



# Bureau of Justice Statistics Special Report

January 2001, NCJ 181644

## Medical Problems of Inmates, 1997

By Laura M. Maruschak  
and Allen J. Beck, Ph.D.  
BJS Statisticians

In 1997 an estimated 347,000 State and Federal prison inmates reported having a physical impairment or mental condition. Thirty-one percent of State inmates and 23% of Federal inmates reported having a learning or speech disability, a hearing or vision problem, or a mental or physical condition.

Based on data from personal interviews, an estimated 318,000 State and Federal inmates reported being injured since admission. Ten percent of State inmates and 3% of Federal inmates reported being injured in a fight. About 1 in 5 State and Federal inmates said they had been injured in an accident.

Nearly 1 in 6 State inmates reported a medical problem other than a cold, an injury, or a problem that had required surgery since admission. Specific conditions reported by State inmates included heart (1.1%), circulatory problems other than heart (2.4%), respiratory problems (1.4%), kidney/liver problems (0.9%), and diabetes (0.9%). Many of these conditions may have existed before the inmates' admission to prison.

The findings in this report are based on the 1997 Survey of Inmates in State and Federal Correctional Facilities. Inmates were asked a series of questions related to physical impairments and mental conditions that they had, as well as medical problems that they had after admission to prison. (See questions, pages 2, 4, and 7.)

### Highlights

#### Nearly a third of State inmates and a quarter of Federal inmates reported having some physical impairment or mental condition

	Percent of inmates	
	State	Federal
Any condition	31.0%	23.4%
Learning	9.9	5.1
Speech	3.7	2.2
Hearing	5.7	5.6
Vision	8.3	7.6
Mental	10.0	4.8
Physical	11.9	11.1

- 12% of State inmates and nearly 6% of Federal inmates reported having a learning or speech disability.

- Nearly 12% of State inmates and 11% of Federal inmates reported a hearing or vision problem.

#### More than 1 in 4 State and Federal inmates had been injured after admission to prison

Reported problem since admission	Percent of inmates	
	State	Federal
Cold/virus/flu	19.0%	21.9%
Injured	28.2	26.2
Medical problem (exclude injury)	21.4	21.7
Required surgery	7.5	9.6
Other	16.7	15.9

- 21% of State inmates and 22% of Federal inmates said they had a medical problem (excluding injury) after admission; 7% and 10%, respectively, said they had a medical problem that required surgery.

#### Injuries and other medical problems increase with time in prison

Time since admission	Percent of State inmates	
	Injured	Medical problem (exclude injury)
Less than 12 mo	13.2%	15.8%
12-23 mo	19.8	19.1
24-47 mo	26.7	20.4
48-71 mo	36.8	20.3
72 mo or more	45.9	30.4

- Nearly half of State inmates who had served 6 or more years said they had been injured after admission. Fewer than 20% of those in prison less than 2 years reported an injury.

#### Medical problems and other conditions more common among older inmates

	Percent of State inmates	
	Medical problems (exclude injury)	Physical impairment or mental condition
Gender		
Male	21.0 %	30.7 %
Female	27.2	34.4
Age		
24 or younger	12.1 %	23.8 %
25-34	17.2	26.8
35-44	25.2	34.0
45 or older	39.8	47.6

- 40% of State inmates and 48% of Federal inmates age 45 or older said they had had a medical problem since admission to prison. This problem may have reflected medical conditions existing before admission.

- About a quarter of female inmates and a fifth of male inmates reported a medical problem since admission.

## State and Federal inmates asked to report on physical impairments, injuries, and other medical problems

During hour-long personal interviews inmates were asked a series of questions related to their physical and mental health. (See box below.) As part of an omnibus survey conducted every 5 to 6 years, these questions provide an opportunity to estimate the prevalence of a variety of diseases, illnesses, chronic problems, and other health-related conditions of inmates.

The accuracy of the estimates depends on the ability and willingness of inmates to report such problems. Inmate self-reported data may underestimate the prevalence of some medical conditions, especially those problems that require more sophisticated diagnosis and those that are more sensitive in nature.

For many conditions, inmate self-reports are the only source of information. Most State prison systems lack comprehensive and accessible data on the health status of their inmates. A 1998 inventory of State and Federal correctional information systems found

**Table 1. Estimated number and percent of State and Federal inmates with a physical impairment or mental condition, 1997**

Physical impairment or mental condition	State inmates		Federal inmates	
	Number	Percent	Number	Percent
Any	326,256	31.0%	20,734	23.4%
Learning	103,789	9.9	4,477	5.1
Speech	39,166	3.7	1,956	2.2
Hearing	60,054	5.7	4,921	5.6
Vision	87,242	8.3	6,688	7.6
Mental	105,536	10.0	4,256	4.8
Physical	125,257	11.9	9,839	11.1
Condition that limits ability to work	221,198	21.0%	15,821	17.9%

that 20 States had electronic information systems that could identify offenders with physical disabilities at time of admission, 22 had systems that could identify inmates with mental or emotional problems, and 22 could identify inmates with specialized medical conditions. Eighteen States had this information electronically on current medical conditions for more than 75% of their inmates. (See *State and Federal Corrections Information Systems*, BJS report, NCJ 170016.)

