes in chargeable unearned income, which cannot be observed for exiters. This exclusion increases the point estimates for the effects of threshold increases, indicating that omission of chargeable unearned income changes biases the estimates upward. Model C is identical to Model B except that exiters are included. The within-state estimate for Model C is larger than for Model B, while the across-state estimate is smaller.

The 1990-91 estimates also provide substantial evidence that threshold increases increase mean earnings of those in the other three study groups, although, as we would expect, the effects are weaker. No estimates have the wrong sign and all but two are statistically significant. As with the Top 5% Group, the within-state estimates are much stronger than the across-state estimates, in magnitude, statistical significance, and pattern. With respect to the latter, the within-state estimates for each model decline monotonically as we go from the top study group to the lowest, as we would expect; this is not true for each model's across-state estimates. We also find that there is no evidence of a selection effect for the three intermediate groups; for these groups all of the Model C estimates are larger than the corresponding Model B estimates.

When all study groups are considered together, the within-state estimate from Model A is $404 and the across-state estimate is $117. These estimates apply to a group of just over 54,000 people (i.e., those in the combined study groups). Comparison of the combined estimates for all study groups from Model B and Model C suggests that very little of this effect reflects selection.

EXHIBIT II-10: Estimates of the Effects of Increases in the 1619(b) Threshold and Chargeable Unearned Income on Social Security Earnings[1]						
Model Features	**1990-1991**			**1990-1996**		
	Model A	**Model B**	**Model C**	**Model A**	**Model B**	**Model C**
Includes Exiters			X			X
Includes Change in Unearned Income Variables	X			X		
Sample Size	110,989	110,989	121,913	78,198	78,198	116,659
$1,000 Change in Threshold						
Within-State Estimate						
Top 5% Study Group	948* (52)	1,025* (51)	703* (51)	136* (24)	148* (24)	360* (23)
Next 5% Study Group	652* (39)	693* (39)	734* (39)	121* (18)	133* (18)	353* (18)
Next 15% Study Group	451* (25)	475* (25)	550* (26)	90* (13)	101* (13)	262* (13)
Next 25% Study Group	261* (17)	272* (17)	347* (18)	46* (9)	53* (9)	167* (10)
All Study Groups	404	426	482	69	78	233
Across-State Estimate						
Top 5% Study Group	272* (96)	330* (96)	579* (81)	56 (52)	-9 (52)	-27 (41)
Next 5% Study Group	25 (85)	42 (85)	331* (83)	174* (47)	139* (47)	57 (43)
Next 15% Study Group	138* (48)	150* (48)	266* (50)	61 (28)	43 (28)	73* (27)
Next 25% Study Group	101* (38)	101* (38)	137* (40)	41 (19)	25 (19)	65* (20)
All Study Groups	117	127	237	58	37	58
$1,000 Change in Unearned Income						
Top 5% Study Group	-195* (20)	NA	NA	-407* (34)	NA	NA
Next 5% Study Group	-59* (18)	NA	NA	-288* (27)	NA	NA
Next 15% Study Group	-56* (15)	NA	NA	-239* (17)	NA	NA
Next 25% Study Group	10 (12)	NA	NA	-115 (13)	NA	NA
All Study Groups	-31	NA	NA	-180	NA	NA

NOTE: An asterisk denotes a coefficient significant at the 1 percent level.

1. Appendix B contains auxiliary results from the earnings equations.

1990-96 Changes

The estimates of the effects of threshold increases in the regressions for income changes from 1990 to 1996 are substantially weaker, although they are generally supportive of Prediction 1. All of the within-state estimates are positive and statistically significant at the 1 percent level, and, as with the 1990-91 findings, the size of the estimate for each model is greatest for the Top 5% Group. The Model A estimate for the Top 5% Group is 14 percent of the corresponding value for 1990-91, and the same model's within-state estimate for all study groups combined is 17 percent of the 1990-91 value.

The difference in within-state estimates for the two periods is at least in part related to the larger share of exits in the 1990-96 data. Comparing Model B results for 1990-96 to respective results for 1990-91 yields findings similar to those for Model A. For Model C, however, the differences are much smaller -- the 1990-96 estimate for the Top 5% Group is 40 percent of the 1990-91 estimate, and for all groups combined the 1990-96 estimate is 48 percent of the 1990-91 figure. Why the increase in exits would matter is not clear; further the increase in exits is a proximate explanation for only part of the difference; considerable differences remain when exits are included.

The across-state estimates for 1990-96 are more mixed. All three estimates for the Top 5% Group are insignificant, and two are negative -- opposite the expected sign. The results are inexplicably stronger for the three intermediate groups. Point estimates for all groups combined range from 58 (Model A and Model C) to 37 (Model B). The inclusion of exiters (Model C) does not have a substantial impact on the across-state estimates, in contrast to the finding for within-state estimates.

We think that the primary explanation for the weaker results is the general decline in earnings observed for this sample over the 1990-96 period. Mean annual Social Security earnings for the full 1990-96 sample dropped by $356; for the Top 5% Group, the drop was much larger ($1,554). Because the economy grew substantially over the period, it seems most likely that these declines are related to aging and related deterioration in health conditions and impairments. Whatever the cause, the effect is to make the 1619(b) threshold relevant to fewer and fewer beneficiaries who were on the rolls in 1990.

b) Increases in Unearned Income

The estimated effects of a change in chargeable unearned income on earnings for the Top 5% Group are negative, as expected, and statistically significant in both the 1990-91 and 1990-96 analyses. If interpreted causally, the 1990-91 estimate implies that a thousand dollar increase in chargeable unearned income reduces earnings for those in this group by an average of $195. The 1990-96 estimate is much larger -- $407. Statistically significant, negative coefficients are also found for the second and third study groups over both periods and for the fourth study group for the latter period.

While these estimates are consistent with Prediction 2, we think it likely that they at least partly reflect reverse causality and partly reflect selection. As previously discussed, loss of earnings can precipitate eligibility for DI benefits for those who have become disability insured while participating in SSI. This seems most likely to happen to those who have earned the most while on SSI. The findings from the employment equation, discussed below, suggest that one scenario which would suggest reverse causality -- job loss associated with increased unearned income -- is not common in our data.

Selection seems a likely explanation, too, because those in the Top 5% Group who received an increase in chargeable unearned income and failed to adjust their

earnings downward might well lose their eligibility for SSI. We cannot investigate this issue, however, because we do not have data on the chargeable unearned incomes of exiters. These phenomenon could explain why we obtain stronger results for 1990-96 than for 1990-91 -- the opposite of what we found for the effect of threshold changes.

3. Scheduled SSI Payments

a) Threshold Increases

The findings from the Model A equation for scheduled SSI payments are consistent with Prediction 3, but not very strong. The within-state estimate implies that a thousand dollar increase in the threshold reduces SSI payments by $278, but the across-state estimate is positive and insignificant (**Exhibit II-11**). The 1990-96 within-state estimate is also negative and statistically significant, but less than 40 percent as large as the 1990-91 estimate, and the across-state estimate is again positive and insignificant.

If we match the within-state estimate to the corresponding estimate of the effect of the threshold change on earnings (**Exhibit II-11**), it implies a $0.29 reduction in payments per each additional dollar earned. By statute, a one dollar increase in chargeable earnings reduces any scheduled payment by $0.50. The effect is limited, however, because the minimum payment is zero.

Dropping changes in chargeable unearned income from the model reverses the sign of the within-state estimates for the Top 5% Group (compare Model B to Models A). Because the specification error in Model C reverses the sign of the estimate, we cannot draw any conclusions about selection effects through comparison of Model B and Model C.

b) Increases in Unearned Income

The Model A estimates imply that changes in chargeable unearned income have a positive effect on payments for those in the study groups *net of any effect they have on payments for the control group.* In interpreting this finding, it is very important to keep in mind that we have already controlled for the statutory effect of increases in chargeable unearned income on payments, by including two variables for changes in chargeable unearned income to capture this effect -- one for increases below the 1990 scheduled payment and the other for any remaining increase. The coefficients for these variables in the 1990-91 estimates are -.60 and -.05, respectively, roughly as expected.[16]

The 1990-91 estimate for the Top 5% Group implies that a thousand dollar increase in chargeable unearned income results in an average payment reduction that is $253 less than what we would expect on the basis of the statute. This is conceivable

[16] Both estimates are statistically significant with t-statistics of -151.16 and -10.088, respectively.

because the beneficiary could offset their unearned income increase with an earnings reduction. In fact, we found evidence of such a reduction in the earnings equation for Model A, but the estimated size of the earnings reduction is too small to be consistent with the $253 figure. The expected earnings reduction is just $195, which is consistent with a scheduled payment increase of no more than $98.50 -- assuming each dollar of earnings reduction is offset by an increase in payment of $0.50. Similar inconsistencies arise when other pairs of estimates of the effects of increases in chargeable unearned income on earnings and scheduled payments are compared.

EXHIBIT II-11: Estimates of the Effects of Increases in the 1619(b) Threshold and Chargeable Unearned Income on Scheduled SSI Payments

Model Features	1990-1991			1990-1996		
	Model A	Model B	Model C	Model A	Model B	Model C
Includes Exiters			X			X
Includes Change in Unearned Income Variables	X			X		
Sample Size	101,989	110,989	121,913	78,196	78,198	116,659
$1,000 Change in Threshold						
Within-State Estimate						
Top 5% Study Group	-278* (22)	220* (25)	257* (23)	-105* (11)	77* (14)	167* (11)
Next 5% Study Group	8 (17)	192* (19)	237* (18)	2 (8)	73* (11)	166* (8)
Next 15% Study Group	35 (11)	126* (12)	151* (12)	15* (6)	68* (8)	142* (6)
Next 25% Study Group	18 (7)	46* (8)	66* (8)	22* (4)	48* (5)	79* (5)
All Study Groups	1	96	128	12	57	115
Across-State Estimate						
Top 5% Study Group	58 (41)	119* (46)	54 (36)	21 (23)	-6 (31)	9 (18)
Next 5% Study Group	-95 (36)	8 (41)	37 (37)	22 (21)	-37 (28)	-1 (20)
Next 15% Study Group	-22 (20)	38 (23)	62* (22)	4 (13)	-36 (17)	-24 (12)
Next 25% Study Group	-8 (16)	14 (18)	17 (18)	16 (8)	-19 (11)	-12 (9)
All Study Groups	-16	28	36	13	-25	-12
$1,000 Change in Unearned Income						
Top 5% Study Group	253* (8)	NA	NA	185* (15)	NA	NA
Next 5% Study Group	122* (8)	NA	NA	104* (12)	NA	NA
Next 15% Study Group	91* (6)	NA	NA	62* (7)	NA	NA
Next 25% Study Group	29* (5)	NA	NA	7 (6)	NA	NA
All Study Groups	72	NA	NA	40	NA	NA

NOTE: An asterisk denotes a coefficient significant at the 1 percent level.

