



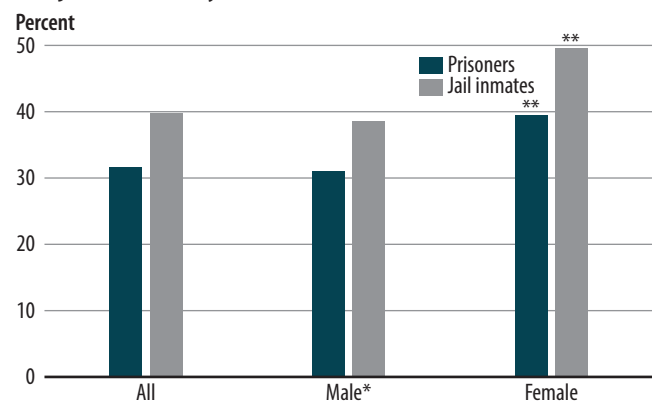
# Disabilities Among Prison and Jail Inmates, 2011–12

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In 2011–12, about 3 in 10 state and federal prisoners and 4 in 10 local jail inmates reported having at least one disability. Among prison and jail inmates, females were more likely to report a disability than males (figure 1). About 40% of females and 31% of males in prison and 49% of females and 39% of males in jail reported a disability. In this report, disability types include hearing, vision, cognitive, ambulatory, self-care, and independent living, which refers to the ability to navigate daily life schedules, activities, and events without assistance.

This report uses data from the 2011–12 National Inmate Survey (NIS-3) to describe the prevalence of disabilities among prison and jail inmates. (See *Limitations of the survey data.*) Data from the 2012 American Community Survey (ACS) were used to compare the incarcerated populations to the noninstitutionalized general population. The general population was standardized to match the prison population and to match the jail population by sex, age, race, and Hispanic origin. By standardizing the general population to the inmate population, BJS controls

**FIGURE 1**  
Prevalence of disabilities among state and federal prisoners and jail inmates, by sex, 2011–12



Note: Disability types include hearing, vision, cognitive, ambulatory, self-care, and independent living. See *Methodology* for definitions of disabilities. See appendix table 1 for estimated percentages and standard errors.

\*Comparison group.

\*\*Difference with comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## HIGHLIGHTS

This report presents prevalence estimates of disabilities among prison and jail inmates and characteristics of those inmates with a disability. Estimates of the prevalence of disabilities include inmates who reported at least one of six specific disability types: hearing, vision, cognitive, ambulatory, self-care, and independent living.

- An estimated 32% of prisoners and 40% of jail inmates reported having at least one disability.
- Prisoners were nearly 3 times more likely and jail inmates were more than 4 times more likely than the general population to report having at least one disability.
- About 2 in 10 prisoners and 3 in 10 jail inmates reported having a cognitive disability, the most common reported disability in each population.
- Female prisoners were more likely than males to report having a cognitive disability, but were equally likely to report having each of the other five disabilities.
- Non-Hispanic white prisoners (37%) and prisoners of two or more races (42%) were more likely than non-Hispanic black prisoners (26%) to report having at least one disability.
- More than half of prisoners (54%) and jail inmates (53%) with a disability reported a co-occurring chronic condition.
- Compared to those without a disability, prisoners with a disability were about 4 times more likely and jail inmates with a disability were nearly 2.5 times more likely to report past 30-day serious psychological distress.
- Thirty-three percent of prisoners and 47% of jail inmates with a cognitive disability reported past 30-day serious psychological distress, compared to 11% of prisoners and 24% of jail inmates with a disability other than cognitive.

for differences in the distributions of sex, age, race, and Hispanic origin, which may be associated with disabilities. Standardization removes the effects that these characteristics may have on a population when comparing the prevalence of disabilities between the incarcerated populations and the general population. However, it does not remove the effect that other factors may have regarding both incarceration status and general health status, such as poverty and unsafe neighborhoods. This report details the prevalence of six

specific disability types, highlights important differences in each by demographic characteristics, and assesses the prevalence of disabilities with other health problems, such as chronic conditions and infectious diseases.<sup>1,2</sup> All prevalence data were self-reported by prison and jail inmates.

<sup>1</sup>Chronic conditions include cancer, high blood pressure, stroke-related problems, diabetes, heart-related problems, kidney-related problems, arthritis, asthma, and cirrhosis of the liver.

<sup>2</sup>Infectious diseases include tuberculosis, hepatitis B, hepatitis C, or a sexually transmitted infection (excluding HIV/AIDS).

## Limitations of the survey data

There is no universally accepted definition of disability. This report uses six questions to measure disability that were modeled after the 2012 American Community Survey (ACS), conducted by the U.S. Census Bureau. These questions were included in the Bureau of Justice Statistics (BJS) National Inmate Survey, 2011–12 (NIS-3):

**Hearing**—Are you deaf or do you have serious difficulty hearing?

**Vision**—Are you blind or do you have serious difficulty seeing even when wearing glasses?

**Cognitive**—Because of a physical, mental, or emotional problem, do you have serious difficulty concentrating, remembering, or making decisions?

**Ambulatory**—Do you have serious difficulty walking or climbing stairs?

**Self-care**—Do you have difficulty dressing or bathing?

**Independent living**—Because of a physical, mental, or emotional problem, do you have difficulty doing activities on your own, such as going to meal time, going outside, working in or outside of this facility, going to classes, or attending programs?

There are several limitations of these data. The etiology (or cause) of an inmate's disability is unknown, as the survey was not designed to assess whether a disability is congenital, genetic, or biological; illness or disease related; or caused by

something in the environment (e.g., a gunshot wound). As such, the temporal relationship between disability onset and incarceration is unknown. For this reason, it is inappropriate to infer causation or correlation between disability status and criminality.

