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Income Inadequacy Problems Among the Disabled Adult Population in Massachusetts, 2003-2004: Implications for Future State Antipoverty and Workforce Development Policy

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Prepared for
The Commonwealth Corporation
and
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Introduction

The planning and design of education, employment and training, health care, housing, income transfer, rehabilitation, and support services programs for the disabled population in Massachusetts are dependent on the availability of timely and statistically reliable information on the size of the disabled population, their demographic and socioeconomic characteristics, the nature of their disabilities, their geographic locations across the state, their health status, and their labor market behaviors and problems. In our first research report in this series, the findings of the American Community Surveys for calendar years 2003 and 2004 were used to produce a comprehensive profile of the size and demographic/ socioeconomic characteristics of the state's 16-74 year old disabled population.[1] The findings for Massachusetts were compared with those for the disabled in the New England region and the entire U.S. Projections were made of changes in the size of the 55-74 year old disabled population in the state over the coming decade, and the implications of these projections for the state's vocational rehabilitation and workforce development systems were briefly assessed.

Our second paper provided a detailed description, analysis, and assessment of the labor market behaviors, experiences, and problems of the state's disabled 16-74 year old population.[2] The paper reviewed the labor force participation behavior, unemployment problems, and employment rates of the 16-74 year old disabled population and compared these findings to those of their non-disabled counterparts in the state and their disabled peers in the New England region and the nation. The labor market problems of the disabled in Massachusetts were examined, including high rates of open unemployment as well as problems of hidden unemployment and underemployment. The types of jobs held by the employed members of the disabled population were analyzed, including their class of worker status (self-employed, private sector wage and salary, public sector wage and salary), the industries of their employers, and the occupations of their jobs. The annual earnings of disabled workers, both overall and in a wide array of demographic, socioeconomic, and occupational subgroups, were examined, and the determinants of their annual earnings were

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[1] See: Andrew Sum, Ishwar Khatiwada, Paulo Tobar, with Sheila Palma and Joseph McLaughlin, The Adult Disabled Population (16-74) in Massachusetts: Its Size and Demographic / Socioeconomic Composition in 2003-2004, Prepared for the Commonwealth Corporation and the Massachusetts Rehabilitation Commission, Boston, March 2006.

[2] See: Ishwar Khatiwada, Andrew Sum, Joseph McLaughlin, with Sheila Palma and Paulo Tobar, The Labor Force Behaviors, Employment and Earnings Experiences, and Labor Market Problems of the Disabled Working-Age Population in Massachusetts, New England, and the U.S. in 2003 and 2004, Prepared for the Commonwealth Corporation and the Massachusetts Rehabilitation Commission, Boston, June 2006.

analyzed with the use of a set of multivariate statistical models based on key elements of human capital theory. The report also discussed the implications of the findings for future workforce development policy in the state, especially efforts to boost the future employability and earnings of the disabled in Massachusetts.

This paper is primarily designed to examine the economic well-being of the state's disabled adult population in recent years. The main focus is on estimating the incidence of various types of income inadequacy problems among the state's disabled population, including poverty, near poverty, and low income problems. To begin with a global perspective, disabled persons around the world are considerably more likely to be poor than their non-disabled counterparts. This is true for the U.S. and countries elsewhere. Cross-country studies on disability have consistently revealed that "poverty is a cause and consequence of disability. Poverty and disability reinforce each other,…".[3] The World Bank estimates that one in five of the world's poorest have a disability. To successfully combat poverty problems, policies should be designed to ameliorate poverty among disabled persons. These policies should be targeted towards increasing access to labor markets and to social and economic opportunities for disabled persons. Our study will reveal that a substantial share of the poor and near poor in Massachusetts were not employed in recent years. These high levels of joblessness reduce the real output performance of both national economies and the world. A study has estimated that globally $1.3 to $1.9 trillion in GDP was lost due to disability in 1993.[4] The same study estimated that the U.S. loses 4.4% of its GDP annually due to disability problems that reduce hours of work and productivity.

Our study will begin with a review of the concepts, measures, and data sources used to generate the measures of income inadequacy. The size of these problems among the disabled and the non-disabled population in Massachusetts be estimated. Variations in the incidence of such income inadequacy problems across key demographic and socioeconomic subgroups of the disabled population in the state also will be presented, and findings for Massachusetts will be compared to those for the disabled in the New England region and across the entire nation. The degree of overlap between the disabled population and the poor/near poor population of the state will be identified both overall and for selected age and educational subgroups. The implications of these findings on overlaps between both groups

[3] See: Department of International Development, Disability, Poverty and Development, Glasgow, United Kingdom, February 2000.
[4] See: Robert L. Metts, Disability Issues, Trends and Recommendations for The World Bank, The World Bank, February, 2000.

for future anti-poverty policy will be examined.[5] Findings of a set of multivariate statistical models designed to identify the personal demographic, human capital, family living arrangement, disability and employment factors influencing the poverty and near poverty status of members of the disabled population will be presented.

The analyses of income inadequacy problems among the disabled will be followed by a review of the fiscal effects on federal and state governments of employing the disabled. The budgetary analysis will include estimates of the amount of federal and state taxes paid by the employed and non-employed members of the disabled and the value of the cash and in-kind transfers received by the employed and non-employed members of the disabled population in our state. These in-kind transfers include food stamps, rental subsidies, energy assistance, and Medicare / Medicaid benefits.[6] The substantial net fiscal benefits from employing the disabled are over and above the value of the additional real output of goods and services that society receives from employing the disabled.

The final section of the paper will provide a brief overview of key findings of the research and assess their potential implications for future anti-poverty and workforce development policies for the disabled in our state. Given the high degree of overlap between the poor / near poor and disabled populations in Massachusetts, especially among those 45 and older, workforce development policies aimed at strengthening the employability and earnings of older disabled workers in Massachusetts can help simultaneously achieve important anti-poverty objectives.

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[5] For a review of anti-poverty policies and programs in the U.S. including programs serving the disabled, (i) Mary Jo Bane and Lawrence M. Mead, Lifting Up The Poor: A Dialogue on Religion, Poverty, and Welfare Reform, Brookings Institute Press, Washington, D.C., 2003; (ii) Rebecca M. Blank, It Takes A Nation: A New Agenda for Fighting Poverty, Russell Sage Foundation and Princeton University Press, Princeton, 1997; (iii) Sar A. Levitan, Garth Mangum, Stephen L. Mangum, and Andrew M. Sum, Programs in Aid of the Poor (Eighth Edition), the Johns Hopkins University Press, Baltimore, 2003.

[6] The U.S. Census Bureau's estimates of Medicare / Medicaid benefits are not based on the actual cash outlays for medical services received by the disabled, but rather on the fungible value of the insurance coverage provided by these two programs. This fungible value of the coverage represents a measure of the amount of income that Medicare / Medicaid recipients might have spent to obtain such insurance on their own.

Poverty, Near Poverty, and Low Income Concepts and Measures

This research paper is designed to describe and assess the incidence of income inadequacy problems among the disabled and non-disabled population of Massachusetts in recent years. Three different measures of income inadequacy are used in this report: the poor, the poor/near poor and the low-income population. Estimates of each of these three income inadequacy measures are presented below. The poverty income estimates appearing in this paper are based on the poverty income definitions and measures of the federal government as updated annually by the Office of Management and Budget to reflect changes in the cost-of-living as measured by the Consumer Price Index for All Urban Consumers. The poverty income thresholds of the federal government vary with the number of persons in the family, the age of the family householder, and the number of children under 18 in the family.[7] The 2003 weighted average poverty thresholds for families containing one to nine persons are displayed in Table One. These poverty income thresholds ranged from a low of $9,393 for a non-elderly unrelated single individual to $12,384 for family of two to $18,810 for a four person family to a high of $37,656 for families containing nine or more persons. The same poverty income thresholds are applied to residents of all states, metropolitan areas, and cities across the country. There are no regional or state cost of living adjustment factors applied to these poverty income thresholds. Given the higher cost of living in the state, especially in the Boston metropolitan area, the use of the official poverty income thresholds will underestimate problems of poverty in our state.

[7] Households containing one or two persons headed by an individual over the age of 65 are assigned a lower poverty income threshold by the federal government. This practice has been subject to severe criticisms by a number of poverty researchers over the years. For example, See: Patricia Ruggles, Drawing the Line: Alternative Poverty Measures and their Implications for Public Policy, The Urban Institute, Washington, D.C., 1990.

Table 1:
Weighted Average Poverty Thresholds, 125% of Poverty Thresholds, and Low Income Thresholds for Single Person and Families Containing Two to Nine Persons, 2003

Family Size	(A) Weighted Average Poverty Threshold	(B) 125% of Poverty Thresholds	(C) Low Income (200% of Poverty) Threshold
One person 65 (unrelated)	$9,393	$11,741	$18,786
Under 65 of years	$9,573	$11,966	$19,146
65 years and over	$8,825	$11,031	$17,650
Two (head under 65)	$12,384	$15,480	$24,768
Three	$14,680	$18,350	$29,360
Four	$18,810	$23,512	$37,620
Five	$22,245	$27,806	$44,490
Six	$25,122	$31,402	$50,244
Seven	$28,544	$35,680	$57,088
Eight	$31,589	$39,486	$63,178
Nine or More	$37,656	$47,070	$75,312

Source: U.S. Census Bureau.

The poverty status of a family is determined by comparing the pre-tax, money income of the family with its poverty income threshold. The money income measure used to determine a family's poverty status includes income from employment, including self-employment, property income (interest, dividends, rents), private pensions, and income from a wide array of cash transfer programs, but excludes capital gains, federal and State Earned Income Tax Credits, and in-kind benefits from federal, state, and local governments, such as food stamps, rental subsidies, and Medicare/Medicaid health care benefits. If a family's combined money income is below the assigned poverty income line for its given size and age composition, then the family is classified as poor.[8]

The federal government's poverty income measures have been subject to a wide array of criticisms by economists, sociologists, political scientists, and other social analysts over the past decade, with some analysts claiming the poverty measures exaggerate the true extent of poverty while many others critique the measures as under-estimating the magnitude of income inadequacy challenges in the nation, individual regions, states, and cities. Among the major criticisms[9] from the point of view that the poverty lines underestimate true income

[8] A person living alone or with others to whom he is not related is considered as a one person household in determining his or her poverty status.

[9] For a detailed review of alternative critiques of the federal government's poverty lines, See: (i) Andrew Sum, W. Neal Fogg, and Garth Mangum, *Poverty Ain't What It Used to Be*, Sar Levitan Center for Social Policy Studies, Johns Hopkins University, Baltimore, 1999; (ii) Garth Mangum, Stephen Mangum, and Andrew Sum, *The Persistence of Poverty in the United States*, Johns Hopkins University Press, Baltimore, 2003.

inadequacy are those that focus on the poverty line's reliance on outdated household consumption budgets which assume that one-third of a family's income is still spent on food, the poverty line's failures to adjust for the changing relative costs of housing in the budget of low income families, a critique of particular importance in Massachusetts, the lack of any adjustments in the poverty line for changes in the average living standards of American families since the early 1960s, and the failure of the existing poverty lines to adjust for differences in the cost of living across regions, states, and local areas, especially housing cost differences, which loom particularly large in Massachusetts. A wide array of alternative poverty lines have been proposed over the past 15 years, with these alternative poverty lines ranging from 113% to 176% of the existing poverty income thresholds.[10]

During the past five years, a number of poverty and welfare reform researchers, including those at the Urban Institute, the Manpower Demonstration Research Corporation, and the Center for Labor Market Studies, have developed a measure of "low incomes" for families that utilizes 200 per cent of the current federal government poverty lines as the threshold for determining whether a family is "low income".[11] The 2003 values of these low income thresholds for families in the U.S. by family size are displayed in Column C of Table 1. The values of these "low income thresholds" in 2003 ranged from $24,768 for a family of two, to $37,620 for a family of four, to a maximum of $75,312 for a family containing nine or more persons. An intermediate set of income inadequacy measures based on 125% of the federal government's poverty lines also are displayed in this table in Column B. The 125% cutoff will be used to define the poor and "near poor".

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[10] For a review of the sources of these alternative poverty income measures including those produced by the National Research Council's Panel on Poverty and Family Assistance,
See: Garth Mangum, Andrew Sum, Neal Fogg and Neeta Fogg, "Poverty Ain't What It Used to Be," *Challenge: The Magazine of Economic Affairs*, March-April 2000, pp. 97-130.

[11] For examples of applications of this measure of low incomes,
See: (i) Gregory Acs, Katherin Ross Phillips, and Daniel McKenzie, *Playing by the Rules but Losing the Game: America's Working Poor*, Urban Institute, Washington, D.C., May 2000; (iii) Jennifer Miller, Lisa Grossman, et al, *Building Bridges to Self-Sufficiency: Improving Services for Low Income Working Families*, Manpower Demonstration Research Corporation, New York City, 2004.

Data Sources

The data used to generate estimates of the number of disabled and non-disabled persons experiencing various types of income inadequacy problems in Massachusetts and the U.S. were derived from U.S. Census Bureau's American Community Surveys (ACS). The income inadequacy estimates for 2002 and 2003 are based on the findings of the American Community Surveys (ACS) for calendar years 2003 and 2004. In Massachusetts, between 12,000 and 13,000 households completed ACS questionnaires during each of these two years. The ACS survey collected data on the incomes of each household member 15 and older in the twelve-month period prior to the time the questionnaire was completed. The incomes of individual household members were summed to estimate total household income before taxes and other payroll deductions. These incomes were then compared to the poverty income and low income thresholds to determine the poverty status and low income status of each family. The ACS survey also collected detailed information on the demographic and socioeconomic characteristics of respondents as well as their disability status. We can identify the age, gender, race-ethnic origin, educational attainment, household relationship status, and nativity status of each respondent.