One reason for the inconsistency in the estimates may be that the specification for capturing the statutory effects of increases in chargeable unearned income is inadequate. The statute requires all increases to be offset dollar-for-dollar until benefits are exhausted. While the coefficients of the two variables we included are roughly as expected, they are not exactly the values that the statute would imply (-1.0 and 0.0),

suggesting that they do not fully capture the statutory requirements. There are many possible reasons for this.[17] As a result, these two variables may overestimate the negative effect of the statutory rules on the scheduled payments in the Top 5% Group, because the latter have such low payments. Any such underestimate would increase the estimated effect of the unearned income increase on scheduled payments for that group, net of the effect on the control group.

4. SSI Exits

Only Model C, which includes exiters in the sample, has an SSI exit equation (**Exhibit II-12**).

EXHIBIT II-12: Estimates of the Effects of Increases in the 1619(b) Threshold on SSI Exits

Model Features	1990-1991 Model C	1990-1996 Model C
Sample Size	121,913	116,659
$1,000 Change in Threshold		
Within-State Estimate		
Top 5% Study Group	11.5%* (0.5%)	2.0%* (0.2%)
Next 5% Study Group	1.9%* (0.4%)	1.9%* (0.2%)
Next 15% Study Group	-0.6%* (0.3%)	1.3%* (0.1%)
Next 25% Study Group	-1.2%* (0.2%)	0.3% (0.1%)
All Study Groups	0.5%	0.9%
Across-State Estimate		
Top 5% Study Group	2.5%* (0.8%)	0.0% (0.4%)
Next 5% Study Group	-2.0% (0.8%)	-2.7%* (0.4%)
Next 15% Study Group	-0.7% (0.5%)	-1.5%* (0.3%)
Next 25% Study Group	0.0% (0.4%)	-0.3% (0.2%)
All Study Groups	-0.1%	-0.9%

NOTE: An asterisk denotes a coefficient significant at the 1 percent level.

The within-state estimates for 1990-91 imply that a thousand dollar increase in the threshold *increases* the percent of the Top 5% Group who exit in that period by 11.5 percentage points, contrary to Prediction 5. The across-state estimate is also positive and significant, but considerably smaller (2.5 points). For the other study groups, the estimated effects are small, varying in sign, and sometimes insignificant. For the 1990-

[17] One reason is measurement error. One aspect of this is that the rules are applied to monthly data, while we have used annual data. Another reason is that payments are indexed to inflation; as a result, if a recipient's chargeable unearned income increased by exactly the amount of the recipient's 1990 payment, the individual would still receive a payment in the latter year. A third is that there is an upper limit on benefit increases associated with reductions in unearned income (the SSI maximum payment).

96 results, the within-state estimate for the Top 5% Group is again positive, but much smaller (2.0 points), and again results for other groups are mixed.

While the evidence for the Top 5% Group contradicts Prediction 5, it is important to keep in mind that the share of the group that exits SSI in both sample periods is much higher than the shares exiting for the other groups, even the Next 5% group. As discussed in the previous section, it seems likely that some recipients are, in fact, are exiting SSI via 1619(b), either to more earnings or higher unearned income. We suspect that the within-state estimates reflect this high exit rate. The alternative explanation, that increases in the threshold increase exits, is implausible.

5. Social Security Employment

a) Threshold Increases

The within-estimates from the employment equations for 1990-91 are generally consistent with the hypothesis that threshold increases reduce exits from Social Security employment (Prediction 6), but the estimate for the Top 5% Group is not significant and estimates for the other groups are not large in magnitude even if significant (**Exhibit II-13**). Further, the across-state estimates are all insignificant, and vary in sign. The 1990-96 results are generally weaker.

As previously stated, it seems more likely that threshold changes would result in adjustments to earnings than changes in employment status. These findings are consistent with that expectation.

b) Increases in Unearned Income

The Model A estimates for the 1990-91 period show no evidence of an impact of changes in scheduled unearned income on employment. For 1990-96 we found positive and significant, but small, effects for all but the fourth study group, consistent with Prediction 7. As with threshold changes, we would expect unearned income changes to have more of an impact on earnings than on employment status, and these findings are consistent with that view.

Earlier we have discussed the possibility of reverse causality between unearned income changes and both earnings and employment status -- specifically that unearned income increases may be triggered by earnings reductions, which may themselves be associated with job loss. The evidence here implies that changes in employment status are not an important determinant of unearned income changes in our sample. While we cannot rule out the possibility that earnings changes trigger unearned income changes, this finding suggests that the reverse causality problem is not very serious for our sample.

EXHIBIT II-13: Estimates of the Effects of Increases in the 1619(b) Threshold and Chargeable Unearned Income on Social Security Employment						
Model Features	**1990-1991**			**1990-1996**		
	Model A	**Model B**	**Model C**	**Model A**	**Model B**	**Model C**
Includes Exiters			X			C
Includes Change in Unearned Income Variables	X			X		
Sample Size	110,989	110,989	121,913	78,198	78,198	116,659
$1,000 Change in Threshold						
Within-State Estimate						
Top 5% Study Group	-0.3% (0.8%)	-0.4% (0.8%)	-0.7% (0.7%)	0.2% (0.4%)	0.4% (0.4%)	-0.2% (0.3%)
Next 5% Study Group	-2.6%* (0.6%)	-2.6%* (0.6%)	-2.7%* (0.6%)	-0.3% (0.3%)	-0.2% (0.3%)	-1.5%* (0.2%)
Next 15% Study Group	-2.0%* (0.4%)	-2.0%* (0.4%)	-2.4%* (0.4%)	-0.4% (0.2%)	-0.3% (0.2%)	-1.1%* (0.1%)
Next 25% Study Group	-0.4% (0.3%)	-0.4% (0.3%)	-0.9%* (0.3%)	0.0% (0.1%)	0.0% (0.1%)	-0.6%* (0.1%)
All Study Groups	-1.1%	-1.1%	-1.5%	-0.1%	-0.1%	-0.8%
Across-State Estimate						
Top 5% Study Group	-0.1% (1.5%)	-0.1% (1.5%)	-0.9% (1.2%)	-1.0% (0.8%)	-0.7% (0.8%)	-1.4%* (0.4%)
Next 5% Study Group	-0.4% (1.3%)	-0.3% (1.3%)	0.2% (1.2%)	-1.7% (0.7%)	-1.7% (0.7%)	-1.9%* (0.5%)
Next 15% Study Group	0.9% (0.7%)	1.0% (0.7%)	0.4% (0.7%)	-1.0% (0.4%)	-1.0% (0.4%)	-1.2%* (0.3%)
Next 25% Study Group	0.6% (0.6%)	0.6% (0.6%)	0.5% (0.6%)	-0.8%* (0.3%)	-0.8%* (0.3%)	-1.0%* (0.2%)
All Study Groups	0.6%	0.6%	0.3%	-0.9%	-0.9%	-1.2%
$1,000 Change in Unearned Income						
Top 5% Study Group	0.0% (0.3%)	NA	NA	2.3%* (0.5%)	NA	NA
Next 5% Study Group	0.1% (0.3%)	NA	NA	1.3%* (0.4%)	NA	NA
Next 15% Study Group	-0.4% (0.2%)	NA	NA	1.1%* (0.2%)	NA	NA
Next 25% Study Group	0.1% (0.2%)	NA	NA	0.0% (0.2%)	NA	NA
All Study Groups	-0.1%	NA	NA	0.6%	NA	NA
NOTE: An asterisk denotes a coefficient significant at the 1 percent level.						

H. Longitudinal Analysis of 1619(b) Participation

In **Exhibit II-14** we present findings from a longitudinal analysis of 1619(b) participation by the 1990 cohort of SSI recipients with Social Security earnings in 1990. The sample used for this analysis differs slightly from the sample used in the previous analysis in that it includes: 1) all beneficiaries who moved across state boundaries, 2) all beneficiaries who left the program in or before 1996, including those who died, and 3) beneficiaries living in Washington. Like the sample in the previous analysis, this sample also excludes beneficiaries from Oregon and Tennessee.

While only 33 thousand of the roughly 128 thousand recipients in the sample (26 percent) participated in 1619(b) for at least one month in 1990, almost 57 thousand (44

percent) participated in 1619(b) for at least one month during the entire 1990-96 period. This number is about 2.4 times larger than the number of SSI recipients reported as participating in the program in December of 1990 in SSA's 1619 program reports. This number would increase, probably substantially, if we were to: include participation before 1990; add in 1990 recipients with no earnings in 1990 (who may have participated in 1619(b) either before or after 1990); and add in 1990 recipients who were between the ages of 50 and 64 in 1990.

EXHIBIT II-14: Proportion of Months that the 1990 Cohort of SSI Recipients Age 18 to 49 with Earnings Participated in 1619(b) in the 84 Months in 1990 through 1996[1]

Category	Number of Cases	Percent of Cases
Total	128,336	100.0
No 1619(b) Participation	71,361	55.6
Any 1619(b) Participation	56,975	44.4
% of months in 1619(b)		
<10.0%	22,320	17.4
10.0 - 19.9%	8,952	7.0
20.0 - 29.9%	5,958	4.6
30.0 - 39.9%	4,223	3.3
40.0 - 49.9%	3,195	2.5
50.0 - 99.9%	10,441	8.1
100.0%	1,886	1.5

1. Excludes cases in Oregon and Tennessee. Include cases that left SSI before 1996.

This finding clearly demonstrates that point in time statistics on the share of SSI recipients participating in 1619(b) are much lower than the share of SSI recipients who ever participate. The apparent reason is that there is substantial monthly, as well as yearly, variation in the chargeable incomes of recipients with incomes, perhaps reflecting seasonal work, other temporary work, and/or short job tenures for other reasons.

