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Health Statistics

Healthy Days

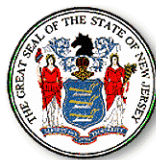
Measuring the Health Related
Quality of Life, New Jersey 2003

Center for Health Statistics

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Healthy Days: Measuring the Health Related Quality of Life New Jersey, 2003

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ABSTRACT

This report examines health related quality of life (HRQOL) among New Jersey adults, using data from the New Jersey Behavioral Risk Factor Surveillance Survey (NJBRFS). In 2003, slightly more than 15 percent of New Jerseyans reported that their general health was fair or poor, which is consistent with national statistics. Non-Hispanic Blacks and Hispanics were significantly more likely to report fair or poor health status, as were those with lower income and educational attainment. For example, those with income less than \$25,000 were nearly 7 times more likely to report fair or poor health status as compared with those with income over \$75,000. Overall, problems with physical and mental health were equally likely to negatively affect health status, although at older ages physical health problems were more frequently cited relative to mental health problems. The survey also measured *unhealthy* days, the number of days out of the past 30 days in which respondents said that their physical or mental health was not good and *disability* days, the number of days out of the past 30 days in which poor physical and mental health prevented the respondent from doing usual activities such as self-care, work or recreation. New Jerseyans reported an average of 6 unhealthy days in the past month of which two were disability days. People with chronic health conditions reported more disability days and poorer HRQOL overall. Those with diabetes were most likely to report fair or poor health status, while asthmatics reported the greatest number of unhealthy and disability days. Overall, these findings show that poor physical and mental health impact the quality of life and productivity for many New Jerseyans.

INTRODUCTION

New Jersey's HRQOL data has been collected since 1993, when questions designed to capture the data were added to the Behavioral Risk Factor Surveillance System (BRFSS) sponsored by the Centers for Disease Control and Prevention (CDC). The BRFSS questions that summarize HRQOL data are called "healthy days measures." Respondents are asked to describe their general health status using a rating scale from excellent to poor; they are asked to quantify the number of days (in the last 30 days) during which they felt that their physical or mental health was not good ("unhealthy days"); and they are asked to count the number of days that poor physical or mental health kept them from doing their usual activities such as self care, work or recreation ("disability days").^{1,4} The collection of responses to these questions provides a useful assessment of HRQOL.

Modeled after the national *Healthy People 2010* initiative, the goal of *Healthy New Jersey 2010* is to eliminate health disparities and increase the quality and years of life for individuals throughout the state.² The Healthy Days questions are used in several HNJ 2010 objectives. Based on the initiative's broad definition of health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity," the healthy days measures have proven to be a good measure of health status.²⁻³

Two Healthy New Jersey 2010 objectives, 1.3 and 1.4, were created based on the healthy days measures. Objective 1.3 is to *increase the percentage of persons 18 or older reporting good, very good, or excellent general health to 90 percent* for the total population. By racial and ethnic group, the goals are 90 percent for non-Hispanic Whites and Hispanics and 84.7 percent for non-Hispanic Blacks. In 1999, the percentage of non-Hispanic Whites, Hispanics, and non-Hispanic Blacks reporting excellent or very good health was 88.3, 85.6, and 82.3 respectively. As of yet, these goals have not been met. In 2003, the percentage of non-Hispanic Whites, non-Hispanic Blacks, and Hispanics reporting good, very good or excellent health was 88.0, 80.4, and 73.0.² Objective 1.4 is to *increase the number of days a person is able to do usual activities during the 30 days prior to the survey date* due to good physical or mental health to 28.7 in 2010 from 28.2 in 1999.² Ability days are the number of days when no physical or mental problems have prevented the respondent from conducting usual activities such as working or attending school, and are measured by subtracting disability days from 30. So far this objective has also not been achieved. In 2003, New Jersey residents reported 28.0 ability days. In 2002, it was 28.2.

This report highlights some of the pertinent HRQOL statistics for New Jersey. Those reporting a general health status of fair or poor are described by age, income level, race and ethnicity, and educational level. We examine differences between reporters of frequent (14 or more days in the past 30³) bad physical health days and reporters of frequent bad mental health days. The number of people reporting frequent days of poor mental or physical health is analyzed. Reporting of disability days is also examined. Studies have shown that HRQOL among people diagnosed with chronic illnesses is worse on average than that among people without such diagnoses. Lower levels of HRQOL are also evident by racial and ethnic group, income, and age. These groups are more likely to report a higher mean number of unhealthy days than the rest of the general population.⁶⁻¹⁰ HRQOL among New Jerseyans with diagnosed asthma, diabetes or arthritis is examined and, finally, county level HRQOL data are reported.

DATA AND METHODS

The data presented are taken from the New Jersey Behavioral Risk Factor Survey, an ongoing telephone survey of people 18 years and older. The data collection effort is undertaken in cooperation with the Centers for Disease Control and Prevention. Survey participants are asked to rate their general health status as poor, fair, good, very good, or excellent. Later, they are asked to quantify the number of days in the past month that their physical health was not good. The same question is then posed in reference to mental health. Unhealthy days are calculated by adding the number of fair or poor physical health and mental health days reported. Conversely, we calculate the number of healthy days per month using the formula: 30- unhealthy days.³ Ability days are calculated by computing the converse of disability days (30-disability days).