The ACS surveys are particularly valuable in analyzing the labor market and income status of the disabled population since the ACS questionnaire includes a series of questions on the disability problems of respondents. The definition of the "disabled" that underlies all of the estimates of the disabled population and the poor/near poor and low-income disabled population appearing in this paper is the same as that used by the U.S. Census Bureau in its official estimates of the nation's disabled population from the ACS survey and exactly the same as that used by the Rehabilitation Research and Training Center of Cornell University in its analysis of state and national data from the American Community Surveys.[12] According to this definition, an individual in the ACS surveys will be classified as "disabled" if he or she meets any one of the following six criteria. The information on disability status is based on the self-reports of respondents to the ACS questionnaire and is not tied to the receipt of any cash assistance for the disabled from the local, state, or federal government for the disabled or their participation in any rehabilitation program. These six criteria are the following:

- Person has any of the following long lasting conditions: blindness, deafness, or a

[12] We use somewhat different age categories than the Cornell University Center to estimate the disabled population of the state. The Cornell University reports focus on 21-64 year olds while we use the 16-74 age group as the focus of our analysis. See: Rehabilitation Research and Training Center on Disability Demographics and Statistics, 2004 Disability Status Reports, Cornell University, www.disabilitystatistics.org.

severe vision or hearing problem

- Person has a long lasting condition that "substantially limits one or more basic physical activities," such as walking, climbing stairs
- Because of a physical, mental, or emotional condition lasting 6 months or more, this person has difficulty "learning, remembering, or concentrating"
- Because of a physical, mental, or emotional condition lasting 6 months or more, this person has difficulty "dressing, bathing, or getting around inside the home"
- Because of a physical, mental, or emotional condition lasting 6 months or more, this person has difficulty "going outside the home alone to shop or visit a doctor's office"
- Because of a physical, mental, or emotional condition lasting 6 months or more, this person has difficulty "working at a job or business".

Individual respondents to the ACS survey were allowed to check more than one disability category. As we revealed in an earlier research paper, there is a fairly high degree of overlap among a number of these six disability categories.[13] In Massachusetts, 61% of all disabled persons ages 16-74 were classified as disabled because of difficulty "working at a job or business," but most (83%) of these work-disabled individuals cited at least one other form of disability. In several of our multivariate statistical models of the poverty/near poverty status of the disabled, we will utilize several of these disability types in our models to identify how different types of disability problems independently influence the probability of income inadequacy problems.

The Poverty, Poverty/Near Poverty and Low Income Status of Disabled Persons in Massachusetts and Their Rankings Among the 50 States, 2002-2003

This section of the report will provide an analysis of the overall incidence of the poverty, poverty/near poverty and low income problems among the 16-74 year old disabled population in Massachusetts, the New England region and the U.S.. As noted above, our definitions of poverty and near poverty are those of the U.S. Census Bureau's. The low-income measures were derived by multiplying the poverty income thresholds by a factor of two. Findings on these three measures of income inadequacy for Massachusetts are compared with those of the U.S. and the New England region, and Massachusetts is ranked among the

[13] See: Andrew Sum, Ishwar Khatiwada, Paulo Tobar, Sheila Palma, et. al., The Adult Disabled Population (16-74) in Massachusetts…..

50 states on the incidence of income inadequacy problems for disabled and non-disabled persons. (Table 2).

The incidence of poverty problems among 16-74 year old disabled persons in Massachusetts during 202-2003 was nearly four times higher than among those persons without any disability. In Massachusetts, 19.4% of all disabled persons were poor versus only 5.5% of the non-disabled, a relative difference of 3.5 times. The poverty rate of the disabled in Massachusetts was identical with the U.S. rate, and our state ranked 24th highest among all 50 states on this measure during 2002-2003. In contrast to the situation for the disabled, the non-disabled population in our state had a poverty rate of only 5.5%, which was one third lower than that of the nation and ranked sixth lowest among the 50 states.

The income threshold equal to 125% of the poverty line was used to estimate the percent of 16-74 year old persons who were poor/near poor during 2003-2004. One-quarter of all disabled persons in Massachusetts were poor or near poor during this two-year period whereas only 9.6% of the non-disabled in our state were poor or near poor. Massachusetts ranked 26th highest among all 50 states on this income inadequacy measure for the disabled during 2003-2004.

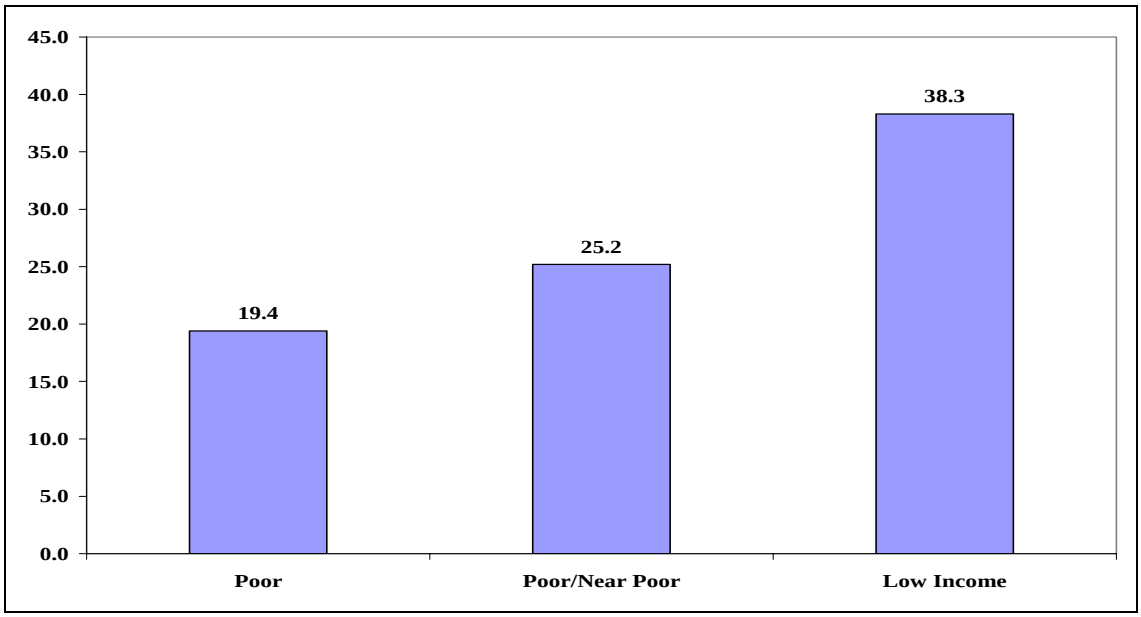
We then raised the income thresholds defining adequacy to 200% of the poverty line (the "low-income" definition) to estimate the percent of 16-74 year old persons who were low income. Slightly more than 38% of disabled persons in Massachusetts were classified as members of low-income households during 2002-2003. Massachusetts' rate of income inadequacy for the disabled was 5 percentage points lower than the nation on this measure. Massachusetts' ranking was only 38th highest on this measure.

Table 2:
The Incidence of Poverty, Poverty/Near Poverty and Low Income Problems Among Disabled and Non-Disabled Persons in Massachusetts and the U.S. and Massachusetts' Ranking Among All 50 States, 2002-2003 Averages (In %)

Disabled	MA	U.S.	MA-U.S.	MA Ranking Among All States
Poor	19.4	19.5	-0.1	24th Highest
Poor/Near Poor	25.2	26.2	-1.0	26th Highest
Low Income	38.3	43.2	-5.1	38th Highest
Not Disabled				
Poor	5.5	8.3	-3.2	6th Lowest
Poor/Near Poor	9.6	13.6	-4.0	6th Lowest
Low Income	17.5	25.8	-8.3	5th Lowest

Data Source: 2003 and 2004 American Community Surveys, U.S. Census Bureau, tabulations by authors.

Chart 1:
The Overall Incidence of Income Inadequacy Problems Among the Disabled (16-74) in Massachusetts by Type of Measure, 2002-2003 Averages (In %)



Predicting the Poverty Rates of Selected Subgroups of the Disabled in Massachusetts, 2003

The coefficients from the above poverty status regression model also can be used to predict the expected probability of poverty among disabled persons in Massachusetts with a particular set of demographic, socioeconomic and disability characteristics. We have selected five hypothetical disabled persons with varying demographic, socioeconomic, and disability traits to illustrate the range in their predicted poverty rates in 2003. The individual traits of each of these five disabled persons are displayed in Table 3.

The predicted poverty rate of the first disabled person who is a 55-64 year old, White male, with 1-3 years of college, and a family head with a vision/hearing disability was only 0.6%. The second hypothetical disabled person was a 35-44 year old White female with a Bachelor's degree, who was married and had difficulty dressing. The likelihood of this disabled person being in poverty was 4.8%. Our third hypothetical disabled person was 45-54 year old Black male with a Bachelor's degree, who was a family head and had a vision/hearing disability. The predicted probability of this person being in poverty in Massachusetts was 16%. At the higher end of the probability spectrum, the fourth

hypothetical disabled person was a 35-44 year old, Hispanic male without a high school diploma or GED, who was a family head and had a work disability. The predicted probability of poverty for this person in Massachusetts was 35.5%. Our last hypothetical disabled individual was a 25-34 year old Black female who was a high school dropout, a non-family head, and had difficulty remembering. The expected probability of poverty for this disabled person was just under 68% in Massachusetts. This last hypothetical individual was 113 times more likely to be poor than the first disabled individual, reflecting the substantial combined effects of gender, race, age, educational attainment, and family status on the probability of being poor.

Table 3:
Predicted Poverty Rates for a Hypothetical Set of Disabled Persons in Massachusetts, 2003

Personal Characteristics	Predicted Poverty Rate
55-64 year old White male, with 1-3 years of college, was a family head with a vision/hearing disability	0.6%
35-44 old White female with a Bachelor's Degree, was a married spouse, and had a work disability	4.8%
45-54 year old Black male with a Bachelor's degree, was a family head, and had a vision/hearing difficulty	16.0%
35-44 year old Hispanic male without HS diploma, was a family head and had a work disability	33.5%
25-34 year old Black female, high school dropout, was a non-family head, and had difficulty remembering	67.8%

The Incidence of Poverty and Near Poverty Problems Among Key Demographic Subgroups of the Disabled

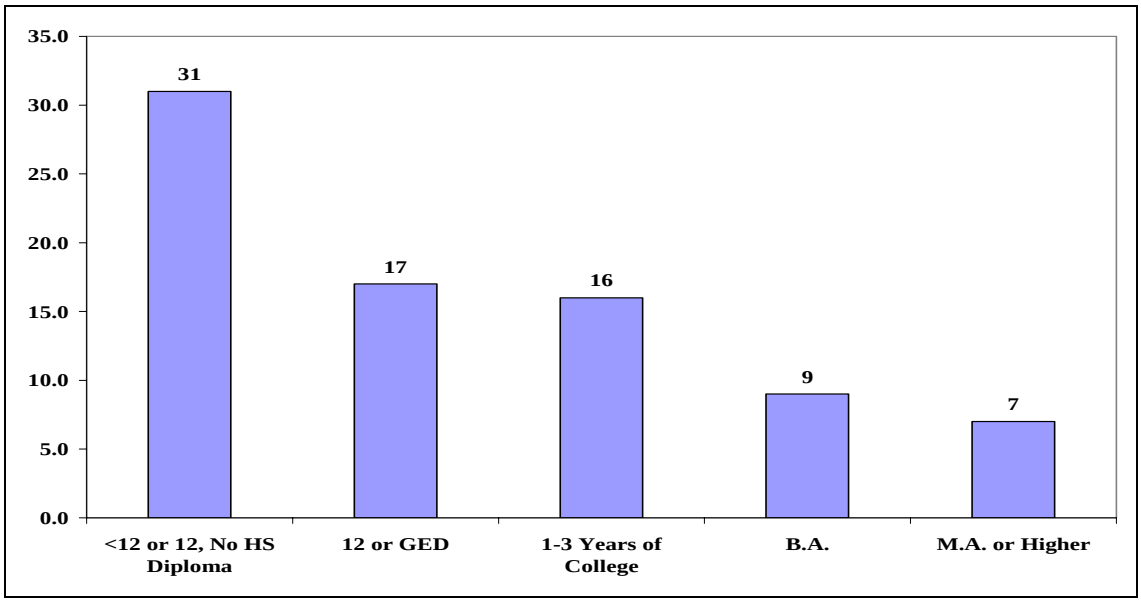
The degree of income inadequacy problems among the disabled and non-disabled tended to vary quite considerably across different demographic and socioeconomic subgroups. To identify the poverty rates of disabled persons across gender, race-ethnic, age, educational, and nativity subgroups, we analyzed the findings of the 2003 and 2004 ACS surveys. Disabled men in Massachusetts were less likely to be poor than their female

counterparts. Slightly more than 14% of disabled men were poor versus 24% of women. (Table 4). The poverty rates of disabled men and women in our state were 3 to 4 times higher than those of their non-disabled peers. The gender patterns were similar in the New England region and the U.S. during 2003-2004.