In general, medical records are stored in paper form, not electronically. In the 1998 inventory, 10 States reported they did not collect data on the current medical condition of their inmates,

18 had the data only in paper form, and 5 had electronic data on less than 75% of their inmates. Fewer than a third of State corrections departments maintain electronic records on the medical treatment of inmates.

In the absence of accessible data on the medical problems of inmates, some researchers have estimated the prevalence rates of targeted medical conditions from surveys of the health status of the civilian non-institutional populations. For example, a study prepared for The National Commission on Correctional Health Care, estimated the prevalence rates of asthma, diabetes, hypertension, and heart disease in State prisons by applying observed

## Key survey items on physical impairments and mental conditions

Items in the 1997 Survey of inmates in State and Federal Correctional Facilities include:

Do you have ...

A physical, mental, or other health condition which limits the kind or amount of work you can do?

1 ☐ Yes 2 ☐ No

Difficulty seeing ordinary newsprint, even when wearing glasses?

1 ☐ Yes 2 ☐ No

Difficulty hearing a normal conversation, even when wearing a hearing aid?

1 ☐ Yes 2 ☐ No

A learning disability, such as dyslexia or attention deficit disorder?

1 ☐ Yes 2 ☐ No

A speech disability, such as a lisp or stutter?

1 ☐ Yes 2 ☐ No

A physical disability?

1 ☐ Yes 2 ☐ No

A mental or emotional condition?

1 ☐ Yes 2 ☐ No

These questions were adapted from the National Adult Literacy Survey (NALS), conducted by the National Center for Education Statistics in 1992. (See *Methodology*.) The NALS survey provided prevalence estimates on both the general population and State and Federal prison populations. Responses of inmates in the 1997 Survey of Inmates in State and Federal Correctional Facilities were similar to those in the NALS survey.

Physical impairment or mental condition	Percent reporting condition		
	1992 NCES Adult Literacy Survey General population	1997 BJS survey Prison*	1997 BJS survey Prison*
Learning	3%	11%	10%
Speech	1	--	4
Hearing	7	6	6
Vision	7	7	8
Mental	2	6	10
Physical	9	9	12
Condition limits ability to work	12	14	21

-- Not reported.

\*Includes both State and Federal inmates.

rates among civilians in the lowest socioeconomic quartile and adjusting for the differing age, gender, and racial distributions of inmates. (See Hornung, Greifinger, and Gadre, "A Projection Model of the Prevalence of Selected Chronic Diseases in the Inmate Population," in *The Health Status of Soon-to-be Released Inmates*, National Institute of Justice, forthcoming). Though based on in-depth major health surveys, physical examinations, and the results of laboratory tests, such estimates are indirect.

### Nearly a third of State inmates and a quarter of Federal inmates reported a physical impairment or mental condition

In response to questions in the 1997 Survey of Inmates in State and Federal Correctional Facilities, 31% of State inmates and 23% of Federal inmates said they had a physical impairment or mental condition (table 1). About 1 in 5 State and Federal inmates reported having some condition that limited their ability to work.

Ten percent of State inmates and 5% of Federal inmates reported a learning disability, such as dyslexia or attention deficit disorder. Among State inmates 4% had a speech disability such as a lisp or stutter; among Federal inmates, 2%.

About 6% of both State and Federal inmates reported difficulty hearing a normal conversation even when wearing a hearing aid. Among both State and Federal prisoners about 8% had difficulty seeing ordinary newsprint even when wearing glasses.

Ten percent of State prisoners and 5% of Federal prisoners reported having a mental or emotional condition. More than 1 in 10 of both State and Federal inmates reported a physical condition. (For a detailed analysis of mental and emotional conditions, see *Mental Health and Treatment of Inmates and Probationers*, BJS Special Report, NCJ 174463.)

### Rates of speech and vision impairment higher among inmates than in the general population

A comparison between the prison population and the general population can be made on a selected group of physical impairments including speech disabilities, hearing impairments and vision impairments. The comparison uses data from *Current Estimates from the National Health Interview Survey, 1996*, a report by the National Center for Health Statistics.

The prevalence of speech disabilities among State inmates (3.7%) is more than 3 times higher than in the general

U.S. population (1.0%). The percentage with impaired vision among inmates (8.3%) is more than twice as high as in the overall U.S. population (3.1%). The percentage with impaired hearing is lower among inmates (5.7%) than in the U.S. population (8.3%).

Some of these differences result from differing age and gender distributions. For example, a high percentage of inmates are middle age and male. In addition, juveniles are included in the U.S. population figures, while less than 1% of State prisoners are under age 18. For comparison, the effects of these differences can be taken into account by standardizing the general population to resemble the age and gender distribution of State inmates.

Physical impairment	Percent in the general population	
	Actual	Standardized*
Speech	1.0%	1.3%
Vision	3.1	3.5
Hearing	8.3	6.6

\*Age and gender standardized to the State prison population.