The disability days provide us with a way to quantitatively assess the impact of the overall unhealthy days reported on the individual's ability to complete their usual activities during the month. Exhibit A below displays five NJBRFS data items used to conduct these analyses. Four are NJBRFS questions and the last is a computation derived from two of the questions.

Self reported general health status data are cross-tabulated by gender, income level, race/ethnicity and education level. Unless otherwise noted, the data reported are age-adjusted using the 2000 US population as a standard. Crude data is presented for the chronic illnesses variable analysis.

Exhibit A. Healthy Days Measures	
General Health Status	Would you say that your general health status is excellent, very good, good, fair or poor?
Physical Health Days	Thinking about your physical health status, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?
Mental Health Days	Thinking about your mental health status, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?
Disability Days	During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation?
Unhealthy Days	Number Bad Physical Health Days + Number Bad Mental Health Days

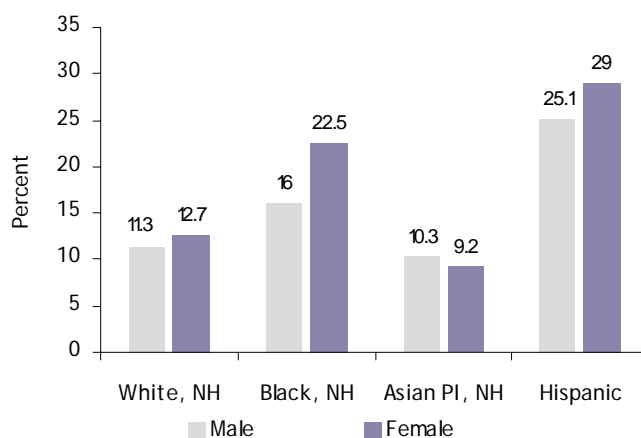
Key Findings

General Health Status

The general health status measure is drawn from the question, “Would you say that your general health status is excellent, very good, good, fair or poor?” A summary of New Jersey residents’ self-reported health status reveals some differences in the way that subgroups in the population perceive their general health status.

Overall, slightly more than 15% of New Jersey’s residents report their general health status to be fair or poor in 2003. Overall, women are only slightly more likely than men to report that their health status is fair or poor. Across racial and ethnic groups, Hispanics are more likely than any other racial/ethnic group to report fair or poor health status. Asian/Pacific Islander women are slightly less likely than Asian/Pacific Islander men to report the same.

Figure 1. Rating of fair or poor general health status by gender and race and ethnicity, New Jersey, 2003



Self-reported fair or poor health status ratings increase with age. New Jersey residents aged 65 years or older are far more likely to report that their health status is fair or poor than any other age group.

Figure 2. Percent self reported fair or poor general health status in the past 30 days, New Jersey 2003

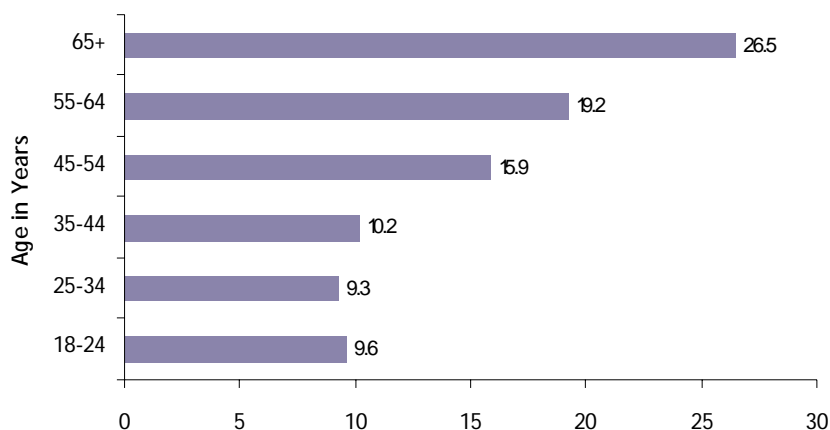
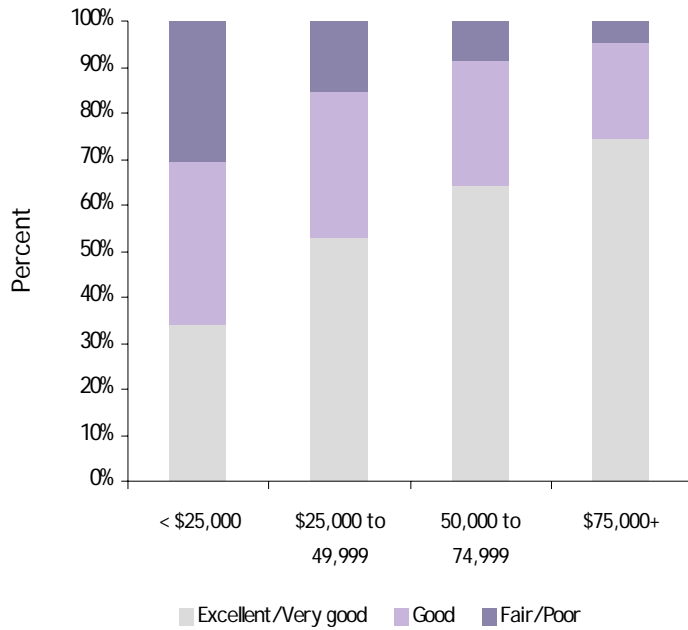
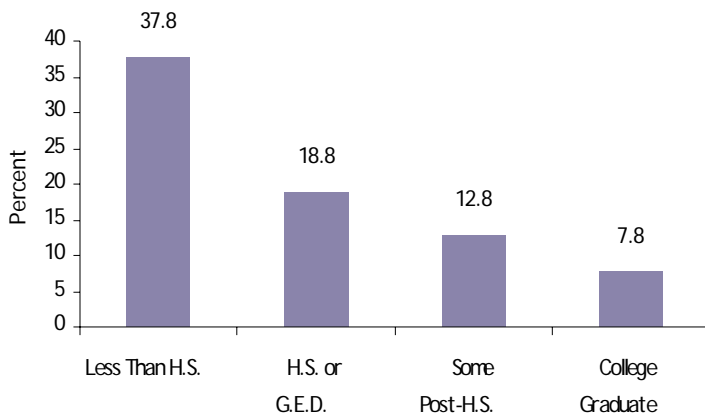