The survey does not ask how often or how severely the disability limits or impairs an inmate's ability to function (e.g., daily struggles with everything or occasional flare-ups). The data are self-reported and were not verified against medical records or diagnostic data.

There is an environmental or social component to disabilities, which can frame how individuals view themselves and their impairments. For example, the effects of some impairments can be minimized with the proper medical treatment and accommodations (e.g., a cane). With the proper accommodations and support, inmates may or may not consider themselves to have a disability.

BJS's prevalence estimates may be underestimates because some inmates may have been unable to participate in the NIS-3 due to serious cognitive limitations that precluded them from fully understanding the informed consent procedures or the survey questions. In addition, some inmates with a particular disability (e.g., a hearing disability) may have had a harder time completing the survey than inmates without a disability.

## Inmates were more likely than persons in the general population to report having a disability

When compared to the standardized general population, both prison and jail inmates were more likely to report having a disability. About 32% of prisoners reported a disability, compared to 11% of persons in the general population (table 1). Prisoners were more likely than persons in the general population to report each specific disability type except for a self-care disability, while jail inmates were more likely to report each specific disability. Prisoners were about 2 times more likely than persons in the general population to report independent living, ambulatory, and hearing disabilities; about 3 times more likely to report a

**TABLE 1**  
Prevalence of disabilities among state and federal prisoners and the general population, standardized, 2011–12

Disability	State and federal prisoners		General population <sup>a</sup>	
	Percent	Standard error	Percent	Standard error
Any disability	31.6%**	1.40%	10.9%	0.06%
Vision	7.1**	0.69	2.1	0.02
Hearing	6.2**	0.61	2.6	0.02
Ambulatory	10.1**	0.76	5.1	0.03
Cognitive	19.5**	1.13	4.8	0.04
Self-care	2.1	0.29	2.1	0.02
Independent living	7.5**	0.71	4.0	0.03

Note: See *Methodology* for definitions of disabilities.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

<sup>a</sup>Data were standardized to prisoners in the National Inmate Survey, 2011–12 based on sex, age, race, and Hispanic origin.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12; and U.S. Census Bureau, American Community Survey, 2012.

**TABLE 2**  
Prevalence of disabilities among jail inmates and the general population, standardized, 2011–12

Disability	Jail inmates		General population <sup>a</sup>	
	Percent	Standard error	Percent	Standard error
Any disability	39.9%**	1.10%	9.3%	0.05%
Vision	7.3**	0.59	1.7	0.02
Hearing	6.5**	0.46	1.9	0.02
Ambulatory	9.5**	0.63	3.7	0.02
Cognitive	30.9**	0.91	4.7	0.04
Self-care	2.8**	0.33	1.7	0.02
Independent living	8.7**	0.61	3.4	0.03

Note: See *Methodology* for definitions of disabilities.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

<sup>a</sup>Data were standardized to jail inmates in the National Inmate Survey, 2011–12 based on sex, age, race, and Hispanic origin.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12; and U.S. Census Bureau, American Community Survey, 2012.

visual disability; and 4 times more likely to report a cognitive disability. Forty percent of jail inmates, compared to 9% of those in the general population, reported having a disability (table 2). When compared to the general population, jail inmates were about 2.5 times more likely to report an ambulatory and independent living disability, more than 3 times more likely to report a visual and hearing disability, and 6.5 times more likely to report a cognitive disability.

## Cognitive disability was the most commonly reported disability among inmates

About 2 in 10 prisoners and 3 in 10 jail inmates reported a cognitive disability, the most common disability reported by each population (see textbox). Among prison and jail inmates, an ambulatory disability was the second most common disability (10% each). Among prisoners, 7% reported an independent living disability, 7% reported a vision disability, 6% reported a hearing disability, and 2% reported a self-care disability. Among jail inmates, 9% reported an independent living disability, 7% reported a vision disability, 7% reported a hearing disability, and 3% reported a self-care disability.

### Differences between cognitive disabilities and mental disorders

A cognitive disability is a broad term used to describe a variety of medical conditions affecting different types of mental tasks, such as problem solving, reading comprehension, attention, and remembering. A cognitive disability is not the same as a mental disorder, although they often co-occur and a mental disorder can be considered a disability as well. The main differences are—

- symptoms of a mental disorder may be cyclical, temporary, or episodic whereas symptoms of a cognitive disability are constant and permanent
- symptoms of a mental disorder may be controlled or eliminated by medications, and a person can usually live a normal life with the proper mental health care, but medications cannot fully restore, repair, or alleviate cognitive limitations
- symptoms of a mental disorder may include disturbances in perceptions, emotions, and thought processes such as hallucinations or delusions, which are not symptoms associated with most cognitive disabilities.

Examples of cognitive disabilities include Down syndrome, autism, dementia, attention deficit disorder, learning disorders, intellectual disabilities, or traumatic brain injury. Examples of mental disorders include depression, anxiety disorders, and schizophrenia.

### About 13% of prisoners and 16% of jail inmates reported having multiple disabilities

About 19% of prisoners reported having only one disability, compared to 24% of jail inmates (table 3). An estimated 13% of prisoners and 16% of jail inmates reported having multiple disabilities. Eight percent of prisoners and 10% of jail inmates reported two disabilities, and 5% of prisoners and 6% of jail inmates reported having 3 or more disabilities.

### Female inmates were more likely than male inmates to report having a disability

An estimated 40% of females and 31% of males in prison reported a disability (table 4). More female prisoners (30%) reported a cognitive disability than male prisoners (19%). Female and male prisoners were equally likely to report having hearing, vision, ambulatory, self-care, or independent living disabilities.