Data source: *Current Estimates from the National Health Interview Survey, 1996*, the National Center for Health Statistics.

Once standardized, rates of speech and vision impairments are still higher among inmates. Overall, an estimated 1.3% of the comparable U.S. population is found to have a speech impairment and 3.5% a vision impairment. (See *Methodology* for details on the standardization procedure.)

**Table 2. Physical impairments and mental conditions of State and Federal inmates, by selected characteristics, 1997**

Characteristic	Percent of inmates who reported a physical impairment or mental condition						
	Any condition	Learning	Speech	Hearing	Vision	Physical	Mental
<b>State prisoners</b>							
Gender							
Male	30.7%	10.0%	3.7%	5.6%	8.2%	11.8%	9.6%
Female	34.4	8.7	3.3	6.5	8.8	13.5	16.1
Age							
24 or younger	23.8%	11.1%	3.3%	2.5%	5.5%	5.0%	7.8%
25-34	26.8	9.8	3.1	4.0	5.5	9.0	9.2
35-44	34.0	9.7	4.5	6.7	8.8	14.6	12.0
45 or older	47.6	8.6	4.3	13.4	19.8	25.2	11.7
<b>Federal prisoners</b>							
Gender							
Male	22.9%	5.0%	2.3%	5.5%	7.5%	10.9%	4.4%
Female	29.9	5.6	1.4	5.8	8.6	13.9	9.7
Age							
24 or younger	13.8%	5.1%	2.7%	2.3%	3.0%	2.1%	4.0%
25-34	16.9	4.6	2.0	2.7	4.5	7.3	3.9
35-44	22.1	5.5	2.1	5.3	6.5	9.9	5.3
45 or older	38.6	5.4	2.5	11.5	15.2	21.9	5.9

## Older inmates more likely to report physical impairments or a mental condition

Offenders who were age 45 or older were the most likely to report having a physical impairment or mental condition (table 2). Forty-eight percent of State inmates and 39% of Federal inmates age 45 or older said they had a physical impairment or mental condition compared to 24% of State prisoners and 14% of Federal prisoners age 24 or younger.

Among the specific physical impairments, State and Federal inmates age 45 or older were more likely than those age 44 or younger to report difficulty hearing, difficulty seeing, and physical conditions. Among State inmates age 45 or older, 13% reported difficulty hearing, 20% reported difficulty seeing, and 25% said they had a physical condition compared to 3%, 6%, and 5% of those age 24 or younger.

Among Federal inmates age 45 or older, 12% said they had difficulty hearing, 15% had difficulty seeing, and 22% reported a physical condition. Among those age 24 or younger, 2% said they had difficulty hearing, 3% had difficulty seeing, and 2% reported a physical condition.

The prevalence of physical impairments and mental conditions also varied by gender. Female inmates in both State and Federal prisons more commonly reported having a physical impairment or mental condition. Thirty-four percent of female State inmates and 30% of female Federal inmates reported having any condition compared to 31% of male State inmates and 23% of male Federal inmates.

## More than 1 in 10 State inmates reported multiple impairments

An estimated 19% of State inmates and 15% of Federal inmates reported having one condition (either a physical impairment or a mental condition). Nearly 7% of State prisoners reported

## Key survey items on injuries of inmates since admission

Since your admission have you been injured?

1 ☐ Yes 2 ☐ No

Were you injured ...

In a fight, assault, or where someone tried to harm you?

1 ☐ Yes 2 ☐ No

In an accident, for example, while working or playing sports?

1 ☐ Yes 2 ☐ No

two conditions and about 5% reported having three or more. Among Federal inmates, 5% said they had two conditions and 3% reported three or more.

Number of physical impairments or a mental condition	Percent of inmates	
	State	Federal
0	69.2 %	76.7 %
1	19.4	15.1
2	6.9	5.4
3 or more	4.5	2.8

Overall, 25% of State inmates and 21% of Federal inmates reported that they had multiple impairments or that their impairment limited the kind or amount of work they could do.

## Over a quarter of State and Federal inmates reported being injured since admission to prison

In addition to being asked if they had any physical impairments or a mental or emotional condition, State and Federal inmates were asked if they had

been injured in an accident or a fight since their admission to prison. (See the box above.)

Overall, an estimated 318,000 State and Federal inmates reported being injured since admission: 28% of State inmates and 26% of Federal inmates (table 3). About 20% of State inmates and 23% of Federal inmates said they had been injured in an accident; 10% and 3%, respectively, said they had been injured in a fight.