Figure 3. Rating of general health status by income level <\$25,000 to >\$75,000, New Jersey 2003



As income level increases, so does the proportion reporting excellent, very good or good general health status. New Jersey residents earning less than \$25,000 per year are far more likely to report fair or poor general health status than those earning more than \$50,000.

Figure 4. Self-reported fair or poor health status by education level, New Jersey 2003

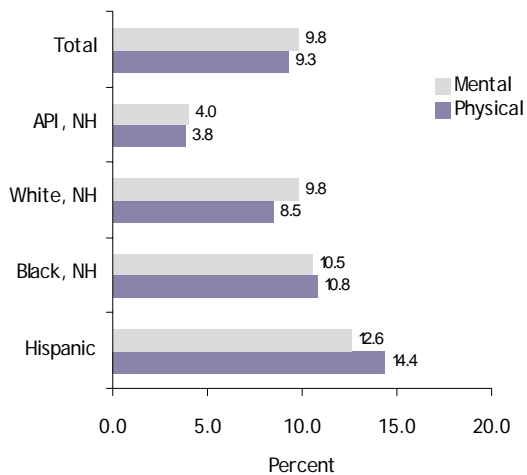


Educational attainment is positively associated with health status. More educated New Jerseyans are less likely to report poor or fair health status. New Jersey adults with less than a high school diploma are five times more likely to report fair or poor health status than college graduates.

Physical and Mental Health Status

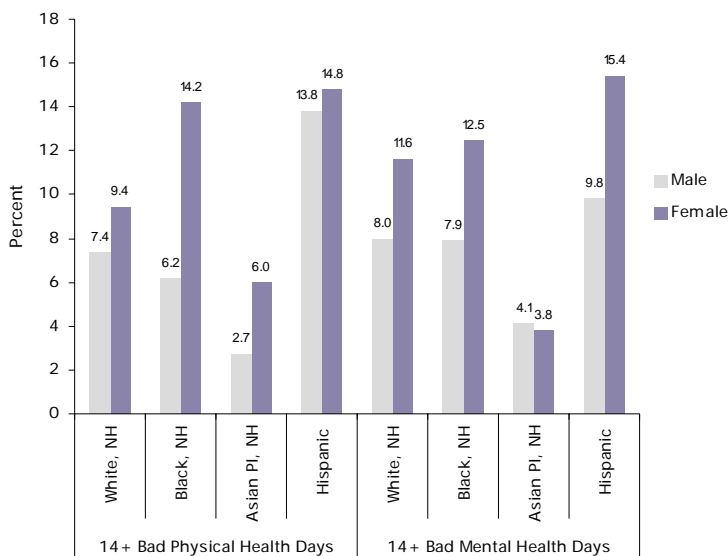
The measure of physical health status is drawn from the question, “Now thinking about your **physical** health status, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?” Mental health status is assessed by responses to the question, “Now thinking about your **mental** health status, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?”

Figure 5. Percent reporting 14 or more poor physical or mental health days in the past 30 days, New Jersey 2001-2003



There are some significant differences in reported physical and mental health status by race, ethnicity and gender. Hispanics are significantly more likely than any other racial or ethnic group to report frequent (14+) bad physical or bad mental health days. Conversely, Asian/Pacific Islanders are significantly less likely to report frequent bad physical and mental health days than every other racial group.