**TABLE 3**  
Number of disabilities reported by state and federal prisoners and jail inmates, 2011–12

Number of disabilities	State and federal prisoners		Jail inmates*	
	Percent	Standard error	Percent	Standard error
0	68.4%**	1.4%	60.1%	1.1%
1	18.8%**	0.9	23.9	1.1
2	7.9%**	0.7	10.2	0.7
3	2.5	0.3	3.0	0.3
4 or more	2.4	0.4	2.8	0.3

Note: Disability types include hearing, vision, cognitive, ambulatory, self-care, and independent living. See *Methodology* for definitions of disabilities.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

**TABLE 4**  
Prevalence of disabilities among state and federal prisoners, by demographic characteristics, 2011–12

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
All prisoners	31.6%	6.2%	7.1%	10.1%	19.5%	2.1%	7.5%
<b>Sex</b>							
Male*	31.0%	6.2%	7.1%	9.9%	18.7%	2.0%	7.3%
Female	39.5%**	5.3	6.4	12.1	30.3%**	3.4	10.1
<b>Age</b>							
18–24*	26.9%	2.0%	3.7%	1.7%	22.1%	0.8%	4.9
25–34	25.1	2.5	4.6	3.9**	18.8	1.0	5.9
35–49	32.8	7.9**	6.6**	10.3**	18.9	2.6**	7.6
50 or older	44.2**	12.1**	15.3**	26.8**	20.3	4.1**	11.9**
<b>Race/Hispanic origin</b>							
White <sup>a</sup>	37.3%**	8.0%**	6.2%	12.0%**	22.8%**	2.4%	10.5%**
Black/African American <sup>a</sup>	25.7	3.1	6.2	7.7	17.1	1.7	5.5
Hispanic/Latino	27.8	6.9**	8.8	8.8	15.1	2.5	5.3
Two or more races <sup>a</sup>	42.3**	8.4**	7.3	14.7**	27.3**	1.8	9.5**
Other <sup>a,b</sup>	37.0	7.9	5.5	7.5	23.0	1.5	15.4**

Note: See *Methodology* for definitions of disabilities. See appendix table 5 for standard errors.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

<sup>a</sup>Excludes persons of Hispanic or Latino origin.

<sup>b</sup>Includes American Indian and Alaska Natives and Asian, Native Hawaiian, and other Pacific Islanders.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

Among jail inmates, 49% of females reported a disability, compared to 39% of males (table 5). Male and female jail inmates reported similar percentages of having a hearing disability (7% for males and 6% for females), a self-care disability (3% and 4%), and an independent living disability (9% and 10%). Male jail inmates (8%) were more likely than female jail inmates (5%) to report a vision disability, but females were more likely than males to report an ambulatory or cognitive disability. Among females in jail, nearly 14% (compared to 9% of males) reported an ambulatory disability and about 41% (compared to 29% of males) reported a cognitive disability.

### Non-Hispanic black and Hispanic inmates were less likely than non-Hispanic whites to report a disability

Among prisoners, 37% of non-Hispanic whites and 42% of persons of two or more races reported at least one disability, compared to 26% of non-Hispanic blacks. Among jail inmates, 40% of whites and 55% of persons of two or more races reported having at least one disability, compared to 35% of blacks. Hispanic prisoners (28%) and jail inmates (38%) were as likely as blacks to report having at least one disability. There were no differences in prevalence of vision and self-care disabilities among prison and jail inmates across race and Hispanic origin.

A larger percentage of prisoners of two or more races (27%) and white prisoners (23%) reported cognitive disabilities than black (17%) or Hispanic prisoners (15%). Among jail inmates, nearly the same percentage (about 30%) of white, black, and Hispanic offenders reported a cognitive disability.

### Older inmates were more likely to report a disability

Forty-four percent of prisoners and 60% of jail inmates age 50 or older reported a disability, compared to 27% of prisoners and 34% of jail inmates ages 18 to 24. Older prison and jail inmates reported higher rates of all disabilities with the exception of cognitive disabilities. All age groups were equally likely to report this disability.

Compared to those ages 18 to 24, prison and jail inmates age 50 and older were 6 times more likely to report having a hearing disability, 4 to 5 times more likely to report a vision disability, and more than twice as likely to report an independent living disability. An ambulatory disability was reported by 27% of prisoners age 50 or older, 10% of those ages 35 to 49, and 2% of those ages 18 to 24. Among jail inmates, an ambulatory disability was reported by 31% of those age 50 or older, 14% of those ages 35 to 49, and 2% of those ages 18 to 24.

**TABLE 5**  
Prevalence of disabilities among jail inmates, by demographic characteristics, 2011–12

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
All inmates	39.9%	6.5%	7.3%	9.5%	30.9%	2.8%	8.7%
<b>Sex</b>							
Male*	38.5%	6.6%	7.6%	8.9%	29.4%	2.7%	8.5%
Female	49.5**	6.0	5.1**	13.5**	41.2**	3.6	9.7
<b>Age</b>							
18–24*	33.8%	3.2%	3.7%	2.4%	29.4%	1.0%	6.0%
25–34	36.8	3.9	5.5	5.6**	30.3	1.2	7.8
35–49	43.1**	8.6**	8.9**	14.0**	32.1	4.1**	10.3**
50 or older	59.7**	19.9**	19.4**	30.8**	33.5	10.1**	14.3**
<b>Race/Hispanic origin</b>							
White <sup>a</sup>	40.5%**	6.6%	5.5%	9.8%	30.4%	2.4%	8.7%
Black/African American* <sup>a</sup>	35.1	5.1	7.4	9.4	26.5	2.6	7.5
Hispanic/Latino	38.4	6.9	8.6	8.5	29.5	3.2	7.8
Two or more races <sup>a</sup>	55.3**	8.3	9.9	10.2	48.4**	3.5	13.7**
Other <sup>a,b</sup>	51.4**	13.6**	11.8	13.9	43.0**	2.5	11.5

Note: See *Methodology* for definitions of disabilities. See appendix table 6 for standard errors.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

<sup>a</sup>Excludes persons of Hispanic or Latino origin.