Among State inmates men (29%) were more likely than women (21%) to report being injured since admission. In Federal prisons about a quarter of both male (26%) and female (25%) inmates reported being injured. In both State and Federal prisons male and female inmates reported similar rates of being injured by an accident, while males in both State and Federal prisons were more likely to report being injured in a

**Table 3. Percent of State and Federal inmates who reported an injury since admission, by gender and age, 1997**

	Percent of inmates who reported an injury since admission		
	Total	In an accident	In a fight
<b>State prisoners</b>			
Total	28.2%	20.1%	10.1%
Gender			
Male	28.7%	20.3%	10.6%
Female	20.5	17.2	3.3
Age			
24 or younger	29.5%	20.1%	12.8%
25-34	30.1	21.8	10.6
35-44	27.4	19.7	9.3
45 or older	21.9	15.8	6.5
<b>Federal prisoners</b>			
Total	26.2%	22.9%	3.2%
Gender			
Male	26.3%	22.9%	3.4%
Female	24.8	22.9	0.6
Age			
24 or younger	28.7%	25.5%	4.0%
25-34	27.6	24.3	3.9
35-44	25.6	21.8	3.4
45 or older	23.9	21.2	1.6

**Table 4. Injuries reported by State and Federal inmates since admission, by time served, 1997**

Time since admission	Percent of inmates who reported an injury since admission					
	Total		Injured in an accident		Injured in a fight	
	State	Federal	State	Federal	State	Federal
Less than 12 mo	13.2%	17.0%	10.2%	15.6%	2.9%	0.8%
12-23 mo	19.8	22.0	14.8	20.1	5.3	1.8
24-47 mo	26.7	26.3	19.0	24.3	9.2	2.1
48-71 mo	36.8	30.2	26.3	25.3	13.8	5.4
72 mo or more	45.9	31.6	31.7	26.3	19.7	5.3

fight. About 11% of males in State prisons and 3% of males in Federal prisons reported being injured in a fight compared to 3% and nearly 1% of females, respectively.

Older inmates in State and Federal prisons were less likely to have been injured since their admission. Among State prisoners age 24 or younger, 30% had been injured compared to 22% of those age 45 or older. Among Federal prisoners 29% of those age 24 or younger compared to 24% of those age 45 or older reported being injured since admission. Inmates age 34 or younger in both State and Federal prisons were about twice as likely as those age 45 or older to report being injured in a fight since admission.

#### Likelihood of injury increases with time served in prison

About 46% of State inmates and about 32% of Federal inmates who had served at least 72 months at the time of interview reported an injury compared to 13% of State and 17% of Federal inmates who had served less than 12 months (table 4).

The risk of being injured due to an accident or in a fight increased with time served (figure 1). About 10% of State inmates and 16% of Federal inmates who had served less than 12 months reported being injured in an accident, compared to 32% of State inmates and 26% of Federal inmates who had served at least 72 months at the time of interview.

State inmates who had served at least 72 months at the time of interview were about 6 times as likely (20%) to report being injured in a fight as those who had served less than 12 months (3%), and about 4 times as likely as those who had served between 12 and 23 months (5%). Among Federal inmates, those who had served at least 72 months were 5 times as likely (5%) to report being injured in a fight as those who had served less than 12 months (1%).

Regardless of amount of time served, younger State inmates reported higher rates of injury than older inmates (figure 2). As the length of time served

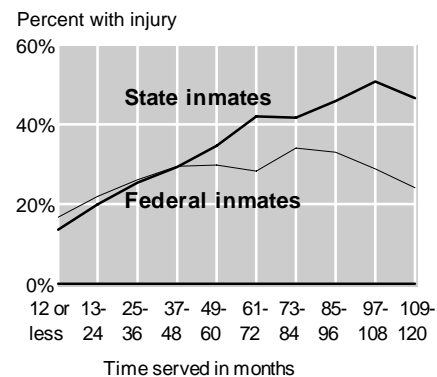
**Injuries reported by inmates since admission, by time served**

Figure 1

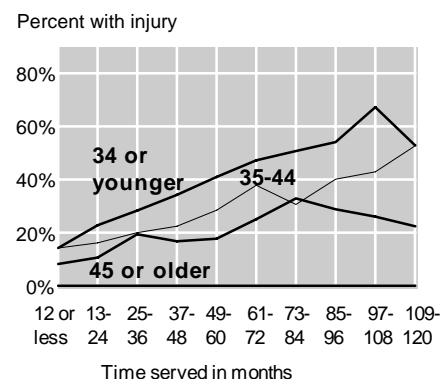
**Injuries reported by State inmates since admission, by age and time served**

Figure 2

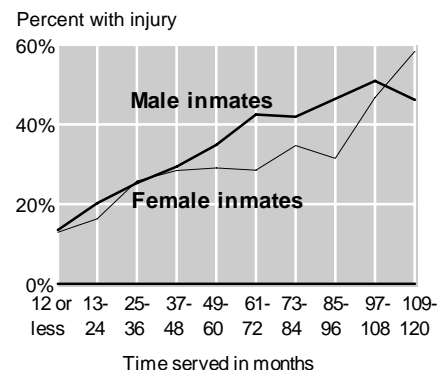
**Injuries reported by State inmates since admission, by gender and time served**

Figure 3

#### Estimates of injuries among Federal inmates based on official data

The Federal Bureau of Prison's medical records provide a basis for examining official data of injuries among Federal inmates. A medical professional's diagnosis determines whether an inmate is classified as being injured and the type of injury. In determining the number of inmates injured, only the first injury is counted for those with multiple injuries.

Among Federal prison inmates, official records show that in 1999, 3,134 were injured as the result of an

assault or a fight, and 25,975 were injured while at work, during recreation, or in some other type of accident.