Among members of the six race-ethnic groups, poverty rates of the disabled varied widely, ranging from lows of 8% to 10% among members of "Other" and "Mixed" race-ethnic groups to 15% among White, non-Hispanics, 21% among Asians, 36% among Black, non-Hispanics and to a high of 46.2% among Hispanics. For non-disabled persons, poverty rates in Massachusetts' ranged from a low of 4% among White, non-Hispanics to a high of 17% among Hispanics. It is somewhat puzzling to find that disabled Hispanics in Massachusetts and the New England region faced a poverty rate that was nearly two times higher than that of disabled Hispanics nationwide. As revealed in our earlier reports, Hispanics in Massachusetts also were much more likely than their national counterparts to report a disability problem.

Poverty rates among the disabled in Massachusetts also varied widely among age sub-groups. Nearly one-quarter of 16-19 year old disabled persons in Massachusetts were poor whereas only 13.4% of the 20-24 year old disabled were poor. Despite a higher work rate, the poverty rate among 25-34 year old disabled persons in Massachusetts was the highest of the age sub-groups (32.3%) followed by a rate of 25% among 34-44 years old, 20% among 45-54 year old, 16% among 55-64 year old, and only 8% among 65-74 year olds. The low poverty rate among the older disabled population was due to their receipt of various income transfers, including Social Security retirement and disability incomes that offset their low earnings from employment. The poverty rates of the disabled in Massachusetts in all but one age sub-group were 2 to 8 times higher than among the non-disabled. Similar findings prevailed for the New England region and the U.S.

Chart 2:
The Incidence of Poverty Problems Among 16-74 Year Old Disabled Persons in Massachusetts by Educational Attainment, 2002-2003 Averages (In %)



As expected, given past empirical findings on the links between human capital and the earnings and incomes of individuals, there is a strong negative relationship between years of formal schooling and poverty rates among both the disabled and non-disabled population. (Chart 3). The poverty rate of the disabled was highest among those without a high school diploma and lowest among those with an advanced college degree. In Massachusetts, the disabled who lacked a high school diploma/GED had a poverty rate of 31% followed by a rate of 17% for those with a high school diploma or its equivalent, 16% for those with some college, 9% for those with a Bachelor's degree, and only 7% for those with a Masters or a higher degree. Both the New England region and the U.S. were characterized by similar findings.

The foreign-born disabled had a much higher poverty rate than their native-born peers. The poverty rate among the 16-74 year old foreign-born disabled population in Massachusetts was 29% versus 17% of the native-born disabled. Both nativity subgroups were three to four times more likely to be poor than their non-disabled counterparts.

Table 4:
Poverty Status of 16-74 Year Olds in Massachusetts, New England and the U.S. by Selected Demographic Traits, 2003-2004 Averages (In %)

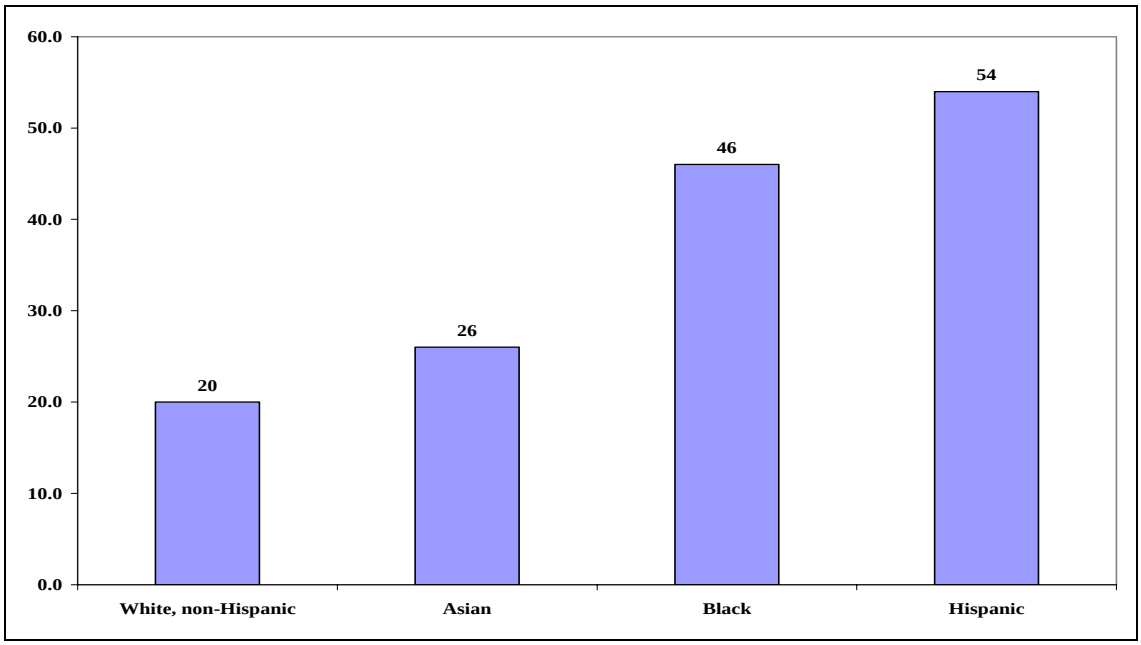
	Massachusetts			**New England**			**U.S.**		
Gender	All	Disabled	Not Disabled	All	Disabled	Not Disabled	All	Disabled	Not Disabled
All	7.1	19.4	5.5	7.1	18.1	5.6	9.8	19.5	8.3
Male	5.5	14.3	4.4	5.6	13.9	4.5	8.1	16.5	6.8
Female	8.5	24.1	6.5	8.5	22.2	6.6	11.4	22.4	9.6
White	5.2	14.7	4.0	5.5	14.7	4.2	7.0	15.9	5.7
Black	14.9	35.8	11.7	15.3	33.3	12.5	18.4	31.5	15.7
Asian	9.1	21.6	8.1	8.3	19.1	7.4	8.4	15.3	7.9
Hispanic	21.7	46.2	16.7	20.2	42.2	16.6	16.3	26.3	15.1
Mixed	8.6	10.2	8.3	11.3	24.1	7.9	12.9	23.5	10.0
Other	11.3	7.9	11.6	14.7	25.2	12.6	17.6	28.3	14.9
16-19	10.9	23.6	10.0	11.3	21.0	10.6	15.1	22.8	14.5
20-24	12.7	13.4	12.7	14.5	17.4	14.3	18.4	25.3	17.9
25-34	7.9	32.3	6.4	8.0	30.2	6.5	10.7	26.3	9.6
35-44	6.0	25.3	4.4	6.1	24.7	4.4	8.4	24.7	6.7
45-54	4.7	20.2	2.7	4.6	18.4	2.7	6.8	20.7	4.4
55-64	5.9	16.1	3.6	5.5	14.7	3.4	7.4	17.0	4.6
65-74	7.6	12.2	5.8	6.5	10.8	4.8	7.9	12.8	5.5
<12 or 12, No HS Diploma	16.7	31.2	12.4	15.8	28.1	12.3	19.7	28.8	17.2
High School Diploma	7.4	17.0	5.8	7.8	17.0	6.2	10.2	18.1	8.8
Some College	6.7	15.9	5.6	6.7	15.3	5.7	8.4	15.7	7.4
Bachelor's Degree	3.9	9.0	3.6	3.3	8.6	3.0	3.7	9.0	3.4
Master's or Higher Degree	2.3	6.7	2.1	2.1	5.5	1.9	2.4	6.8	2.1
Foreign-Born	11.6	29.5	9.3	11.4	28.3	9.3	13.3	22.8	12.3
Native-Born	6.0	17.0	4.6	6.3	16.5	4.9	9.1	19.1	7.5

Data Source: 2003 and 2004 American Community Surveys, U.S. Census Bureau, tabulations by authors.

Poverty/near poverty rates among the disabled in Massachusetts, New England and the U.S. also varied widely across gender, race-ethnic, age, educational attainment, and nativity subgroups. The poverty/near poverty rate among disabled women in Massachusetts was 10 percentage points higher than that of their male counterparts (30% versus 20%). (Table 5). Both disabled men and women were three times more likely than their peers without any disability to be poor/near poor. Findings for Massachusetts were consistent with

the findings for the New England region and the U.S. Among the four major race-ethnic groups, the poverty/near poverty rates of the disabled in Massachusetts ranged from lows of 20% among White, non-Hispanics and 25% among Asians to highs of 46% among Black, non-Hispanics and 54% among Hispanics. (Chart 3). A majority of the disabled Hispanic population were poor or near poor in our state, an incidence nearly three times higher than that for the White disabled population of our state. Disabled Hispanics' poverty/near poverty rate in Massachusetts was 19 percentage points higher than that of disabled Hispanics in the entire U.S. (54% versus 35%).

Chart 3:
The Percent of the 16-74 Year Old Disabled Population in Massachusetts that were Poor or Near Poor by Major Race-Ethnic Group, 2002-2003 Averages



Poverty/near poverty rates of the disabled also varied across age sub-groups. In Massachusetts, slightly more than 25% of disabled teens were members of poor or near poor families and 18% of 20-24 year old disabled persons were poor/near poor. Among the 25-74 year old disabled, poverty/near poverty rates declined steadily with age. Disabled persons in the 25-34 age group had the highest poverty/near poverty rate (39%) while those persons 65-74 years old had the lowest poverty/near poverty rate (19%) despite far lower likelihood of employment, largely reflecting their greater access to cash transfer incomes.

The incidence of poverty/near poverty problems among the disabled again varied considerably by their educational attainment. Nearly 4 of every 10 disabled adults lacking a high school diploma were poor/near poor versus 22% of those with a high school diploma/GED, only 13% of those with a Bachelor's degree, and 9% of those with a Master's or more advanced degree. (Chart 4).

The nativity status of the disabled also was associated with their incidence of poverty/near poverty problems. Slightly more than 36% of the 16-74 year old foreign-born disabled in Massachusetts were poor/near poor while only 23% of the native-born disabled experienced such a problem during 2002-2003.

Chart 4:
The Incidence of Poverty/Near Poverty Problems Among the 16-74 Year Old Disabled Population of Massachusetts by Educational Attainment, 2002-2003 (In %)

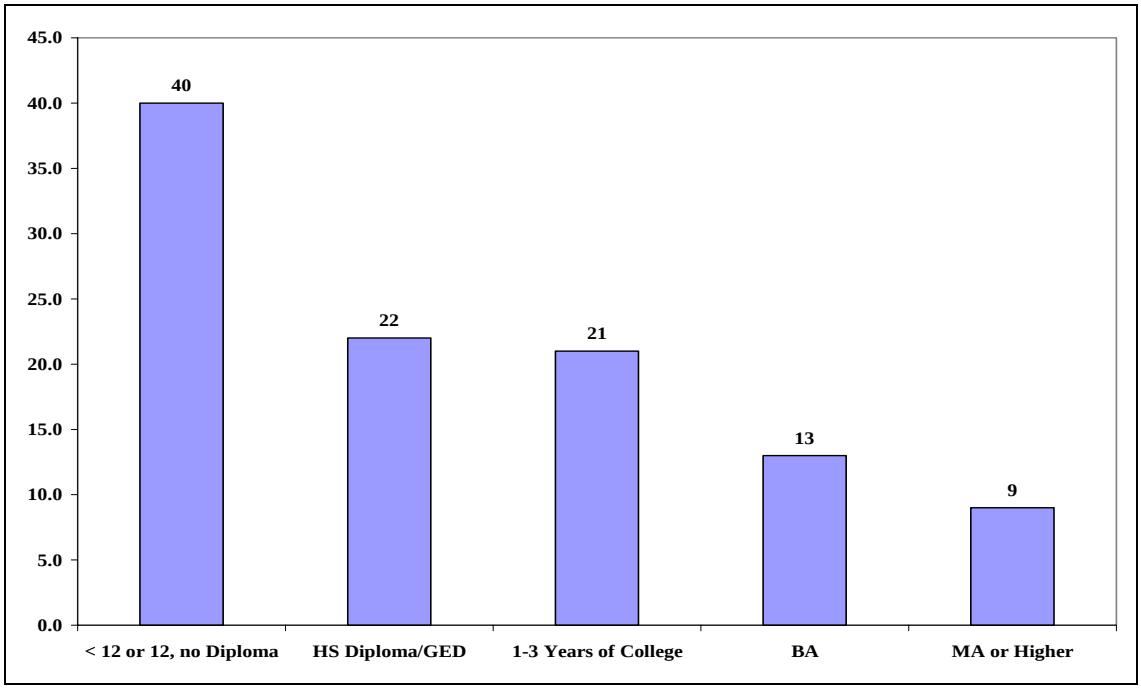


Table 5:
Poverty/Near Poverty Status of 16-74 Year Olds in Massachusetts, New England and the U.S. by Disability Status and Selected Demographic Traits, 2003-2004 Averages (In %)

	Massachusetts			New England			U.S.		
Gender	All	Disabled	Not Disabled	All	Disabled	Not Disabled	All	Disabled	Not Disabled
All	9.6	25.2	7.6	9.7	24.2	7.7	13.6	26.2	11.6
Male	7.8	20.2	6.3	7.9	19.5	6.3	11.6	22.8	9.8
Female	11.3	29.8	8.9	11.4	28.6	9.1	15.5	29.4	13.3
White	7.4	19.9	5.8	7.7	20.3	6.0	9.9	21.8	8.1
Black	19.2	46.4	15.0	20.0	42.3	16.6	24.0	40.1	20.7
Asian	11.2	25.5	10.1	10.7	26.5	9.5	11.5	21.3	10.8
Hispanic	26.7	53.6	21.2	25.2	49.8	21.1	23.3	35.2	21.9
Mixed	12.0	17.1	10.8	14.8	29.9	10.7	17.8	31.6	14.1
Other	18.6	21.9	18.2	20.6	36.0	17.5	23.1	36.5	19.8
16-19	14.5	25.5	13.7	14.3	24.7	13.5	19.9	29.5	19.2
20-24	16.0	17.9	15.9	18.3	22.6	18.0	24.1	33.0	23.5
25-34	10.5	39.2	8.7	10.8	36.6	9.1	14.9	32.8	13.7
35-44	8.1	30.2	6.2	8.3	31.0	6.2	11.8	31.3	9.7
45-54	6.5	25.5	4.1	6.4	24.3	3.9	9.5	27.0	6.5
55-64	8.1	22.2	4.8	7.6	20.1	4.6	10.5	23.5	6.6
65-74	12.4	19.3	9.6	11.1	17.9	8.4	12.7	20.2	9.0
<12 or 12, No HS Diploma	22.4	39.5	17.3	21.3	36.6	16.9	26.9	38.1	23.8
High School Diploma	10.6	22.5	8.6	10.9	22.9	8.9	14.6	24.8	12.7
Some College	8.9	21.0	7.5	9.1	20.9	7.7	11.5	21.1	10.2
Bachelor's Degree	5.2	12.8	4.7	4.4	11.9	4.0	5.3	12.6	4.8
Master's or Higher Degree	3.2	9.0	3.0	3.0	7.6	2.7	3.4	9.4	3.0
Foreign-Born	15.6	36.2	12.9	15.3	35.2	12.8	19.1	31.0	17.9
Native-Born	8.3	22.6	6.4	8.7	22.4	6.8	12.6	25.7	10.4

Data Source: 2003 and 2004 American Community Surveys, U.S. Census Bureau, tabulations by authors.

