

The Employment and Health Status of Californians with Disabilities

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Introduction

In addition to human capital factors, such as education level and occupational experience, and demographic factors, such as gender and age, that are known to influence the rate of employment generally, there are two additional factors that strongly influence employment of people with disabilities: the external environment, on the one hand, and the health and functioning of the individual, on the other. An inaccessible environment, or one in which people with disabilities are stigmatized, will lessen the likelihood of their working. That insight has been the basis of much federal legislation including the Rehabilitation Act and the Americans with Disabilities Act, and in California, the Fair Employment and Housing Act. Nevertheless, it has been difficult for researchers to demonstrate the effects of environmental barriers on employment of people with disabilities because information on barriers to getting and keeping jobs is seldom collected in surveys. The relationship of health to employment of people with disabilities has also not been sufficiently explored, but there are more data available on health than on social and physical barriers.

Under the California Workforce Inclusion Act, AB 925, signed by former Governor Gray Davis on September 29, 2002, it is the policy of the state of California, to "bring adults with disabilities into gainful employment at a rate that is as close as possible to that of the general adult population." (California Governor's Committee on Employment of People with Disabilities, 2004). The Centers for Disease Control's Healthy People 2010 initiative also calls for the equalization of employment rates for people with and without disabilities (U.S. Department of Health and Human Services, 2000). However, as the rate of employment of people with disabilities continues to lag well behind that of people without disabilities, the important question is how close is "as close as possible."

Decades of federal and state policies directed toward improving the rate of employment of people with disabilities have not changed this fact: Americans and Californians with disabilities continue to have low rates of employment compared to those without disabilities. For example, as we show in this report, using the 2003 American Community Survey (ACS) conducted by the US Census Bureau, only 36 percent of Californians with disabilities between the ages of 18-64 are employed, compared to 73 percent of persons without disabilities. That is a difference or gap of 37 percentage points. The rate of employment of people with disabilities would have to be doubled in order to equal the rate for those without disabilities. While equalization of employment opportunity is a laudable policy goal, it is a difficult challenge to expect that the rate of employment of people with disabilities can be made comparable to the rate of employment of Californians without disabilities.

While there are a variety of barriers to be overcome in successfully implementing a policy of full employment for people with disabilities, health is one of the important factors that needs to be better understood. Poor health is a substantial barrier to greater equalization of employment between people with and without disabilities. A slim majority of people with disabilities are in good health, and people with disabilities are far more likely to report poor health than their non-disabled counterparts. Poor health, in

turn, has a depressing effect on employment. It is a fair criticism that health has been largely neglected in employment research and policy on disability. In this report, we explore the relationship of health status and employment to see how much of the gap in the rate of employment can possibly be accounted for by health. We show that about half of the gap in the employment rate between people with and without disabilities is associated with their health. As a result, we recommend that a "health adjusted" employment rate be used as a tool to better assess that part of the employment gap that can be effectively closed. This suggests that "as close as possible" is a halving of the gap that now exists. But we also suggest that health is mutable, and that our findings should be met with rededication to ensuring better health for people with disabilities by providing adequate access to health services.

Another aspect to be better understood in the employment of people with disabilities is the variation that exists in employment rates of people with disabilities across geographic areas, whether the unit is states, cities, or counties. While employment rates vary somewhat for people without disabilities across geographic areas, the rates vary much more for people with disabilities. In some places, the gap is much larger than in others, which suggests that it will be more difficult to bring employment rates of people with and without disabilities close together in these places. In this report, we examine the variation in employment rates across the states, as well as across counties and regions within the state. California, the most populous state in the nation, is average in employment of people with disabilities. Within the state, with some exceptions, it is the far northern counties that have the highest rates of disability, the lowest rates of employment, and the greatest gaps in employment; conditions in those counties approach those of the "disability belt" states of Appalachia and the Mississippi Valley.

We also present results of research on trends in employment status of working age Californians with disabilities over the period 2000-2003. This research shows that the rate of employment of people with disabilities has actually decreased during that period and more people with disabilities have entered poverty as a result. Californians with disabilities have lost economic ground as a consequence of the recent economic recession. But, as the California economy grows again, it will be essential that people with disabilities have access to job opportunities, so that the vicious cycle of being among the last hired and among the first to be let go is not repeated again in the next business cycle.

We also present recommendations for how the employment of Californians with disabilities can be more effectively monitored in the future.

Data and methods

We use data from several large surveys with coverage of California. These datasets are advantageous because they describe the extent of disability and employment of persons with disabilities for the entire population of California (except those in institutions). The datasets include:

- 2000 Census (Census Bureau)

LaPlante & Kaye (2005). "The employment and health status of Californians with disabilities"

- 2000-2003 American Community Surveys (Census Bureau)
- 2002 data from the Survey of Income and Program Participation (Census Bureau)
- 2001 & 2003 California Health Interview Survey (CA DHS and UCLA)
- 2003 Behavioral Risk Factor Survey (CDC and CA DHS)
- 2001 National Health Interview Survey (CDC)

Results

How does California measure up with other states on the rate of disability?

In 2003, according to the American Community Survey, California had a rate of disability of 10.4 percent among adults 18 to 64 years of age, significantly below the national average of 11.7 percent (Table 1). Six questions are used in the ACS to identify persons with disability and they are shown in Figure 1.

Nationally, 20.6 million persons ages 18-64 answered affirmatively to any of the six questions and are classified as having a disability; among working-age Californians, approximately 2,256,000 answered yes to one or more of the six questions. The frequency of responses to the six questions is, in order: having a condition that substantially limits one or more physical activities (6.3 percent of working-age Californians, or 1,362,000 people), having a condition that makes it difficult to work (5.8 percent, or 1,248,000 people), having a cognitive difficulty (3.7 percent, or 804,000), having difficulty going outside alone (2.6 percent, or 565,000), having a sensory impairment (2.3 percent, or 501,000), and last, difficulty with self-care (1.7 percent, or approximately 365,000 working-age Californians).

Figure 1. Questions on disability used in the 2003 American Community Survey.

F Answer questions 15 and 16 ONLY IF this person is 5 years old or over. Otherwise, SKIP to the questions for PERSON 2 on page 10.

15 Does this person have any of the following long-lasting conditions:

	Yes	No
a. Blindness, deafness, or a severe vision or hearing impairment?	<input type="checkbox"/>	<input type="checkbox"/>
b. A condition that substantially limits one or more basic physical activities such as walking, climbing stairs, reaching, lifting, or carrying?	<input type="checkbox"/>	<input type="checkbox"/>

16 Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:

	Yes	No
a. Learning, remembering, or concentrating?	<input type="checkbox"/>	<input type="checkbox"/>
b. Dressing, bathing, or getting around inside the home?	<input type="checkbox"/>	<input type="checkbox"/>

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(next page)

Person 1 (continued)

G Answer question 17 ONLY IF this person is 15 years old or over. Otherwise, SKIP to the questions for PERSON 2 on page 10.

17 Because of a physical, mental, or emotional condition lasting 6 months or more, does this person have any difficulty in doing any of the following activities:

	Yes	No
a. Going outside the home alone to shop or visit a doctor's office?	<input type="checkbox"/>	<input type="checkbox"/>
b. Working at a job or business?	<input type="checkbox"/>	<input type="checkbox"/>

The 2003 ACS uses essentially the same questions as the 2000 Census, but with a little difference that has a big impact. The questions have been revised slightly to correct a problem with the questionnaire that was used in the 2000 Census, which led to the estimated number of people with disabilities being incorrectly inflated (Stern, 2004, Stern and Brault, 2005). There was a substantial overcount by more than 10 million persons, most of whom did not have a disability. The 2000 Census estimated there were 49.7

Table 1. Disability and employment data for California, other States, and the nation, ages 18-64, 2003. Source: American Community Survey.					
Disability rate among working-age adults		Employment rate among working-age adults with disabilities		Employment gap for working-age adults	
1 Colorado	8.9	1 South Dakota	54.8	1 Alaska	21.1
2 New Jersey	8.9	2 Alaska	53.6	2 Utah	26.9
3 Illinois	9.0	3 Wyoming	52.3	3 South Dakota	27.6
4 South Dakota	9.0	4 Minnesota	49.4	4 Wyoming	28.5
5 Minnesota	9.1	5 Utah	49.3	5 Idaho	29.9
6 Connecticut	9.1	6 Montana	48.7	6 Montana	30.6
7 Utah	9.2	7 North Dakota	48.2	7 Colorado	30.7
8 Massachusetts	9.8	8 Idaho	48.0	8 Minnesota	32.4
9 Hawaii	10.1	9 Colorado	47.5	9 Oklahoma	33.6
10 New Hampshire	10.1	10 Nebraska	47.4	10 North Dakota	34.4
11 Nevada	10.2	11 Vermont	46.4	11 Nevada	34.5
12 California	10.4	12 New Hampshire	46.0	12 Hawaii	34.7
13 Maryland	10.5	13 Iowa	45.8	13 Texas	34.8
14 Texas	10.6	14 Wisconsin	44.1	14 Connecticut	35.2
15 New York	10.6	15 Delaware	43.8	15 Delaware	35.2
16 North Dakota	10.6	16 Connecticut	42.8	16 Illinois	35.5
17 Kansas	10.7	17 Maine	42.4	17 New Mexico	35.5
18 Wisconsin	11.0	18 Maryland	42.0	18 Indiana	35.5
19 Virginia	11.0	19 Kansas	41.9	19 Arizona	35.6
20 DC	11.4	20 Indiana	41.9	20 New Hampshire	35.6
21 Arizona	11.5	21 Hawaii	41.6	21 Washington	35.8
22 Delaware	11.5	22 Nevada	41.1	22 Nebraska	36.0
23 Florida	11.6	23 Washington	40.1	23 Wisconsin	36.3
24 Georgia	11.7	24 Oklahoma	40.0	24 Iowa	36.3
25 Iowa	12.0	25 Oregon	39.6	25 DC	36.4
26 Rhode Island	12.0	26 Illinois	39.5	26 Vermont	36.5
27 Pennsylvania	12.1	27 Virginia	39.5	27 Oregon	37.1
28 Nebraska	12.2	28 New Jersey	39.3	28 New Jersey	37.1
29 Missouri	12.2	29 Texas	39.2	29 California	37.2
30 Michigan	12.4	30 Arizona	38.7	30 Florida	37.4
31 Wyoming	12.5	31 Missouri	38.4	31 Maryland	37.4
32 Washington	12.5	32 New Mexico	37.9	32 New York	38.2
33 Indiana	13.0	33 Florida	37.8	33 Kansas	38.6
34 Ohio	13.0	34 DC	37.7	34 Michigan	39.0
35 Oregon	13.0	35 Ohio	37.6	35 Maine	39.1
36 Vermont	13.3	36 Rhode Island	37.5	36 Virginia	39.1
37 Alaska	13.9	37 Michigan	36.7	37 Ohio	39.7
38 Montana	13.9	38 Massachusetts	36.2	38 Missouri	40.9
39 North Carolina	14.0	39 California	36.0	39 Louisiana	41.0
40 South Carolina	14.2	40 Pennsylvania	35.7	40 Pennsylvania	41.4
41 New Mexico	14.2	41 New York	35.4	41 Georgia	41.8
42 Idaho	14.3	42 Tennessee	35.3	42 South Carolina	42.1
43 Louisiana	14.6	43 Arkansas	35.2	43 North Carolina	42.1
44 Tennessee	14.7	44 Georgia	35.0	44 Tennessee	42.2
45 Oklahoma	14.9	45 North Carolina	34.8	45 Massachusetts	42.3
46 Maine	15.5	46 South Carolina	33.6	46 Arkansas	42.7
47 Alabama	16.2	47 Mississippi	32.5	47 Rhode Island	43.1
48 Arkansas	17.2	48 Louisiana	31.9	48 Mississippi	43.6
49 Kentucky	17.4	49 Alabama	30.0	49 Alabama	45.0
50 Mississippi	18.6	50 Kentucky	27.5	50 West Virginia	46.6
51 West Virginia	20.6	51 West Virginia	25.1	51 Kentucky	47.4
U.S.	11.7	U.S.	37.8	U.S.	38.3

Table 2. Poverty rate and SSI Reciprocity for California, other States, and the nation, ages 18-64, 2003. Source: American Community Survey.