<sup>b</sup>Includes American Indian and Alaska Natives and Asian, Native Hawaiian, and other Pacific Islanders.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## More than half of inmates with a disability reported a co-occurring chronic condition

Prison and jail inmates with a disability were more likely to have a co-occurring chronic condition than those without a disability. More than half of prisoners (54%) and jail inmates (53%) with a disability reported a chronic condition, compared to more than a third (35%) of prisoners and nearly a third (30%) of jail inmates without a disability (table 6).

A greater percentage of inmates with a disability reported ever having an infectious disease than those without a disability. An estimated 32% of prisoners with a disability and 21% of those without a disability reported ever having an infectious disease. Among jail inmates, 26% with a disability and 18% without a disability reported ever having an infectious disease.

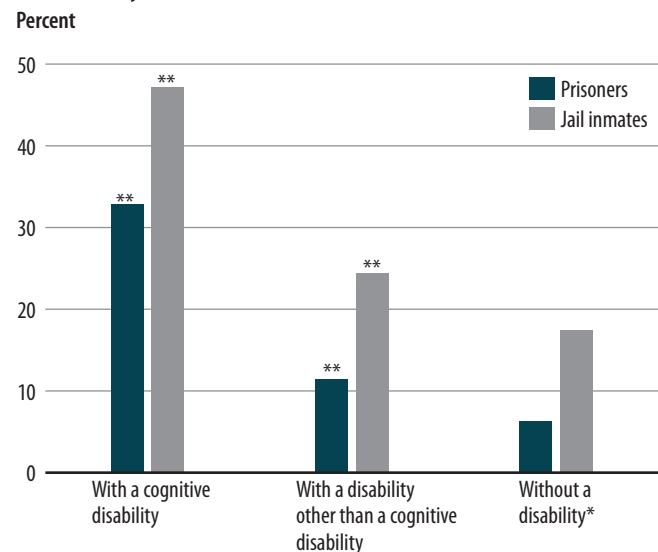
Inmates with a disability were as likely to be obese or morbidly obese as those without a disability. Measures of obesity and morbidly obese were calculated using the body mass index. (See *Methodology*.) Among inmates with a disability, about a third (31%) of prisoners and about a quarter (24%) of jail inmates were obese or morbidly obese.

Prison and jail inmates with a disability were more likely to report past 30-day serious psychological distress (SPD) than inmates without a disability. (See *Methodology*.) Among those with a cognitive disability, a third of those in prison (33%) and nearly half of those in jail (47%) reported past 30-day SPD, compared to 11% of prisoners and 24% of jail inmates with a disability other than a cognitive disability (figure 2). Prisoners (6%) and jail inmates (17%) without a disability had the lowest rates of past 30-day SPD. In

comparison, the rate of past 30-day SPD among the general population was 4% when adjusted to the sex, age, race, and Hispanic origin profile for prisoners and 5% when adjusted for jail inmates (appendix table 8).<sup>3</sup>

<sup>3</sup>Data are from the 2009–12 National Survey of Drug Use and Health, conducted by the Substance Abuse and Mental Health Services Administration.

**FIGURE 2**  
Prevalence of past-30-day serious psychological distress among state and federal prisoners and jail inmates, by type of disability, 2011–12



Note: As measured by the past 30-day K6 Psychological Distress Scale with a score of 13 or higher. See *Methodology* for further detail on the K6 scale and for definitions of disabilities. Disability types other than cognitive include hearing, vision, ambulatory, self-care, and independent living. See appendix table 7 for estimated percentages and standard errors.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

**TABLE 6**  
Prevalence of disabilities and other health conditions among state and federal prisoners and jail inmates, 2011–12

	State and federal prisoners				Jail inmates			
	With a disability		Without a disability*		With a disability		Without a disability*	
	Percent	Standard error	Percent	Standard error	Percent	Standard error	Percent	Standard error
Obese/morbidly obese <sup>a</sup>	30.8%	1.7%	26.8%	1.3%	23.8%	1.4%	21.0%	1.2%
Chronic condition (current) <sup>b</sup>	54.5**	2.1	34.8	1.8	53.3**	2.0	30.5	1.4
Infectious disease (ever) <sup>c</sup>	32.4**	1.8	21.2	2.1	26.2**	1.8	17.5	1.3
Past 30-day serious psychological distress (SPD) <sup>d</sup>	24.8**	1.6	6.3	1.2	42.3**	1.6	17.4	1.2

Note: Disability types include hearing, vision, cognitive, ambulatory, self-care, and independent living. See *Methodology* for definitions of disabilities.

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

<sup>a</sup>Measures of obesity were calculated using body mass index (BMI), based on height and weight. BMI can be used to determine if a person is underweight (18.5 or less), normal weight (18.5 to 24.9), overweight (25.0 to 29.9), obese (30.0 to 39.9), or morbidly obese (40 or greater).

<sup>b</sup>Chronic conditions include cancer, high blood pressure, stroke-related problems, diabetes, heart-related problems, kidney-related problems, arthritis, asthma, and cirrhosis of the liver. Current refers to current at time of the interview.

<sup>c</sup>Ever refers to any point in the inmate's life and infectious diseases include tuberculosis, hepatitis B, hepatitis C, or a sexually transmitted infection (excluding HIV/AIDS).