Figure 6. Percent reporting 14 or more bad physical or mental health days by gender, New Jersey 2001-2003



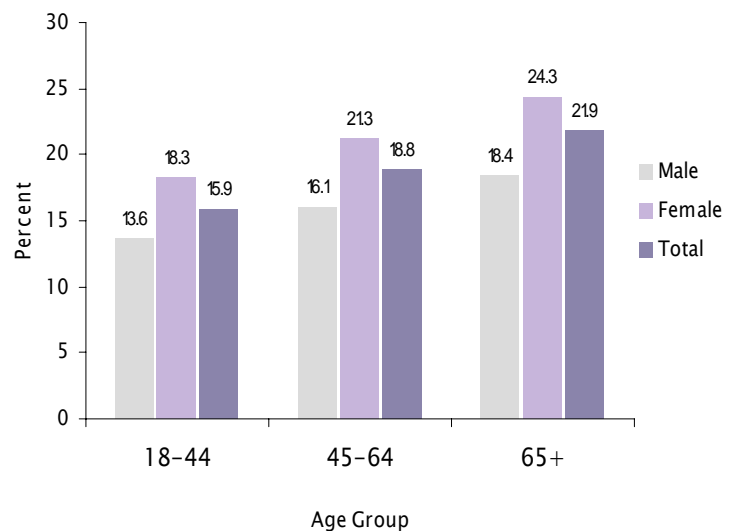
Women are more likely to report frequent bad physical health days and bad mental health days than men across all but one racial/ethnic group. Among non-Hispanic Whites, non-Hispanic Blacks, and Hispanics, women are more than 1.5 times more likely to report frequent bad mental health days than men. In addition, Hispanic women are significantly more likely to report bad mental health days than any other group. However, Asian/Pacific Islander men are as likely to report bad mental health days as women of the same race.

Unhealthy Days

Unhealthy days refers to the overall number of days out of the past 30 that the respondent felt that either physical or mental health was not good. The unhealthy days measure differs in status by age group and gender. New Jersey residents aged 18 to 44 are more likely to report bad mental health days than those in older age groups. Those aged 65 or older are twice as likely to report five or more bad physical health days as they are to report five or more bad mental health days. These findings are consistent with nationwide patterns.^{1,8-10}

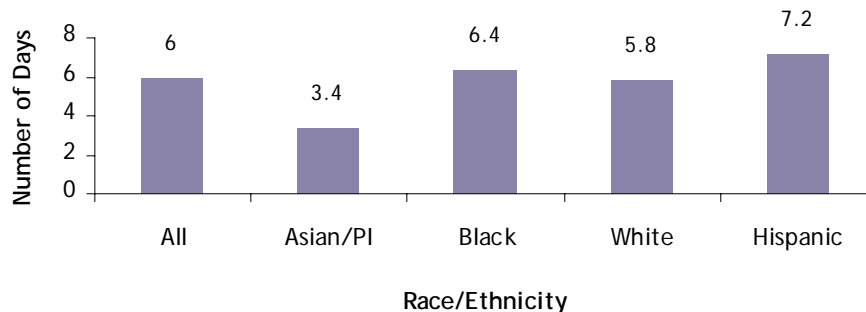
The number of New Jersey residents reporting 14 or more unhealthy days in the past month increases with age. Individuals aged 65 and older report the most unhealthy days as compared to those in other age groups. Women are more likely to report 14 or more unhealthy days than men in each age group.

Figure 7. Percent reporting 14 or more unhealthy days in the past 30 days by gender and age group, New Jersey 2003



Hispanics report the greatest number of unhealthy days. Hispanics report more than two times the mean for Asian/Pacific Islanders, who report the lowest mean number of unhealthy days.

Figure 8. Mean Number of unhealthy days in the past 30 days by race/ethnicity, New Jersey 2003



Mean Disability Days

The last of the core healthy days measures collects information on the number of disability days the respondent experienced through the following question: “During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities such as self-care, work, or recreation?” Overall, approximately 20% of New Jersey adults report experiencing one or more disability days in the past 30, while six percent report frequent disability days.

As consistent with other research findings, individuals aged 65 or older report more disability days than younger age groups.^{8,11} New Jersey’s Hispanics aged 45 and older report more disability days than any other racial group. The elderly, however, report the highest mean number of disability days across all racial and ethnic groups.

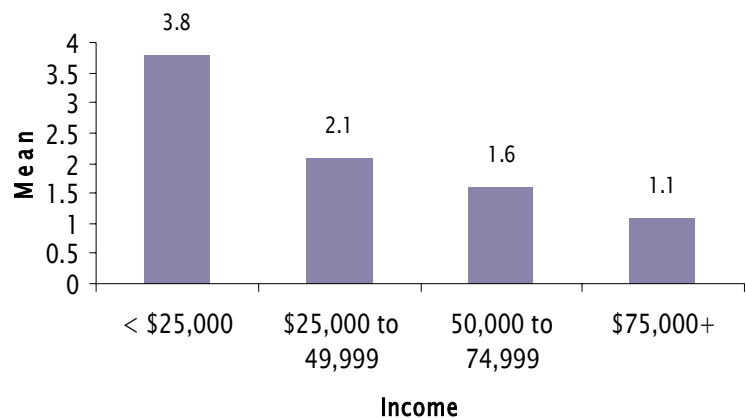
Table 1. Mean number of disability days by age group & race/ethnicity in the past 30 Days, New Jersey 2003

	All Races	White, NH	Black, NH	Hispanic	API, NH
18-44	1.6	1.6	1.9	1.7	1.3
45-64	2.3	2.1	2.9	3.1	0.7
65+	2.6	2.5	3.4	4.1	*