Injury	Federal inmates, 1999	
	Number	Percent <sup>a</sup>
Assault/fight	3,134	2.7%
Accidental, total	25,975	22.1
Occupational	6,844	5.8
Recreational	11,141	9.5
Accidental, other <sup>b</sup>	7,859	6.7

<sup>a</sup>Percents are based on the average daily population. If they were based on the total that had spent any time in prison in 1999, the percents would be lower.

<sup>b</sup>BOP distinguishes occupational and recreational injuries from accidental injuries.

in prison increases, the prevalence of injuries among inmates age 34 or younger, inmates age 35-44, and inmates age 45 or older increases. However, while injuries increase in each age group, inmates age 45 or older consistently have the lowest rate of injuries and those age 34 or younger have the highest.

Men were more likely to have been injured than women, regardless of the length of time in prison. Only among inmates who had served longer than 9 years are the percentages reporting an injury higher among women than men (figure 3).

#### Inmates with a physical impairment or mental condition were also more likely to report an injury

State and Federal inmates with a physical impairment more commonly than those without a physical impairment reported being injured in an accident since admission. Among inmates with a physical impairment, 22% of those in State prisons and 25% of those in Federal prisons reported being injured in an accident compared to 19% and 22%, respectively, of those without a physical condition.

Inmates in State and Federal prisons who reported having a mental condition were more likely than those not report

ing a mental condition to be injured in a fight since admission. Nearly 16% of State inmates with a mental condition were injured in a fight compared to 10% without a mental condition.

Federal inmates who reported a mental condition were about twice as likely (6%) as those not reporting a mental condition (3%) to say they had been injured in a fight since admission.

Physical impairment or mental condition	Percent of inmates since admission			
	Injured in accident		Injured in a fight	
	State	Federal	State	Federal
Physical				
Yes	22.5%	24.9%	12.2%	4.1%
No	19.2	22.4	9.4	2.9
Mental				
Yes	20.7%	29.5%	15.7%	5.8%
No	20.0	22.6	9.5	3.0

Among State inmates those who reported any impairment had higher rates of injuries than other inmates, regardless of how long they had served in prison (figure 4).

#### Violent offenders more commonly reported being injured in a fight since admission

Among violent offenders about 14% of those in State prisons and 9% of those in Federal prisons reported being injured in a fight since admission, compared to less than 10% of other State offenders and less than 5% of other Federal offenders.

Current offense	Percent of inmates since admission			
	Injured in accident		Injured in a fight	
	State	Federal	State	Federal
Violent	24.7%	24.8%	14.4%	9.4%
Property	17.8	20.5	8.5	2.6
Drug	14.8	23.2	4.1	1.7
Public-order	14.3	21.2	5.9	3.8

Regardless of the time served in prison, violent State prisoners had higher rates of fight-related injuries than other inmates (figure 5). Among State inmates who had served less than 12 months, 4% of violent offenders reported having been injured in a fight, compared to 3% of nonviolent offenders. However, among State inmates who had served at least 72 months, 22% of violent inmates said they had been injured in a fight compared to 13% of nonviolent inmates.

#### About 22% of State inmates will be injured while in prison

The survey data also provide an estimate of an incoming inmate's risk of injury while in prison. Assuming that incoming inmates will experience the same chances of being injured as those in prison at time of the survey, nearly 22% of entering State inmates are expected to be injured while in prison. Overall, 7% of entering State inmates are expected to be injured in a fight while in prison.

The likelihood that an incoming inmate will be injured at some time before being released is estimated based on the increasing percentage of inmates who reported an injury while in prison. By weighting each reported percentage injured within categories of time served by the percent of inmates who are expected to serve the specified amount of time and then summing these weights, we have calculated a weighted average. This average represents the overall risk of inmates being injured at some time while in prison.