Findings of a Multivariate Statistical Analysis of the Poverty Status of Disabled Adults in Massachusetts and the U.S., 2003

The preceding sections of this research paper were devoted to an analysis of the poverty and poverty/near poverty status of disabled and non-disabled persons in Massachusetts, New England and the U.S. during 2003-2004. Findings revealed a number of substantial differences in the incidence of such income inadequacy problems among the

disabled across demographic and socioeconomic subgroups. The analysis examined one set of background variables at a time, such as age, gender, or educational attainment. In this section of the report, we will apply multivariate statistical analysis (linear probability models) to examine the independent influence of an array of demographic, human capital, and disability characteristics, such as gender, race/ethnic background, age, educational attainment, household living arrangements, type of disability, and nativity status on the likelihood of poverty among the adult disabled populations of Massachusetts and the U.S.. Which of these factors significantly predict whether a disabled person will be poor in Massachusetts and the U.S.? We will show that gender, race-ethnic origin, age, years of formal schooling, household living arrangements, type of disability, and nativity status of the disabled are significant factors in determining their poverty status. The dependent variable in this statistical model is the poverty status of a disabled person during 2003.[14] The variable takes on the value of 1 if the person is poor and 0 if not poor. The predictor variables are the gender, race-ethnic origin, age group, educational attainment, household living arrangements, marital status, type of disability, and nativity status of the disabled individuals. Findings are displayed in Table 6.

The probability of a 16-74 year old disabled man being poor, ceteris paribus, was 7.4 percentage points less than that of their female peers. This finding was very similar to that for the U.S. For the entire nation, disabled men, ceteris paribus, were nearly 6 percentage points less likely to be poor than their female counterparts. The probability of a disabled person being poor also varied significantly across most race-ethnic groups. Disabled Blacks in Massachusetts, ceteris paribus, were nearly 18 percentage points more likely than disabled Whites (the base group) to be poor. Disabled persons of Hispanic origin were 12 percentage points more likely than their White peers to be in poverty. The size of the Hispanic coefficient for the U.S., however, was considerably smaller than that of Massachusetts (only 4.4 percentage points). The coefficient for Asian was not significant either in the model for Massachusetts or the U.S.

The likelihood of poverty among the disabled also was significantly associated with their age. It is somewhat puzzling that 25-34 year old disabled person (the base group) were significantly more likely than their younger and older cohorts to be in poverty. These findings for Massachusetts were consistent with those for the U.S. For example, the 16-24 year old

[14] We define the poor disabled as those individuals with a family income below 100 percent of the official poverty line for a family of their given size and age composition. Disabled person living alone or with others to whom they are not related are treated as a family of one.

disabled, ceteris paribus, were 11.4 percentage points less likely than their 25-34 years old counterparts to be poor. The coefficient for this age group in Massachusetts was considerably larger than that for the U.S. (1.9 percentage points). Disabled persons ages 45-54 and 55-64 years old were 10 and 10.4 percentage points, respectively, less likely than their 25-34 years old peers to be poor. The older disabled are more likely to receive transfer incomes in various forms that supplement their incomes from other sources. For this reason, the 65-74 year old disabled in Massachusetts were 16.5 percentage points less likely than their younger base group counterparts (25-34 year olds) to be poor. All of these coefficients on age were statistically significant.

Years of formal schooling completed by the disabled had strong independent impacts on their poverty status in Massachusetts and the U.S. Those disabled with more years of formal schooling were less likely to be poor than their peers with fewer years of formal schooling. In both Massachusetts and the U.S., disabled persons without a high school diploma or a GED were nearly 9 percentage points more likely to be poor than their peers with only a high school diploma or GED (the base group). The Massachusetts disabled with 1-3 years of college were 3.5 percentage points less likely to be poor than their counterparts with a high school diploma. If a disabled person in Massachusetts had a Bachelor's or a Master's or higher degree, the probability of their being poor in comparison to those with a high school diploma or GED was 6 percentage points less.

In Massachusetts, somewhat surprisingly, there was no significant independent impact of nativity status on the likelihood of a disabled person being poor. The higher rates of poverty among the foreign-born in our state were primarily attributable to their lower schooling, younger ages, and race-ethnic origins. However, in the U.S., the native-born disabled were 6 percentage points less likely than their foreign-born counterparts to be poor. This coefficient was statistically significant at the .01 level.

The family living arrangements and marital status of a disabled person also had a number of significant impacts on their poverty status. Non-family heads in Massachusetts and the U.S. were 18 to 20 percentage points more likely to be poor than their peers who were members of families but not the head. The disabled who live alone do not have incomes to support themselves. On the other hand, married disabled persons who were spouses were 3 to 5 percentage points less likely to be in poverty than their peers who were other family members.

The predicted poverty rate of the disabled in Massachusetts and the U.S. was significantly influenced by the type of disability reported. For example, those persons who

reported to have a work related disability were 7.3 percentage points more likely to be in poverty than their peers with a disability that made it difficult to go out (base group). Those with a vision/hearing disability in Massachusetts were 3.5 percentage points more likely to be in poverty than their peers without such a disability. Those disabled persons with difficulty remembering, ceteris paribus, were 8.1 percentage points more likely to be poor than the base group In Massachusetts, having a physical difficulty or difficulty dressing did not have a significant independent impact on the poverty status of a disabled person.

Table 6:
Findings of a Multivariate Statistical Analysis of the Factors Influencing the Probability of a Disabled Person Being Poor in Massachusetts and the U.S., 2003

Variable	MA	U.S.
(Constant)	0.147**	0.164***
Male	-0.074***	-0.059***
Black	0.179***	0.102***
Asian	-0.010	-0.010
Hispanic	0.121***	0.044***
Mixed Race	0.019	0.036***
Other Race	-0.142	0.102***
Age 16-19 Years	-0.114**	-0.019***
Age 35-44 Years	-0.057*	-0.030***
Age 45-54 Years	-0.100**	-0.073***
Age 55-64 Years	-0.104**	-0.112***
Age 65-74 Years	-0.165***	-0.172***
<12 or 12 No HS Diploma	0.088***	0.087***
1-3 Years of College	-0.035*	-0.036***
Bachelor's Degree	-0.064**	-0.081***
Masters or More	-0.060*	-0.090***
Native-Born	0.008	-0.017***
Family Head	0.037	0.052***
Non-Family Head	0.183***	0.199***
Spouse	-0.051**	-0.034***
Work Disability	0.073***	0.076***
Difficulty Dressing	-0.005	0.003
Vision Hearing Disability	0.035*	0.017***
Physical Difficulty	0.009	0.020***
Difficult Remembering	0.081***	0.038***
Model Summary		
R Squared	0.155	0.120
F-Statistics	15.0***	685.7***
N	1,985	120,594
Degrees of Freedom	24	24

*** implies significant at .01 level
**implies significant at .05 level
*implies significant at .10 level.

Overlaps Between the Poor / Near Poor and Disabled Populations of Massachusetts and the U.S.

The above analyses have examined the incidence of poverty and near poverty problems among the adult disabled populations of Massachusetts, New England, and the U.S. in recent years. Another type of analysis would focus on overlaps between the poor / near poor and disabled populations. For example, what per cent of the poor / near poor population in our state or the nation experience some form of disability? We have used data from the 2004 American Community Surveys for Massachusetts and the nation to answer this critical policy question.

In 2004, there were 438,600 persons ages 16-74 in Massachusetts with a family income below 125% of the poverty income threshold, thereby classifying them as poor or near poor (Table 7).[15] Of that group of poor / near poor residents, slightly over 128,000 were disabled; thus, nearly 3 of every 10 poor / near poor adults in Massachusetts were members of the disabled population, a very high degree of overlap between these two groups. For the U.S. as a whole, just under 26% of the poor / near poor were also disabled in 2004.

Table 7:
The Disability Status of the Poor / Near Poor 16-74 Year Old Population in Massachusetts and the U.S., 2004

Area	(A) Number of Poor / Near Poor	(B) Disabled Poor / Near Poor	(C) Per Cent of Poor / Near Poor Who Were Disabled
Massachusetts	438,619	128,296	29.2%
U.S.	28,263,292	7,303,505	25.8%

Source: 2004 American Community Surveys, public use files, tabulations by authors.

The degree of overlap between the poor / near poor and disabled populations might well be expected to vary across age and educational attainment subgroups. Younger, disabled adults (16-24) are more likely to live at home with parents or other relatives, and, thus, have the incomes of other family members available to keep them out of poverty and near poverty. Also, a relatively high fraction of disabled young adults in our state were employed. As the age of the disabled population rises, they are more likely to be the heads of their own households and are more likely to live on their own, particularly after age 55. Employment rates of the disabled also decline with age; thus, they run a greater risk of being poor / near

[15] Persons living on their own or in households with others to whom they were not related are treated as a one person family in determining their poverty / near poverty status.

poor due to an absence of earnings. One would expect the overlap between poverty / near poverty and disability problems to increase with age.

Findings in Table 8 provide strong evidence for the above hypothesis. In Massachusetts during 2004, the percentage share of the poor / near poor population that were categorized as disabled rose steadily and strongly with their age. Less than 10 per cent of poor / near poor young adults under age 25 were also disabled. The share that was disabled rose to 25 per cent for those in the 25-44 age group, to 42 per cent for those 45-54, and to nearly 50 per cent for those in the 55-74 age group. The disabled accounted for one-half of all poor / near poor older adults in our state in 2004. Similar age patterns prevailed for the nation as a whole. National longitudinal research has shown that the elderly poor are considerably more likely than their younger counterparts to remain in poverty from year-to-year.[16] Their poverty problems are more permanent than transitory and call for targeted public policy interventions to prevent them from spending the bulk of their twilight years in a state of poverty.

Table 8:
Per Cent of the Poor / Near Poor 16-74 Year Old Population
Who Were Disabled in Massachusetts and the U.S., by Age Group, 2004

	(A)	(B)	(C)	(D)	(E)
Geographic Area	16-24	25-44	45-54	55-74	16-74, All
Massachusetts	8.8	24.7	42.3	49.7	29.2
U.S.	9.4	19.4	41.5	51.8	25.8

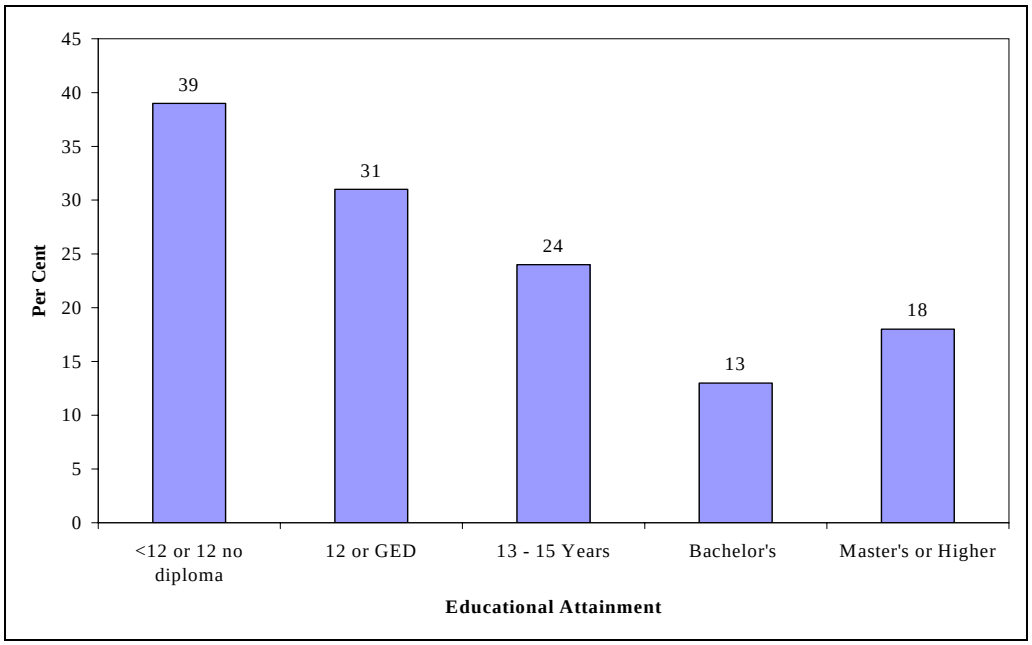
Source: 2004 American Community Surveys, public use files, tabulations by authors.