Poverty rate among working-age adults with disabilities		Percent of working-age adults with disabilities on SSI		Mean annual SSI income among working-age adults with disabilities on SSI	
1 Alaska	14.0	1 Alaska	7.7	1 New Hampsh	7792
2 Utah	15.4	2 Wyoming	8.7	2 California	7219
3 New Hampshire	16.6	3 Utah	9.6	3 New Jersey	7135
4 Wyoming	16.9	4 North Dakota	10.1	4 Colorado	7035
5 Delaware	17.1	5 Arizona	10.4	5 Delaware	6729
6 Maryland	18.1	6 Minnesota	10.5	6 Massachuset	6718
7 Colorado	18.1	7 Indiana	11.1	7 Pennsylvania	6704
8 Connecticut	18.2	8 South Carolina	11.6	8 Connecticut	6640
9 New Jersey	18.5	9 Montana	11.7	9 Idaho	6616
10 Minnesota	18.8	10 Nebraska	12.3	10 Minnesota	6562
11 South Dakota	19.2	11 Delaware	12.4	11 New York	6548
12 Kansas	20.4	12 Colorado	12.5	12 Washington	6532
13 Virginia	20.5	13 Virginia	12.6	13 Michigan	6514
14 Hawaii	20.8	14 New Hampshire	13.0	14 Nevada	6505
15 Indiana	20.9	15 Maryland	13.1	15 Indiana	6504
16 Iowa	21.1	16 Texas	13.1	16 Rhode Island	6484
17 Idaho	21.3	17 Oklahoma	13.3	17 Montana	6381
18 Maine	21.4	18 Idaho	13.3	18 Iowa	6358
19 California	21.7	19 Iowa	13.3	19 Arizona	6355
20 Vermont	21.9	20 Kansas	13.3	20 Maryland	6348
21 Washington	22.1	21 Florida	13.4	21 Hawaii	6280
22 Wisconsin	22.2	22 Missouri	13.5	22 Florida	6275
23 Arizona	22.3	23 Tennessee	13.5	23 Wisconsin	6264
24 Nevada	22.6	24 Arkansas	13.6	24 Alaska	6263
25 Florida	22.6	25 Washington	13.6	25 Oklahoma	6245
26 Illinois	22.7	26 North Carolina	13.7	26 Illinois	6206
27 Missouri	22.7	27 South Dakota	13.7	27 Oregon	6206
28 Michigan	23.3	28 Maine	13.9	28 Nebraska	6139
29 North Carolina	23.7	29 Ohio	14.9	29 New Mexico	6106
30 North Dakota	24.0	30 Hawaii	15.1	30 South Carolir	6095
31 Montana	24.0	31 Nevada	15.1	31 Vermont	6027
32 Pennsylvania	24.0	32 Illinois	15.4	32 Ohio	6019
33 Massachusetts	24.2	33 New Jersey	15.4	33 Louisiana	6005
34 Ohio	24.4	34 Georgia	15.5	34 Wyoming	5926
35 Oregon	24.7	35 Michigan	15.5	35 Missouri	5880
36 Tennessee	25.1	36 Connecticut	16.3	36 Maine	5879
37 Texas	25.1	37 New Mexico	16.7	37 Utah	5851
38 Nebraska	25.4	38 California	16.9	38 Texas	5816
39 Rhode Island	25.5	39 Oregon	17.0	39 South Dakota	5737
40 Georgia	25.7	40 Mississippi	17.0	40 Virginia	5711
41 Oklahoma	25.7	41 Wisconsin	17.3	41 Kansas	5677
42 South Carolina	25.7	42 District of Colum	17.3	42 Tennessee	5648
43 New York	26.3	43 Alabama	18.1	43 Alabama	5640
44 Arkansas	26.4	44 New York	18.4	44 Mississippi	5611
45 West Virginia	27.8	45 West Virginia	18.5	45 West Virginia	5432
46 Alabama	29.7	46 Vermont	18.5	46 North Carolir	5427
47 Mississippi	30.5	47 Louisiana	18.6	47 Georgia	5424
48 New Mexico	31.1	48 Pennsylvania	20.0	48 District of Cc	5389
49 Louisiana	31.1	49 Kentucky	20.2	49 Kentucky	5353
50 Kentucky	31.4	50 Massachusetts	22.7	50 Arkansas	5329
51 District of Colum	31.9	51 Rhode Island	23.8	51 North Dakota	4987
U.S.	23.7	U.S.	15.3	U.S.	6288

million Americans of all ages with disabilities, or 19.3 percent of all Americans. In the 2003 ACS, the Census has estimated the number to be 37.5 million, or 14.3 percent of all Americans.

In survey research, the wording and placement of questions is important. In the decennial Census and the ACS, the questions were asked in such a way that there was a tendency among people without disabilities to answer the disability questions affirmatively when they worked at a job or business or if they went outside the home alone to shop or visit a doctor's office. These are questions labeled 17a and 17b. These two responses were formerly combined with the questions 16a and 16b into one question. For those who did not fill out paper versions and were interviewed by phone or in person, some people misunderstood, and thought that they were being asked whether they did the activities in question rather than whether they had difficulty doing the activities. Besides inflating the number of people classified as having a disability, this problem also caused the employment rate of people with disabilities to be inflated. In the 2000 Census, the employment rate for people with disabilities ages 21-64 was 56.6 percent, but in the 2003 ACS it is 37.8 percent. All statistics on disability in the 2000 Census and 2000-2002 ACS are affected by this problem. The Census has not corrected any of the statistics, but has continued to refine the questions in the ACS (Stern and Brault, 2005).

We mention this in some detail because the ACS is the state of the art that now replaces the decennial Census. Over and above the issue just described, it has not been determined how well the Census Bureau questions actually cover the entire population with disabilities. Persons with mental health disabilities and certain chronic illnesses, such as epilepsy, that do not necessarily cause problems with physical activities, and hidden disabilities such as chemical sensitivities, are probably not counted well by these questions. As we will discuss further below, it appears that the decennial Census and ACS questions may leave out persons with less severe disabilities. This is of concern for California, at least for certain purposes, since the California FEHA defines disability more broadly than the federal laws and regulations do.

Despite lingering concerns over the adequacy of coverage, the major problem with the ACS questions appears to be solved beginning in 2003. At the current time, the ACS does a reasonably good job of identifying people with disabilities with a concise set of questions and it is a good vehicle, because of its size, for examining variation across the states. According to the 2003 ACS, California is below the national average in the rate of disability, ranking twelfth-lowest in terms of the rate of disability at 10.4 percent of all working age persons. The states that rank highest, and always have in other Censuses and surveys, are the Appalachian and Mississippi Valley states, with rates as high as 20.6 percent in West Virginia, almost twice as high as in California.

How does California measure up in the employment of people with disabilities?

Just over a third of Californians with disabilities ages 18-64 are employed (36.0 percent). On this measure, California ranks 39th, just below the national average of 37.8 percent employed. The states with the highest rates of employment are South Dakota, Alaska, and

Wyoming, in which more than half of people with disabilities are employed, followed by Minnesota and Utah. These states are a mix of those with low to moderate rates of disability. West Virginia ranks last in employment, with only a quarter of people with disabilities employed, below Kentucky, Alabama, Louisiana and Mississippi. These states tend to have high rates of disability as well as low employment. Thus, while working-age Californians are less likely to have a disability than Americans as a whole, Californians with disabilities are employed at a rate just below the national average.

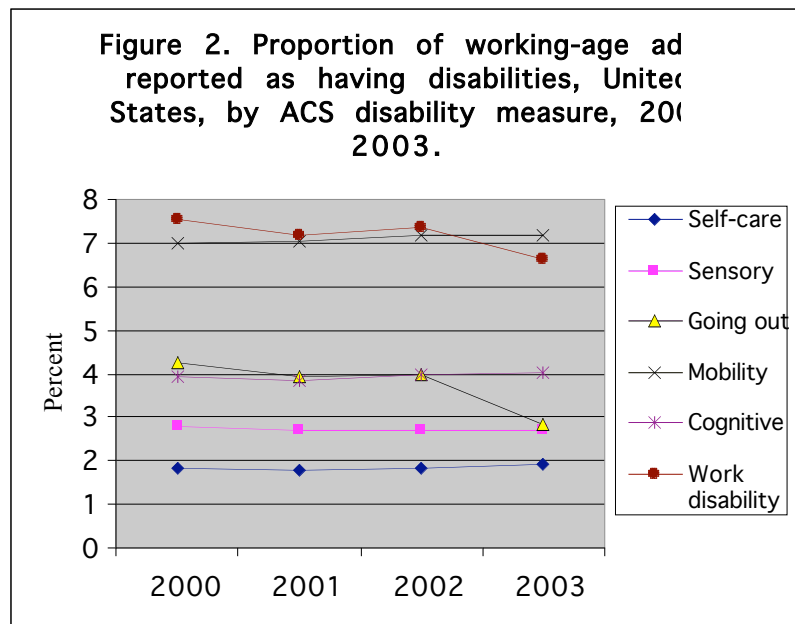
The gap in employment between Californians with disabilities and those without disabilities is 37.2 percentage points, also just below the national gap of 38.3 percentage points. The rate of employment of people with disabilities would have to be doubled in California in order to come close to the employment rate for those without disabilities; however, the same is true for the nation as a whole. These statistics demonstrate that it is quite a challenge to expect that the rate of employment of Californians with disabilities can be increased to approach the rate of employment of people without disabilities. In the three states with the highest employment rates among people with disabilities, the gap ranges from 21-28 percentage points, while in Kentucky the gap is the highest at 47.4 points, just above West Virginia at 46.6 percentage points.