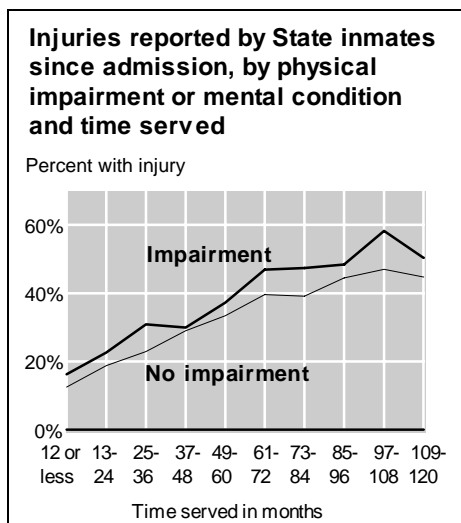


Figure 4

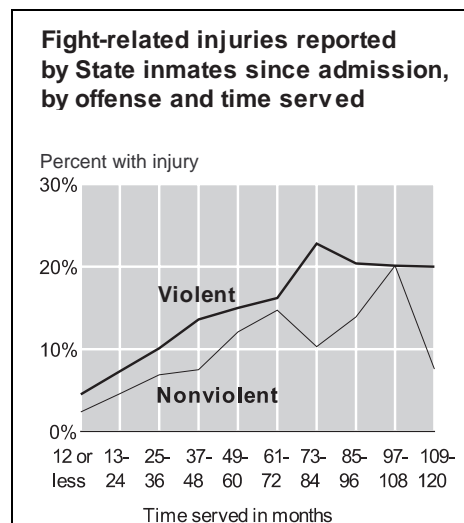


Figure 5

### Estimating the risk of injury while in State prison

	Percent of new admissions*	Percent of all inmates	
	Time expected to be served	Any injury	Injury in fight
6 mo or less	22.1%	11.0%	2.2%
7-12	27.4	16.2	3.5
13-24	21.6	19.9	5.7
25-36	8.0	25.4	8.3
37-48	4.8	29.3	10.5
49-60	3.5	34.6	13.7
61-72	2.4	42.0	15.6
73-119	2.7	45.6	18.6
120 mo or more	7.6	46.1	21.3
Weighted average		21.6%	6.8%

\*Based on data for inmates admitted in the 6 months prior to the 1997 Survey of Inmates in State Correctional Facilities.

### More than 1 in 5 inmates in State and Federal prisons reported a medical problem excluding injury since admission

Based on additional health-related questions asked of inmates, more than 20% of both State and Federal inmates said they had experienced a medical problem other than an injury since their admission to prison (table 5). This problem may have reflected medical conditions existing before admission. Among State inmates nearly 8% reported a medical problem that required surgery, and 17% reported some other medical problem. Among Federal inmates about 10% reported having a problem that required surgery, and 16% said they had some other medical problem.

The percentage of inmates who reported requiring surgery or a specific medical problem since admission increased with the time served in prison. State prisoners who had served at least 72 months were about 5 times as likely to have had a medical problem that required surgery and about 2 times as likely to have had a medical problem excluding injury than those who had served less than 12 months (table 6). Among Federal inmates who had served 72 or more months at the time of interview, 18% had required surgery, and 19% had other medical problems, compared to 4% and 14% of those who had served less than 12 months.

As with injuries, these reports may be used to calculate the likelihood of incoming inmates requiring surgery at some time before being released from prison. Assuming that incoming inmates will experience the same needs for surgery and have the same incidence of medical problems as those in prison at the time of the

survey, nearly 6% of all entering State inmates are expected to need surgery while in prison. In addition, nearly 16% of entering State inmates will experience some other medical problem, besides an injury, a cold, virus, or flu, while in prison. (See *Methodology* for calculations.)

### Key survey items on medical problems of inmates since admission

The 1997 Survey of Inmates in State and Federal Correctional Facilities also included items on medical problems other than physical impairments, mental or emotional problems, and injuries since admission to prison.

Have you had any other medical problem? (other than a physical impairment, a mental or emotional problem, or injury since admission)

1 ☐ Yes 2 ☐ No

Have you had a cold, virus, or the flu?

1 ☐ Yes 2 ☐ No

Have you had a health problem which required surgery?

1 ☐ Yes 2 ☐ No

Have you had any other medical problem? (asked 5 times)

1 ☐ Yes 2 ☐ No  
Specify \_\_\_\_\_

Excluding reports of a cold, virus, or the flu, the most commonly reported medical problems were grouped into nine categories —

#### HIV/AIDS

#### Heart problems

– Heart attack – Angina

#### Circulatory other than heart

– Blood pressure – Stroke – Anemia  
– Aneurysm – Cholesterol  
– Vascular/veins – Blood clots/transfusions

#### Cancer

#### Kidney/liver problems

– Kidney – Liver – Hepatitis

#### Respiratory disorders

– Lungs – Emphysema – Asthma

#### Neurological disorders

– Seizures – Epilepsy

#### Skeletal

– Back/spine – Joint – Arthritis  
– Muscle/ tendon – Bone spur – Fracture

#### Diabetes

**Table 5. Estimated number and percent of State and Federal inmates who reported a medical problem since admission, 1997**

	State inmates		Federal inmates	
	Number	Percent	Number	Percent
Medical problem since admission*				
Medical problem (exclude injury)	224,033	21.4%	19,026	21.7%
Required surgery	78,545	7.5	8,426	9.6
Other	175,182	16.7	13,994	15.9

\*Does not include colds, viruses, or cold-like symptoms.

**Table 6. Medical problems reported by State and Federal inmates since admission, by time served, 1997**

Time since admission	Percent of inmates who reported since admission					
	Medical problem (exclude injury)					
	Total		Required surgery		Other	
	State	Federal	State	Federal	State	Federal
Less than 12 mo	15.8%	16.6%	3.2%	4.1%	13.7%	13.9%
12-23 mo	19.1	20.5	4.7	7.2	15.8	16.8
24-47 mo	20.4	17.2	5.9	6.3	16.5	13.6
48-71 mo	20.3	24.2	7.1	10.8	16.2	16.3
72 mo or more	30.4	28.6	15.9	17.5	21.1	18.8

## Reported medical problems highest among older, female inmates

Twenty-seven percent of female State inmates and 30% of female Federal inmates reported a medical problem since admission (excluding injuries, colds, viruses, and flu) compared to 21% of male State and Federal inmates (table 7). In both State and

Federal prison, men and women were equally likely to report having a medical problem that required surgery since their admission. A higher percentage of female inmates reported other medical problems since admission. Among female inmates 23% of State prisoners and 25% of Federal prisoners reported some other medical problem compared to 16% of male

State inmates and 15% of male Federal inmates.