One might also expect the degree of overlap between poverty / near poverty and disability problems to vary with the educational attainment of adults. Less educated, disabled adults, especially those lacking a high school diploma, were considerably less likely to work than both their better educated, disabled counterparts and their comparably educated, non-disabled peers. Less educated adults are more likely to live on their own as they age. A combination of low employment rates and the more limited availability of income from other family members places more of the poorly educated, disabled adults at-risk of poverty / near poverty.

[16] See: (i) T.J. Eller, "Dynamics of Economic Well-Being; Poverty; 1992-93: Who Stays Poor? Who Doesn't?," Current Population Reports No 70-55, U.S. Government Printing Office, Washington, D.C., June 1996; (ii) Garth Mangum, Stephen Mangum, and Andrew Sum, The Persistence of Poverty in the United States, Johns Hopkins University Press, Baltimore, 2003.

Findings in Chart 5 provide strong empirical support for our above expectation. The per cent of poor / near poor adults in Massachusetts who were disabled in 2004 was highest among the least well educated and fell sharply with higher levels of formal schooling up to the Bachelor's degree. Nearly 4 of 10 poor / near poor adults who lacked a high school diploma or a GED certificate in 2004 were also disabled. The share of the poor / near poor who were disabled fell to 31 per cent for those with a high school diploma / GED and to a low of 13 per cent for those poor / near poor adults with a Bachelor's degree. Income inadequacy problems in Massachusetts in recent years are increasingly intertwined with problems of limited schooling and disability. Those adults lacking high school diplomas are much more likely than their better educated peers to report some form of disability and, when disabled, they are much more likely to be poor / near poor.

Chart 5:
Per Cent of the 16-74 Year Old Poor – Near Poor Population of
Massachusetts that were Disabled by Educational Attainment, 2004



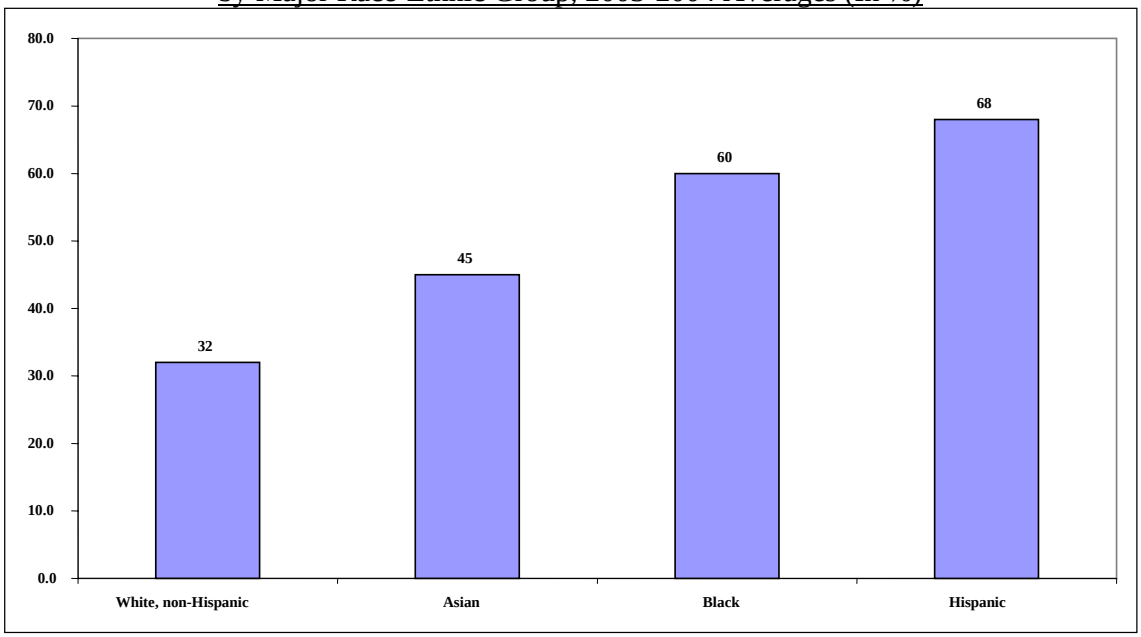
The Incidence of Low Income Problems Among the Disabled and Non-Disabled in Various Demographic Groups

We also examined the "low-income" status of 16-74 year old disabled persons in Massachusetts, New England and the U.S. during 2002-2003 and compared these findings to those for their non-disabled counterparts. (Table 9). When we raise the income adequacy threshold to 200% of the poverty line, income inadequacy problems among both the disabled

and non-disabled become more acute. Thirty-eight percent of the disabled adults in Massachusetts were low-income during 2003-2004 versus only 15% of their non-disabled peers, a relative difference of 2.5 times. Nationally, the disabled were more likely to be low income than in Massachusetts, but the relative difference between the disabled and non-disabled in the U.S. was less than 2 to 1. As was the case for our previous measures of income inadequacy, disabled women in Massachusetts were more likely to be low-income than their male counterparts. Nearly 44 percent of disabled women in Massachusetts were low-income versus one-third of disabled men.

Among the four major race-ethnic groups, the incidence of low-income problems was lowest among White, non-Hispanics and highest among Hispanics. Two-thirds of disabled Hispanics in Massachusetts were low-income versus only 3 out of 10 White, non-Hispanics. As revealed earlier, disabled Hispanics in Massachusetts were also characterized by much higher poverty and poverty/near poverty rates than their Hispanic peers nationwide.

Chart 6:
The Incidence of Low Income Problems Among the Disabled Population in Massachusetts by Major Race-Ethnic Group, 2003-2004 Averages (In %)



Among age sub-groups, the incidence of low-income problems was lowest among those 20-24, but rose sharply among 25-34 year olds. The low-income rates declined steadily for 35-74 year old disabled individuals. These age patterns were consistent with those for both the New England region and the U.S.

More than half (52%) of all 16-74 year old foreign-born disabled persons in Massachusetts were low-income while the percent of the native-born disabled in the state

who were low-income was only 35%. In both the New England region and the U.S., a slight majority of the foreign-born disabled also were low-income in 2003-2004.

Table 9:
Low Income Status of 16-74 Year Olds in Massachusetts, New England and the U.S. by Disability Status and Selected Demographic Traits, 2003-2004 Averages (In %)

	Massachusetts			**New England**			**U.S.**		
Gender	All	Disabled	Not Disabled	All	Disabled	Not Disabled	All	Disabled	Not Disabled
All	17.5	38.3	14.9	18.1	38.4	15.4	25.8	43.2	23.1
Male	15.0	32.6	12.8	15.7	33.4	13.3	23.3	39.6	20.8
Female	19.8	43.6	16.8	20.4	43.1	17.4	28.2	46.5	25.3
White	14.0	32.4	11.8	15.2	34.1	12.6	19.9	38.1	17.0
Black	32.0	59.8	27.7	33.6	59.7	29.6	40.1	58.3	36.4
Asian	20.7	45.4	18.8	19.6	41.8	17.9	22.6	36.1	21.6
Hispanic	42.6	67.6	37.5	40.9	64.7	37.0	43.9	55.4	42.6
Mixed	27.1	38.1	24.8	27.7	46.9	22.6	31.8	49.6	27.0
Other	33.8	40.8	33.1	36.1	54.3	32.4	39.4	54.3	35.7
16-19	24.1	37.6	23.0	24.0	36.7	23.1	34.0	46.0	33.1
20-24	26.0	30.9	25.7	29.7	35.7	29.3	40.5	50.1	39.8
25-34	19.1	49.4	17.2	20.2	48.9	18.3	29.1	49.7	27.7
35-44	15.3	44.9	12.7	16.0	44.9	13.2	23.4	47.8	20.8
45-54	12.1	38.0	8.8	12.5	37.9	8.9	18.2	42.2	14.1
55-64	14.6	34.0	10.1	14.4	33.6	9.8	19.9	39.3	14.1
65-74	24.9	34.6	21.1	24.5	35.3	20.3	28.0	40.4	21.9
<12 or 12, No HS Diploma	36.2	54.0	30.9	35.8	53.9	30.6	46.4	58.9	43.0
High School Diploma	21.8	38.0	19.1	22.3	38.7	19.4	29.4	42.7	27.0
Some College	16.3	33.5	14.3	17.0	33.5	14.9	22.4	35.9	20.6
Bachelor's Degree	9.2	18.6	8.6	8.6	20.0	7.9	10.9	22.7	10.1
Master's or Higher Degree	5.6	15.8	5.2	5.6	13.9	5.1	7.0	16.8	6.3
Foreign-Born	28.6	52.3	25.5	28.0	51.3	25.2	36.7	50.2	35.3
Native-Born	15.0	35.0	12.4	16.4	36.3	13.7	23.8	42.3	20.7

Data Source: 2003 and 2004 American Community Surveys, U.S. Census Bureau, tabulations by authors.

The Employment Experiences of The Non-Elderly Disabled (16-64) and the Poverty, Near Poverty and Low-Income Status of the Disabled in Massachusetts and the U.S., 2002-2003

The annual earnings of disabled persons are substantially influenced by their work behavior during the entire calendar year. Findings in Table 10 reveal that the non-elderly disabled who worked more hours were more successful in escaping poverty. Nearly 32 percent of non-elderly disabled in Massachusetts with no weeks of paid work were poor during 2002-2003. The Massachusetts poverty rate for this group was nearly three percentage points higher than the U.S. rate (32% versus 29%). Those disabled persons working fewer than 1,000 hours were not shielded from the risk of poverty. In Massachusetts, 22 percent of the non-elderly disabled who worked less than 1,000 hours were poor. For the entire nation, the poverty rate for those who did not work and for those who worked less than 1,000 hours were identical at 29%. The non-elderly disabled who worked between 1,000 and 1,700 hours had a sharply lower incidence of poverty problems in both Massachusetts and the U.S. (9% and 13%, respectively). Only 2 percent of the non-elderly disabled who worked year-round, full-time (1,800 hours or more) were poor in Massachusetts versus 3 percent for the entire nation during 2002-2003.

Findings on the links between the employment behavior of the disabled and their incidence of income inadequacy problems were similar for non-elderly poor/near poor and low-income persons in Massachusetts and the U.S. The higher the annual work hours, the lower the incidence of poverty/near poverty and low-income problems. Both in Massachusetts and the U.S., 55 percent of the non-elderly disabled who did not work during 2002-2003 were low-income individuals. Among those with paid work experience in Massachusetts, the incidence of low-income problems ranged from a high of 38 percent for those who worked less than 1,000 hours to 26 percent among those who worked 1,000-1,799 hours and to low of only 8.5 percent for those who worked 1,800 hours or more. The incidence of low-income problems for the non-elderly disabled in Massachusetts who worked full-time, year-round was only one-half as high as that for the entire nation (8.5% versus 18%).

Table 10:
Poverty, Near Poverty and Low Income Status of 16-64 Year Old Disabled in Massachusetts and the U.S., Total and by Work Status and by Number of Hours Worked During 2002-2003 (Numbers in %)

Hours Worked	Poor	Poor/Near Poor	Low Income
Massachusetts			
Did Not Work	31.7	39.8	54.7
Worked < 1,000 Hours	21.2	24.2	38.3
Worked 1,000-1,799 Hours	8.9	12.1	25.8
Worked 1,800+ Hours	1.9	3.6	8.5
Total	21.4	26.8	39.3
U.S.			
Did Not Work	29.4	37.8	55.4
Worked < 1,000 Hours	29.2	35.2	51.4
Worked 1,000-1,799 Hours	12.8	19.5	37.8
Worked 1,800+ Hours	3.3	6.1	18.0
Total	21.4	27.9	43.9

Chart 7:
The Incidence of Poverty Problems Among the 16-64 Year Old Disabled in Massachusetts by Annual Hours Worked During 2002-2003 (In %)