Lower employment often means greater poverty (Table 2). Among working age Californians with disabilities, 21.7 percent live in poverty, lower than the national average (23.7 percent) for all working-age Americans with disabilities.

Working-age Californians with disabilities are slightly more likely to receive SSI payments than persons with disabilities nationally (16.9 vs 15.3 percent). They receive an average of \$7,219 per year in payments, substantially above the national average (\$6,288) and second only to New Hampshire (\$7,792). The national average from the ACS turns out to be \$524 a month, which is close to the Federal Benefit Rate at \$552 a month in January 2003.

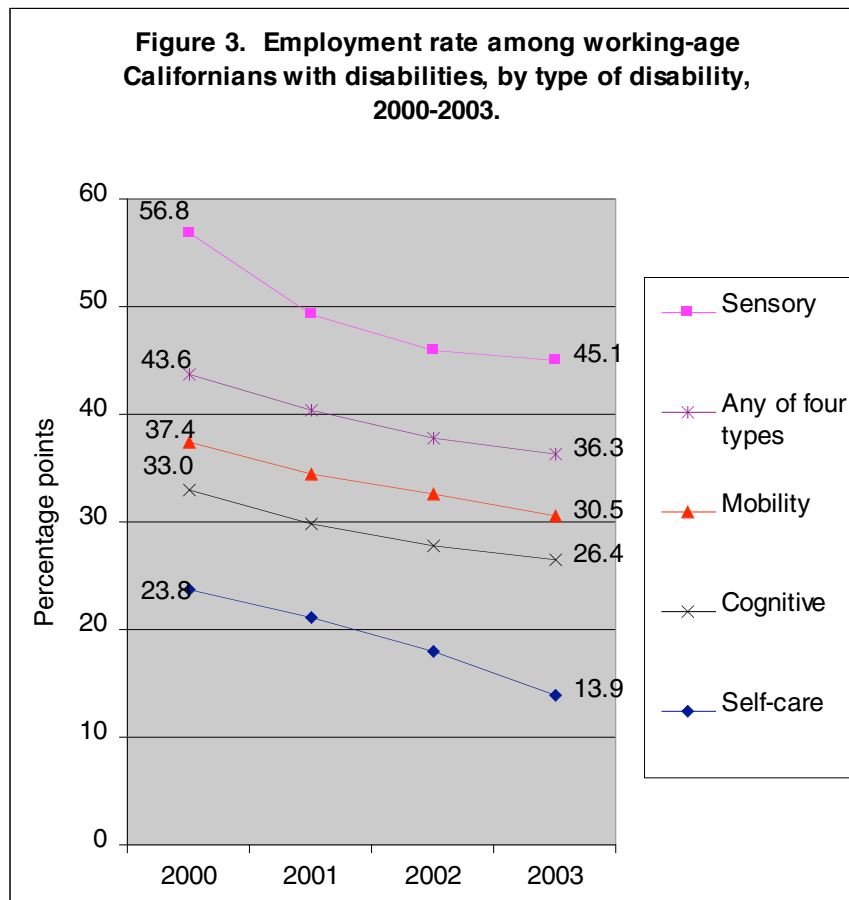
Trends in employment among people with disabilities in California

Despite the measurement problem with the 2000 Census and the ACS, we can use the four measures that are not problematic to look at recent trends. Figure 2 shows the trends in the prevalence for the six measures. From 2002 to 2003,

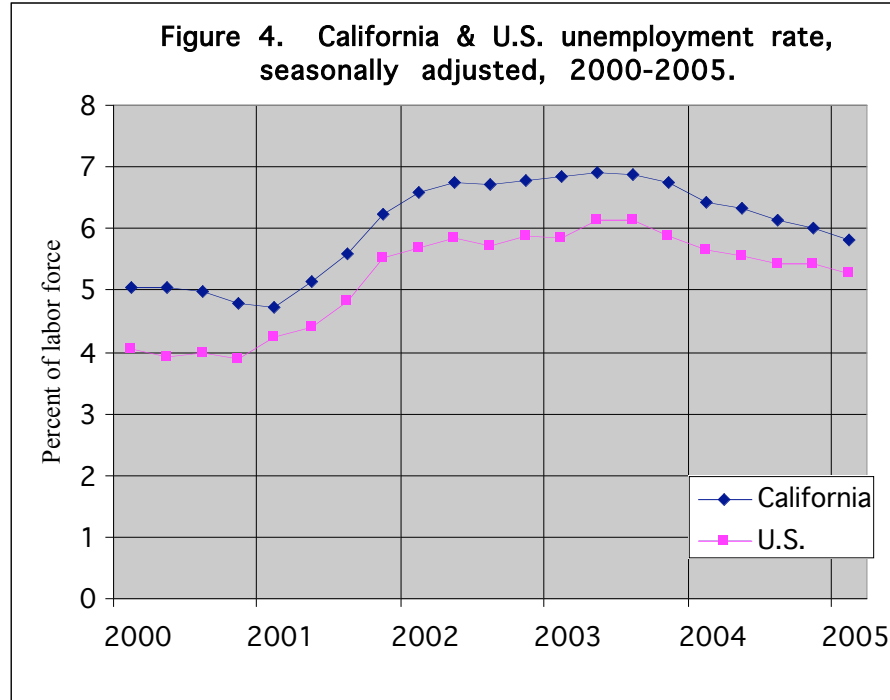


there is a marked downturn in the work measure and the going outside measure, the two problematic measures that were changed in 2003. Because the trend lines hold steady for the other four measures, we use them to study trends in employment from 2000-2003. These questions identify people with sensory, mobility, cognitive, and self-care disabilities.

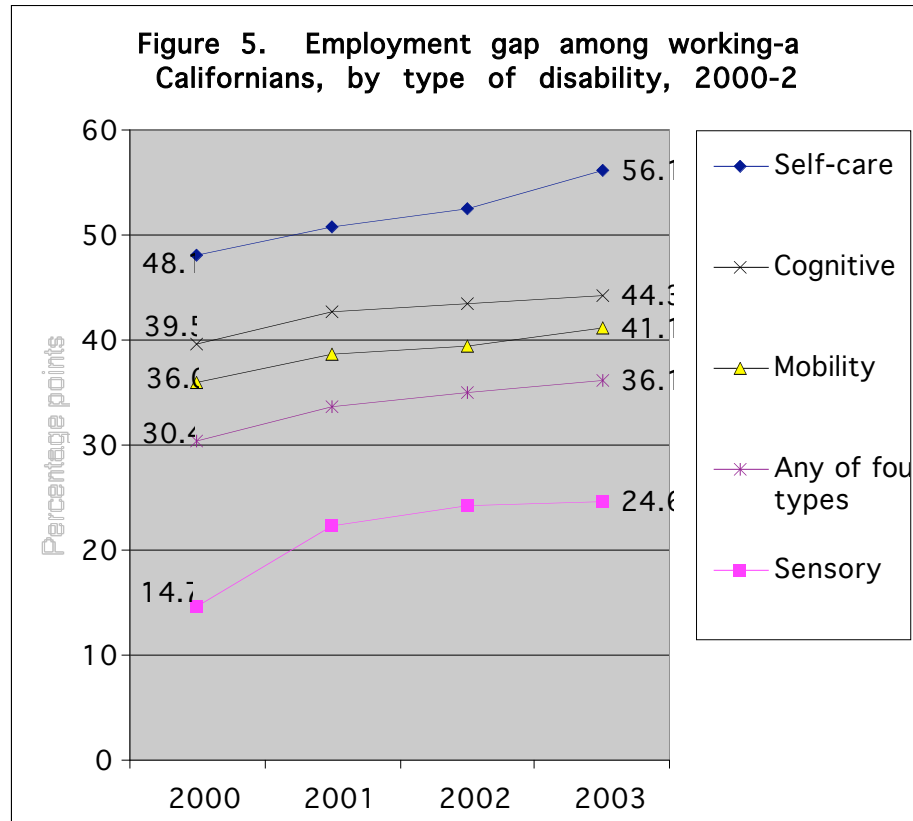
Figure 3 shows the trend in the employment rate among working-age Californians with specific disabilities. It is important to consider that the years we are looking at are ones that are affected by the most recent economic recession. For people with each type of disability, and for those with any of the four types of disability, there is a pronounced decline in the proportion employed. Although 56.8 percent of people with sensory disabilities were employed in 2000, that proportion had dropped nearly 12 points by 2003, to 45.1 percent. A decline of about 10 percentage points is seen for people with self-care disabilities (from 23.8 percent employed in 2000 down to only 13.9 in 2003), and declines of approximately 7 percentage points are apparent among people with mobility impairments (37.4 down to 30.5 percent) and cognitive impairments (33.0 down to 26.4 percent). Overall, 43.6 percent of people with any of these types of disabilities had jobs in 2000, down to 36.3 percent in 2003.



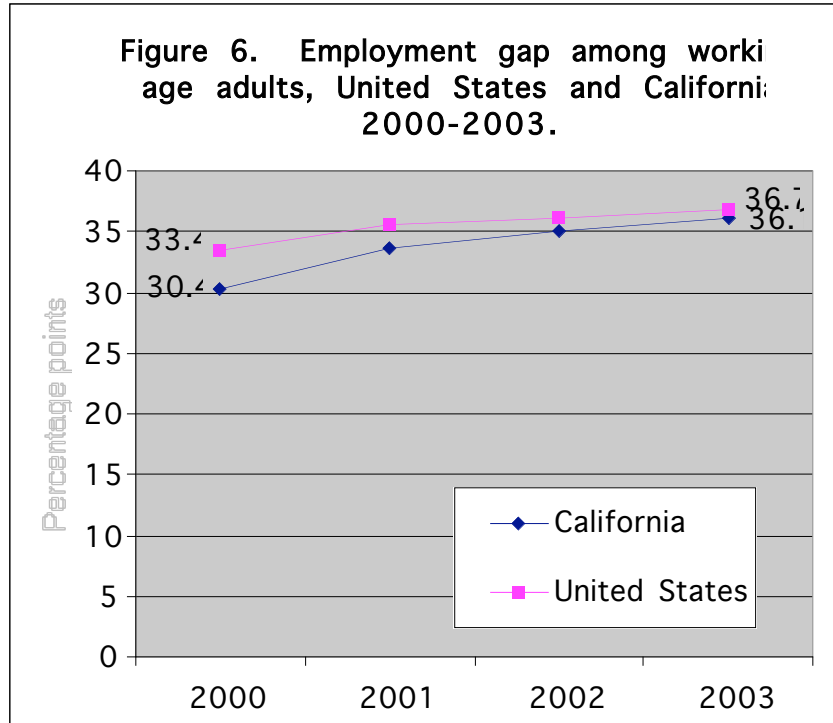
Although the economic recession that began in March 2001 was officially declared to have ended in November of that same year, it caused lingering high levels of unemployment for the subsequent three years (Figure 4). California suffered more than the rest of the nation, with unemployment rates above 6 percent for 12 consecutive quarters.