The analysis also indicates that those who participate generally do not participate for many months. Of those participating during the 74 months we observe, 55 percent participated for less than 15 months (i.e., 20 percent of the months). The estimates understate the number of months that ever-participating beneficiaries participate, however, because they do not include months of participation before 1990, which may be substantial, or after 1996.

I. Further Research

The analyses performed for this report provide some interesting insights about the use of the 1619(b) program and, more generally, the employment and earnings of disabled adult SSI recipients, but are not definitive in many respects and also raise additional issues. In this section we discuss ideas for additional research that have been generated by this analysis. We group these ideas into two areas: 1) longitudinal analysis of SSI award cohorts; and 2) lessons for analyses of the impacts of other Medicaid expansions on the employment and earnings of disabled adults.

1. Longitudinal Analysis of Award Cohorts

The conventional wisdom about the SSI work incentive programs is that they are used by very few recipients, reflecting the small share of SSI recipients who participate in 1619(b) in any given month. The brief analysis of monthly 1619(b) participation presented in the previous section shows, however, that the number of SSI recipients who "ever participate" in 1619(b) is much larger than the number who participate at a point in time. We have not been able to estimate the percent of SSI recipients who "ever participate", because the data we obtained for this project were not designed for this purpose.

A clearer picture of the use of the section 1619 program and, more generally, of the employment and earnings of SSI recipients, could be obtained by following SSI "award cohorts" -- groups of recipients who receive their award in a given period -- through their entire SSI spell and, to the extent feasible, beyond it. SSA administrative data allows for the tracking of Social Security earnings indefinitely into the future, as well as receipt of DI benefits and return to SSI. Post-SSI mortality can also be observed in administrative data. Below we describe ways our current research could be expanded to further study the 1619 program and the relationship among health insurance, employment, and program participation.

a) 1619 Use Patterns

A better understanding of how SSI recipients use the 1619 program would be useful to policymakers. The evidence we have examined suggests that SSI recipients may use the work incentive program in a variety of ways. These potentially include: (1) to provide assistance during a transition from SSI to self-support through employment; (2) to provide assistance until additional support is obtained from some other source (e.g., Social Security Disability Insurance benefits); (3) to maintain a higher level of income than SSI payments alone would provide, for as long as they have the capacity to perform substantial work; and (4) to allow them to work intermittently, as their health or job availability permits, without loss of health benefits or SSI eligibility. A longitudinal analysis of the SSI administrative data might examine the prevalence of these usage patterns, and perhaps others. The analysis should examine participation on a monthly basis.

b) 1619 Induced Demand for SSI

One topic we have not examined at all that could be explored in a longitudinal analysis of award cohorts is the length of time from award until employment and earnings are reported and participation in the work incentive program begins. Various patterns of behavior may emerge. For instance, we may see that some recipients who had low Social Security earnings in the years just prior to award have their earnings return to the same, or even a higher level, a year after the award -- the only difference being that they are now participating in the work incentive program. Such a pattern

would be consistent with “induced demand” for SSI -- the existence of the work incentive program induces workers with disabilities to reduce their work effort just long enough to become SSI eligible presumably to get Medicaid. Subsequent persistence of earnings at the pre-SSI level for a long period would further support the induced demand hypothesis. Symmetrically, the work incentive probably does not induce demand from recipients who use the program only several years after award, or who use it briefly and then either leave SSI or reduce their earnings.

c) Employment and Earnings Patterns

Longitudinal employment and earnings patterns of recipients are likely to vary substantially with the characteristics of the recipient. We have focused our analysis on those between the ages of 18 and 49 on the unconfirmed assumption that their employment behavior is more likely to be sensitive to various incentives than that of older recipients. The relatively large growth in the number of young recipients, and the long expected duration of their participation, also make this group especially interesting to study. Sex, marital status, impairment type, and many other recipient characteristics may affect employment and earnings patterns. It would be interesting to know, for instance, the extent to which individuals with chronic disorders characterized by temporarily acute attacks, such as many musculoskeletal and psychiatric disorders, work intermittently. The ability to move in and out of work, without loss of health insurance, may be especially important to such individuals.

d) Expanding the Scope and Time Frame of Analysis

Our analysis focused on the period from 1990 to 1996, but a longer-term perspective could be very valuable. For instance, longitudinal analysis that covered the period when 1619 was first introduced (1980) would likely provide additional information about the programs’ impact and how its use has evolved -- including the use of IRWEs and PASS programs. We also have not investigated the use of individualized thresholds. We have heard that use varies by state, depending on the Medicaid agency, but do not have any detailed information, including information on the evolution of individualized thresholds.

Previous longitudinal analysis of SSI award cohorts has focused on duration of receipt and reason for termination. Rupp and Scott (1995) performed such an analysis using a 1% sample of all SSI awards since the inception of the program in 1974. Use of the same file for an analysis of employment and work incentive program issues might also be feasible, but we are concerned about sample size. 10% samples are available biannually from March 1986 to March 1992, and monthly thereafter. Data availability needs to be explored further.

e) Use of SIPP Matched Data

SSA has recently matched data form the 1984, 1990 and 1991 Surveys of Income and Program Participation (SIPP) to administrative records, is currently in the

process of matching the 1992 and 1993 surveys, and will likely match additional surveys in the future. These matches are building the capacity for longitudinal analysis of SSI and DI claimants that include detailed information about the claimant prior to filing a claim. While sample sizes are small for any one panel, pooled analysis of data from multiple panels can be used to mitigate the problem. Such analysis would provide an opportunity to examine events that precipitate claims, including events related to employment and insurance. We are currently designing an analysis of the impact of AFDC/TANF reforms on SSI claims and allowances that would use these data.

2. Lessons for Analysis of Other Medicaid Expansions

We are currently planning to conduct additional analyses of Medicaid expansions, in Tennessee and Oregon. We have learned a number of methodological lessons from the 1619(b) analysis that are applicable to the planned analyses:

- Findings from analyses that use within-state controls may differ substantially from those using other-state controls. It would be desirable to use both. For existing recipients, those with earnings whose countable incomes are well below the 1619(b) limit prior to reform are reasonable controls for those with countable incomes near the limit prior to reform.

- If feasible, SSI data for those who exit SSI should be matched to DI data and to later SSI records. Matching to death records (the Numident file) would also be helpful. In general, the more we can learn about why recipients exit, as well as about the post-SSI status of exiters, the better we can model earnings outcomes.

- Monthly analysis of earnings and 1619 participation of new beneficiaries both before and after the Medicaid expansions would be helpful in assessing the effect of expansions on claims and allowances. If Medicaid access via SSI is inducing demand from low-wage workers, we should find that delinking access, as in Tennessee and Oregon, should reduce the proportion of new beneficiaries who increase earnings and enter 1619 shortly after SSI entry.

III. EMPLOYMENT, INSURANCE AND PROGRAM PARTICIPATION STATUS OF PEOPLE WITH DISABILITIES

A. Introduction

In this section, we present findings from analyses of the 1993 Survey of Income and Program Participation (SIPP) and the 1994 National Health Interview Survey (NHIS). We analyzed the two surveys in order to answer the following questions:

- How large and what are the characteristics of the groups most likely to be affected by policies designed to expand health insurance coverage to persons with disabilities and de-link health insurance coverage from DI and SSI program participation?

- What are the employment and health insurance status of persons with disabilities and how do they differ from persons without disabilities?

- How do the characteristics, other than employment and insurance status, of persons with disabilities differ from those without disabilities? and

- How do persons with disabilities who participate in DI or SSI differ from persons with disabilities who do not participate in either program?

In the sections below, we first describe the methods used to define disability and conduct the analyses of the SIPP and NHIS. We then present and discuss the findings.

B. Methods

1. Definition of Disability

Our estimates are based on data from two surveys, the 1993 Survey of Income and Program Participation (SIPP) and the 1994 National Health Interview Survey on Disability (NHIS-D). Both surveys contain robust disability measures as well as information on employment and availability of health insurance, allowing us to examine the populations of interest in detail. In conducting the analyses of data from both surveys, we define disability according to a definition used in Kruse (1997). Under this definition, a person is defined as having a disability if he or she meets any of the following criteria:

- has any functional activity limitation;[18]
- has difficulty with any Activity of Daily Living (ADL) or Instrumental Activity of Daily Living (IADL);[19]
- uses a wheelchair;
- has used a cane, crutches, or walker for more than six months;
- has a disabling mental or emotional condition;[20] or
- reports a limitation in the kind or amount of work or housework that he or she can do.

We define a subset of persons with disabilities as <u>severely</u> disabled if they:

- use a wheelchair;
- have used a cane, crutches or walker for more than six months;
- are unable to do a functional activity, need assistance with an ADL or IADL;
- report being prevented from doing work or housework; or
- have mental retardation, Alzheimer's, senility, dementia, or a developmental disability such as autism or cerebral palsy.

Based on the criteria for disability described above, we estimate that 30 million people had a disability based on the 1993 SIPP sample of approximately 29,000 persons aged 18 to 64, and 28 million people had a disability based on the 1994 NHIS-D sample of approximately 58,000 persons.

Although we are able to construct this measure of disability using both the NHIS-D and SIPP, the two surveys differ somewhat in scope and content. For this reason, we present a more complete description of the methodology used to construct our definition of disability (and other variables) and estimates from each survey in ***Appendix B***.

2. The 1993 Survey of Income and Program Participation (SIPP)

Each month, for four months, the Bureau of the Census conducts a SIPP interview for a new rotation group that in itself is a random sample of the U.S. population. Each rotation group is reinterviewed at four month intervals. The number of interviews in each SIPP panel varies, but since 1990 each panel has had at least eight waves.

At each interview, "core" questions are asked of adults aged 15 and older, on labor market and program participation activity over the past four months. In addition to the core set of questions asked in each interview wave, special topical module

[18] Functional Limitations include: seeing, hearing, speaking understandably, lifting and carrying 10 pounds, climbing stairs without resting, walking one-fourth of a mile, and using the telephone.

[19] ADL/IADLS include: getting around outside the home, getting around inside the home, getting to and out of bed or a chair, taking a bath or shower, dressing, eating, using the toilet, keeping track of money and bills, preparing meals, doing light housework, and walking one-fourth of a mile.