<sup>d</sup>Measured using the past 30-day K6 Psychological Distress Scale with a score of 13 or higher. See *Methodology*.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

# Methodology

## National Inmate Survey

The National Inmate Survey, 2011–12 (NIS-3) was conducted in 233 state and federal prisons and 358 jails between February 2011 and May 2012. The data were collected by RTI International under a cooperative agreement with the Bureau of Justice Statistics (BJS). The NIS-3 included two questionnaires—a survey of sexual victimization and a survey of mental and physical health (including disabilities), past drug and alcohol use, and treatment for substance abuse. Inmates were randomly assigned to receive one of the questionnaires so that at the time of the interview the content of the survey remained unknown to facility staff and the interviewers.

A total of 91,177 inmates age 18 or older participated in NIS-3, including 38,251 inmates in state and federal prisons and 52,926 inmates in jail. The interviews, which averaged 35 minutes, used computer-assisted personal interviewing (CAPI) and audio computer-assisted self-interviewing (ACASI) data collection methods. For approximately the first 2 minutes, survey interviewers used CAPI to obtain an inmate's background information and date of admission to the facility. For the remainder of the interview, respondents interacted with a computer-administered questionnaire using a touchscreen and synchronized audio instructions delivered via headphones. Respondents completed the ACASI portion of the interview in private, with the interviewer either leaving the room or moving away from the computer.

A shorter paper questionnaire was made available for inmates who were unable to come to the private interviewing room or interact with the computer. The paper form was completed by 733 state and federal prisoners and 255 jail inmates. Inmates who completed the paper form were not asked about their physical health, mental health, past drug and alcohol use, or treatment for substance abuse. Additional information on the methodology used for selecting facilities and inmates can be found in the report, *Use of Restrictive Housing in U.S. Prisons and Jails, 2011–12* (NCJ 249209, BJS web, October 2015).

## Measurement of disability

The disability module was administered to participating inmates in the NIS-3 for one of two reasons—

- to ensure that the length of the sexual victimization survey was similar for all participating inmates
- as part of the alternative survey on mental and physical health, past drug and alcohol use, and treatment for substance abuse.

Among inmates who received the sexual victimization survey (90% of inmates surveyed), a brief disability module was administered to respondents who completed the core sexual victimization survey in 45 minutes. Based on the time criteria, 31,256 adult prisoners (84% of prisoners who would have been administered the disability module) and 47,827 adult jail inmates (92% of jail inmates who would have been administered the disability module) completed the disability module.

Estimates in this report are based on self-reported data from 10% of the inmates selected in the BJS 2011–12 National Inmate Survey. A total of 10,259 inmates age 18 or older (4,265 inmates in state and federal prisons and 5,994 inmates in jail) completed the disability module. The disability module was administered through ACASI. It asked inmates about the types of disabilities they have, including vision, hearing, ambulatory, cognitive, self-care, or independent living disabilities.

The entire ACASI questionnaire (listed as the National Inmate Survey-3) is available on the BJS website.

## Nonresponse bias analysis

Bias occurs when the estimated prevalence of an outcome is different from the actual prevalence of the outcome for a given facility. One potential source of bias is nonresponse. For each survey in the NIS-3, a nonresponse bias analysis was conducted to determine whether inmates who did not receive the disability module due to the time constraints built into the survey were different from inmates who did receive the disability module. For the sexual victimization survey, the nonresponse bias analysis included, by facility type, a comparison of an inmate's response status to each of the key measures in the disability module by their sexual victimization status and the language of their interview (English or Spanish). For the alternative survey respondents, the nonresponse bias analysis included, by facility type, a comparison of an inmate's response status to each of the measures in the disability module.

Findings from the nonresponse bias analysis for respondents to the sexual victimization survey included—

- For both prisons and jails, inmates who responded in Spanish were significantly less likely to receive the disability module. Among prison respondents, 8.9% of those who did not receive the disability module responded in Spanish, compared to 3.6% of those who received the disability module after responding to the survey in Spanish ( $p < .05$ ). Among jail respondents, 18.7% of those who did not receive the disability module responded in Spanish, compared to 3.8% of those who received the disability module after responding to the survey in Spanish ( $p < .05$ ).

- For both prisons and jails, inmates who reported a sexual victimization were significantly less likely to receive the disability module. Among prison respondents, 25.1% of inmates who reported a sexual victimization did not receive the disability module, compared to 16.9% of inmates who did not report a sexual victimization ( $p < .05$ ). Among jail respondents, 19.9% of inmates who reported a sexual victimization did not receive the disability module, compared to 9.6% of inmates who did not report a victimization ( $p < .05$ ).

Findings from the nonresponse bias analysis for respondents to the alternative survey included—

- For both prisons and jails, nearly all inmates responded to the disability module (99.5% responded in both prisons and jails).
- No statistical differences between Spanish and English respondents were found.

For the alternative survey, the results of the nonresponse bias analyses indicated that a weight adjustment could properly correct for potential bias among respondents to the full disability module. For the sexual victimization survey, the results of the nonresponse bias analyses determined that a weight adjustment may not fully compensate for the potential bias among prisoners who responded to the disability module. Therefore, even though the potential bias among jail inmates was lower, to be consistent in the analyses, only responses from the alternative survey were used.

### Weighting and nonresponse adjustments

Responses from interviewed inmates were weighted to produce national-level estimates. Each interviewed inmate was assigned an initial weight corresponding to the inverse of the probability of selection within each sampled facility. A series of adjustment factors was applied to the initial weight to minimize potential bias due to nonresponse and to provide national estimates. For the analysis of the disability module, these adjustments were one of two types:

- adjustments to account for survey nonresponse
- adjustments to account for coverage error.