Under these circumstances, it is likely that the economic downturn is largely to blame for the reductions in employment among Californians with disabilities, as well as for those without disabilities. But people with disabilities appear to have been affected disproportionately, perhaps



because people with disabilities are among the first workers to be laid off in a recession and among the last to be rehired. As shown in Figure 5, the employment gap between Californians with and without disabilities grew substantially between 2000 and 2003, for all four types of disability¹ and



for the summary measure. For people with self-care disabilities, the gap increased by 8 percentage points (from 48.1 points in 2000 to 56.1 in 2003); those with sensory disabilities saw an increase nearly as large (14.7 to 24.6 percentage points). About 5 points of increase are apparent in the employment gap for people with cognitive and mobility disabilities (39.5 to 44.3 percentage points, and 36.0 to 41.1 points, respectively).

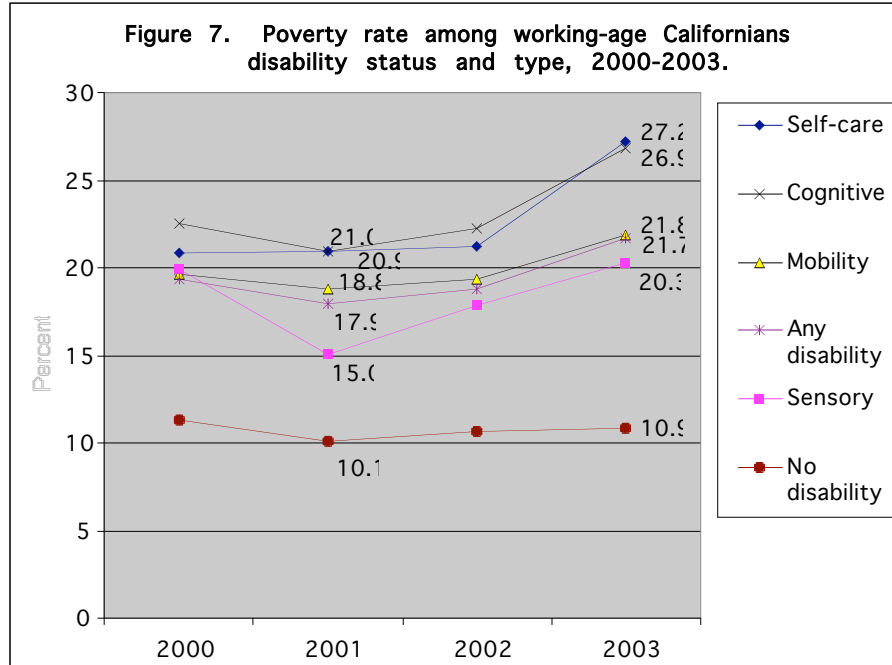
These trends are particularly disturbing when California is compared to the United States as a whole (Figure 6). In 2000, California had an employment gap that was smaller than the national employment gap by 3 percentage points, a statistically significant difference. But in 2003, the difference between California and the U.S. as a whole was only 0.6 percentage points, a difference that is no longer statistically significant.

Increased poverty among Californians with disabilities

The reduction in employment levels caused many Californians with disabilities to fall into poverty following the 2001 recession. Data from the ACS, which uses family income from the 12 months prior to the survey interview to determine poverty status, show dramatic increases in poverty rates between 2001 and 2003 (Figure 7). The poverty rate from the 2001 survey, based mostly on pre-recession income data from 2000 and early 2001, is 17.9 percent for Californians with any of the four types of disability. Two years

¹ For each type of disability, the employment gap is defined as the difference between the employment rate for people without that type of disability and that for those with that type of disability.

later, that rate had risen nearly 4 percentage points, to 21.7 percent. In contrast, the poverty rate for people with none of the four types of disability rose less than one percentage point, from 10.1 to 10.9 percent.



The hardest hit are the disability groups whose

poverty levels were already the highest. Among people with self-care disabilities, the poverty rate grew from 20.9 percent in 2000 and 2001 to 27.2 percent, an increase of 6.3 percentage points. For people with cognitive disabilities, the poverty rate rose nearly as much, from 21.0 percent in the 2001 survey to 26.9 percent in the 2003 survey.

In terms of both employment rates and family income levels, it is clear that people with disabilities have lost ground in California as a consequence of the recent economic recession.

Disability and employment rates by age group

Appendix Table A1 shows the size of the disability population and the rate of disability among working-age Californians, by age group, based on data from the 2003 ACS (using all six disability measures). The disability rate ranges from 5.2 percent for people between the ages of 18 and 25 to 21.7 percent for ages 55 to 64. The employment gap also varies by age, with the largest gap (40.9 percentage points) among people between 40 and 54 years of age and the smallest (24.4 percentage points) for ages 18–25. The relatively narrow employment gap for the younger ages is due to relatively low employment rates for people with and without disabilities among that age group.

Similar data are provided in Appendix Table A2 for people in the transition ages of 14–29. Within this age group, employment rates for both people with and without disabilities increase dramatically with age, but the employment gaps are stable for ages 18 and above.

Variation within California

Across the nation and within California, disability varies greatly by geography. California is comprised of 58 separate counties (California State Association of Counties, 2005). Some of these counties are quite small, such as Alpine county with a population of 1,210 in 2004.

Using the public use microdata files and the four good disability measures, the 2000 Census describes disability in 41 areas within California that are either counties or groups of counties, with small counties grouped together for statistical and confidentiality reasons. In 2000, the rate of disability was lowest in San Mateo county (6.1 percent) and highest in Mendocino and Lake counties (17.7 percent), compared to 8.9 percent for the state as a whole (Table 3). The employment rate of people with disabilities is highest in Marin county at 52.4 percent and lowest in Colusa, Glenn, Tehama and Trinity counties at only 27.2 percent employed. The employment gap was lowest in Marin and Yolo counties (26.5 and 26.6 percentage points) and highest in the northern counties. The employment gap in some of the northern counties, at 41 percentage points, approaches the gap in some of the most economically distressed states in the nation.

Appendix Table A3 shows employment rates among working-age Californians with disabilities, and employment gaps, by region of the state and for California as a whole, based on the four good disability measures in the 2000 Census. In all regions of the state, employment gaps are larger for people 40 years of age or older than for younger adults.

Similar regional variations are also apparent in another data source that employs a much different method of identifying people with disabilities. The California Health Interview Survey (CHIS) is a relatively large household telephone interview survey that can be used to obtain employment data for people with disabilities by regions within California (the sample size is not quite adequate to make statistically significant county-by-county comparisons). In 2001, the CHIS included a question on limitation in work and other activities. People were asked: "During the past 4 weeks, did your physical health limit the kind of work or other activities you can do?" with yes or no response categories.

In 2001, 18.2 percent of working age Californians (ages 18-64) were limited in activities due to their physical health according to the CHIS (Table 4). The rate of disability is substantially higher in the CHIS than in the ACS (10.4 percent), suggesting that the CHIS measure is a broader measure of disability.

Table 3. Disability rate and employment rate by disability status, among working-age (18-64) adults, f counties & regions of California. Source: 2000 Census.

County or county group	Disability rate	Employment rate among working-age persons with disabilities	Employment rate among working-age persons without disabilities	Employment gap
San Mateo	6.1	46.4	77.3	31.0
Santa Clara	6.3	47.5	75.4	27.9
Orange	6.6	46.1	73.4	27.3
Marin	6.7	52.4	78.9	26.5
San Francisco	7.8	40.1	76.8	36.7
Santa Barbara	8.0	39.5	72.8	33.3
Monterey, San Benito	8.1	40.9	70.1	29.3
San Diego	8.1	41.4	73.7	32.2
Contra Costa	8.2	43.4	75.6	32.3
Los Angeles	8.2	36.0	66.9	30.9
Ventura	8.2	43.9	75.2	31.4
Alameda	8.6	42.5	74.0	31.4
Napa	8.8	46.7	77.4	30.8
Placer	8.9	45.8	78.6	32.8
Santa Cruz	9.0	48.5	75.7	27.2
San Luis Obispo	9.1	43.2	71.8	28.5
El Dorado	9.1	42.4	76.9	34.5
Yolo	9.1	41.1	67.7	26.6
Solano	9.5	44.2	74.9	30.7
Sonoma	9.9	44.7	79.4	34.7
Riverside	10.0	37.4	69.6	32.2
San Bernardino	10.6	34.9	68.4	33.5
Kings	10.8	37.3	65.3	28.1
Imperial	10.8	31.3	60.9	29.6
Fresno	11.3	33.0	66.6	33.7
Sacramento	11.8	37.8	74.8	37.0
Nevada, Plumas, Sierra	11.8	37.8	74.2	36.5
San Joaquin	11.8	33.1	68.7	35.5
Tulare	11.8	33.7	65.9	32.2
Merced	12.1	34.2	65.1	30.8
Madera	12.5	32.9	65.4	32.5
Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, Tuolumne	12.6	37.0	71.1	34.1
Stanislaus	12.7	31.8	68.5	36.7
Kern	13.2	31.6	66.7	35.0
Sutter, Yuba	14.1	34.0	67.3	33.3
Butte	14.2	30.8	70.2	39.4
Colusa, Glenn, Tehama, Trinity	15.5	27.2	68.3	41.1
Shasta	16.0	30.6	71.7	41.1
Humboldt	16.6	33.2	70.9	37.7
Del Norte, Lassen, Modoc, Siskiyou	16.9	30.1	71.1	41.0
Lake, Mendocino	17.7	34.4	72.0	37.6
Region of the state*				
Northern counties	15.7	31.6	70.3	38.7
Sierra counties	10.3	41.0	75.7	34.7
Greater Bay Area	7.7	44.4	75.9	31.5
Sacramento Area	11.5	38.2	73.8	35.7
San Joaquin Valley	12.1	32.8	67.0	34.2
Central Coast	8.3	43.0	73.4	30.3
Los Angeles	8.2	36.0	66.9	30.9
Southern Coast	7.3	43.6	73.6	30.0
Inland Empire & Desert	10.3	35.9	68.7	32.8
California	8.9	38.6	71.1	32.5

*See Table 4 for the composition of the regions.