[20] These conditions include: a learning disability such as dyslexia; mental retardation; a developmental disability such as autism or cerebral palsy; senility, dementia, or Alzheimer's; or "any other mental or emotional condition."

questions are asked on specialized subjects, such as assets, work history, and health information. In some SIPP panels, the same topical module questions are repeated in various waves. For example, the 1993 SIPP panel contains a topical module on health and functional limitations. The data in the health and functional limitation modules are particularly important for this effort and enable us to identify persons with disabilities and DI beneficiaries. Our sample consists of approximately 29,000 persons aged 18 to 64.

As is the case with the NHIS, the majority of the estimates produced by our analysis of the SIPP were obtained using pre-defined survey variables. In order to produce estimates for certain categories, however, it was necessary to construct several variables. For example, variables for health insurance, receipt of DI benefits, presence of ADL or IADL difficulties, and the condition that causes ADL or IADL difficulties were constructed for our purposes. We describe these variables in more detail in ***Appendix B***.

3. The National Health Interview Survey (NHIS)

The household sample of the NHIS is a continuing nationwide personal interview household survey. It uses a national sample of the civilian, non-institutionalized U.S. population.

The NHIS is conducted annually. During a year, the sample is composed of 36,000 to 47,000 households, including 92,000 to 125,000 persons, depending upon the year. Data are available for each year from 1969 through 1994. The core of the NHIS gathers data on acute health conditions, episodes of injury, restriction in activity, prevalence of chronic health conditions, limitation of activity due to chronic conditions, respondent-assessed health status, and the use of medical services. Each year, special modules collect information on particular areas. In 1994, supplemental data were gathered on disability. The analyses for this project are based on the approximately 58,000 observations from the disability supplement (NHIS-D phase I).

We used data from the NHIS-D as well as the NHIS Health Insurance Supplement. The majority of the variables used in the analysis are pre-defined survey variables. We did combine several variables to construct some of the analysis variables, including, family income as a percentage of the federal poverty line, health insurance status, number of ADL / IADL difficulties, and the health condition responsible for ADL or IADL difficulty. We describe the process used to construct each of these variables in ***Appendix B***.

C. Findings

In this section, we present the findings from the analysis of the SIPP and NHIS-D.[21] We first discuss the implications of our findings with respect to recent policies designed to expand health insurance coverage to persons with disabilities. We then: describe the overall health insurance and employment patterns of persons with disabilities; compare persons with disabilities to their non-disabled counterparts; and compare the characteristics of persons with disabilities who are DI or SSI recipients to the characteristics of persons with disabilities who do not participate in either the DI or SSI program.

1. Target Populations for Insurance Expansions

Recently, policies designed to expand health insurance coverage to persons with disabilities, or to de-link public health insurance eligibility from cash benefit eligibility in programs serving persons with disabilities have been proposed or enacted. In theory, such policies could have the following effects:

- non-program participants with disabilities who are employed but uninsured could obtain health care coverage without having to stop or reduce work effort in order to become eligible for the income support programs that also provide Medicaid or Medicare;
- disability program participants who would be willing and able to engage in some work effort but choose not to do so because of the threat of losing both cash benefits and health insurance coverage would have greater incentives to work because they would no longer lose their health insurance coverage.

We discuss below the implications of the SIPP findings with respect to these two populations with disabilities for whom the recent policies to expand health insurance coverage and encourage employment have been designed.

a) Non-Program Participants with Disabilities

According to the 1993 SIPP, there are about 30 million persons with disabilities, representing approximately 19 percent of the US population aged 18 to 64 years. Of these, about 24 million (80 percent) do not participate in either the DI or SSI program. This represents a very large target population for policies designed to discourage current non-participants from becoming DI or SSI recipients.

Of the 24 million persons with disabilities who do not participate in either DI or SSI, 15 million, or nearly 63 percent, are employed. Of those employed, 2.6 million (17

[21] Although we present estimates from both SIPP and NHIS-D, the following discussion, unless otherwise noted, focuses mainly on the results from SIPP, as it allows us to examine characteristics by disability program participation.

percent) lack health insurance coverage. These 2.6 million persons with disabilities who are employed but uninsured are probably the group for whom policies designed to make health insurance available to persons with disabilities without requiring DI or SSI program participation will be most effective. These individuals will not be required to reduce their work effort in order to obtain eligibility for health insurance coverage. The effectiveness of such policies will depend, however, on the definition of disability used. The more stringent the definition, the lower the impact will be on the work effort of persons with disabilities. According to the SIPP, most (78 percent) of the employed and uninsured persons with disabilities are categorized as *not severely* disabled However, using the same definition of disability, there are approximately 577,000 additional persons with *severe* disabilities who are employed and uninsured.

There are another 2.5 million persons with disabilities who are uninsured and unemployed. While this group would be part of the target population of policies that expand health insurance to persons with disabilities, it is unlikely that such policies would have much effect on their work effort. This group is generally older, less educated, and more severely disabled than the group of uninsured employed persons with disabilities.

b) Disability Program Participants

Of the 30 million persons with disabilities, 5.7 million or 19 percent participate in either the DI or SSI program. Of these, 537,000 or 9 percent are employed. These 537,000 disability program participants who show some capacity for work represent the target population for policies to expand or de-link health insurance coverage from income support programs for persons with disabilities. These individuals are considerably younger, more highly educated, and less severely disabled compared to DI and SSI participants who do not work.

2. General Patterns of Health Insurance and Employment

Before considering the characteristics of persons with disabilities in detail, we first compare the health insurance and employment status of persons with and without disabilities. The findings, presented in **Exhibit III-1** and **Exhibit III-2**, include:

- Persons with disabilities, according to both the SIPP and NHIS-D, are less likely to be employed than persons without disabilities (50-53% vs. 80%). This comparison, however, obscures the fact that persons with severe disabilities are very unlikely to work; only 25 percent reported employment. When considered separately, persons with non-severe disabilities have an employment rate near that of persons without disabilities (75 % v. 80 %).

- Among the employed population, rates of health insurance coverage are only slightly lower for persons with disabilities than for those with no disabilities (83 % v. 86%). Persons with disabilities who do not work are more likely to be insured than the non-disabled unemployed population; the difference is attributable to the

availability of public insurance for persons with disabilities who participate in DI and SSI.

EXHIBIT III-1: Employment and Health Insurance Status of Persons Age 18-64 with and without Disabilities in the 1993 SIPP[1]

Employment and Insurance Status	People with Disabilities			People without Disabilities
	All People with Disabilities	DI/SSI Participants	No DI/SSI Participants	
Employed	15,310 51.0%	537 9.4%	14,783 60.8%	101,300 79.0%
Insured	12,670 42.2%	537 9.4%	12,146 50.0%	87,040 67.9%
Not Insured	2,640 0.8%	0 0%	2,637 10.8%	14,210 11.1%
Not Employed	14,730 49.0%	5,207 91.6%	9,528 36.2%	26,850 21.0%
Insured	12,080 40.2%	5,077 86.4%	7,002 26.6%	19,820 15.5%
Not Insured	2,655 0.8%	130 2.2%	2,525 10.4%	7,022 5.5%
Column Total	30,049 100%	5,743 100%	24,316 100%	128,100 100%
% of Total Population	19.0%	3.6%	15.3%	81.0%

SOURCE: The Lewin Group analysis of the 1993 Survey of Income and Program Participation.

1. Except in the last row, each cell shows the estimated number of persons in the cell (in thousands), and the column percent.

EXHIBIT III-2: Employment and Health Insurance of Persons Age 18-64 with and without Disabilities in the 1994 NHIS

Insurance	People with Disabilities	People without Disabilities
Employed	15,152 54.2%	93,540 80.0%
Insured	12,349 44.0%	78,574 67.2%
Not Insured	2,803 10.2%	14,966 12.8%
Not Employed	13,749 45.0%	24,554 20.0%
Insured	10,380 37.0%	17,532 15.0%
Not Insured	3,369 0.7%	7,022 5.0%
Column Total #	28,060 100%	116,925 100%
% of Total Population	19.4%	80.6%

SOURCE: The Lewin Group Analysis of the 1994 National Health Interview Survey on Disability.

1. Except in the last row, each cell shows the estimated number of persons in the cell (in thousands), and the column percent.

3. Characteristics of People With and Without Disabilities

When the characteristics of persons with and without disabilities are compared by employment and insurance status, we find differences in many characteristics including age, education, and income. The major differences, presented in **Exhibit III-3**, **Exhibit III-4**, **Exhibit III-5**, and **Exhibit III-6**, include:

- Across all categories of employment and health insurance status, persons with disabilities are older and less educated than persons without disabilities. Persons with disabilities are less likely to be college graduates and more likely to have not finished high school (12.2 v. 24.3 percent and 29.6 v. 13.7 percent, respectively).

- Persons with disabilities are more likely to be living in poverty and less likely to have incomes in excess of 300 percent of the poverty line (22.0 v. 9.9 percent and 37.7 v. 55.4 percent, respectively).

- Persons with disabilities who have health insurance are less likely to rely on private health insurance than are those without disabilities; many persons with disabilities rely on public insurance such as Medicare and Medicaid.

- Among the employed populations (both with and without health insurance), people with disabilities are more likely to be self-employed than the non-disabled population, though rates of part-time employment are similar for the two groups.