Methods for adjusting for survey nonresponse and coverage error are described in detail in *Sexual Victimization in Prisons and Jails as Reported by Inmates, 2011–12* (NCJ 241399, BJS web, May 2013). Once adjusted weights were developed to account for survey nonresponse, an additional weighting adjustment was conducted to account for the potential bias induced by coverage error. Because all respondents who were randomized to the alternative survey received the disability module, no additional module-specific adjustments were necessary. For each inmate, the adjustments were based on a generalized

exponential model, developed by Folsom and Singh (2002), and applied to the sexual victimization survey respondents.<sup>4</sup>

The survey weight adjustments were benchmarked totals designed to make national-level estimates for the total number of inmates age 18 or older who were held in jail at midyear 2011 or in prison at yearend 2011. These benchmark totals represented the estimated number of inmates by sex, from BJS's 2011 Annual Survey of Jails and 2011 National Prisoner Statistics. The national estimates for state prisons were 1,154,600 adult males and 83,400 adult females; for federal prisons, 190,600 adult males and 13,200 adult females; and for jails (with an average daily population of 6 or more inmates), 628,620 adult males and 91,551 adult females.

### Standard errors and tests of significance

As with any survey, the NIS-3 estimates are subject to error arising from sampling rather than using a complete enumeration of the population of adult inmates in prison and jail. For each outcome, the estimated sampling error varies by the size of the estimate, the number of completed interviews, and the intra-cluster correlation of the outcome within facilities. A common way to express this sampling variability is to construct a 95% confidence interval around each survey estimate. Typically, multiplying the standard error by 1.96 and then adding or subtracting the result from the estimate produces the confidence interval. This interval expresses the range of values that could result among 95% of the different samples that could be drawn.

To facilitate the analysis, rather than provide the detailed estimates for every standard error, differences in the estimates of sexual victimization for subgroups in these tables have been tested and notated for significance at the 95% confidence level. In all tables providing detailed comparisons, statistically significant differences at the 95% confidence level or greater have been designated with two asterisks (\*\*).

### Calculation of body mass index

Body mass index (BMI) is a measurement of body fat based on height and weight and applies to adult men and women.<sup>5</sup> BMI can be used to determine if a person is underweight (18.5 or less), normal weight (18.5 to 24.9), overweight (25.0 to 29.9), obese (30.0 to 39.9), or morbidly obese (40 or greater). In the NIS-3, BMI was based on the following formula provided by the Centers for Disease Control and Prevention:  $BMI = \text{weight (pounds)} / (\text{height (inches)})^2 \times 703$ .

<sup>4</sup>Folsom, Jr., R.E., & Singh, A.C. (2002). The generalized exponential model for sampling weight calibration for extreme values, nonresponse, and poststratification. *Proceedings of the American Statistical Association, Survey Research Methods Section*, pp. 598–603.

<sup>5</sup>For adults age 20 and older, BMI is interpreted using standard weight status categories. For more information, see *About Adult BMI*, [http://www.cdc.gov/healthyweight/assessing/bmi/adult\\_bmi/index.html#InterpretedAdults](http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html#InterpretedAdults).



## Screening for serious psychological distress

To determine whether inmates had an indicator of a current mental health problem, the NIS-3 included the K6 screening scale for psychological distress. The K6 scale is a measure of past 30-day, nonspecific serious psychological distress (SPD) and is not a diagnostic tool. It was developed by Kessler and colleagues to estimate the prevalence of serious mental illness in noninstitutional settings and as a tool to identify possible cases of psychiatric disorder.<sup>6</sup> It has been used widely in epidemiological surveys in the United States and other countries including with prison populations. The K6 consists of six questions that ask inmates to report how often during the past 30 days they felt—

- nervous
- hopeless
- restless or fidgety
- so depressed that nothing could cheer them up
- everything was an effort
- worthless.

The response options were (1) all of the time, (2) most of the time, (3) some of the time, (4) a little of the time, and (5) none of the time. Following Kessler, the responses were recoded from 4 to 0, with 4 assigned to “all of the time” and 0 assigned to “none of the time.” A summary scale combining the responses from all six items, with a range of 0 to 24, was then produced. The summary score was then reduced to three categories: 0 to 7 indicated no mental illness, 8 to 12 indicated an anxiety-mood disorder, and 13 or higher indicated SPD. The NIS-3 may produce underestimates because some inmates with serious mental illness may have been unable to participate in the NIS-3 due to not fully understanding the informed-consent procedures or the survey questions.

## Measurements in the general population

General population estimates in this report come from one of two sources:

- the American Community Survey (ACS), 2012
- the National Survey on Drug Use and Health (NSDUH), 2009–12.

The ACS contains disability information on persons age 18 years or older living in the United States. Persons living in institutionalized and noninstitutionalized group quarters were excluded so that the estimates best represented the

<sup>6</sup>Kessler, R.C., Barker, P.R., Colpe, L.J., Epstein, J.F., Gfroerer, J.C., Hiripi, E., Howes, M.J., ... Zaslavsky, A.M. (2003). Screening for serious mental illness in the general population. *Archives of General Psychiatry* 60(2), 184–189. Kessler, R. C., Green, J. G., Gruber, M. J., Sampson, N. A., Bromet, E., Cuitan, M., . . . Zaslavsky, A. M. (2010). Screening for serious mental illness in the general population with the K6 screening scale: results from the WHO World Mental Health (WMH) survey initiative. *International Journal of Methods in Psychiatric Research*, 19(Supp. 1), 4–22.

general population. The survey year 2012 of the ACS was used in this analysis. Statistical tests comparing the disability rates measured in the NIS-3 and the ACS are presented in tables 1 and 2. The ACS asks the following disability questions:

**Hearing**—Is this person deaf or does he/she have serious difficulty hearing?

**Vision**—Is this person blind or does he/she have serious difficulty seeing, even when wearing glasses?

**Cognitive**—Because of a physical, mental, or emotional problem, does this person have difficulty remembering, concentrating, or making decisions?