Older inmates in both State and Federal prisons more commonly reported medical problems requiring surgery and other medical problems since admission. Among those in State prison 45 or older, 40% reported a medical problem, compared to 12% of those 24 or younger. Among State inmates 45 or older, 16% reported having a medical problem that required surgery (compared to 3% of the younger inmates) and 32% said they had some other medical problem (compared to 10%). Among Federal inmates age 45 or older, 37% reported a medical problem, 18% said they had a medical problem that required surgery and 29% reported some other medical problem.

## About 1 in 6 State and Federal inmates reported a medical problem other than a cold, injury, or surgery

Inmates were asked to specify medical problems that they have had since admission to prison. The most commonly reported medical problems were then grouped into categories, including HIV/AIDS, heart problems, circulatory problems other than heart, cancer, kidney/liver problems, respiratory problems, neurological problems, skeletal problems, and diabetes.

Among State and Federal inmates the most commonly reported problems since admission were skeletal and circulatory other than heart. Skeletal problems were reported by 2.6% of State inmates and 3.1% of Federal inmates, and 2.4% of both State and Federal inmates said they had a circulatory problem other than heart (table 8).

Other medical problems reported by State and Federal inmates included heart problems (1.1% and 1.3%), cancer (0.2% and 0.3%), diabetes (0.9% and 1.5%), HIV/AIDS (1.7% and 0.5%), kidney/liver problems (0.9% and 1.4%), respiratory problems (1.4% and 1.2%), and neurological problems (0.7% and 0.4%).

**Table 7. Medical problems reported by State and Federal inmates since admission, by selected characteristics, 1997**

Characteristics	Percent of inmates who reported since admission		
	Medical problem (excluding injury)		
	Total	Required surgery	Other
<b>State prisoners</b>			
Gender			
Male	21.0%	7.5%	16.3%
Female	27.2	7.9	22.7
Age			
24 or younger	12.1%	3.3%	9.8%
25-34	17.2	5.8	13.2
35-44	25.2	9.0	19.4
45 or older	39.8	15.7	32.0
<b>Federal prisoners</b>			
Gender			
Male	21.0%	9.5%	15.3%
Female	30.1	11.3	24.7
Age			
24 or younger	11.8%	4.1%	9.0%
25-34	14.3	5.7	10.5
35-44	21.0	9.5	14.6
45 or older	37.4	17.7	28.5

## Comparing estimates based on self-reported data to official records

The Federal Bureau of Prison's Sensitive Medical Data, which contain information on the clinical status of every inmate, provide an independent source of information. Upon indication of a problem during a medical screening, Federal inmates are required to participate in a medical clinic and to see medical staff on a regular basis.

Counts of the current clinical status of inmates reveal significantly higher rates than determined by inmate self-reports. At midyear 2000, the Federal system had 5,639 inmates with asthma (4.4% of all Federal inmates); 4,616 inmates in a diabetic clinic (3.6%); 3,358 in a cardiac clinic (2.6%); 10,011 in a hypertension clinic (7.8%), and 6,151 in a mental health clinic (4.8%).

Though collected at different times, survey and official data suggest a range for the prevalence of specific problems. Official records based on clinical schedules provide a high estimate, since the records contain a description of the original problem but not the final diagnosis. Inmates may provide a low estimate due to a lack of understanding or unwillingness to report.

Medical problem	Percent of Federal inmates	
	Official records, midyear 2000*	1997 survey data
Asthma	4.4%	0.9%
Diabetes	3.6	1.5
Heart	2.6	1.3
High blood pressure	7.8	1.7
HIV/AIDS	1.0	0.5
Mental health	4.8	4.8

\*Based on the clinical status on July 29, 2000, except for asthma, which was counted on September 20, 2000. Inmate totals were based on average daily population in each month.



**Table 8. Specific medical problems reported by State and Federal inmates since admission, 1997**

	State inmates	Federal inmates
Total*	16.7%	15.9%
HIV/AIDS	1.7	0.5
Heart	1.1	1.3
Circulatory other than heart	2.4	2.4
Cancer	0.2	0.3
Kidney/Liver	0.9	1.4
Respiratory	1.4	1.2
Neurological	0.7	0.4
Skeletal	2.6	3.1
Diabetes	0.9	1.5

\*Includes other medical problems not reported separately.

### Medical problems more prevalent among inmates who had been homeless or unemployed

Of State inmates who reported a period of being homeless or living in a shelter in the year before their arrest, nearly half reported a physical impairment or mental condition and about a third said they had a medical problem (excluding

injury) since admission, compared to 29% and 26% of those who were not homeless (table 9).