EXHIBIT III-3: Characteristics of Persons without Disabilities Age 18-64 by Employment and Insurance Status in the 1993 SIPP					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	87,040	14,210	19,820	7,022	128,100
Row Percent	67.9%	11.1%	15.5%	5.5%	100%
Gender					
% Male	53.5	60.4	25.4	46.1	49.5
% Female	46.5	39.6	74.6	53.9	50.5
Age					
Mean	38	33	37	33	37
Median	37	32	35	31	36
% 18-29	26.6	44.5	39.9	48.4	31.9
% 30-49	56.4	46.7	35.0	40.3	51.2
% 50-64	17.0	8.9	25.0	11.2	17.0
Education					
Mean	14	12	13	11	13
Median	13	12	12	12	12
Less than HS grad	8.8	24.6	19.4	35.8	13.7
HS Graduate	36.4	42.8	37.4	37.4	37.3
1-4 Years of College	25.4	21.2	26.2	18.4	24.7
College Graduate	29.5	11.3	16.9	8.4	24.3
Employment					
% Full-time	78.8	65.6	NA	NA	60.8
% Part-time	10.0	18.0	NA	NA	8.8
% Self Employed	11.2	16.4	NA	NA	9.4
Program Participation					
% With Program Participation	1.7	4.8	16.4	9.8	4.7
% SSI and DI	0.0	0.0	0.0	0.0	0.0
% SSI Only	0.0	0.0	0.0	0.0	0.0
% DI Only	1.7	0.0	0.5	0.8	0.8
% AFDC	29.9	0.0	70.6	0.0	45.0
% General Assistance	1.5	2.7	7.0	0.8	4.5
% Food Stamps	64.5	76.9	83.4	76.8	76.2
% WIC	37.2	25.4	32.8	32.4	32.9
% Other Welfare	4.3	2.3	1.9	2.9	2.6
Health Insurance					
% Private Only	95.0	NA	75.9	NA	76.3
% Medicaid + Medicare	0.0	NA	0.0	NA	0.0
% Other Medicare	0.0	NA	0.0	NA	0.0
% Other Medicaid	1.6	NA	18.7	NA	4.0
% Other	3.4	NA	5.4	NA	3.1
Family Income (% of federal poverty limit)					
< 100	2.9	16.3	22.6	47.5	9.9
100 - 199	11.6	34.3	17.6	27.9	15.9
200 - 299	19.1	20.9	18.7	12.0	18.8
300 +	66.5	28.6	41.1	12.7	55.4
Unweighted Sample	**16,583**	**2,545**	**3,780**	**1,231**	**24,139**
SOURCE: The Lewin Group analysis of the 1993 Survey of Income and Program Participation.					

EXHIBIT III-4: Characteristics of Persons with Disabilities Age 18-64 by Employment and Insurance Status in the 1993 SIPP					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	12,680	2,637	12,080	2,656	30,052
Row Percent	42.2	8.8	40.2	8.8	100.0
Gender					
% Male	53.8	61.0	39.2	51.0	48.3
% Female	46.2	39.0	60.8	49.0	51.7
Age					
Mean	44	38	46	44	44
Median	45	39	49	46	46
% 18-29	12.8	25.5	14.9	15.2	14.9
% 30-49	53.3	54.6	38.0	47.7	46.8
% 50-64	33.9	19.9	47.2	37.2	38.3
Education					
Mean	13	12	11	11	12
Median	12	12	12	12	12
Less than HS grad	15.2	31.1	40.7	47.0	29.6
HS Graduate	40.4	44.7	37.9	38.6	39.6
1-4 Years of College	24.4	17.8	14.2	11.0	18.5
College Graduate	20.1	6.4	7.3	3.4	12.2
Employment					
% Full-time	72.2	58.7	NA	NA	35.6
% Part-time	12.5	18.0	NA	NA	6.8
% Self-employed	15.4	23.3	NA	NA	8.5
Program Participation					
% With Program Participation	6.7	5.5	55.0	19.4	27.1
% SSI and DI	6.0	0.0	7.3	0.0	6.6
% SSI Only	40.1	0.0	34.3	0.0	31.8
% DI Only	17.3	0.0	34.9	25.2	32.1
% AFDC	16.5	0.0	19.6	0.0	17.7
% General Assistance	1.6	8.1	3.4	8.2	3.6
% Food Stamps	37.2	85.6	41.7	69.6	43.8
% WIC	12.5	18.2	6.7	8.6	7.6
% Other Welfare	1.3	4.7	1.0	2.1	1.2
Health Insurance					
% Private Only	85.1	NA	37.3	NA	51.3
% Medicaid + Medicare	0.4	NA	7.0	NA	3.0
% Other Medicare	2.1	NA	17.5	NA	7.9
% Other Medicaid	6.4	NA	34.6	NA	16.6
% Other	4.9	NA	3.6	NA	3.5
Family Income (% of federal poverty limit)					
< 100	6.0	20.8	32.8	50.6	22.0
100 - 199	15.9	38.4	24.4	29.9	22.5
200 - 299	19.8	20.4	17.3	8.3	17.8
300 +	58.3	20.5	25.6	11.2	37.7
Disability					
% Not Severely Disabled	80.1	78.1	29.9	34.7	44.3
% Severely Disabled	19.9	21.9	70.1	65.3	55.7
ADL/IADL Difficulty					
No ADL/IADL Difficulty	87.0	86.3	66.2	70.4	77.1
IADLs Only	5.9	5.0	13.8	11.6	9.5
1-2 ADLs/IADLs	4.5	5.3	6.6	6.0	5.6
3+ ADLs/IADLs	2.6	3.3	13.4	11.9	7.8

EXHIBIT III-4 (*continued*)					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Condition Causing Disability					
Musculoskeletal Condition	30.3	39.8	34.4	40.9	33.7
Mental Disorder	3.3	5.8	8.3	7.7	5.9
Mental Retardation	1.4	0.7	2.8	2.4	2.0
Cardiovascular Condition	6.4	5.4	9.6	6.9	7.6
Other Condition	26.2	24.8	34.1	29.4	29.6
Unknown Condition	32.4	23.5	10.7	12.7	21.2
Unweighted Sample	**2,437**	**483**	**2,279**	**488**	**5,687**
SOURCE: The Lewin Group analysis of the 1993 Survey of Income and Program Participation.					

EXHIBIT III-5: Characteristics of Persons without Disabilities Age 18-64 by Employment and Insurance Status in the 1994 NHIS					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	14,950	78,550	17,560	5,865	116,925
Row Percent	67.2	12.8	15.0	5.0	100.0
Gender					
% Male	53.1	62.0	26.3	38.5	49.4
% Female	46.9	38.1	73.7	61.5	50.6
Age					
Mean	38	33	38	33	37
Median	38	31	36	31	37
% 18-29	25.2	46.3	36.1	47.9	30.9
% 30-49	56.6	45.2	36.7	39.5	51.2
% 50-64	18.2	8.6	27.3	12.6	17.9
Education[1]					
Mean	14	12	13	11	13
Median	13	12	12	11	12
Less than HS grad	8.2	25.1	18.9	36.6	13.5
HS Graduate	35.2	42.9	38.4	38.4	37.1
1-4 Years of College	26.2	19.9	24.3	17.5	24.7
College Graduate	30.0	11.1	17.8	7.5	24.6
Employment					
% Employed	100.0	100.0	NA	NA	79.9
% Unemployed	0.0	0.0	13.9	26.9	3.4
% Not in Labor Force	0.0	0.0	86.1	73.1	16.6
Health Insurance[2]					
% Private Only	95.5	NA	75.0	NA	75.4
% Medicaid + Medicare	0.0	NA	0.1	NA	0.0
% Other Medicare	0.1	NA	0.7	NA	0.1
% Other Medicaid	1.5	NA	16.4	NA	3.5
% Other	2.9	NA	7.8	NA	3.1
Family Income[3] (% of federal poverty limit)					
< 100	4.2	21.8	22.0	39.6	10.5
100 - 199	13.4	39.6	18.5	36.0	18.5
200 - 299	26.2	21.3	23.9	13.7	25.0
300 +	56.2	17.3	35.6	10.7	46.1
Unweighted Sample	**31,564**	**5,810**	**7,166**	**2,323**	**46,763**

SOURCE: The Lewin Group analysis of the 1994 National Health Interview Survey on Disability.

1. Approximately 0.9 percent of the sample is missing information on education, these percentages do not reflect persons with missing values.
2. Approximately 4.9 percent of the sample is missing information on health insurance, these percentages do not reflect persons with missing values.
3. Approximately 13.5 percent of the sample is missing information on income, these percentages do not reflect persons with missing values.

EXHIBIT III-6: Characteristics of Persons with Disabilities Age 18-64 by Employment and Insurance Status in the 1993 NHIS					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	12,360	2,857	10,390	2,453	28,060
Row Percent	44.0	10.2	37.0	8.7	100.0
Gender					
% Male	54.6	60.0	39.5	41.4	48.3
% Female	45.4	40.0	60.5	58.6	51.7
Age					
Mean	43	38	47	42	44
Median	44	38	50	43	45
% 18-29	13.8	26.8	13.0	20.8	15.4
% 30-49	56.2	53.6	37.5	46.3	48.2
% 50-64	30.0	19.6	49.5	32.9	36.4
Education[1]					
Mean	13	12	11	12	12
Median	13	12	12	12	12
Less than HS grad	12.6	28.7	36.0	43.5	25.6
HS Graduate	38.3	40.3	38.2	38.4	38.6
1-4 Years of College	24.7	20.7	16.8	13.7	20.4
College Graduate	24.1	10.0	9.0	4.3	15.4
Employment					
% Employed	100.0	100.0	0.0	0.0	54.3
% Unemployed	0.0	0.0	6.6	20.2	4.2
% Not in Labor Force	0.0	0.0	93.4	79.9	41.5
Health Insurance[2]					
% Private Only	87.8	NA	40.2	NA	53.6
% Medicaid + Medicare	0.5	NA	6.9	NA	2.7
% Other Medicare	1.3	NA	17.7	NA	7.1
% Other Medicaid	4.1	NA	26.6	NA	11.7
% Other	6.4	NA	8.6	NA	6.0
Family Income[3] (% of federal poverty limit)					
< 100	6.8	27.9	31.1	44.2	20.6
100 - 199	16.3	39.4	27.1	36.3	24.2
200 - 299	26.4	18.6	18.1	10.9	21.6
300 +	50.4	14.1	23.7	8.6	33.5
Disability					
% Non-Severe Disability	84.0	84.1	71.0	42.2	60.9
% Severe Disability	16.0	15.9	69.0	57.7	39.1
ADL/IADL Difficulty					
No ADL/IADL Difficulty	93.3	94.1	74.3	84.5	85.6
IADLs Only	3.1	2.6	11.5	7.5	6.5
1-2 ADLs/IADLs	1.9	1.9	4.3	3.2	2.9
3+ ADLs/IADLs	1.7	1.4	9.9	4.8	4.9

EXHIBIT III-6 (*continued*)					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Condition Causing Disability					
Musculoskeletal Condition	18.6	20.5	27.6	28.2	22.8
Mental Disorder	3.4	4.0	11.5	11.6	7.1
Mental Retardation	1.1	0.2	3.0	0.4	1.6
Cardiovascular Condition	1.6	1.7	6.1	3.1	3.4
Other Condition	9.6	8.9	14.7	11.7	11.6
Unknown Condition	65.8	64.8	37.1	44.9	53.6
Unweighted Sample	**5,038**	**1,135**	**4,408**	**1,008**	**11,589**

SOURCE: The Lewin Group analysis of the 1994 National Health Interview Survey on Disability.