**Does not meet minimum cell size criterion. Fewer than 50 responses were collected.*

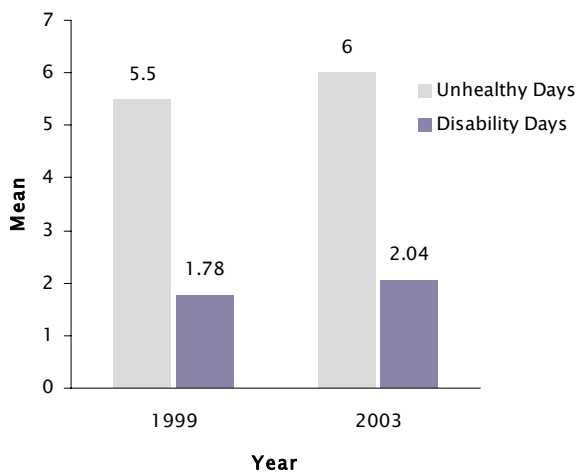
There is a negative association between income and the number of disability days reported. The mean number of disability days reported by people earning less than \$25,000 annually is nearly 4 times the mean number reported by those in the highest income bracket of \$75,000 or more.

Figure 9. Mean number of disability days in the past 30 days reported by income level, New Jersey 2003



The number of disability days reported among adult New Jerseyans varies by gender, age, race, ethnicity, education, and income. Women report significantly more disability days than men. (Women disabled due to childbirth or pregnancy are included.) Younger New Jersey residents aged 18 to 44 report significantly fewer disability days than those aged 45 and older. Non-Hispanic Blacks and Hispanics report more disability days than non-Hispanic Whites. Asian/Pacific Islanders experience fewer disability days than all other groups. New Jerseyans with post-secondary education report significantly fewer disability days than those with a high school education or less.

Figure 10. Age-adjusted Mean Self-Reported Unhealthy Days versus Mean Disability Days, New Jersey 2003



The mean number of disability days reported by adult New Jerseyans increased between 1999 and 2003. New Jerseyans report three times as many unhealthy days as they do disability days. As to be expected, people who report a higher mean number of disability days also report more frequent unhealthy days.

HEALTHY NEW JERSEY 2010 Objective 1.3: Increase the percentage of persons 18 years of age and over reporting good, very good or excellent general health to 90 percent.

Progress toward goal: At baseline in 1999, 87.3 percent of New Jersey residents were reporting good, very good, or excellent health status. By 2003, this percentage had declined somewhat to 84.8. (Source: New Jersey Behavioral Risk Factor Surveillance)

HEALTHY NEW JERSEY 2010 Objective 1.4: Increase days able to do usual activities during the past 30 days, due to good physical or mental health, among persons 18 and over to 28.7 days from 28.2 days.

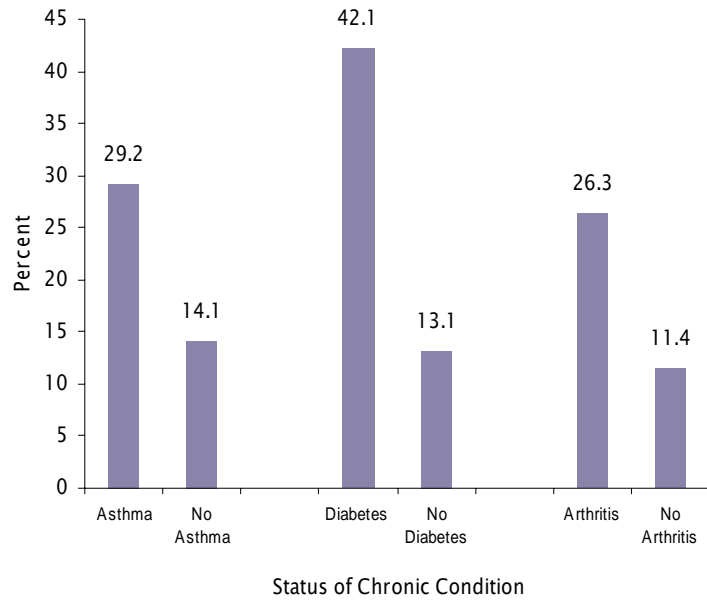
Progress toward goal: In 1999, New Jersey residents reported that they were able to do usual activities for 28.2 of the past 30 days due to good physical or mental health. In 2003, this declined slightly to 28 days. (Source: New Jersey Behavioral Risk Factor Surveillance)

Health Status among Those Reporting Chronic Illnesses – Asthma, Arthritis, and Diabetes

Previous studies have shown that people who have chronic illnesses such as arthritis, asthma and diabetes report a worse HRQOL than those who do not.^{9,12} Among New Jerseyans surveyed and reporting these illnesses we see variation of the prevalence among racial and ethnic groups.