Table 4. Disability rate, employment rate for people with disabilities, and employment gap region of California: persons ages 18-64. Source: 2001 CHIS.

Region	Counties	Disability rate	Employment rate of people with disabilities	Employment gap
Northern counties	Butte, Tehama, Glenn, Colusa, Humboldt, Del Norte, Mendocino, Lake, Siskiyou, Lassen, Trinity, Modoc, Shasta, Sutter, Yuba	24.1	47.5	26.6
Sierra counties	Tuolumne, Calaveras, Amador, Inyo, Mariposa, Mono, Alpine, El Dorado, Nevada, Plumas, Sierra Placer	19.9	57.7	20.1
Greater Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma	17.9	62.7	17.1
Sacramento Area	Sacramento, Yolo	20.5	60.1	20.6
San Joaquin Valley	Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare	21.5	48.6	24.4
Central Coast	Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Ventura	18.1	59.8	18.8
Los Angeles	Los Angeles County	18.0	57.8	16.3
Southern Coast	Orange, San Diego	15.7	58.0	19.8
Inland Empire & Desert	Imperial, Riverside, San Bernardino	19.7	46.5	29.1
California	All counties	18.4	56.6	20.0

Dividing the state into nine regions for the purpose of this report (Table 4), we find that the rate of disability in the CHIS ranges from a low of 15.7 percent in Orange and San Diego counties to 24.1 percent in the far northern counties of Butte, Tehama, Glenn, Colusa, Humboldt, Del Norte, Mendocino, Lake, Siskiyou, Lassen, Trinity, Modoc, Shasta, Sutter, and Yuba.

The 2001 CHIS and the 2000 Census paint a similar picture about how disability is distributed within California, despite using different measures and approaches. In both datasets, the northern counties have the highest rates of disability while the coastal counties in Central and Southern California are consistently low.

In terms of employment, statewide, CHIS data indicate that 56.6 percent of people limited in activity were employed, compared to 76.6 percent of people not limited in activity. The desert and Inland Empire counties (Imperial, Riverside, San Bernardino) are lowest at 46.5 percent of people with disabilities employed and the greater Bay Area is

the highest at 62.7 percent. The gap in employment rates ranged from 29.1 percentage points in the desert and Inland Empire counties, to only 16.3 percentage points in Los Angeles.

Thus, the employment gap between people with and without disabilities varies considerably across California. Generally, people with disabilities in the northern counties, the Central Valley, and the inland southern counties fare poorly in terms of employment. However, the magnitude of the gap in the employment rate is influenced by the type of disability measure that is used. We explore this complication next.

Survey measures and the employment gap

It is important to realize that our understanding of the employment status of people with disabilities is highly dependent on how we define disability. Because the various national and state surveys measure disability in different ways, the size of the population identified as having disabilities varies greatly from survey to survey. Some surveys capture only a core group of people with relatively severe disabilities; such people tend to have low employment rates, and thus the employment gap is large. Other surveys use much broader definitions of disability, resulting in a large disability population that includes not only those with more severe disabilities, but also many more people whose disabilities are less severe. For such a population, the employment rate is much closer to that of the non-disabled population, and thus the employment gap is relatively small.

Table 5 lists seven surveys from which disability and employment data for the working-age, community resident population of California can be obtained; the disability rate measured in these surveys varies from as little as 4 percent to nearly 20 percent, and the employment gap varies by nearly a factor of two, depending on the definition of disability used. The surveys are listed in order of the size of the disability population they identify, with the largest first. The Behavioral Risk Factor Survey (BRFS), the California component of the national Behavioral Risk Factor Surveillance System (BRFSS), has a single question focusing on any type of activity limitation, and in 2003 it captured 19.3 percent of working-age Californians as having disabilities. Next comes the 2001 California Health Interview Survey, which asked a similar question (but limited to

Survey	Year	Type of disability measure	Disability rate (%)	Employment rate among PWD (%)	Employment gap (%)
Behavioral Risk Factor Survey (BRFS)	2003	Activity limitation	19.3	46.0	25.9
California Health Interview Survey (CHIS)	2001	Activity limitation	18.4	56.6	20.0
Survey of Income & Program Participation	2002	Functional limitation	16.8	52.7	24.1
American Community Survey (ACS)	2003	Six functional measures	10.4	36.0	37.2
Decennial Census	2000	Four functional measures	8.9	38.6	32.5
National Health Interview Survey (NHIS)	2001	Activity limitation	8.2	32.7	46.0
California Health Interview Survey (CHIS)	2003	Help/equipment for ADL/IADL	4.4	25.1	47.2

physical conditions causing activity limitation) and obtained a disability rate of 18.4 percent of working-age Californians.²

Next follow four surveys conducted by the U.S. Census Bureau, out of which California-specific data can be extracted: The Survey of Income and Program Participation (SIPP), which contains a battery of questions related to limitations in physical and mental functioning; in 2002, 16.8 percent of working-age adults in California had such limitations. The American Community Survey (ACS), using six mostly functional measures of disability, arrived at a disability rate of 10.4 percent in the 2003 survey, following a modification to the questionnaire to fix a problem with two of the six measures. The Decennial Census contained the same six questions, but only four resulted in valid responses that can be used for employment analysis; the disability rate for these four functional measures was 8.9 percent of working-age Californians. The National Health Interview Survey (NHIS) asks about several specific activities, including work and the Activities of Daily Living (ADL) and Instrumental Activities of Daily Living (IADL), as well as a cognitive and mobility measure and a general question about any other activities; because it focuses mostly on specific activities, it results in a much smaller disability population than the single, broad activity limitation measure in the 2001 CHIS and the BRFSS, at 8.2 percent of working-age Californians.

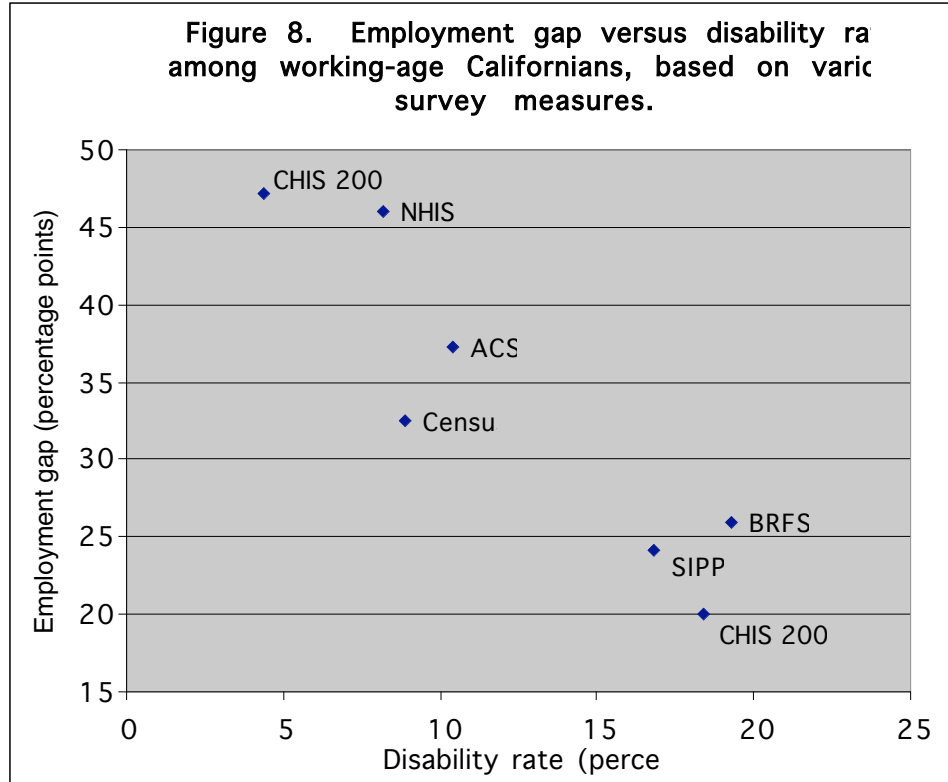
Finally, the 2003 CHIS did not include the general activity limitation question from the 2001 survey, but instead asked about whether the respondent needed help or equipment in performing ADLs and/or IADLs. This is a very narrow definition of disability, capturing only 4.4 percent of the working-age population.

Figure 8 illustrates the inverse relationships between the size of the disability population (disability rate plotted on the horizontal axis) and the employment status among people with disabilities (employment gap plotted on the vertical axis). Those surveys with narrow disability measures, resulting in the lowest disability rates, produce very high estimates for the employment gap between people with and without disabilities—47.2 percentage points for the 2003 CHIS and 46.0 percentage points for the NHIS. The 2003 ACS and the Decennial Census are intermediate, with employment gaps of 37.2 and 32.5 percentage points, respectively. The smallest employment gaps are obtained from the three surveys with the largest disability populations, the 2001 CHIS (20.0 percentage points), the SIPP (24.1), and the BRFSS (25.9).

² Both surveys also contained questions on usage of special equipment, but these responses have not been used in this analysis.

Severity of disability

As we have seen, the broader the measure of disability, the lower the gap in employment will be between those with and without disabilities. Narrow disability measures generally identify people with severe disabilities whose



employment rate is low. As more people with less severe disabilities are included, more of them work and the employment rate rises for that class.

The 2001 CHIS included two other measures of disability severity:

AB2. Does your health limit you a lot, a little, or not at all in doing moderate activities, such as moving a table, pushing a vacuum cleaner, or playing golf?

- LIMITED A LOT.....
- LIMITED A LITTLE.....
- NOT LIMITED AT ALL.....

AB3. And how much does your health limit you when climbing several flights of stairs?

- LIMITED A LOT.....
- LIMITED A LITTLE.....
- NOT LIMITED AT ALL.....

People who are limited a lot in moderate activities have a gap in employment of 37.8 percentage points, while those limited a little have a gap of 13.3 percentage points. For people who are limited a lot in climbing several flights of stairs, the gap is 28.9 points, while for those limited a little the gap is only 4.9 points. By either measure, the gap is much larger for people with more severe than less severe disabilities.

Data from the SIPP can also be used to distinguish between people with more severe and less severe disabilities. Among the 7.1 percent of working-age Californians with more severe disabilities (people with blindness, deafness, severe speech impairment, inability in one of several mobility-related functions, ADL assistance needs, mental retardation, or Alzheimer's or a similar condition), the employment rate is only 35.5 percent. In contrast, the 9.8 percent of working-age Californians with less severe limitations have an employment rate of 65.2 percent. The employment gap for the more severe group is 41.3 percentage points, compared to only 11.6 for the less severe group.

The California Fair Employment and Housing Act uses a broader definition of disability than that of the ADA. It defines anyone who has difficulty in major life activities as having a disability, unlike the ADA that restricts the class to those with a substantial limitation. The FEHA does not rule against mitigating circumstances, including persons using medications and technology.