1. Approximately 0.6 percent of the sample is missing information on education, these percentages do not reflect persons with missing values.
2. Approximately 5.5 percent of the sample is missing information on health insurance, these percentages do not reflect persons with missing values.
3. Approximately 13.8 percent of the sample is missing information on income, these percentages do not reflect persons with missing values.

4. Characteristics of Disability Program Participants and Non-Participants

We also examine the characteristics of SSI and DI participants relative to the characteristics of persons with disabilities who are not participating in either DI or SSI. The findings, presented in **Exhibit III-7** and **Exhibit III-8**, include:

- Program participants appear to be in worse health than persons with disabilities who do not participate in DI or SSI. First, they are more likely to have severe disabilities relative to non- participants with disabilities (84 percent versus 35 percent). They are also more likely to have an ADL or IADL difficulty, and are more likely to have three or more ADL/IADL difficulties (47 percent compared to 17 percent, and 20 percent versus 5 percent, respectively).

- Disability program participants have lower educational attainment, with both a lower proportion of college graduates and a higher proportion of high school dropouts.

- Program participants who are employed have a much higher rate of part-time employment than do employed non-participants.

There is less reliance on private health insurance among program participants; this is likely a result of Medicare availability for DI beneficiaries and Medicaid availability for SSI recipients.

EXHIBIT III-7: Characteristics of Persons with Disabilities Not Participating in Either DI or SSI, by Employment and Insurance Status in the 1993 SIPP					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	12,140	2,637	7,002	2,525	24,304
Row Percent	50.0	10.8	28.8	10.4	100.0
Gender					
% Male	53.9	61.0	32.0	50.3	48.0
% Female	46.1	39.0	68.0	49.7	52.0
Age					
Mean	44	38	46	44	44
Median	45	39	49	45	45
% 18-29	12.3	25.5	15.7	15.5	15.1
% 30-49	53.1	54.6	36.9	48.8	48.1
% 50-64	34.7	19.9	47.4	35.7	36.8
Education					
Mean	13	11	12	11	12
Median	12	12	12	12	12
Less than HS grad	14.5	31.1	33.7	45.9	25.1
HS Graduate	40.2	44.7	41.5	39.1	40.9
1-4 Years of College	24.7	17.8	16.0	11.6	20.1
College Graduate	20.6	6.4	8.9	3.4	13.9
Employment					
% Full-time	73.5	58.7	NA	NA	43.1
% Part-time	11.1	18.0	NA	NA	7.5
% Self-employed	15.5	23.3	NA	NA	10.2
Program Participation					
% With Program Participation	2.6	5.5	22.3	15.2	9.9
% AFDC	40.3	0.0	58.7	0.0	43.4
% General Assistance	4.5	8.1	12.1	11.0	10.7
% Food Stamps	69.8	85.6	89.7	88.8	86.7
% WIC	29.6	18.2	20.2	11.4	19.9
% Other Welfare	3.4	4.7	3.5	2.9	3.5
Health Insurance					
% Private Only	89.7	NA	61.0	NA	62.4
% Medicaid + Medicare	0.1	NA	0.7	NA	0.3
% Other Medicare	3.7	NA	26.4	NA	9.5
% Other Medicaid	1.4	NA	6.0	NA	2.4
% Other	5.1	NA	5.9	NA	4.3
Family Income (% of federal poverty limit)					
< 100	5.7	20.8	28.7	51.1	18.7
100 - 199	14.8	38.4	21.6	30.0	20.9
200 - 299	19.9	20.4	18.4	7.8	18.3
300 +	59.5	20.5	31.0	11.2	42.1
Disability					
% Not Severely Disabled	81.3	78.1	42.8	36.5	65.2
% Severely Disabled	18.7	21.9	57.2	63.5	34.8
ADL/IADL Difficulty					
No ADL/IADL Difficulty	88.1	86.3	76.1	72.8	82.9
IADLs Only	5.0	5.0	9.3	10.7	6.8
1-2 ADLs/IADLs	4.6	5.3	6.5	5.8	5.3
3+ ADLs/IADLs	2.3	3.3	8.1	10.8	5.0

EXHIBIT III-7 (*continued*)					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Condition Causing Disability					
Musculoskeletal Condition	31.1	39.8	36.6	40.6	43.6
Mental Disorder	3.0	5.8	5.4	7.7	4.5
Mental Retardation	0.7	0.7	1.3	2.2	1.0
Cardiovascular Condition	6.5	5.4	8.8	6.6	7.1
Other Condition	26.4	24.8	34.5	29.5	28.9
Unknown Condition	32.4	23.5	13.5	13.4	24.0
Unweighted Sample	**2,341**	**483**	**1,348**	**465**	**4,637**
SOURCE: The Lewin Group analysis of the 1993 Survey of Income and Program Participation.					

EXHIBIT III-8: Characteristics of Persons with Disabilities Participating in Either DI or SSI by Employment and Insurance Status in the 1993 SIPP					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Total					
Total (1,000s)	537	0	5,077	130	5,744
Row Percent	9.4	0.0	88.4	2.3	100.0
Gender					
% Male	51.3		49.1	63.8	49.6
% Female	48.7		50.9	36.2	50.4
Age					
Mean	37		46	52	45
Median	37		49	56	48
% 18-29	23.3		13.7	8.6	14.5
% 30-49	60.0	---	39.5	26.4	41.1
% 50-64	16.8	---	46.9	64.9	44.4
Education					
Mean	12	---	11	10	11
Median	12	---	12	10	12
Less than HS grad	30.4	---	50.3	68.8	48.9
HS Graduate	44.5	---	33.1	27.5	34.0
1-4 Years of College	17.5	---	11.5	0.0	11.8
College Graduate	7.5	---	5.1	3.7	5.3
Employment					
% Full-time	43.5		NA	NA	4.1
% Part-time	43.6		NA	NA	4.1
% Self-employed	12.9	---	NA	NA	1.2
Program Participation					
% With Program Participation	100.0	---	100.0	100.0	100.0
% Concurrent (SSI & DI)	9.4	---	9.5	0.0	9.3
% SSI Only	63.2	---	44.9	0.0	45.6
% DI Only	27.3	---	45.6	100.0	45.1
% AFDC	2.7	---	7.5	0.0	6.9
% General Assistance	0.0	---	0.7	0.7	0.6
% Food Stamps	18.4	---	26.9	12.7	25.8
% WIC	2.6	---	2.5	0.0	2.5
% Other Welfare	0.0	---	0.3	0.0	0.2
Health Insurance					
% Private Only	6.0	NA	4.5	NA	4.6
% Medicaid + Medicare	8.3	NA	15.7	NA	14.7
% Other Medicare	18.4	NA	33.4	NA	31.2
% Other Medicaid	67.3	NA	45.9	NA	46.9
% Other	0.0	NA	0.5	NA	0.4
Family Income (% of federal poverty limit)					
< 100	13.1	---	38.4	42.2	36.1
100 - 199	40.8	---	28.3	27.9	29.5
200 - 299	15.7	---	15.7	17.9	15.7
300 +	30.4	---	17.6	12.0	18.7
Disability					
% Not Severely Disabled	53.8	---	12.1	0.0	15.8
% Severely Disabled	46.2	---	87.9	100.0	84.2
ADL/IADL Difficulty					
No ADL/IADL Difficulty	61.5		52.6	25.3	52.7
IADLs Only	26.4		19.9	30.4	20.7
1-2 ADLs/IADLs	3.2		6.8	11.0	6.5
3+ ADLs/IADLs	9.0	---	20.8	34.4	20.0

EXHIBIT III-8 (*continued*)					
Characteristics	**Employed**		**Not Employed**		**Total**
	Insured	**Not insured**	**Insured**	**Not insured**	
Condition Causing Disability					
Musculoskeletal Condition	12.7	---	31.4	45.2	30.0
Mental Disorder	10.2	---	12.4	7.9	12.1
Mental Retardation	18.4	---	5.0	6.5	6.3
Cardiovascular Condition	4.2	---	10.6	13.5	10.1
Other Condition	22.6	---	33.7	27.0	32.5
Unknown Condition	32.0	---	6.9	0.0	9.1
Unweighted Sample	**96**		**931**	**23**	**1,050**
SOURCE: The Lewin Group analysis of the 1993 Survey of Income and Program Participation.					

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APPENDIX A. SECTION 1619 OF THE SOCIAL SECUIRTY ACT

BENEFITS FOR INDIVIDUALS WHO PERFORM SUBSTANTIAL GAINFUL ACTIVITY DESPITE SEVERE MEDICAL IMPAIRMENT[22]

SEC. 1619.[42 U.S.C. 1382h] (a)(1) Except as provided in section 1631(j), any individual who was determined to be an eligible individual (or eligible spouse) by reason of being under a disability and was eligible to receive benefits under section 1611 (or a federally administered State supplementary payment) for a month and whose earnings in a subsequent month exceed the amount designated by the Commissioner of Social Security ordinarily to represent substantial gainful activity shall qualify for a monthly benefit under this subsection for such subsequent month (which shall be in lieu of any benefit under section 1611) equal to an amount determined under section 1611(b)(1) (or, in the case of an individual who has an eligible spouse, under section 1611(b)(2)), and for purposes of title XIX shall be considered to be receiving supplemental security income benefits under this title, for so long as--

> (A) such individual continues to have the disabling physical or mental impairment on the basis of which such individual was found to be under a disability; and
>
> (B) the income of such individual, other than income excluded pursuant to section 1612(b), is not equal to or in excess of the amount which would cause him to be ineligible for payments under section 1611 and such individual meets all other non-disability-related requirements for eligibility for benefits under this title.

(2) The Commissioner of Social Security shall make a determination under paragraph (1)(A) with respect to an individual not later than 12 months after the first month for which the individual qualifies for a benefit under this subsection.