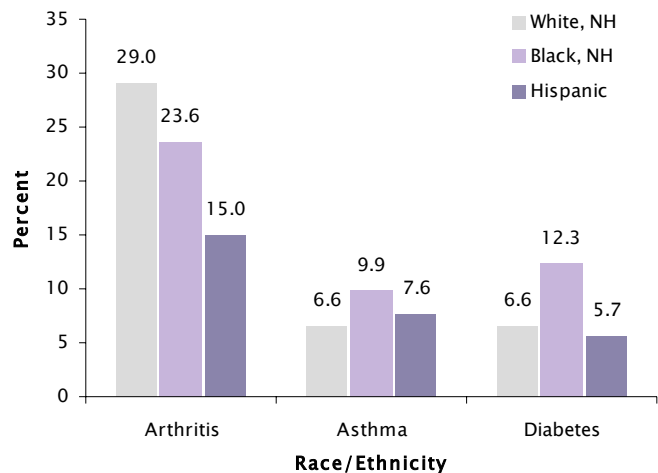
New Jersey adults diagnosed with asthma, diabetes and arthritis are more likely to report fair or poor health than those without these diagnoses. Individuals suffering from asthma are more than two times as likely to report experiencing fair or poor general health status in the past 30 days than those who do not. People who have been diagnosed with diabetes are more than three times as likely to report their general health status as being fair or poor than those who have not. People who have been diagnosed with arthritis are also more than two times as likely to report the same as those who have not.

Figure 11. Self-reported fair or poor health status by chronic disease diagnosis, New Jersey 2003



There are some racial/ethnic differences in the reporting of arthritis, asthma, and diabetes diagnoses. Non-Hispanic Whites report relatively higher diagnoses of arthritis than non-Hispanic Blacks or Hispanics. Non-Hispanic Blacks are significantly more likely to report a diagnosis of asthma or diabetes than non-Hispanic Whites or Hispanics.

Figure 12. Percent reporting diagnosis with arthritis, asthma, or diabetes by race/ethnicity, New Jersey 2003



While those with diabetes were most likely to report fair or poor health status, those with asthma were most likely to report 14+ unhealthy days. People who have been diagnosed with diabetes are almost two times more likely to report 14 or more unhealthy days in the past 30 days than those who do not have the disease. Residents of New Jersey who are diagnosed with arthritis are also significantly more likely to report frequent unhealthy days.

Figure 13. Percent Reporting 14+ Unhealthy Days in the Past 30 Days by Chronic Disease Diagnosis, New Jersey 2003

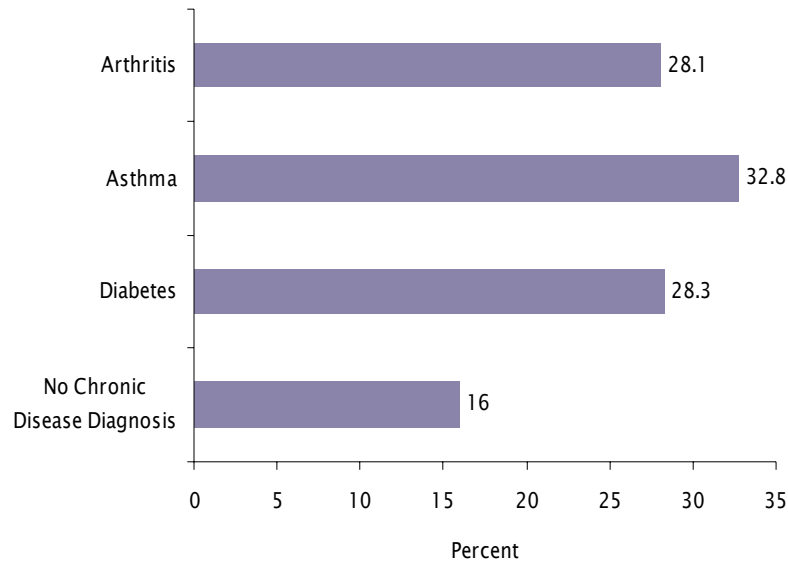


Table 2. Mean number of disability days reported among adults also reporting chronic health conditions, New Jersey 2003

	Mean
Arthritis	3.7
Asthma	4.5
Diabetes	4.0
No Chronic Disease Diagnosis	1.8

Adults diagnosed with any one of these chronic illnesses experience up to two times as many disability days as those who do not report the conditions. Those who suffer with arthritis and diabetes report 2 more disability days than people reporting no chronic disease. Asthmatics report nearly 3 more disability days per month as compared to those with no chronic disease diagnosis.

HRQOL by New Jersey's 21 Counties

General health status data varies by county. County estimates of the percentage reporting fair or poor health status ranged widely from seven percent (Hunterdon) to 21 percent (Salem). The percentage reporting 14 or more unhealthy days ranged from 13 percent (Morris) to 22 percent (Warren). Residents of Salem, Cumberland, Hudson, Passaic, and Essex counties reported a higher percentage of fair/poor health days in the past 30 than the remaining 16 counties. Residents of Warren, Mercer, Camden, Cumberland, and Hudson counties report the highest percentage of unhealthy days in the past 30. However, due to small sample size, some differences are not statistically significant.

Table 3. The Top Five New Jersey Counties Reporting Fair/Poor General Health Status or 14+ Unhealthy Days in the Past 30 Days, New Jersey 2003

General Health Status is Fair or Poor					
County	N	Percent	95% CL Lower	95% CL Upper	Rank
Salem	97	22.3	13.6	34.2	1
Cumberland*	210	21.8	15.8	29.3	2
Hudson*	534	20.1	16.6	24.1	3
Passaic	514	16.4	13.2	20.2	4
Essex	808	16.3	13.6	19.5	5
All Counties	11,0067	14.8	14.0	15.7	

14+ Unhealthy Days in the Past 30 Days					
County	N	Percent	95% CL Lower	95% CL Upper	Rank
Warren	183	22.1	15.5	30.5	1
Mercer	468	21.9	17.7	26.7	2
Camden	612	21.6	17.8	25.9	3
Cumberland	196	20.2	15.1	26.5	4
Hudson	518	20.1	16.6	24.2	5
All Counties	10,989	17.8	17.0	18.7	

*County is significantly above the state average with 95 percent confidence.