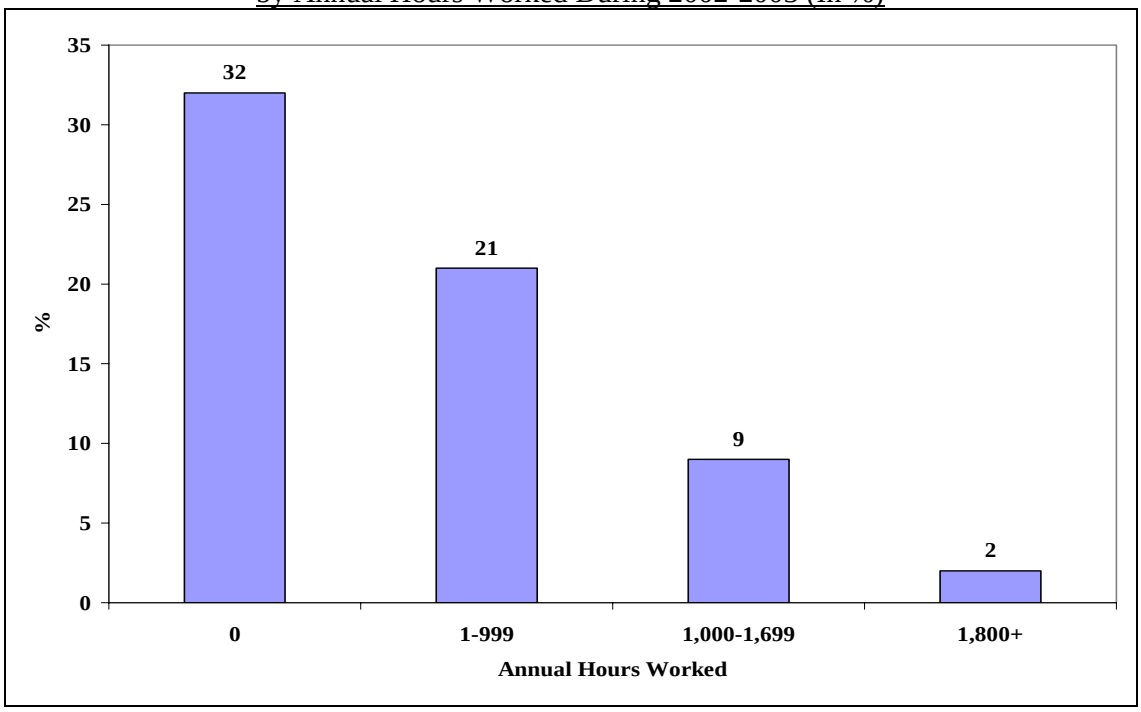
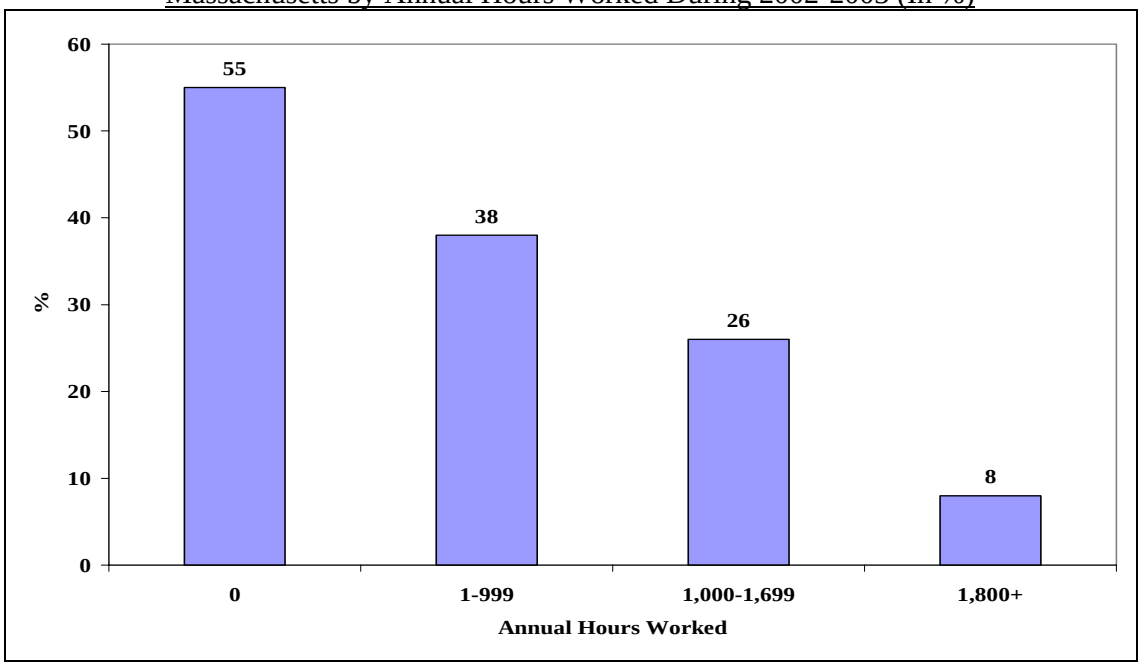


Chart 8:
The Incidence of Low Income Problems Among the 16-64 Year Old Disabled in Massachusetts by Annual Hours Worked During 2002-2003 (In %)



Predicting the Probability of Poverty/Near Poverty Problems Among Disabled Adults in Massachusetts: Estimating the Independent Impacts of Employment Intensity

In a previous section of this paper, we presented the findings of a multivariate statistical analysis of the poverty status of disabled adults (16-74) in Massachusetts and the U.S. Now, we will model the determinants of the poor/near poor status of disabled adults in the state and the nation. The group being analyzed consists of 16-64 year old disabled adults. Given the desire to model the independent effects of annual work effort on the probability of being poor/near poor, we have felt it appropriate to exclude those adults 65 and older, the vast majority of whom were fully retired. The dependent variable in this model is the poverty/near poverty status of the disabled individual in 2003. A person who was poor/near poor is coded as a "1" while those with incomes above 125% of the poverty line are coded as a "0". There were 1,500 disabled adults included in the analysis for Massachusetts and over 91,196 disabled adults in the U.S. model.[17]

[17] The 2004 ACS survey is the data source for this analysis.

The linear probability models underlying our analysis included three variables representing the employment experiences of the respondent in the twelve month period prior to the ACS interview. Each variable was coded as a 1, 0 variable where 1 represented an individual with the given employment status. The three variables are the following:

- Worked between 1 and 999 hours in the prior 12 month period
- Worked between 1,000 and 1,799 hours in the prior 12 month period
- Worked 1,800 hours or more in the prior 12 month period

Other predictor variables in the models were generally the same as those in the earlier model predicting the poverty status of respondents. They include the gender, race-ethnic, age, educational attainment, nativity, and family relationship characteristics of each respondent and a variable representing whether the person had an employment-related disability. Findings of the analysis for Massachusetts and the U.S. are displayed in Table 11. The estimated coefficients for each of the three employment variables were negative and statistically significant at the .001 level. The coefficient increased (became more negative) in size as the amount of work effort increased. (Table 11). Relative to the members of the base group who had no weeks of work in the prior year, a disabled person working 1-1,000 hours would be 8.2 percentage points less likely to be poor/near poor, holding all other background variables constant. Persons working 1,000-1,799 hours were 21 percentage points less likely to be poor/near poor than the members of the base group, and those employed 1,800 or more hours were 28 percentage points less likely to be poor/near poor.

The estimated impacts of work effort on the poverty/near poverty status of disabled adults in the U.S. were fairly similar to those of the state. (Table 12) However, modest work effort (under 1,000 hours) had bigger poverty reduction impacts in Massachusetts than in the U.S. <u>In both areas, year-round, full-time employment among the disabled came close to eliminating the prospects of poverty/near poverty among the adult disabled.</u> For example, in Massachusetts, a White male 25-34 year old disabled family head with one year of post secondary schooling who worked 1,800 hours in 2004 would have had only a 5% probability of being poor/near poor. If the same individual was a high school dropout with no weeks of paid work, his predicted probability of being poor/near poor would rise to 41%.

Table 11:
Findings of the Multivariate Statistical Analysis of the Probability of a 16-64 Old Disabled Person Being Poor/Near Poor in Massachusetts, 2003

Variable	Massachusetts	U.S.
(Constant)	0.351***	0.360***
Male	-0.071***	-0.050***
Black	0.200***	0.104***
Asian	0.058	-0.016*
Hispanic	0.179***	0.060***
Mixed Race	0.058	0.047***
Other Race	-0.140	0.108***
Age 16-19 Years	-0.130*	-0.060***
Age 35-44 Years	-0.054	-0.031***
Age 45-54 Years	-0.112**	-0.084***
Age 55-64 Years	-0.135***	-0.155***
<12 or 12 No HS Diploma	0.079**	0.094***
1-3 Years of College	-0.031	-0.039***
Bachelor's Degree	-0.016	-0.099***
Masters or More	-0.076*	-0.112***
Native-Born	-0.006	-0.019***
Family Head	0.084***	0.098***
Non-Family Head	0.292***	0.282***
Spouse	-0.069**	-0.037***
Work Disability	0.022	0.018***
Worked 1-999 Hours	-0.082**	-0.014***
Worked 10,00-1,799 Hours	-0.207***	-0.161***
Worked 1,800 Hour or More	-0.285***	-0.270***
Model Summary		
R Squared	0.249	0.185
F-Statistics	22.3***	944.4***
N	1,500	91,196
Degrees of Freedom	22	24

*** implies significant at .01 level
**implies significant at .05 level
*implies significant at .10 level.

Table 12:
Comparing the Estimated Independent Impacts of Hours of Employment on the Probability of a Disabled Person 16-64 Years Old Being Poor or Near Poor in Massachusetts and the U.S.

Variable	Massachusetts	U.S.
Worked 1-999 Hours	-0.082	-0.014
Worked 10,00-1,799 Hours	-0.207	-0.161
Worked 1,800 Hour or More	-0.285	-0.270

The Fiscal Impacts of Employing the Disabled

Employment of the disabled has a variety of favorable economic impacts, including increased real output of goods and services, higher incomes and earnings, and increased purchasing power for the disabled. There also are a number of potentially important fiscal benefits for national and state governments from increasing the employment of the disabled. These include increased payments of federal and state income taxes, social security payroll taxes, and federal government pension contributions as well as reduced transfer payments, including cash transfers and in-kind benefits, such as food stamps, Medicaid insurance, and rental housing subsidies.

The March CPS household survey contains a work experience and income supplement that collects a wide array of data from households on their income sources during the previous years and their receipt of a wide array of in-kind benefits.[18] Table 13 lists the individual types of cash and in-kind transfers for which data are collected. The dollar value of the food stamps, rental subsidies, and energy assistance are recorded, and the U.S. Census Bureau assigns a "fungible dollar value" to the Medicaid and Medicare insurance held by respondents. Recently, the U.S. Census Bureau has released a data file containing estimates of the federal and state income taxes, Social Security payroll taxes, and federal government retirement contributions paid by respondents to the March CPS survey (Table 13). For each working-age, disabled individual (16-64 years old), we have estimated the value of the combined income and payroll taxes that they paid each year and the value of the cash and in-kind transfers that they received.[19] The net fiscal benefits to the federal and state government are equal to the difference between the annual taxes paid by an individual and the value of the cash and in-kind transfers that he received. We have used the findings of the March 2004 and March 2005 CPS surveys to estimate the net fiscal benefits for employed and non-employed disabled individuals in the state and the nation. Two year simple averages are used to represent the results.

[18] Documentation for the March CPS supplement can be found on the U.S. Census Bureau web site. See: "2005 Annual Social and Economic Supplement (ASEC)."

[19] Food stamps, rental subsidies, and energy assistance are received by the household rather than by the disabled individual unless they are living alone. For each disabled person, we assigned him the value of these benefits received by the household in which he lived.

Table 13:
A Listing of the Federal/ State Taxes and Cash and In-kind Transfers Included in the Fiscal Impact Analysis for the Disabled in Massachusetts and the U.S.

Tax Payments	Cash and In-kind Transfers
Federal income taxes	Unemployment insurance benefits
State income taxes	Workers' compensation
Social security payroll taxes	Social security retirement payments
Federal retirement payroll deductions	Supplemental Security Income (SSI)
	Disability income
	Public assistance income
	Veterans' payments
	Social Security Survivors benefits
	Federal earned income tax credits
	Market value of food stamps
	Market value of housing subsidies
	Energy assistance
	Fungible value of Medicaid benefits
	Fungible value of Medicare benefits

Net fiscal benefits to federal and state government = Tax payments – Value of cash and in-kind transfers

Findings of the March 2005 and March 2005 CPS work experience surveys revealed that approximately 28 percent of all 16-64 year old disabled persons in Massachusetts were employed at some time during the calendar year. The employment rate of the disabled in Massachusetts was two percentage points below the U.S. average, and the state only ranked 39th highest among the 50 states on this employment measure for the disabled.[20] Among 16-64 year old non-disabled adults in Massachusetts, slightly more than 84% worked at some time during the year, several percentage points above the U.S. average of 81.6% (Table 14). Of the approximate 120,500 disabled adults in Massachusetts who worked at some point during the year, 36,000 or 30% worked full-time, year-round, i.e., 40 or more weeks for 35 or more hours per week.

[20] As noted in an earlier research paper, the March CPS disability definition is somewhat more limited than that of the ACS and yields a lower employment rate for the disabled.

Table 14:
Percent of 16-64 Year Old Persons Who Worked at Some Point During the Calendar Year by Disability Status, Massachusetts and the U.S. (2003-2004 Averages)

	(A)	(B)
Geographic Area	Disabled	Not Disabled
Massachusetts	27.6	84.4
U.S	29.7	81.6

Source: March 2004 and March 2005 CPS public use files, tabulations by authors

The value of the taxes paid by the employed disabled and the value of many of their cash and in-kind transfer payments will depend on the size of their annual earnings from employment. In Table 15, we provide estimates of the mean annual earnings of the employed disabled in Massachusetts and the U.S. during 2003-2004 (two-year averages). Earnings estimates are displayed for all of the employed regardless of annual hours worked and for those who worked 40 or more weeks on a full-time basis. Mean annual earnings for all disabled, employed in Massachusetts were equal to $22,586, nearly identical to the U.S. mean for all disabled workers during the same two year period. Those disabled workers employed full-time, year-round in our state obtained mean earnings of just under $33,000. Their mean earnings, however, were only equal to 60% of the mean annual earnings of $55,400 for non-disabled workers in our state. Annual earnings of the disabled in Massachusetts were shown in our earlier research report to be substantially influenced by their educational attainment and their years of work experience.

Table 15:
Mean Annual Earnings of Employed Disabled Persons 16-64 Years Old in Massachusetts and the U.S., All and by Hours Worked (2003-2004 Averages)

	(A)	(B)
Geographic Area	All	Worked Year-Round, Full-Time
Massachusetts	$22,586	$32,990
U.S	$22,768	$37,266

Source: March 2004 and March 2005 CPS public use files, tabulations by authors.