**Ambulatory**—Does this person have serious difficulty walking or climbing stairs?

**Self-care**—Does this person have difficulty bathing or dressing?

**Independent living**—Because of a physical, mental, or emotional problem, does this person have difficulty doing errands alone such as visiting a doctor’s office or shopping?

The NSDUH contains information on persons in the general population with past 30-day SPD. To be most comparable to the NIS-3 while ensuring reasonable precision, the survey years 2009 through 2012 of NSDUH were used in this analysis. The prevalence of those with past 30-day SPD in the general population standardized to the prison and the jail populations in the NIS-3—based on sex, age, race, and Hispanic origin—is presented in appendix table 8.

Because the demographic makeup of the general population is different than that of the inmate population (e.g., the general population is older, more white, and more female), general population rates were standardized to the inmate population (i.e., the prison population for table 1, the jail population for table 2, and for both populations for appendix table 8) to assess the differences between comparable populations. Standardization calibrates the weights of one of the populations to the distribution of the other based on a set of specified characteristics.

Standardized estimates were computed in SUDAAN using its standardization options in PROC DESCRIPT. For this analysis, the general population was standardized to inmate population based on sex, age, race, and Hispanic origin. The standardized general population estimates for disabilities can be interpreted as the estimate of disabilities among the general population, if the general population had the same sex, age, race, and Hispanic origin distribution as the prison and jail populations.

## APPENDIX TABLE 1

**Estimated percentages and standard errors for figure 1: Prevalence of disabilities among state and federal prisoners and jail inmates, by sex 2011–12**

Any disability	State and federal prisoners		Jail inmates	
	Percent	Standard error	Percent	Standard error
All inmates	31.6%	1.4%	39.9%	1.1%
Male*	31.0	1.5	38.5	1.2
Female	39.5**	3.0	49.5**	2.9

\*Comparison group.

\*\*Difference with comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## APPENDIX TABLE 2

**Prevalence of disabilities among the general population, by demographic characteristics, 2011–12**

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
<b>Total</b>	14.9%	4.3%	2.7%	8.6%	5.3%	3.2%	6.0%
<b>Sex</b>							
Male	14.5%	5.2%	2.5%	7.2%	5.2%	2.8%	4.9%
Female	15.4	3.5	2.8	9.8	5.4	3.7	7.0
<b>Age</b>							
18–24	5.7%	0.7%	1.0%	1.0%	3.8%	0.8%	2.1%
25–34	5.8	0.9	1.0	1.7	3.4	0.9	2.2
35–49	8.7	1.6	1.5	4.2	4.0	1.6	3.2
50 or older	25.0	8.4	4.5	16.1	7.4	5.9	10.3
<b>Race/Hispanic origin</b>							
White <sup>a</sup>	15.8%	5.2%	2.5%	9.0%	5.4%	3.3%	6.2%
Black/African American <sup>a</sup>	17.6	2.6	3.7	11.0	7.0	4.2	7.5
Hispanic/Latino	11.1	2.7	2.7	6.0	4.3	2.5	4.3
Two or more races <sup>a</sup>	17.7	4.1	3.3	9.7	8.1	3.7	6.9
Other <sup>a,b</sup>	9.5	2.7	1.9	5.2	3.6	2.2	4.4

Note: Includes those ages 18 years and older not living in institutionalized and noninstitutionalized group quarters. See appendix table 3 for standard errors.

<sup>a</sup>Excludes persons of Hispanic or Latino origin.

<sup>b</sup>Includes American Indian and Alaska Natives and Asian, Native Hawaiian, and other Pacific Islanders.

Source: Bureau of Justice Statistics, based on data from the U.S. Census Bureau, American Community Survey, 2012.

## APPENDIX TABLE 3

**Standard errors for appendix table 2: Prevalence of disabilities among the general population, by demographic characteristics, 2011–12**

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
<b>Total</b>	0.03%	0.02%	0.02%	0.02%	0.02%	0.01%	0.02%
<b>Sex</b>							
Male	0.04%	0.02%	0.02%	0.03%	0.02%	0.02%	0.03%
Female	0.03	0.02	0.02	0.03	0.03	0.02	0.02
<b>Age</b>							
18–24	0.05%	0.02%	0.03%	0.02%	0.05%	0.02%	0.03%
25–34	0.05	0.03	0.02	0.03	0.04	0.02	0.03
35–49	0.05	0.02	0.02	0.04	0.03	0.02	0.03
50 or older	0.05	0.04	0.03	0.05	0.03	0.03	0.04
<b>Race/Hispanic origin</b>							
White	0.04%	0.02%	0.02%	0.03%	0.02%	0.02%	0.03%
Black/African American	0.10	0.04	0.04	0.06	0.05	0.04	0.07
Hispanic/Latino	0.08	0.04	0.04	0.05	0.05	0.03	0.04
Two or more races	0.24	0.13	0.14	0.19	0.18	0.12	0.14
Other	0.09	0.05	0.05	0.07	0.06	0.05	0.06

Source: Bureau of Justice Statistics, based on data from the U.S. Census Bureau, American Community Survey, 2012.