While the inclusion of more people as a protected class under California civil rights laws is noble, focusing on a broad measure of disability will be associated with a smaller gap in the employment rate of people with and without disabilities. However, employment policies also intend to improve the employment of people with severe disabilities, which is a stated goal for rehabilitation services.

The only way to deal with this problem is to separately examine the rate of employment by level of severity of disability. Because employment rates of people with disabilities vary with the severity of disability being assessed, research on employment needs to standardize on severity.

Currently, the only data sources for California that adequately addresses the severity of disability is the SIPP. Unfortunately, because it is a small sample and is not guaranteed to be representative of all Californians, its utility for research within California is limited.

Health status and employment

Now we consider how health relates to the statistics we have just presented. Generally, poor health makes it very difficult for people to work. In many cases people in poor health neither can work nor wish to. There are many reasons for this. People in poor health may be utilizing health care services a lot, which may make it difficult to work at the same time, or they may be recuperating and not ready for work, or frequent bouts of illness may prevent daily attendance at a job, or work may not be compatible with a worsening prognosis.

People with more severe disabilities are more likely to have fair or poor health (McNeil, 2001) and this fact partly accounts the larger gap in employment for this group.

Data from the SIPP include measures of specific functional limitations, such as limitations in seeing, hearing, mobility, cognition, and mental health. With data on about

5,000 working-age Californians, the SIPP allows us to distinguish among these broad disability categories, but does not allow separate analysis of less prevalent disability groups (e.g., people who are blind or Deaf, or those with paralysis or mental retardation).

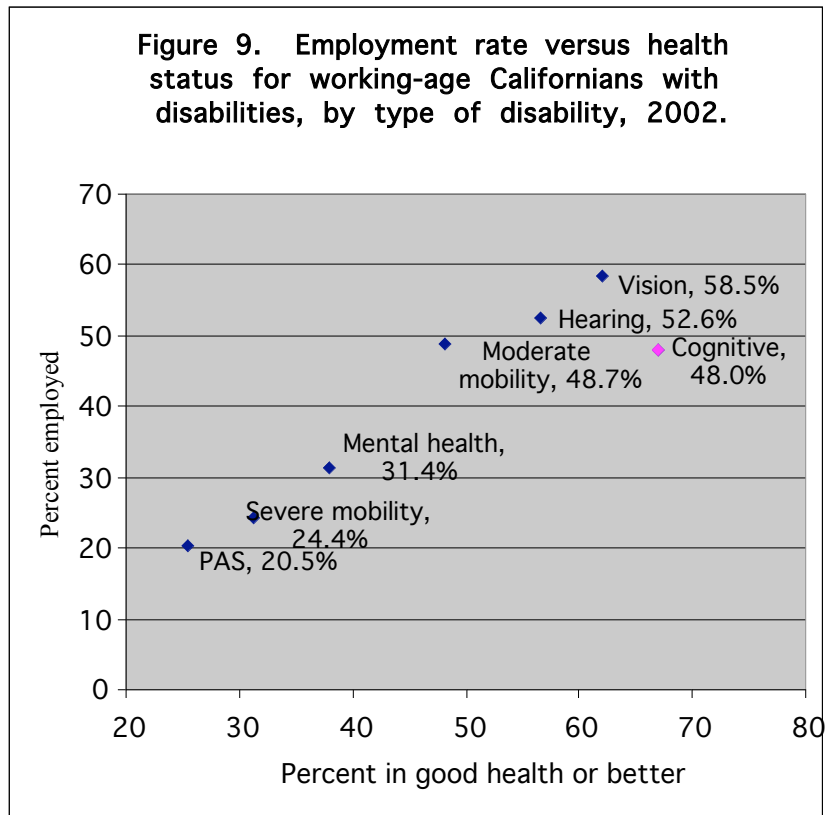
Data collected in 2002 show a wide range of employment rates among working-age Californians with disabilities, depending on the type and severity of disability. People who have severe mobility³ impairments, or who need the help of another person in performing daily activities (Personal Assistance Services, or PAS), have very low employment rates (plotted on the vertical axis of Figure 9), with less than one-quarter of each group working. At the opposite extreme are people with vision or hearing impairments, more than half of whom are employed.

Plotted on the horizontal axis of the figure is the proportion of those in each group whose general health status is reported as good, very good, or excellent. With the exception of people with cognitive impairments, there is an approximately linear relationship between good health and employment. People needing PAS report the worst health (25.5 percent in good or better health) and the lowest employment rate (20.5 percent); people with visual impairments, at the other extreme, report the best health (62.1 percent in good or better health) and the highest employment rate (58.5 percent). In between are people with hearing impairments (56.6 percent good health and 52.6 percent employed), moderate mobility impairments (48.2 and 48.7 percent), mental health disabilities⁴ (38.0 and 31.4 percent), and severe mobility impairments (31.2 and 24.4 percent).

³ For this purpose, we define a severe mobility impairment by one or more of the following: unable to walk one-quarter mile, unable to climb a flight of stairs, unable to lift and carry a ten-pound object, or unable to use the hands and fingers to grasp and handle objects. Moderate mobility impairment is defined as able to do all of the above, but having difficulty in one or more.

⁴ Defined as having one or more mental health "problems" (frequent depression or anxiety, trouble getting along with people and making and keeping friendships, trouble concentrating, or trouble coping with day-to-day stress) that seriously interfered with the person's ability to manage everyday activities in the prior 12 months.

People with cognitive disabilities⁵ tend to be healthier than any other disability group, with 67.0 percent in good or better health, but their employment rate (48.0 percent) falls lower than the two sensory impairment groups and about on par with people with moderate mobility impairment, whose health is substantially worse. It would seem that, while health status appears to be an important factor in determining employment status for those with physical or mental health disabilities, cognitive limitations by themselves reduce the likelihood of an employment independent of health status.



The importance of health status in influencing employment can be illustrated with data from the Behavioral Risk Factor Surveillance System (BRFSS), a CDC-funded telephone interview survey conducted separately by each of the states.⁶ The 2003 core BRFSS contained three questions of interest on the respondent's general health status:

- Self-assessed general health status: "Would you say that in general your health is excellent, very good, good, fair, or poor?"
- Poor physical health days in prior month: "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?"
- Poor mental health days in prior month: "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"

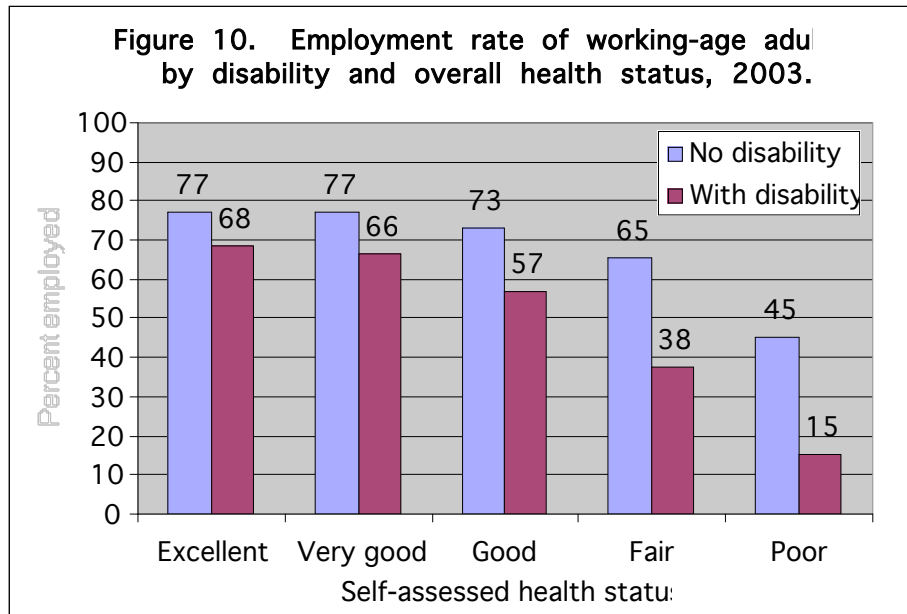
⁵ Mental retardation, learning disability, Alzheimer's, or "other serious problem with confusion or forgetfulness."

⁶ The California survey is known as the California Behavioral Risk Factor Survey. In 2003, 3,580 working-age Californians were interviewed for the survey; in all 50 states, the District of Columbia, and three territories, 206,512 working-age adults were interviewed.

The first question is a purely subjective measure of the person's health status, with no specification of time frame or distinction between physical and mental health; it is generally interpreted to reflect an assessment of the extent of chronic illnesses, or of frequent bouts of acute illness, that have affected the respondent over the long term. The other two questions are meant to be less subjective, in that they refer to a specific, recent time period, specify particular types of illnesses, and elicit a numeric response; a high number of days of "not good" health might reflect either frequent bouts of illness or a chronic condition that caused poor health in the recent past.

Using the BRFSS activity limitation question ("Are you limited in any way in any activities because of physical, mental, or emotional problems?") to identify respondents with disabilities, we can explore employment status as a function of both disability status and health. Nationally, working-age adults (ages 18–64) without disabilities have an employment rate of 74.9 percent, compared to 48.7 percent for people with disabilities, for an employment gap of 26.2 percentage points. In California, 71.9 percent of working-age adults without disabilities and 46.0 percent of working-age adults with disabilities are employed, resulting in an employment gap of 25.9 percentage points.⁷

Shown in Figure 10 are employment rates (percentage of working-age adults who have jobs) for adults with and without disabilities, in each of the five self-



assessed health status categories. For people with and without disabilities, the employment rate declines dramatically with health status. Among those without disabilities, employment drops from 77 percent for those in excellent or very good health to 45 percent for those in poor health; for people with disabilities, a 66–68 percent employment rate for those in very good to excellent health drops to only 15 percent for