How much of a fiscal benefit is there, on average, to federal and state governments from having the disabled be employed rather than jobless all year round? To begin to answer this key public policy question, we conducted a preliminary analysis of the net annual fiscal

benefits of the disabled 16-64 years old who worked and those who were jobless all year during 2003 and 2004. Estimates are provided for the disabled in Massachusetts, the New England region, and the U.S., and for comparison purposes similar estimates are provided for the non-disabled in each of these three geographic areas (Table 16). The category "mean costs" in this table refers to the value of their cash and in-kind transfers while the category "net benefits" refers to their tax payments.

For the disabled in Massachusetts who were employed, mean annual tax payments were equal to $7,727 while mean cash and in-kind transfers were slightly greater than $8,510, yielding a net fiscal benefit of -$783, i.e., their tax payments fell slightly short of their transfer incomes. Among the disabled who were jobless all year long, mean tax payments were equal to only $805 while their mean transfer costs, both cash and in-kind, were equal to $21,269, yielding a net fiscal benefit of -$20,464. There is, thus, an annual difference of nearly $20,000 between the net fiscal benefits derived from the disabled who worked and those who were jobless all year in our state. Very similar findings prevailed for the disabled throughout the New England region while the mean net fiscal benefit from employment of the disabled nationwide was quite large but modestly lower than that of the state, $16,100.

The results in Table 16 clearly indicated that there are potentially large fiscal benefits for taxpayers in the Commonwealth that can be derived from improving employment prospects for the disabled in Massachusetts. Both federal and state tax receipts will rise from employing more of the disabled with the size of these tax gains based on the increased earnings of the disabled. Many of their transfer incomes will decline as a consequence of their increased earnings from employment. One has to be cautious in interpreting the findings from Table 16. Employment and training programs for the disabled, including those in Massachusetts, do raise the earnings of the disabled, sometimes by as much as several thousand dollars per year but not by the $22,400 difference between the mean earnings of those disabled persons who did and did not work at all.[21] Training the disabled and keeping them employed will involve additional cash outlays by state and federal government, but the additional future output, higher tax receipts and lower transfers are likely to considerably outweigh the costs involved. More careful long term evaluation of these issues is needed, but available data clearly indicate that the fiscal benefits of moving the disabled from joblessness to employment are quite large.

[21] Johan Uvin, Devrim Karaaslanli, Gene White, Vocational Rehabilitation Program Pays Off, The Commonwealth Corporation, October 2004.

Table 16:
Mean Budgetary Costs and Benefits of 16-64 Year Olds in Massachusetts, New England and the U.S., All and by Disability Status and by Employment Status in 2004

	All			Disabled			Not Disabled		
Massachusetts	Mean Costs	Mean Benefits	Net Benefits (Benefits-Costs)	Mean Costs	Mean Benefits	Net Benefits (Benefits-Costs)	Mean Costs	Mean Benefits	Net Benefits (Benefits-Costs)
All	$2,584	$9,017	$6,433	$17,472	$2,865	-$14,608	$749	$9,775	$9,026
Worked Last Year	$975	$11,001	$10,026	$8,510	$7,727	-$783	$645	$11,144	$10,499
Did Not Work Last Year	$8,250	$2,030	-$6,220	$21,269	$805	-$20,464	$1,285	$2,686	$1,400
New England									
All	$2,750	$8,497	$5,747	$18,340	$2,558	-$15,782	$863	$9,216	$8,353
Worked Last Year	$1,079	$10,185	$9,105	$9,152	$6,168	-$2,984	$723	$10,362	$9,638
Did Not Work Last Year	$9,112	$2,071	-$7,041	$22,462	$939	-$21,523	$1,654	$2,703	$1,049
U.S.									
All	$2,257	$6,863	$4,605	$14,225	$2,200	-$12,025	$882	$7,399	$6,517
Worked Last Year	$999	$8,550	$7,551	$7,762	$5,575	-$2,187	$719	$8,673	$7,954
Did Not Work Last Year	$6,274	$1,477	-$4,797	$16,905	$801	-$16,104	$1,599	$1,775	$175

Source: March 2004 and March 2005 CPS Work Experience and Income Supplements, U.S.Census Bureau, tabulations by CLMS

Summary of Key Findings and Their Public Policy Implications

This research monograph was primarily designed to identify, explain, and assess the incidence of a number of income inadequacy problems among the disabled adult population of Massachusetts during recent years. Variations in the incidence of such income inadequacy problems across an array of demographic, socioeconomic and geographic subgroups of the disabled population were described, and comparisons of these findings with those for the non-disabled population in our state and the disabled in the New England region and the U.S. were presented. The statistical links between the employment status of the disabled and their income inadequacy problems were analyzed. The degree of overlap between the disabled population and the poor / near poor population of the state and the nation were examined. A fiscal impact analysis of the benefits of work among the disabled population in our state and the nation in 2003 / 2004 also was undertaken. A brief summary of key findings of the study and their potential implications for future workforce development policies and programs in the state for the disabled is presented below.

(1) Poverty rates among the disabled adult population in Massachusetts were considerably higher than those of their non-disabled counterparts. Nearly 20 percent of all 16-74 year disabled persons in Massachusetts were poor versus only 5% of the non-disabled in our state during 2002-2003. Massachusetts did not fare well for disabled persons on this income inadequacy measure. The poverty rate of disabled persons in Massachusetts ranked 24th highest among all states while the state ranked 6th lowest on the poverty rate for non-disabled persons among all 50 states. The poverty rates for the disabled in Massachusetts varied quite widely by gender, race-ethnic, age, level of educational attainment subgroups. Disabled women were nearly two times more likely than their male counterparts to be poor (24% versus 14%). Among members of the six race-ethnic groups, the poverty rates among the disabled varied widely, ranging from lows of 8% to 10% among members of "other" and "Mixed" race-ethnic groups to highs of 36% among Blacks and 46% among Hispanics. It is somewhat puzzling that disabled Hispanics in Massachusetts and the New England region experienced a poverty rate that was nearly two times higher than that of disabled Hispanics nationwide. Educational attainment of the disabled was strongly associated with the incidence of poverty problems. The poverty rate among the disabled in Massachusetts was highest among those who lacked a high school diploma and lowest among those holding a four year college degree. Thirty one percent of disabled persons in Massachusetts without a high school diploma were poor versus only 9 percent of those with a Bachelor's degree and only 7 percent of those with a Master's or higher degree. The foreign-born disabled in Massachusetts were much more likely to be poor than their native-born disabled counterparts. These findings for Massachusetts were consistent with those for the New England region and the entire nation.

(2) When the income adequacy threshold for the disabled is raised to 125% of the poverty line, one-quarter of all disabled persons in Massachusetts were classified as poor/near poor. Disabled persons in Massachusetts were two times more likely than their non-disabled counterparts to be poor/near poor (26% versus 14%). Massachusetts ranking for the disabled among all states on this income inadequacy measure was 26th highest. During 2002-2003 in Massachusetts, 30 percent of disabled women were poor/near poor versus only 20 percent of disabled men. Among race-ethnic groups, Blacks and Hispanics faced the highest incidence of poverty/near poverty problems (46% and 54%, respectively). Among age sub-groups, the poverty/near poverty rate was highest for 25-34 year olds and lowest for 65-74 year olds. Disabled persons without a high school diploma had the highest poverty/near poverty rate

(39%) while those with a Master's or higher degree had the lowest incidence of such problems (9%).

(3) When the income adequacy threshold is raised to 200% of the poverty line, income inadequacy problems among both the disabled and non-disabled in Massachusetts become more acute. Thirty-eight percent of 16-74 year old disabled adults in Massachusetts were low-income during 2002-2003 versus only 15% of their non-disabled peers. Thus, the disabled were 2.5 times more likely than their non-disabled peers to be low-income individuals. Massachusetts' ranking on this measure for the disabled was only 38th highest among all states. As was the case for our two previous measures of income inadequacy, disabled women in Massachusetts were more likely to be low-income than their male counterparts (45% versus 33%). Among the four major race-ethnic groups, the incidence of low-income problems varied widely. Three out of 10 disabled Whites were low-income versus 4 out 10 Asians and 6 to 7 of every 10 Blacks and Hispanics. Among age sub-groups, the incidence of low-income problems was lowest among those 20-24 years old, but rose sharply among 25-34 year olds. The incidence of low income problems declined steadily with age for the 35-74 year old disabled.

(4) A multivariate statistical analysis of the factors influencing the probability of poverty among disabled persons was undertaken. Among disabled persons, gender, race-ethnicity, age, years of formal schooling, family living arrangements, disability type and nativity status were strong predictors of being in poverty. Male disabled persons, ceteris paribus, were 7 percentage points less likely to be poor than their female counterparts. Black and Hispanic disabled persons in Massachusetts were 18 and 12 percentage points, respectively, more likely than their White, non-Hispanic peers to be poor. Disabled persons with a four year college degree were 6 percentage points less likely to be poor than their peers with only a high school diploma. Non-family heads were 18 percentage points more likely to be poor than their peers who were members of families. The probability of poverty among the disabled in Massachusetts was also significantly influenced by the type of disability reported. Those with a work related disability were 7 percentage points more likely to be poor than the base group (those experiencing difficulty going out). Persons with difficulty remembering were 8 percentage points more likely than persons in the base group without such a disability to be poor.

(5) The employment behavior of the disabled in Massachusetts was strongly linked to their income inadequacy status. Those disabled adults who worked in the prior year, especially those employed for 1000 or more hours, were considerably less likely to

experience poverty and near poverty problems. Findings of our multivariate statistical analysis of the probability of a disabled individual being poor / near poor in 2003 revealed that their employment status had very strong independent effects in reducing the likelihood that they would be poor / near poor. Similar results were found for the nation, but moderate employment tended to have a more powerful anti-poverty impact in our state.

(6) An analysis of the degree of overlap between disability and poverty / near poverty problems in Massachusetts and the U.S. illustrated a relatively high degree of inter-relationships between these two groups. Nearly 30 per cent of the 16-74 year old poor / near poor population of Massachusetts in 2003 were classified as disabled, a ratio slightly above that for the U.S. The degree of overlap between these two groups varied fairly considerably by age group and educational attainment, with the overlaps being highest for the older age group (55 and older) and those disabled adults who had not graduated from high school or obtained a GED certificate. Nearly one-half of all poor / near poor adults 55-74 years old were disabled. Anti-poverty and vocational rehabilitation policy must be more closely coordinated if future progress is to be achieved in reducing income inadequacy problems among the state's older population, whose ranks will be rapidly rising in the years ahead due to the aging of the baby boomers.

(7) In addition to the gains in real output, employment, and earnings from employing the disabled population, there are substantial fiscal benefits to federal and state governments that can be generated by increasing the pool of employed disabled adults in the state. The average disabled adult in Massachusetts who did not work at all during calendar year 2003 or 2004 received approximately $22,000 more annually in cash and in-kind transfer payments than they paid in federal and state income taxes, Social Security payroll taxes, or federal retirement contributions. In contrast, the average employed, disabled adult in Massachusetts paid nearly as much in federal and state taxes as they received in cash and in-kind transfers from government. Thus, there are substantial fiscal benefits that can be produced for state and federal taxpayers by increasing the employability and earnings of the disabled population in Massachusetts.

(8) Strengthening the employability and earnings potential of the state's disabled population can help achieve a number of important economic and social goals for the Commonwealth. First, bringing more of the disabled adults into active participation in the labor force can help boost the size of the state's resident labor force. The state has experienced three consecutive years of decline in its labor force, the only state in the nation with such a dubious record of achievement. Second, by targeting training for the disabled in

occupational areas that are currently in shortage in state and local labor markets, the workforce development system could help reduce job vacancies and expand the level of employment.[22] Payroll employment in Massachusetts still remains well below its level at the peak of the employment boom in the first quarter of 2001.[23] Third, employing more of the disabled would improve their annual earnings, their family's incomes, and enable more of them to escape from the ranks of the poor and near poor. Fourth, employing the disabled, especially older workers, can help achieve a number of important physical and mental health benefits for them and reduce their social isolation. Finally, there are substantial fiscal benefits that can be generated by employing the disabled, including additional federal and tax receipts and reduced outlays on both cash and in-kind transfers for the jobless disabled in the Commonwealth. This strategy of employing the disabled, thus, constitutes a potential win-win-win-win outcome for the disabled and society as a whole.

[22] During the fourth quarter of 2005, there were 74,300 job vacancies in Massachusetts, the highest level in the past four years.
See: Massachusetts Department of Workforce Development, Massachusetts Job Vacancy Survey: Hiring Trends by Industry and Occupation, Boston, 2006.
[23] In the March – May period of 2006, the state's payroll employment level was still 155,000 or 4.6% below its peak level in the first quarter of calendar year 2001.

Appendix A: Estimates of the Number and Percent of 16-74 Year Olds Who Were Poor, Poor/Near Poor and Low Income by State, 2003-2004 Averages

Tables A1, A2, and A3 display estimates of both the number and percent of the 16-74 year old population who were poor, poor/near poor and low income by their disability status. Estimates are displayed for each state and the U.S. for the 2003-2004 period using two year weighted averages. Table A1 presents the findings for the poor, Table A2 for the poor/near poor, and Table A3 for the low-income population. The first column in each Table displays the percent of the population that were poor, poor/near poor or low-income, respectively, during 2003-2004. The second column represents the percent of the disabled who were poor, poor/near poor and low income. The third column displays the percent of the non-disabled population who were poor, poor/near poor and low income by state during 2003-2004. The fourth, fifth and sixth columns display the number of poor, poor/near poor and low income persons overall and for the disabled and non-disabled population separately.