(b)(1) Except as provided in section 1631(j), for purposes of title XIX, any individual who was determined to be a blind or disabled individual eligible to receive a benefit under section 1611 or any federally administered State supplementary payment for a month and who in a subsequent month is ineligible for benefits under this title (and for any federally administered State supplementary payments) because of his or her income shall, nevertheless, be considered to be receiving supplemental security income

[22] Reprinted from the *Compilation of the Social Security Laws Including the Social Security Act, As Amended, and Related Enactments Through January 1, 1997, Volume 1*. Compiled by The Social Security Administration, Office of Program Support. Document is available via the World Wide Web at the following address: http://www.ssa.gov/OP_Home/ssact/comp-ssa.htm.

benefits for such subsequent month provided that the Commissioner of Social Security determines under regulations that--

> (A) such individual continues to be blind or continues to have the disabling physical or mental impairment on the basis of which he was found to be under a disability and, except for his earnings, meets all non-disability-related requirements for eligibility for benefits under this title;
>
> (B) the income of such individual would not, except for his earnings and increases pursuant to section 215(i) in the level of monthly insurance benefits to which the individual is entitled Uder title II that occur while such individual is considered to be receiving supplemental security income benefits by reason of this subsection, be equal to or in excess of the amount which would cause him to be ineligible for payments under section 1611(b) (if he were otherwise eligible for such payments);
>
> (C) the termination of eligibility for benefits under title XIX would seriously inhibit his ability to continue his employment; and
>
> (D) such individual's earnings are not sufficient to allow him to provide for himself a reasonable equivalent of the benefits under this title (including any federally administered State supplementary payments), benefits under title XIX, and publicly funded attendant care services (including personal care assistance), which would be available to him in the absence of such earnings.

(2)(A) Determinations made under paragraph (1)(D) shall be based on information and data updated no less frequently than annually.

(B) In determining an individual's earnings for purposes of paragraph (1)(D), there shall be excluded from such earnings an amount equal to the sum of any amounts which are or would be excluded under clauses (ii) and (iv) of section 1612(b)(4)(B) (or under clauses (ii) and (iii) of section 1612(b)(4)(A)) in determining his or her income.

(3) In the case of a State that exercises the option under section 1902(f), any individual who--

> (A)(i) qualifies for a benefit under subsection (a), or (ii) meets the requirements of paragraph (1); and
>
> (B) was eligible for medical assistance under the State plan approved under title XIX in the month immediately preceding the first month in which the individual qualified for a benefit under such subsection or met such requirements,

shall remain eligible for medical assistance under such plan for so long as the individual qualifies for a benefit under such subsection or meets such requirements.

(c) Subsection (a)(2) and section 1631(j)(2)(A) shall not be construed, singly or jointly, to require more than 1 determination during any 12-month period with respect to the continuing disability or blindness of an individual.

(d) The Commissioner of Social Security and the Secretary of Education shall jointly develop and disseminate information, and establish training programs for staff personnel, with respect to the potential availability of benefits and services for disabled individuals under the provisions of this section. The Commissioner of Social Security shall provide such information to individuals who are applicants for and recipients of benefits based on disability under this title and shall conduct such programs for the staffs of the district offices of the Social Security Administration. The Secretary of Education shall conduct such programs for the staffs of the State Vocational Rehabilitation agencies, and in cooperation with such agencies shall also provide such information to other appropriate individuals and to public and private organizations and agencies which are concerned with rehabilitation and social services or which represent the disabled.

APPENDIX B. AUXILIARY RESULTS FROM EARNINGS EQUATIONS

Model Feature	1990-1991			1990-1996		
	Model A	Model B	Model C	Model A	Model B	Model C
Includes Exiters			X			X
Includes Change in Unearned Income Variables	X			X		
Sample Size	110,989	110,989	123,075	78,198	78,198	119,332
Changes from Base Year						
▵ Unearned Income above Base Year Scheduled SSI Payment	-0.040* (0.011)	NA	NA	0.096* (0.010)	NA	NA
▵ Unearned Income up to Base Year Scheduled SSI Payment	-0.123* (0.009)	NA	NA	-0.145* (0.009)	NA	NA
▵ State Supplement Interacted with Top 5% Dummy	-4.761* (0.553)	-4.514* (0.554)	-4.690* (0.438)	-1.485* (0.342)	-1.680* (0.345)	-0.935* (0.202)
▵ State Supplement Interacted with Next 5% Dummy	-3.226* (0.652)	-2.915* (0.653)	-4.519* (0.565)	-0.499 (0.350)	-0.522 (0.352)	-2.937* (0.244)
▵ State Supplement Interacted with Next 15% Dummy	-1.428* (0.318)	-1.634* (0.317)	-2.209* (0.294)	0.281 (0.153)	0.151 (0.154)	-0.612* (0.132)
▵ State Supplement Interacted with Next 25% Dummy	-0.665* (0.181)	-0.636* (0.181)	-0.932* (0.168)	0.068 (0.086)	0.047 (0.086)	-0.421 (0.084)
▵ Unemployment Rate Interacted with Top 5% Dummy	-86.678 (66.820)	-133.385 (66.907)	110.683 (57.936)	-34.614 (87.741)	-81.500 (88.280)	260.458* (66.410)
▵ Unemployment Rate Interacted with Next 5% Dummy)	-9.690 (57.775)	-34.764 (57.897)	188.981* (57.501)	16.326 (68.155)	67.475 (68.466)	281.834* (63.301)
▵ Unemployment Rate Interacted with Next 15% Dummy	10.369 (37.238)	1.685 (37.330)	175.709* (38.440)	-80.185 (41.812)	-50.687 (42.061)	171.284* (44.380)
▵ Unemployment Rate Interacted with Next 25% Dummy	25.148 (29.854)	18.696 (29.917)	137.000* (31.196)	-57.322 (34.317)	-45.273 (34.532)	74.652 (38.913)
1990 Chargeable Unearned Income	-0.078* (0.010)	-0.117* (0.010)	-0.167* (0.009)	-0.071* (0.018)	-0.105* (0.018)	-0.164* (0.017)
Base Year Chargeable Unearned Income						
Square of 1990 Chargeable Unearned Income	0.012* (0.002)	0.021* (0.002)	0.029* (0.001)	0.008 (0.003)	0.020* (0.003)	0.027* (0.002)
Chargeable Unearned Income Interacted with Top 5% Dummy	-0.553* (0.025)	-0.415* (0.023)	-0.533* (0.019)	-0.730* (0.055)	-0.380* (0.050)	-0.658* (0.035)
Chargeable Unearned Income Interacted with Next 5% Dummy	-0.310* (0.025)	-0.289* (0.024)	-0.488* (0.022)	-0.322* (0.053)	-0.171* (0.052)	-0.791* (0.039)
Chargeable Unearned Income Interacted with Next 15% Dummy	-0.277* (0.016)	-0.272* (0.016)	-0.376* (0.015)	-0.266* (0.032)	-0.184* (0.032)	-0.550* (0.027)
Chargeable Unearned Income Interacted with Next 25% Dummy	-0.162* (0.012)	-0.166* (0.012)	-0.209* (0.012)	-0.103* (0.022)	-0.090* (0.022)	-0.303* (0.021)

Model Feature	1990-1991			1990-1996		
	Model A	Model B	Model C	Model A	Model B	Model C
Base Year and Historical Social Security Earnings						
1990 Social Security Earnings	-0.182* (0.009)	-0.184* (0.009)	-0.159* (0.008)	-0.469* (0.017)	-0.477* (0.017)	-0.562* (0.015)
Mean Social Security Earnings, 1987-89	-0.005* (0.004)	-0.068* (0.004)	-0.159* (0.003)	0.163* (0.008)	0.150* (0.008)	-0.014* (0.005)
Dummy for Top 5% of Earners in 1990	-515.364* (99.382)	-476.883* (99.638)	-293.078 (94.505)	-1,251.420* (191.315)	-985.707* (192.399)	253.428 (169.856)
Dummy for Next 5% of Earners in 1990	-505.844 (65.357)	-474.588* (65.522)	-371.851* (62.274)	-1,119.950* (126.574)	-897.152* (127.215)	334.481* (111.745)
Dummy for Next 15% of Earners in 1990	-232.905* (39.375)	-236.649* (39.481)	-140.350* (38.073)	-601.674* (75.452)	-536.543* (75.881)	307.077* (68.197)
Dummy for Next 25% of Earners in 1990	-58.273* (22.233)	-64.083* (22.291)	-14.258 (22.531)	-162.248* (40.710)	-172.636* (40.951)	223.504* (40.171)
1990 Social Security Earnings Interacted with Top 5% Dummy	-0.067* (0.010)	-0.047* (0.010)	-0.142* (0.008)	-0.029 (0.024)	0.057 (0.023)	-0.143* (0.014)
1990 Social Security Earnings Interacted with Next 5% Dummy	-0.082* (0.012)	-0.074* (0.012)	-0.201* (0.010)	-0.022 (0.026)	0.034 (0.026)	-0.197* (0.018)
1990 Social Security Earnings Interacted with Next 15% Dummy	-0.067* (0.008)	-0.065* (0.008)	-0.132* (0.007)	-0.059* (0.017)	0.031 (0.017)	-0.188* (0.013)
1990 Social Security Earnings Interacted with Next 25% Dummy	-0.027* (0.007)	-0.028* (0.007)	-0.057* (0.007)	0.023 (0.013)	0.025 (0.013)	-0.089* (0.012)
Base Year Demographic and Disability Characteristics						
Age 18-25	17.390 (18.601)	23.275 (18.650)	-9.940 (19.970)	389.811* (31.992)	400.897* (32.207)	631.389* (35.496)
Age 30-34	-83.383* (20.607)	-90.448* (20.662)	-88.991* (21.987)	-189.753* (35.507)	-205.114* (35.743)	-322.736* (38.975)
Age 35-39	-117.609* (23.277)	-129.070* (23.336)	-179.039* (24.660)	-387.899* (40.323)	-401.681* (40.585)	-625.264* (43.798)
Age 40-44	-103.213* (26.647)	-113.732* (26.717)	-212.344* (28.092)	-517.076* (45.603)	-516.544* (45.893)	-782.003* (49.888)
Age 45-49	-220.802* (32.602)	-232.975* (32.687)	-356.728* (34.062)	-733.875* (55.356)	-735.436* (55.706)	-1,127.559* (60.788)
Sex	78.523* (13.553)	74.491* (13.590)	51.421* (14.479)	312.742* (23.215)	305.641* (23.370)	347.964* (25.719)
Neoplasm	262.516 (109.011)	276.506 (109.313)	36.702 (95.985)	-198.545 (255.485)	-187.899 (257.213)	2,390.142* (196.278)
Endocrine and Blood Disorders	-450.741* (76.266)	-434.696* (76.476)	-309.355* (77.925)	-198.135 (132.344)	175.628 (133.229)	130.047 (142.802)
Mental Disorders	-274.066* (22.355)	-261.491* (22.408)	-240.189* (23.912)	-487.826* (38.305)	-436.875* (38.520)	-255.261* (42.600)
Mental Retardation	78.187* (22.063)	89.346* (22.119)	81.376* (23.733)	-5.932 (37.792)	11.233 (38.043)	-135.425* (42.076)
Central Nervous System Disorders	166.090* (36.300)	181.291* (36.393)	270.343* (38.206)	432.769* (64.384)	493.668* (64.788)	1,384.229* (68.380)
Circulatory Disorders	-237.780 (96.734)	-230.698 (96.994)	-903.559* (85.749)	-179.713 (181.317)	-80.616 (182.509)	-624.000* (157.664)
Respiratory Disorders	-580.059* (158.598)	-578.019* (159.036)	-731.469* (151.260)	437.840 (279.936)	534.730 (281.817)	958.889 (283.042)
Digestive Disorders	-305.361 (233.671)	-280.539 (234.318)	82.737 (206.285)	-209.882 (465.361)	-195.887 (468.513)	1,968.747* (390.713)
Genito-urinary Disorders	-135.446 (101.905)	-123.706 (102.185)	-40.073 (93.132)	250.492 (196.868)	359.260 (198.167)	1,544.655* (171.294)
Other Disorders	-79.060 (186.355)	-63.746 (186.870)	-126.986 (188.884)	162.352 (340.654)	172.909 (342.961	(497.937 (341.322)
Musculoskeletal Disorders	259.091* (83.003)	266.316* (83.229)	86.403 (80.914)	306.476 (153.379)	376.365 (154.399)	863.856* (146.452)
Congenital Disorders	49.485 (100.088)	54.866 (100.364)	47.321 (108.417)	203.898 (174.437)	193.318)	61.646 (192.959)
Injury	140.840 (71.040)	134.076 (71.235)	-57.032 (69.304)	375.167* (131.796)	434.261* (132.663)	1,399.264* (124.290)