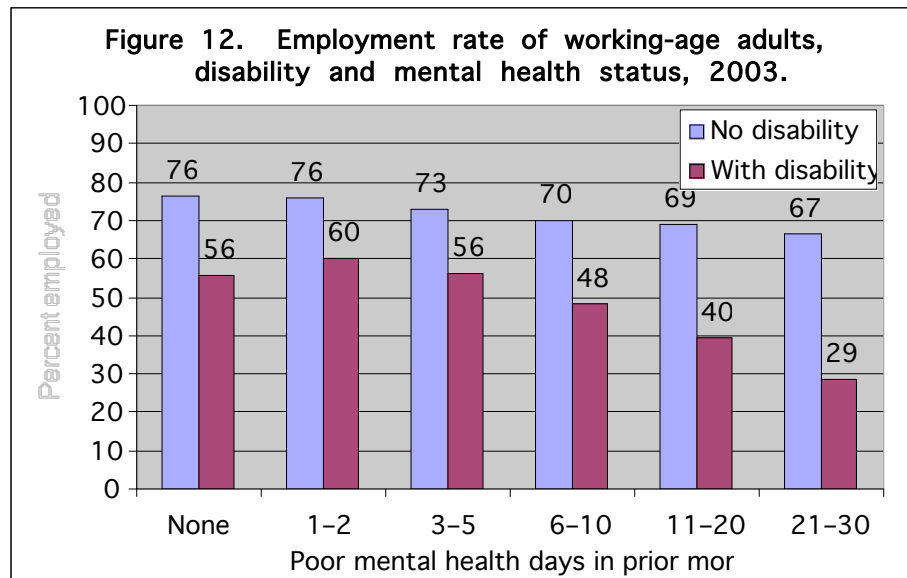
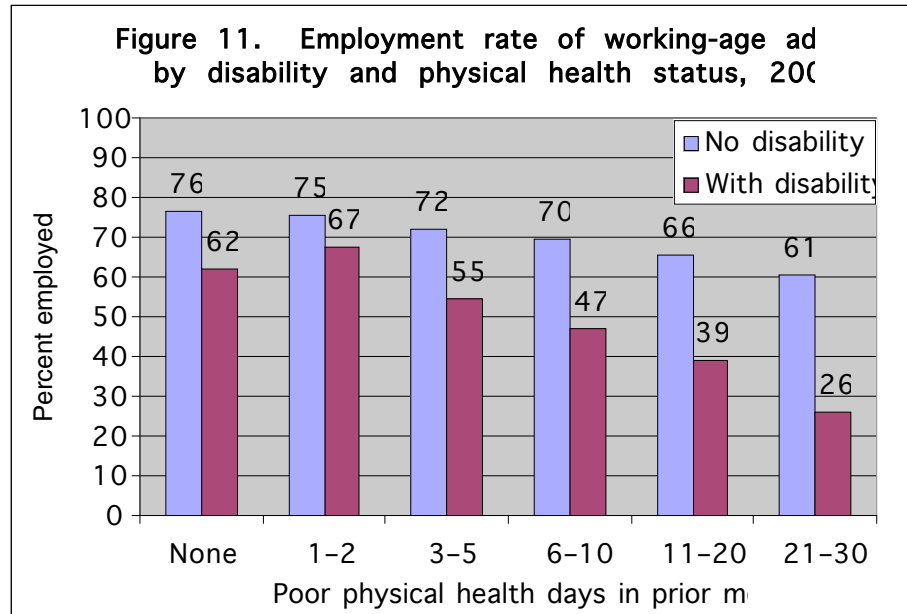
⁷ The BRFSS has a more restrictive employment measure than other surveys, in that people are asked to choose from a list of activities that includes employment and unemployment as well as going to school, keeping house, being retired, and being unable to work; a person who is primarily a student, homemaker, or retiree but who also works part-time might not be recorded as working in response to this question.

those in poor health. Among people in the two best health categories, the employment gap is only 9–11 percentage points, increasing to 30 points for those in poor health.

Although recent poor health is not as good a predictor of employment as self-assessed general health status, substantial declines in employment nevertheless occur as the number of days of recent poor physical or mental health increases (Figures 11 and 12). For people without disabilities, the employment rate decreases from 76 percent for those with no days of ill physical health in the prior month to 61 percent for those whose health was "not good" for 20 or more days.

Among people with disabilities, the highest employment rate is for those with 1 or 2 days of ill physical health, at 67 percent, decreasing to only 26 percent for those ill for two-thirds or more of the month. As for mental health, the range for people without disabilities is from 76 percent for those without poor mental health days to 67 percent for those with 20 or more. There is a more substantial

decline for people with disabilities, from 60 percent employment among those with 1 or 2 days of poor mental health to 29 percent for those with 20 or more days.

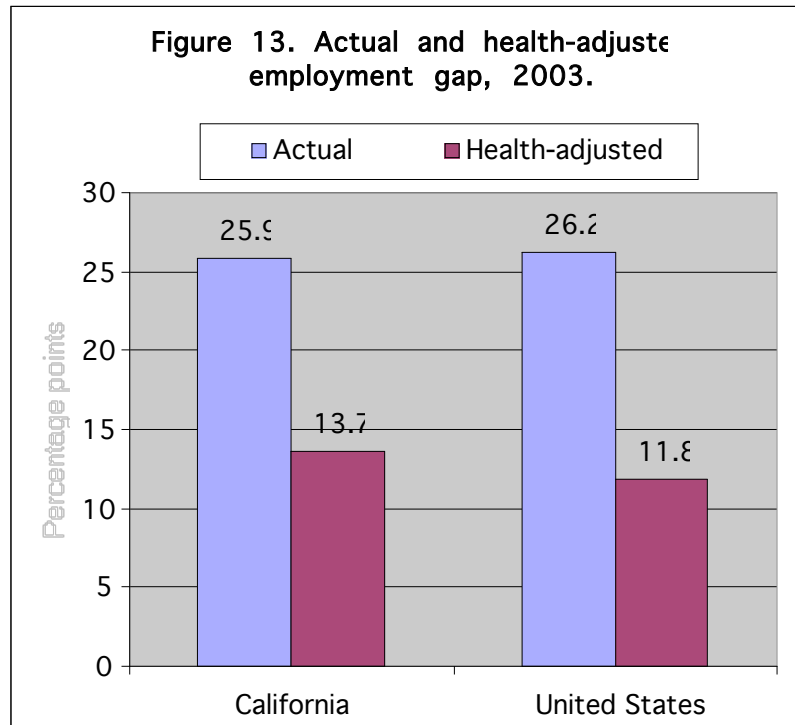


From all three health measures, it is apparent that people with disabilities who are in good or better health—in other words, whose daily health is not affected by whatever impairment or health condition causes their disability, or by other health conditions secondary to or unrelated to their disability—are much more likely to be employed than those whose health is compromised. In fact, as the graphs indicate, limiting the sample to people with better health status greatly reduces the employment gap. If we exclude from our statistics people with any indication of compromised health—those reporting self-assessed general health as fair or poor, or 6 or more days of poor physical health, or 6 or more days of poor mental health—we find that the remaining Californians with disabilities have an employment rate of 70.8 percent, nearly as high as the 74.4 percent rate for those without disabilities. Thus, by leaving out of the statistics the 64 percent of Californians with disabilities (and 25 percent of Californians without disabilities) with any indication of compromised health, we can reduce the employment gap from 25.9 to only 3.7 percentage points.

It would be unreasonable, however, to focus employment efforts only on those people with disabilities who have no health problems, but only the impairment that causes their disability. A far more appropriate approach, therefore, is to adjust the statistics for health status, rather than excluding anyone with a health problem. Such an adjustment can be achieved using statistical modeling, in which we measure the effect of disability status on employment, controlling for health. We do so using a standard technique known as logistic regression, in which we model the likelihood of an individual having a job as a function of disability status, self-assessed general health status, number of days of poor physical health in the prior month, and number of days of poor physical health in the prior month.⁸

⁸ Self-assessed general health status was tested in the model using four dummy variables reflecting very good, good, fair, or poor health status, compared to excellent; the variable for very good status was removed due to lack of statistical significance ($p > .05$). Days of poor physical and mental health were included as integer variables; square terms were also tested for both measures, but that for poor physical health was removed due to lack of significance. An interaction term (days of poor physical health times days of poor mental health) was included. Interaction terms for self-assessed health status combined with both days of poor physical and days of poor mental health were tested in the model but removed due to lack of statistical significance. All working-age BRFSS respondents were included in the model to obtain the national statistics; for state-by-state statistics, the model was repeated using two dummy variables for each state, DC, and the territories, with one state excluded; one variable for all respondents and the other for those with disabilities.

Model results are shown in Figure 13. When health status differences between the populations with and without disabilities are taken into account, the employment gap in California is reduced almost by half, from 25.9 percentage points down to 13.7 percentage points. Nationally, the gap is reduced even more, from 26.2 to 11.8 percentage points.



Comparing California to other states (Table 6), we find that California is in the mid-range of states in terms of the actual employment gap, ranking at #32 out of the 51 states and the District of Columbia. Its gap of 25.9 points is about double that of the #1 ranked state, Utah (at 13.0 percentage points), but under two-thirds that of the worst-ranked state, Kentucky (39.5 points). Unfortunately, although controlling for health status reduces the employment gap substantially, California's ranking drops to 39th of 51 in terms of health-adjusted gap. California's gap of 13.7 points is now more than four times that of Utah, still the best-ranked state at 2.9 percentage points, but it remains less than two-thirds that of Kentucky, still the worst-ranked state, with a health-adjusted gap of 22.1 points.

Using perceived health rankings is a powerful way to adjust for health status, and one that has been shown to be more effective than adjusting for many other factors, such as specific diagnoses. Our purpose here is to be illustrative rather than definitive, and different ways of adjusting for health status could be and should be explored. However, once health has been adjusted for adequately, the remaining gap in employment between people with and without disabilities can be interpreted as due to other factors, including differences in human capital and environmental characteristics. Kentucky and West Virginia, for example, not only have populations that are in the poorest health among all the states, but their populations are less educated, experience systemic poverty, and lack opportunities for jobs. Adjustment for health shows that most of the gap in employment in Utah, which had the lowest gap among the states before adjustment, is health related. In most other states, including California, that is not the case, and a substantial gap remains. After health status is adjusted for, it is more meaningful to consider how to reduce the gap that remains between people with and without disabilities. The health-adjusted employment gap defines a more realistic goal for policy efforts.