There is some variation in reported unhealthy days and reported disability days across New Jersey's counties. Bergen and Morris county residents report significantly fewer unhealthy and disability days than the state average. Somerset residents report significantly fewer unhealthy days than the state average. Notably, residents of Mercer and Warren counties report the highest number of unhealthy days and residents of Mercer and Salem report the highest number of disability days. However, due to smaller sample sizes, these data are not statistically significant.

Figure 14. Mean self-reported unhealthy days in the past 30, by county, New Jersey, 2003.

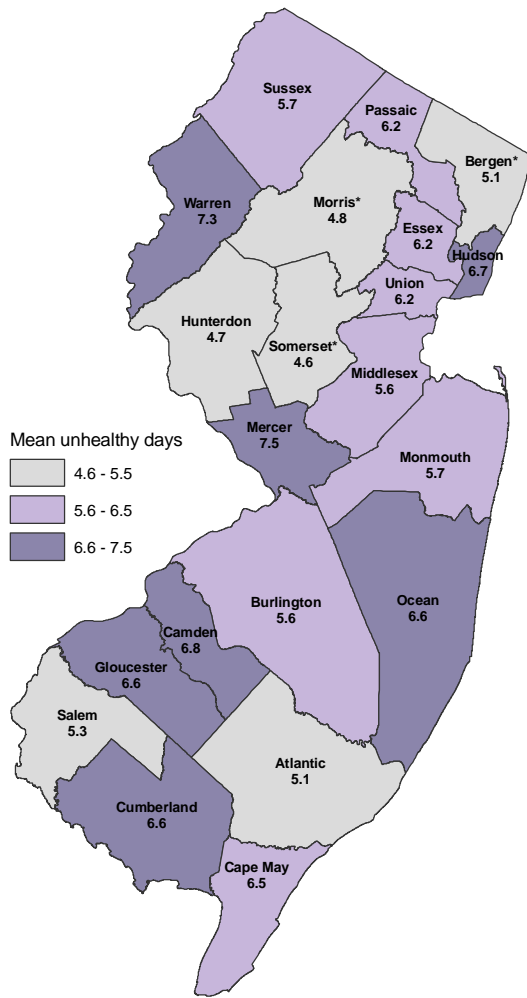
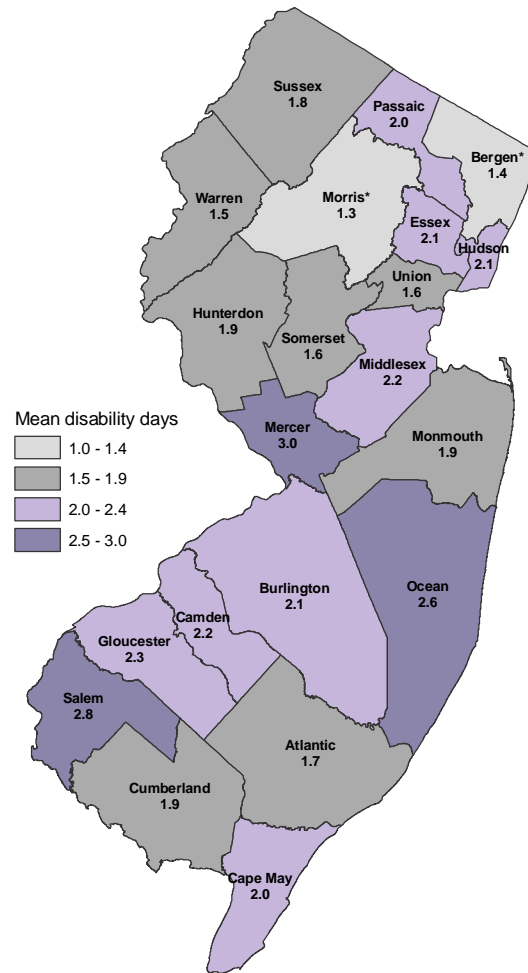


Figure 15. Mean self-reported disability days in the past 30, by county, New Jersey, 2003.



*Mean significantly lower than the average

Discussion

This analysis of the Healthy Days core measures for New Jersey has provided valuable information on self-reported health status by gender, race and ethnicity, educational attainment, and income level. HRQOL findings in New Jersey are consistent with those reported across the country. Within the state reports of fair or poor health increase with the respondent's age and decline with educational attainment and income. Fair or poor health status ratings were also more common among certain racial and ethnic groups, particularly non-Hispanic Blacks and Hispanics, and among those diagnosed with asthma, arthritis or diabetes.