Appendix A1: Number and Percent of the 16-74 Year Olds Who Were Poor by Disability Status, Total and by State, 2003-2004 Averages

	Percent Who Were Poor			Number of Poor		
State	All	Disabled	Not Disabled	All	Disabled	Not Disabled
Alabama	12.6%	23.2%	10.2%	400,517	135,953	264,563
Alaska	7.3%	11.5%	6.5%	32,983	7,843	25,140
Arizona	11.1%	17.8%	10.0%	427,751	90,545	337,206
Arkansas	13.2%	23.8%	10.4%	250,775	93,832	156,943
California	10.0%	16.5%	9.1%	2,454,438	477,959	1,976,479
Colorado	8.0%	16.7%	6.9%	259,598	58,084	201,514
Connecticut	6.1%	13.8%	5.2%	147,060	34,019	113,041
Delaware	7.2%	15.6%	5.8%	41,457	12,329	29,128
Dist. of Columbia	13.4%	28.5%	11.1%	52,770	14,422	38,348
Florida	9.5%	17.9%	8.2%	1,138,488	288,060	850,428
Georgia	10.3%	20.8%	8.7%	630,114	171,159	458,956
Hawaii	8.1%	17.7%	6.9%	70,982	17,085	53,897
Idaho	11.7%	18.9%	10.4%	111,110	27,326	83,784
Illinois	8.5%	18.7%	7.3%	747,106	175,648	571,458
Indiana	8.4%	16.4%	7.0%	357,438	100,439	256,998
Iowa	8.6%	17.5%	7.3%	175,901	45,670	130,231
Kansas	8.8%	17.6%	7.5%	165,839	42,367	123,472
Kentucky	14.1%	26.9%	10.7%	411,693	161,303	250,391
Louisiana	14.3%	24.3%	12.4%	447,213	124,511	322,702
Maine	9.3%	21.2%	6.9%	87,433	33,436	53,996
Maryland	6.6%	15.7%	5.4%	256,996	73,600	183,396
Massachusetts	7.1%	19.4%	5.5%	317,605	98,578	219,028

Michigan	9.1%	19.5%	7.4%	641,365	192,216	449,149
Minnesota	6.5%	17.0%	5.2%	230,619	62,959	167,661
Mississippi	16.0%	26.8%	13.2%	318,088	111,071	207,018
Missouri	9.2%	17.8%	7.7%	366,376	103,666	262,711
Montana	11.8%	21.7%	10.1%	77,596	21,632	55,964
Nebraska	9.1%	21.0%	7.3%	109,764	33,651	76,112
Nevada	8.6%	15.6%	7.6%	139,487	30,079	109,408
New Hampshire	5.9%	14.6%	4.7%	54,795	16,542	38,254
New Jersey	6.1%	15.2%	5.0%	367,604	96,966	270,639
New Mexico	15.0%	24.2%	13.2%	196,883	51,539	145,344
New York	10.3%	22.3%	8.7%	1,391,715	366,945	1,024,770
North Carolina	11.1%	20.0%	9.4%	653,363	182,499	470,865
North Dakota	9.7%	18.8%	8.4%	43,118	10,300	32,819
Ohio	9.1%	19.9%	7.3%	729,736	228,843	500,893
Oklahoma	11.8%	21.0%	9.9%	287,422	88,481	198,941
Oregon	11.3%	20.3%	9.7%	285,157	76,377	208,780
Pennsylvania	8.8%	20.4%	6.9%	751,394	245,029	506,365
Rhode Island	8.9%	21.4%	6.9%	66,283	21,583	44,701
South Carolina	11.3%	22.3%	9.1%	329,015	105,005	224,009
South Dakota	8.5%	15.1%	7.7%	44,524	8,887	35,637
Tennessee	10.5%	21.9%	8.3%	440,595	153,179	287,417
Texas	12.0%	20.4%	10.8%	1,832,665	391,199	1,441,466
Utah	8.8%	15.5%	8.0%	139,425	26,117	113,308
Vermont	7.7%	18.4%	5.9%	34,561	11,896	22,664
Virginia	7.2%	17.2%	5.8%	379,058	114,501	264,558
Washington	9.9%	19.2%	8.4%	433,021	116,733	316,289
West Virginia	14.9%	25.5%	11.8%	195,717	77,015	118,702
Wisconsin	8.4%	17.8%	7.1%	325,911	85,073	240,839
Wyoming	8.3%	15.8%	7.1%	30,098	8,164	21,934
U.S. Total	9.8%	19.5%	8.3%	19,880,613	5,322,303	14,558,310

Appendix A2: Number and Percent of 16-74 Year Olds Who Were Poor/Near Poor by Disability Status, Total and by State, 2003-2004 Averages

	Percent Who Were Poor/Near Poor			**Number of Poor/Near Poor**		
State	All	Disabled	Not Disabled	All	Disabled	Not Disabled
Alabama	13.8%	30.9%	17.0%	358,079	181,156	539,235
Alaska	8.9%	17.5%	10.2%	34,112	11,968	46,080
Arizona	14.4%	25.5%	15.9%	484,569	129,504	614,073
Arkansas	14.0%	32.2%	17.7%	210,371	126,689	337,060
California	13.0%	23.4%	14.2%	2,823,769	680,670	3,504,439
Colorado	10.0%	21.7%	11.3%	290,217	75,397	365,614
Connecticut	6.9%	19.4%	8.2%	149,903	47,830	197,732
Delaware	8.3%	19.9%	9.9%	41,398	15,761	57,159
Dist. of Columbia	14.3%	35.2%	17.0%	49,409	17,774	67,183
Florida	12.0%	24.5%	13.6%	1,235,384	393,814	1,629,198
Georgia	12.3%	27.7%	14.3%	650,610	227,674	878,284

Hawaii	9.3%	22.5%	10.8%	72,647	21,721	94,368
Idaho	15.0%	24.9%	16.5%	120,030	35,927	155,956
Illinois	10.4%	24.8%	11.9%	813,997	232,512	1,046,510
Indiana	10.3%	22.1%	12.0%	377,842	135,375	513,216
Iowa	10.4%	24.8%	12.3%	186,008	64,693	250,701
Kansas	11.2%	25.0%	12.9%	183,087	60,259	243,345
Kentucky	14.6%	35.4%	18.9%	340,513	212,862	553,375
Louisiana	16.3%	32.3%	19.0%	425,850	165,612	591,462
Maine	9.9%	28.2%	13.0%	77,918	44,510	122,428
Maryland	7.5%	20.3%	9.1%	257,321	95,092	352,413
Massachusetts	7.6%	25.2%	9.6%	304,408	128,178	432,586
Michigan	10.4%	25.0%	12.4%	625,856	246,464	872,321
Minnesota	7.3%	21.7%	8.8%	233,678	80,509	314,186
Mississippi	17.6%	35.6%	21.4%	276,989	147,912	424,900
Missouri	11.1%	24.8%	13.1%	377,554	144,226	521,780
Montana	14.6%	30.7%	17.0%	81,024	30,508	111,531
Nebraska	10.4%	26.1%	12.5%	108,980	41,959	150,939
Nevada	11.0%	21.5%	12.2%	157,312	41,336	198,648
New Hampshire	6.6%	20.9%	8.4%	53,705	23,608	77,313
New Jersey	7.0%	20.3%	8.4%	379,645	128,869	508,513
New Mexico	18.3%	32.8%	20.6%	200,808	69,859	270,666
New York	11.9%	28.9%	13.9%	1,401,719	474,944	1,876,662
North Carolina	13.3%	27.6%	15.5%	665,481	250,912	916,393
North Dakota	11.6%	26.8%	13.5%	45,307	14,657	59,963
Ohio	10.0%	26.8%	12.4%	683,867	308,453	992,319
Oklahoma	14.3%	29.4%	16.9%	287,627	124,115	411,742
Oregon	13.6%	27.2%	15.6%	292,744	102,169	394,912
Pennsylvania	9.5%	26.3%	11.9%	702,004	314,882	1,016,887
Rhode Island	9.1%	26.9%	11.5%	59,035	27,104	86,139
South Carolina	13.4%	28.8%	15.9%	329,215	135,573	464,787
South Dakota	10.9%	21.4%	12.1%	50,412	12,645	63,057
Tennessee	11.9%	29.4%	14.8%	414,312	205,865	620,176
Texas	15.2%	27.9%	16.8%	2,023,739	534,235	2,557,974
Utah	11.1%	19.7%	12.0%	156,715	33,233	189,948
Vermont	8.9%	25.9%	11.4%	34,047	16,735	50,782
Virginia	8.2%	23.6%	10.2%	375,954	156,628	532,582
Washington	11.1%	24.5%	13.0%	420,674	149,236	569,910
West Virginia	16.0%	34.3%	20.3%	161,889	103,678	265,567
Wisconsin	9.7%	24.4%	11.5%	328,167	116,855	445,021
Wyoming	10.5%	22.6%	12.2%	32,499	11,701	44,200
U.S. Total	11.6%	26.2%	13.6%	20,448,391	7,153,839	27,602,231

Appendix A3: Number and Percent of 16-74 Year Olds Who Were "Low-Income" by Disability Status, Total and by State, 2003-2004 Averages

	Percent Who Were "Low-Income"			Number of "Low-Income"		
State	All	Disabled	Not Disabled	All	Disabled	Not Disabled
Alabama	27.2%	50.8%	31.5%	702,529	298,198	1,000,727
Alaska	18.7%	34.4%	21.1%	72,204	23,538	95,742
Arizona	27.5%	43.1%	29.5%	923,093	218,570	1,141,662
Arkansas	29.8%	52.2%	34.5%	449,465	205,748	655,213
California	25.4%	40.5%	27.1%	5,518,144	1,175,279	6,693,423
Colorado	20.0%	37.4%	21.9%	581,563	129,549	711,112
Connecticut	13.8%	32.2%	15.6%	299,357	79,288	378,645
Delaware	17.6%	34.7%	19.9%	87,676	27,545	115,220
Dist. of Columbia	23.7%	46.5%	26.6%	81,776	23,492	105,268
Florida	24.8%	42.4%	27.1%	2,559,349	682,773	3,242,121
Georgia	24.5%	44.4%	27.2%	1,300,796	365,399	1,666,195
Hawaii	19.1%	35.6%	20.9%	148,785	34,410	183,194
Idaho	29.4%	43.2%	31.5%	235,684	62,388	298,071
Illinois	20.5%	39.8%	22.6%	1,612,867	372,709	1,985,575
Indiana	21.5%	39.0%	24.0%	785,740	238,626	1,024,365
Iowa	21.9%	43.7%	24.6%	389,735	114,064	503,798
Kansas	22.9%	43.9%	25.6%	375,068	105,840	480,907
Kentucky	27.2%	54.2%	32.8%	634,746	325,472	960,218
Louisiana	30.6%	52.1%	34.1%	798,559	266,528	1,065,087
Maine	20.9%	45.7%	25.0%	164,028	72,075	236,102
Maryland	14.4%	32.0%	16.5%	493,895	150,087	643,982
Massachusetts	14.9%	38.3%	17.5%	591,574	194,820	786,394
Michigan	20.4%	41.1%	23.3%	1,233,382	405,705	1,639,087
Minnesota	16.3%	35.6%	18.3%	520,106	132,055	652,160
Mississippi	32.7%	55.6%	37.5%	512,598	230,676	743,274
Missouri	22.3%	41.4%	25.1%	760,640	241,228	1,001,868
Montana	30.1%	47.9%	32.8%	167,245	47,694	214,939
Nebraska	22.1%	41.3%	24.7%	231,536	66,226	297,762
Nevada	23.3%	37.4%	25.0%	333,627	72,044	405,671
New Hampshire	13.4%	34.7%	16.0%	108,641	39,325	147,966
New Jersey	14.7%	32.5%	16.6%	795,597	206,564	1,002,162
New Mexico	33.7%	51.9%	36.7%	370,920	110,567	481,487
New York	22.4%	44.5%	25.1%	2,641,891	732,336	3,374,227
North Carolina	26.9%	46.9%	30.0%	1,343,888	427,062	1,770,949
North Dakota	24.1%	43.2%	26.5%	93,984	23,687	117,671
Ohio	20.5%	43.1%	23.8%	1,402,224	494,970	1,897,193
Oklahoma	28.9%	46.3%	31.9%	582,363	195,472	777,835
Oregon	26.1%	43.4%	28.7%	563,120	163,348	726,468
Pennsylvania	20.0%	44.6%	23.5%	1,472,467	534,953	2,007,420
Rhode Island	17.7%	43.3%	21.2%	114,361	43,642	158,003
South Carolina	25.5%	48.4%	29.2%	626,291	228,252	854,544
South Dakota	24.0%	40.5%	25.8%	110,725	23,896	134,621
Tennessee	24.3%	47.6%	28.2%	845,755	332,701	1,178,456
Texas	29.4%	46.2%	31.5%	3,930,692	883,811	4,814,503

Utah	23.8%	37.3%	25.3%	335,452	62,973	398,425
Vermont	19.2%	43.7%	22.7%	73,165	28,262	101,427
Virginia	17.8%	40.9%	20.7%	814,594	271,638	1,086,233
Washington	21.6%	38.1%	23.9%	817,658	232,132	1,049,790
West Virginia	29.9%	53.6%	35.4%	302,188	161,715	463,902
Wisconsin	19.5%	40.3%	22.1%	660,066	192,753	852,819
Wyoming	22.3%	38.7%	24.6%	69,274	20,027	89,301
U.S. Total	23.1%	43.2%	25.8%	40,641,077	11,772,099	52,413,176

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