Table 6. State rankings for employment 2003 Behavioral Risk Factor Surveillance Health-adjusted employment gap

Actual employment gap (percent)	Health-adjusted employment gap (percent)
1 Utah 13.0	1 Utah 2.9
2 Colorado 14.0	2 Colorado 3.2
3 Connecticut 15.0	3 Delaware 5.1
4 Hawaii 17.3	4 Connecticut 5.9
5 Delaware 17.5	5 Maryland 6.0
6 Kansas 18.2	6 Kansas 6.5
7 Minnesota 18.7	7 New Jersey 6.8
8 Wyoming 19.3	8 North Dakota 7.1
9 Maryland 19.4	9 Alaska 7.1
10 South Dakota 19.4	10 New Mexico 7.1
11 Washington 20.0	11 Hawaii 7.6
12 Alaska 20.1	12 Wyoming 7.7
13 New Jersey 20.3	13 Nebraska 8.1
14 North Dakota 20.7	14 Washington 8.8
15 Nebraska 20.7	15 South Dakota 8.9
16 Idaho 20.9	16 Idaho 8.9
17 New Mexico 21.2	17 Wisconsin 9.0
18 Wisconsin 21.2	18 Montana 9.2
19 Montana 21.5	19 Arizona 9.2
20 DC 22.1	20 New Hampshire 9.4
21 Nevada 22.5	21 Minnesota 9.7
22 New Hampshire 22.6	22 Ohio 10.0
23 Arizona 22.9	23 Vermont 10.0
24 Vermont 23.3	24 Oregon 10.7
25 Iowa 23.3	25 DC 10.7
26 Ohio 23.8	26 Michigan 10.9
27 Oregon 24.3	27 Illinois 11.1
28 Michigan 24.5	28 Florida 11.1
29 Massachusetts 24.7	29 Indiana 11.1
30 Illinois 25.1	30 Iowa 11.2
31 Florida 25.9	31 Massachusetts 11.2
32 California 25.9	32 Nevada 11.3
33 New York 26.0	33 Texas 11.8
34 Texas 26.3	34 New York 12.5
35 Indiana 26.4	35 Pennsylvania 13.4
36 Virginia 27.1	36 Maine 13.5
37 Maine 27.8	37 Virginia 13.5
38 Pennsylvania 28.2	38 Missouri 13.5
39 Missouri 28.2	39 California 13.7
40 Georgia 30.1	40 Georgia 13.9
41 Rhode Island 30.5	41 Arkansas 14.8
42 Alabama 31.0	42 Mississippi 15.4
43 Oklahoma 31.4	43 Tennessee 15.4
44 Arkansas 31.9	44 Rhode Island 16.0
45 Mississippi 33.6	45 Alabama 16.2
46 Tennessee 33.7	46 Oklahoma 16.5
47 South Carolina 34.5	47 West Virginia 17.2
48 West Virginia 34.5	48 South Carolina 18.3
49 Louisiana 36.0	49 Louisiana 19.5
50 North Carolina 37.5	50 North Carolina 20.8
51 Kentucky 39.5	51 Kentucky 22.1

This analysis also suggests that improving the health status of people with disabilities, or preventing that status from declining in the first place, could be an important means of reducing employment gaps. It is likely that improving access to health care for people with disabilities—including reducing uninsurance, improving and expanding the public health programs that many people with disabilities rely upon, and removing accessibility barriers—would have a substantial impact in reducing ill health among the disability population. With improved health status, more people with disabilities would then be able to acquire and maintain gainful employment.

Conclusions and discussion

The goal of increasing the employment rate of people with disabilities to be equal to the rate of people without disabilities will never be fulfilled as long as poor health prevents people with disabilities from working. This is as true for California as it is for the nation as a whole. We recommend that an appropriate indicator for gauging success in the employment of people with disabilities over time would be a "health-adjusted" employment rate or one that at least takes health into account in a meaningful way.

The goal of increasing employment opportunity for people with disabilities has to be considered in balance with the need to provide security for those who are too ill to work (National Academy of Social Insurance, 1996). The research reported herein suggests that it is indeed a balance, with about half the gap in the employment rate attributed to poorer health of people with disabilities.

We observe that the disability-related gap in employment increases with age and is high for persons residing in geographic areas with poor economic prospects. These factors too, must be dealt with to increase the employment rates of people with disabilities overall.

It is clear that people with disabilities have lost ground in California's recent economic recession, with decreased rates of employment and increased rates of poverty to show for it. It is important to consider how well positioned Californians with disabilities will be to gain in the current economic expansion, and what can be done to better facilitate their obtaining jobs when the opportunities are greatest.

It has been our aim in this report to pull together what we can learn about the employment of Californians using existing data sources. Additional analysis of these data would be helpful to further refine priorities for developing disability employment policy. We suspect, for example, that the gap in employment among older workers, controlling for health, may be related to older workers with disabilities having lower educational attainment and having worked in occupations that may no longer be in demand. Policies may need to address the competitiveness of workers with disabilities, perhaps by providing additional education and training to help people with disabilities compete more effectively for jobs.

Future research and strategies for monitoring and improving the employment of people with disabilities in California

To follow trends in California, we believe that it will be indispensable to use the ACS into the future. The ACS now describes 24 counties in California. Starting in 2006, the Census Bureau will begin releasing estimates for populations of 65,000 or more (14 additional counties in California), and in 2008, three-year average estimates will be released for populations of 20,000 or more (12 additional counties). Only eight counties will be too small for data to be released separately for them and will be combined. However, by 2009, the Census will release 5-year average data for census tracts and

block groups, effectively covering all California counties. It will also be possible to monitor progress in cities and towns.

Unfortunately, the ACS does not measure severity of disability and does not include a measure of health status, so its purpose will be to offer a baseline of employment trend data for people with disabilities in California and to monitor their income and poverty levels.

A new development is that in 2005, the CHIS is including a set of questions similar to the ACS questions (working with the California Department of Health Services' Office of Disability and Health, the UCSF Disability Statistics Center lobbied vigorously to have those questions included). This will be a useful addition to the information we have presented here, providing an opportunity to explore the effects of health status with a measure that is similar to that used in the ACS. It can provide an explanation of how much of the gap in employment across counties can be attributed to poor health.

However, both of these data sources fall short of what is needed to adequately monitor trends in employment of people with disabilities, because they do not distinguish any aspects of the severity of disability.

We believe that surveys including the CHIS, SIPP, NHIS and BRFSS can be further explored to elucidate some of the important health issues that may be preventing people with disabilities from working and may contribute to their health being poor. It is now widely known that people with disabilities have less access to basic health services, including preventive health care, such as mammogram and prostate examinations, and that health care providers tend to focus on the person's disability to the exclusion of preventive care.

Existing surveys, such as the SIPP and NHIS, could be further analyzed to explore the extent to which poor health status, as distinct from severe functional limitation, is responsible for the persistently low employment rates of people with more severe disabilities, including those receiving Social Security Disability and Supplemental Security Income benefits. Furthermore, basic research is needed on the specific health barriers that prevent people from working, so that such measures can be introduced into future surveys to allow for improvements in health adjustment of the employment gap.

It appears to us to be critical that issues of access to health care, health care utilization, and outcomes must be better explored for people with disabilities. However, this is in no way a retreat to the medical model of disability; rather, it is an extension of the independent living or social model of disability to put health care to better service to persons with disabilities.

We also suggest that research into social and physical barriers must be undertaken if employment outcomes for people with disabilities are to be fully understood in California. However, our experience is that it is very difficult to find funding to include disability measures in existing surveys. Further, measuring environmental barriers poses

new measurement issues that existing surveys may not be able to address adequately. Not only does that require adding even more questions, it also injects new uncertainties. For example, can physical accessibility of a community be reliably measured in a household survey, or for that matter the internal culture of corporations? New measures and procedures need to be developed to accurately address these issues.

The high disability rates and especially poor employment outcomes in impoverished rural and agricultural areas of California deserve further study. Targeted research efforts should be directed to exploring the reasons that people with disabilities are overrepresented in these areas, and that employment gaps and poverty rates are so high for these people. Possible explanations include different population characteristics across regions (for example, people with disabilities in the high-disability areas may tend to be less educated), different types of employment available (for example, a preponderance of jobs that require physical labor and would be unsuitable for many people with disabilities), reduced access to health care and rehabilitation services, transportation and other accessibility. It would be helpful to measure the extent to which people with disabilities want to work, and what they perceive their opportunities and barriers to be.

For these reasons, we agree with the Governor's Committee that data systems are in need of improvement to better inform policy and evaluate employment outcomes for people with disabilities (California Governor's Committee on the Employment of People with Disabilities, 2004). Administrative data would be a helpful addition to the survey data we have discussed, especially if it can be matched to the survey data, to describe how participation in current and future programs affects employment of people with disabilities. We especially encourage consideration of longitudinal designs where people with disabilities can be followed over time to measure how changes in policies and programs can lead to better employment outcomes. A collaborative approach to working out a research agenda for the state of California would also be helpful in directing future research efforts.

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Appendix—Tables A1-A3

Table A1. Disability and employment status of working-age Californians, by age,

	Total population	Population with disabilities	Disability rate (percent)	Employed people with disabilities	Percent of PWD employed	Percent of non-disabled employed	Employment gap
Working ages (18-64)	21,715,469	2,256,301	10.4	812,797	36.0	73.2	37.2
18-25	3,822,964	200,055	5.2	75,828	37.9	62.3	24.4
26-39	7,301,542	466,378	6.4	203,040	43.6	75.5	31.9
40-54	7,516,362	922,909	12.3	357,531	38.7	79.7	40.9
55-64	3,074,601	666,959	21.7	176,398	26.4	65.2	38.7

Table A2. Disability and employment status of transition-age Californians, by age

	Total population	Population with disabilities	Disability rate (percent)	Employed people with disabilities	Percent of PWD employed	Percent of non-disabled employed	Employment gap
Transition age: (14-29)	7,807,980	395,389	5.1	127,128	37.6 [†]	59.2 [†]	21.6 [†]
14-15	1,047,027	57,248	5.5	<i>Employment not measured for this group</i>			
16-17	983,135	47,673	4.9	7,613	16.0	17.27	1.3
18-20	1,383,839	77,351	5.6	23,184	30.0	52.24	22.3
21-24	1,925,893	98,779	5.1	40,843	41.4	66.42	25.1
25-29	2,468,086	114,338	4.6	55,488	48.6	74.29	25.7

[†]Employment statistics are for people 16-29 years of age

Table A3. Employment rate among working-age Californians with disabilities and employment by age group and region of the state, 2000 (Census using 4 good disability measures).

Region*	Employment rate among PWD (percent)					Employment gap (percentage points)					
	Age range	18-64	18-25	26-39	40-54	55-64	18-64	18-25	26-39	40-54	55-64
Northern counties		31.6	39.7	38.7	32.2	22.5	38.7	21.0	34.3	46.3	34.9
Sierra counties		41.0	57.5	50.3	44.2	27.5	34.7	13.9	28.0	38.8	27.5
Greater Bay Area		44.4	52.0	51.4	46.8	31.3	31.5	13.5	26.9	34.6	34.8
Sacramento Area		38.2	45.7	44.8	40.1	26.1	35.7	17.4	31.6	40.7	37.3
San Joaquin Valley		32.8	38.4	37.1	35.7	22.2	34.2	19.0	30.6	39.2	37.4
Central Coast		43.0	48.8	45.8	46.9	31.6	30.3	15.8	28.9	33.9	31.4
Los Angeles		36.0	40.3	42.9	38.5	24.4	30.9	16.8	25.7	34.5	36.2
Southern Coast		43.6	46.1	50.3	45.3	33.5	30.0	18.8	24.9	34.1	31.1
Inland Empire & Desert		35.9	37.2	41.0	39.7	25.5	32.8	23.2	28.4	36.3	32.7
California		38.6	43.6	44.9	41.2	27.2	32.5	17.7	27.9	36.5	35.0

*See Table 4 for the composition of the regions.