Several states have reported findings consistent with the results from New Jersey. HRQOL data collected among California residents in Los Angeles County also found that the number of unhealthy days reported was inversely related to household income and education level and that the average number of unhealthy days reported was also higher among women than men. Additionally, the Los Angeles County analysis revealed that the number of unhealthy days reported was significantly higher among those diagnosed with selected chronic health conditions such as asthma, arthritis and diabetes.⁶ In a study conducted by the Oregon Health Division, Oregonians aged 55 and older were more likely to experience frequent periods of poor physical health. For frequent mental distress, however, the reverse was true: people younger than 55 reported more frequent mental distress.¹² San Diego County in California also reported that residents aged 44 and younger reported frequent mental distress twice as much as those aged 65 and older. The reverse was true for reports of frequent periods of poor physical health.¹⁵

Lower HRQOL reported by non-Hispanic Blacks and Hispanics is consistent with higher mortality and morbidity rates from diabetes, asthma, and arthritis for these groups. Mortality rates from diabetes among New Jersey's non-Hispanic Blacks adults is nearly two times the state average. For Hispanics it is only slightly higher than the average, but not significantly so. Mortality rates from asthma are also significantly higher for non-Hispanic Blacks than for all other groups. Annual hospital admission rates due to asthma per 100,000 population are more than three times higher among non-Hispanic Blacks and nearly two times higher among Hispanics than they are among non-Hispanic Whites.^{14-15,17} In addition, though non-Hispanic Whites are more likely to report having been diagnosed with arthritis, research has shown that non-Hispanic Blacks and Hispanics have a higher proportion of arthritis-attributable work limitations and severe joint pain.¹⁸ These factors likely contribute to the lower HRQOL reported by Blacks and Hispanics overall.

Since 2000, the percentage of New Jersey adults reporting that they are in excellent or very good health and the number of ability days reported has stayed about the same.¹⁷ The self-reported health status of New Jerseyans is generally good, very good, or excellent. Yet for approximately 15 percent of the population, this is not the case. Poor physical and mental health is cited about 20 percent of all days. The impact of poor health is greater on some racial and ethnic minorities, the elderly, and those with chronic diseases. Many states have successfully used the HRQOL measures to target these groups and implement programs that aim to improve their overall quality of life. Improving health status and reducing unhealthy days for New Jerseyans should clearly be a priority.

References

1. National Center for Chronic Disease Prevention and Health Promotion, Health Related Quality of Life. <http://www.cdc.gov/hrqol/>
2. Healthy New Jersey 2010. State of New Jersey. Department of Health and Senior Services, June 2001. Available at: www.state.nj.us/health/chs
3. Centers for Disease Control and Prevention. Measuring Healthy Days, Atlanta, Georgia: CDC November 2000.
4. 2003 Behavioral Risk Factor Surveillance System State Questionnaire. December 2002, V1.5 Available at <http://www.cdc.gov/brfss/questionnaires/english.htm>
5. Chronic Disease Notes & Reports. Health Related Quality of Life, part II - State and Local Applications. Massachusetts' FamilyConnection Using Healthy Days Measures Improves Women's Quality of Life. Centers for Disease Control and Prevention, Vol. 16 No 2/Winter/Spring/Summer 2004.
6. LA Health. Health-Related Quality of Life in Los Angeles County. A publication of Los Angeles County Department of Health Services Public Health.
7. MMWR Weekly, November 21, 2003/ 52(46); 1120-1124 Public Health and Aging: Health Related Quality of Life Among Low-Income Persons Aged 45- -64 Years - United States, 1995-2001
8. MMWR Weekly, July 6, 2001/ 50(26); 556-9 Public Health and Aging: Health Related Quality of Life- Los Angeles United States, 1999
9. FACCT & The Robert Wood Johnson Foundation. *A Portrait of the Chronically Ill in America, 2001*. A report from the Robert Wood Johnson Foundation National Strategic Indicator Surveys. Available at: www.facct.org/facct/doclibFiles/documentFile_287.pdf
10. MMWR Surveillance Summaries, December 17, 1999/ 48(SS08);131-156 Surveillance for sensory Impairment, Activity Limitation, and Health-Related Quality of Life Among Older Adults - United States 1993-1997
11. MMWR Weekly, April 03,1998/ 47(12); 239-243 State Differences in Reported Healthy Days Among Adults - - United States, 1993-1996
12. Center for Disease Prevention and Epidemiology, Oregon Health Division. CD Summary. *Happy and Health-Wise: Measuring Health-Related Quality of Life*. Vol. 50, No. 17. August, 14, 2001.
13. United Way of San Diego County. Well-being, Outcomes & Community Impact Program. Report 38, General Health Status 2000.

14. Interdepartmental Report and Strategic Plan for Asthma. 2000. New Jersey Department of Health and Senior Services, New Jersey Department of Human Services, New Jersey Department of Education, New Jersey Department of Environmental Protection, United States Department of Human Services.
15. New Jersey Department of Health and Senior Services. Office of Minority and Multicultural Health. *Testimony for Congressional Black Caucus Health Disparities Forum*, June 12, 2004.
16. Current Population Survey, New Jersey. Health Insurance in New Jersey, March 2003.
17. Healthy New Jersey 2010: Update 2005 State of New Jersey. Department of Health and Senior Services, May 2005. Available at: www.state.nj.us/health/chs
18. MMWR Weekly, February 11, 2005/ 54(5); 119-21 Racial/Ethnic Difference in the Prevalence and Impact of Doctor Diagnosed Arthritis - United States, 2002