#### APPENDIX TABLE 4

##### State and federal prisoners and jail inmates, by demographic characteristics, 2011–12

Demographic characteristic	State and federal prisoners			Jail inmates		
	Number	Percent	Standard error	Number	Percent	Standard error
All inmates	1,441,800	~	~	720,200	~	~
<b>Sex</b>						
Male	1,345,200	93.3%	0.8%	628,600	87.3%	0.9%
Female	96,600	6.7	0.8	91,600	12.7	0.9
<b>Age</b>						
18–24	166,200	11.5%	0.9%	188,200	26.1%	1.0%
25–34	471,700	32.7	1.4	255,100	35.4	1.1
35–49	553,900	38.4	1.3	211,900	29.4	1.1
50 or older	250,100	17.3	1.0	65,000	9.0	0.6
<b>Race/Hispanic origin</b>						
White <sup>a</sup>	425,800	29.8%	1.5%	261,800	36.7%	1.6%
Black/African American <sup>a</sup>	489,800	34.3	2.2	222,400	31.2	1.8
Hispanic/Latino	356,500	25.0	2.7	146,200	20.5	1.6
Two or more races <sup>a</sup>	131,400	9.2	0.9	66,300	9.3	0.6
Other <sup>a,b</sup>	25,100	1.8	0.3	16,400	2.3	0.3

~Not applicable.

<sup>a</sup>Excludes persons of Hispanic or Latino origin.

<sup>b</sup>Includes American Indian and Alaska Natives and Asian, Native Hawaiian, and other Pacific Islanders.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

#### APPENDIX TABLE 5

##### Prevalence of disabilities among state and federal prisoners, by demographic characteristics, 2011–12

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
All inmates	1.4%	0.6%	0.7%	0.8%	1.1%	0.3%	0.7%
<b>Sex</b>							
Male	1.5%	0.6%	0.7%	0.8%	1.2%	0.3%	0.7%
Female	3.0	1.5	1.2	1.4	3.1	0.8	1.9
<b>Age</b>							
18–24	2.6%	0.7%	0.8%	0.6%	2.3%	0.5%	1.1%
25–34	2.3	0.6	0.8	0.7	2.0	0.3	0.9
35–49	1.7	1.1	0.7	1.0	1.3	0.5	1.0
50 or older	3.0	1.4	2.2	2.5	2.1	0.8	1.6
<b>Race/Hispanic origin</b>							
White <sup>a</sup>	2.4%	1.5%	1.0%	1.7%	1.6%	0.5%	1.2%
Black/African American <sup>a</sup>	2.2	0.6	1.1	1.0	1.9	0.4	0.8
Hispanic/Latino	3.0	1.3	1.5	1.6	2.1	0.7	1.0
Two or more races <sup>a</sup>	3.4	1.9	1.8	2.5	3.0	0.7	1.9
Other <sup>a,b</sup>	6.3	3.5	2.6	3.4	5.8	1.5	4.8

Note: See appendix table 6 for standard errors.

<sup>a</sup>Excludes persons of Hispanic or Latino origin.

<sup>b</sup>Includes American Indian and Alaska Natives and Asian, Native Hawaiian, and other Pacific Islanders.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## APPENDIX TABLE 6

Standard errors for table 5: Prevalence of disabilities among jail inmates, by demographic characteristics, 2011–12

Demographic characteristic	Any	Hearing	Vision	Ambulatory	Cognitive	Self-care	Independent living
All inmates	1.1%	0.5%	0.6%	0.6%	0.9%	0.3%	0.6%
<b>Sex</b>							
Male	1.2%	0.5%	0.6%	0.6%	1.0%	0.4%	0.7%
Female	2.9	1.5	0.9	1.8	2.8	1.2	1.6
<b>Age</b>							
18–24	1.8%	0.7%	0.5%	0.4%	1.7%	0.3%	0.9%
25–34	1.6	0.6	1.1	0.7	1.7	0.3	1.0
35–49	2.3	1.0	0.9	1.3	1.8	0.7	1.1
50 or older	3.6	2.9	2.8	3.6	3.4	2.6	2.4
<b>Race/Hispanic origin</b>							
White	2.2%	0.8%	0.7%	1.0%	1.8%	0.5%	0.9%
Black/African American	1.3	0.7	0.7	1.1	1.3	0.5	1.0
Hispanic/Latino	2.5	1.2	1.8	1.2	2.1	1.0	1.3
Two or more races	3.7	2.3	3.5	1.7	3.9	1.0	2.5
Other	5.8	3.6	4.1	4.3	5.6	1.2	5.0

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## APPENDIX TABLE 7

Estimated percentages and standard errors for figure 2: Prevalence of past 30-day serious psychological distress among state and federal prisoners and jail inmates, by type disability, 2011–12

Past 30-day serious psychological distress	State and federal prisoners			Jail inmates		
	With a cognitive disability	With a disability other than a cognitive disability	Without a disability*	With a cognitive disability	With a disability other than a cognitive disability	Without a disability*
Percent	32.9%**	11.4%**	6.3%	47.2%**	24.4%**	17.4%
Standard error	2.2	1.8	1.2	1.8	2.6	1.2

\*Comparison group.

\*\*Difference with the comparison group is significant at the 95% confidence level.

Source: Bureau of Justice Statistics, National Inmate Survey, 2011–12.

## APPENDIX TABLE 8

Prevalence of those in the general population with past 30-day serious psychological distress, standardized to the prison and the jail population, 2009–12

	General population standardized to prison population <sup>a</sup>		General population standardized to jail population <sup>b</sup>	
	Percent	Standard error	Percent	Standard error
Past 30-day serious psychological distress (SPD) <sup>c</sup>	4.5%	0.1%	5.1%	0.1%

<sup>a</sup>Data were standardized to prisoners in the National Inmate Survey, 2011–12, based on sex, age, race, and Hispanic origin.

<sup>b</sup>Data were standardized to jail inmates in the National Inmate Survey, 2011–12, based on sex, age, race, and Hispanic origin.

<sup>c</sup>As measured by the K6 Psychological Distress Scale with a score of 13 or higher. See *Methodology*.

Source: Bureau of Justice Statistics, based on data from the Substance Abuse and Mental Health Services Administration, National Survey of Drug Use and Health, 2009–12.



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