Model Feature	1990-1991			1990-1996		
	Model A	**Model B**	**Model C**	**Model A**	**Model B**	**Model C**
Disability Permanent	22.891 (21.276)	20.572 (21.334)	-12.529 (22.756)	37.675 (36.347)	30.637 (36.590)	-52.645 (40.382)
Disability Permanent Missing	-75.669* (20.426)	-74.854* (20.478)	-134.409* (21.851)	-65.133 (35.262)	-80.098 (35.476)	-214.974* (38.697)
Alcoholic	-162.912 (164.428)	-154.594 (164.876)	-252.582 (172.415)	12.607 (302.098)	21.521 (304.147)	736.452 (312.789)
Drug Addict	300.990 (199.231)	295.040 (199.786)	470.973 (207.635)	-563.493 (354.936)	-534.050 (357.340)	1,384.314* (370.737)

APPENDIX C. DESCRIPTION OF THE SIPP AND NHIS-D VARIABLES USED IN THE ANALYSIS

1. Variables used in the SIPP

a) Identification of DI Beneficiaries

There is, unfortunately, no direct DI benefit question in every wave of the SIPP that we can use to identify a sample of DI beneficiaries. Only during the first interview are respondents asked about the reason for which they are receiving Social Security benefits. We use information, however, from the SIPP Functional Limitations Topical Modules to identify people who started receiving benefits after the first interview.[23] Our constructed sample of DI beneficiaries includes individuals aged 18 to 64 who received Social Security benefits in September of 1993 and:

- Responded "Disabled" as the reason for receiving Social Security beneficiaries in the first wave;[24]
- Responded "don't know" or "some other reason" as the reason for receiving Social Security beneficiaries in the first wave and reported receiving Medicare in September 1993;[25] and
- Reported receiving Social Security disability benefits in the past twelve months;

b) Health Insurance

The construction of our variable for health insurance status made use of several variables included in the SIPP. Persons were classified as having private health insurance only if they were identified as having health insurance coverage, and did not have Medicaid, Medicare, Champus, ChampVA, or military coverage. Persons were classified as having Medicare and Medicaid if indicated by the predefined variables contained in the SIPP. The other insurance category includes persons with Champus and military health care coverage. Finally, persons are classified as uninsured if they do not have any of the health insurance categories contained in the SIPP and

[23] In the Functional Limitations Topical Module (in the sixth wave of the 1992 SIPP and third wave of the 1993 SIPP), respondents are asked about whether they have ever received Social Security disability benefits in the past twelve months.

[24] The other categories include retired, widowed or surviving child, spouse or dependent child, some other reason, and don't know.

[25] Social Security recipients under the age of 65 are only eligible for Medicare if they are receiving benefits based on disability (after a two year waiting period). The only other group of individuals under age 65 eligible for Medicare are those with end stage renal disease.

c) Employment Status

The variables in the SIPP allow us to establish three measures of employment; full-time employment, part-time employment, and self-employment. Sample people are considered to be employed full-time if they respond that they worked more than 140 hours a month. Persons are considered employed on a part time basis if they work less than 140 hours a month. Finally, people are identified as self-employed if they reported one or more weeks of self-employed work during the month.

d) Presence of ADL or IADL Difficulties

Similar to the NHIS-D, the SIPP contains a range of questions designed to identify whether persons have ADL and IADL difficulties. We consider the following ADL difficulties identified in the SIPP: bathing or showering, dressing, eating, getting in or out of chairs or bed, and using the toilet (including getting to the toilet). We also consider the following IADL difficulties: preparing meals, getting around outside the home (shopping), keeping track of money and bills, using the telephone, and doing housework. We sum the number of ADLs and IADLs and then group them according to the categories used in our analysis.

e) Health Condition Responsible for ADL or IADL Difficulties

Persons with ADL or IADL difficulties, functional limitations, or work limitations are asked to classify the condition that causes these difficulties according to a list of approximately 30 types of disorders, including those of interest to our study. Insofar as some of the categories presented in the SIPP must be combined to form the categories that we present in our analysis, there is a potential for misclassification that does not occur with the more comprehensive NHIS condition variables. We include four major condition groups, which include the following SIPP condition groupings:

- cardiovascular conditions;
- mental disorders;
- mental retardation; and
- musculoskeletal conditions.

2. Variables used in the NHIS

a) Income as a Percentage of the Federal Poverty Line

Because the NHIS does not contain a broad measure of the federal poverty threshold applicable to a family of a certain size, it is necessary to assign the appropriate threshold and then compare this threshold to family income. In order to assign the proper threshold we first grouped families, and then computed the age of the household head and number of children. The household head is defined as the family member who is working, has the highest level of education, or is the oldest, where the criteria are evaluated in this order. Once the appropriate poverty thresholds were

assigned, we computed income as a percent of the poverty line. Because income is reported in $5,000 intervals, we used the midpoint of the applicable income range for our analysis. We also note that families with incomes over $50,000 were not assigned categories specific to their income, but rather all grouped in a single category containing all families with income in excess of $50,000. We assigned all the income of $50,000 to all such persons. This may cause our estimates to overstate the number of individuals in poverty because large families may have poverty thresholds up to $32,000; if such families actually earned $100,000 they would actually have income in excess of 300 percent of the poverty line, but would be mistakenly grouped in the 100 - 200 percent of poverty category. This effect should be limited in scope, however, as poverty levels become sufficiently large for only the largest families (six or more individuals).

b) Health Insurance

Measures of health insurance status were constructed using a combination of variables. Individuals were coded as having private insurance only if they had one or more private plans and did not receive Medicare, Medicaid, Champus, Indian Health, or Military Benefits. Individuals were coded as being uninsured if they were covered by none of the aforementioned sources and were identified as not having any coverage according to the NHIS variable for coverage status.

c) Presence of ADL or IADL Difficulties

The NHIS-D contains a range of questions designed to identify whether persons have difficulty performing a range of ADLs and IADLs. We consider the five core ADL difficulties including: bathing, dressing, eating, getting in or out of chairs or bed, and using the toilet. IADL difficulties considered include: preparing meals, shopping, managing money, using the telephone, and carrying out light work around the house. Persons were classified as having difficulty with a certain activity if they reported: a need for help or supervision, difficulty, or an inability to carry out the activity. We summed the number of ADLs and IADLs and then grouped them according to the categories designed to serve as proxies for a sample person’s overall level of difficulties with ADLs and IADLs.

d) Health Condition Responsible for ADL or IADL Difficulties

The health condition responsible for causing ADL or IADL difficulties can be identified using several variables provided in the NHIS-D. Because these variables have a considerable amount of missing values, we used a multi-step process to identify causing conditions.

We first considered variables from the NHIS-D person file that directly listed the condition responsible for ADL or IADL difficulties (in order to include the full range of possible conditions, we considered conditions both as classified by the NHIS ICD-9 rubric and chronic condition recode). If persons had values for these variables then the appropriate condition was assigned. For those individuals with missing values, we used

variables from the NHIS-D condition file, as advised by the National Center for Heath Statistics. If a particular condition was listed as the main cause of activity limitation and the primary cause of activity limitation, that condition was assigned as the cause of the person's ADL or IADL difficulties. The causing condition was defined as missing for the remainder of persons.

EXPLORATORY STUDY OF HEALTH CARE COVERAGE AND THE EMPLOYMENT OF PEOPLE WITH DISABILITIES

Reports Available

Exploratory Study of Health Care Coverage and Employment of People with Disabilities: Final Report

Executive Summary	http://aspe.hhs.gov/daltcp/reports/1998/eshccrptes.htm
HTML	http://aspe.hhs.gov/daltcp/reports/1998/eshccrpt.htm
PDF	http://aspe.hhs.gov/daltcp/reports/1998/eshccrpt.pdf

Exploratory Study of Health Care Coverage and Employment of People with Disabilities: Literature Review

Executive Summary	http://aspe.hhs.gov/daltcp/reports/1997/eshcclites.htm
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