State inmates who reported being homeless at the time of their arrest reported higher rates of medical problems and physical impairments or mental conditions than other inmates. Thirty-five percent of State inmates who were homeless when arrested reported a medical problem excluding injury since admission compared to 27% of those who were not homeless. Half of State inmates who reported being homeless at the time of the arrest (51%) reported having a physical impairment or mental condition. Among State inmates who were not homeless at time of arrest, 31% said they had a physical impairment or mental condition.

Medical problems and physical impairments or mental conditions were also more prevalent among inmates who reported being unemployed before

their arrest and among inmates who were receiving government assistance. Nearly 35% of State inmates who were unemployed in the month prior to their arrest, compared to 29% of those who were employed, reported having a physical impairment or mental condition. Inmates who were unemployed (27%) were as likely as those who were employed to report having a medical problem (excluding injury).

More than 1 in 3 of State inmates who received financial support from government agencies in the month prior to arrest reported a medical problem since admission. More than a quarter of State inmates who received income from wages reported a medical problem.

Among inmates who reported receiving income from government agencies, 52% of those in State prisons reported having a physical impairment or mental condition; among those who reported receiving wages, 29%.

**Table 9. Medical problems reported by State inmates, by selected background characteristics, 1997**

	Percent of inmates who reported —					
	Physical impairment or mental condition		Injury since admission	Other medical problem since admission		
	Any	Limits ability to work		Total	Required surgery	Other
<b>Homeless</b>						
In year before arrest						
Yes	45.1%	28.8%	27.1%	30.8%	7.8%	25.3%
No	29.2	20.0	28.1	26.1	7.4	20.6
At time of arrest						
Yes	50.5%	33.6%	18.1%	34.9%	5.3%	32.3%
No	30.6	20.7	28.2	26.5	7.5	21.0
<b>Employed in month before offense</b>						
Yes	29.3%	19.0%	28.6%	26.7%	7.8%	20.9%
No	34.5	25.3	26.7	26.6	6.9	21.7
<b>Source of income</b>						
Wages/salary	28.8%	18.5%	28.8%	26.3%	7.7%	20.4%
Government transfers	52.3	41.1	25.0	36.7	9.2	31.7
Other	30.4	19.8	32.1	25.7	7.2	20.7
<b>History of drug abuse<sup>a</sup></b>						
Yes	30.3%	20.2%	28.7%	25.8%	7.1%	20.5%
No	32.4	22.8	27.0	28.9	8.5	22.7
<b>Used drugs in month before arrest</b>						
Yes	29.7%	19.4%	29.1%	24.4%	6.7%	19.5%
No	32.6	23.0	26.9	29.8	8.6	23.4
<b>Used needle to inject drugs</b>						
Yes	35.9%	26.0%	28.2%	32.0%	9.6%	26.0%
No	29.7	19.8	28.2	25.3	7.0	19.9
<b>Alcohol dependent<sup>b</sup></b>						
Yes	37.7%	24.6%	26.6%	29.0%	8.1%	23.4%
No	28.7	19.8	28.7	25.9	7.3	20.4

<sup>a</sup>History of drug abuse defined as used once a week or more for at least a month.

<sup>b</sup>Measured by 3 or more positive CAGE responses. For description of the CAGE diagnostic measures and instrument see *Substance Abuse and Treatment, State and Federal Prisoners, 1997*.

## Medical problems more common among inmates who had used a needle to inject drugs and those who were alcohol dependent

An estimated 32% of State inmates who reported ever using a needle to inject drugs said they had a medical problem (excluding injury) since admission to prison, compared to 25% of those who did not use a needle.

Inmates who reported ever using a needle to inject drugs reported a higher prevalence of physical impairments or mental conditions. Among State prisoners, about 36% of those who used a needle and 30% of those who did not use a needle to inject drugs reported having some physical impairment or mental condition.

Overall, State inmates who reported a history of drug abuse were as likely as those who said they never used drugs to report having a medical problem since admission and to report having a physical impairment or mental condition.

Nearly 38% of State inmates who were alcohol dependent reported having a physical impairment or mental condition, compared to 29% of those who were not alcohol dependent. Based on the CAGE diagnostic inmates are considered alcohol dependent if they answer yes to three or more of the following questions: ever attempt to cut back on drinking, ever annoyed by others' criticism of your drinking, ever felt guilty about drinking, and ever drink first thing in the morning?

## Methodology

### *Survey of Inmates in State and Federal Correctional Facilities, 1997*

Data in this report are based primarily on personal interviews with State and Federal inmates. In the 1997 Surveys of Inmates in State and Federal Correctional Facilities, offenders were randomly selected from a nationally representative sample of facilities and were asked questions regarding their current offense and sentence, criminal history, personal and family background, physical impairment and mental condition, and medical problems since admission to prison.

Detailed descriptions of the methodology and sample design can be found in *Substance Abuse and Treatment of State and Federal Prisoners, 1997*, BJS Special Report, NCJ 172871.

### *Accuracy of the survey estimates*

The accuracy of the survey estimates presented in this report depends on two types of error: sampling and nonsampling. *Sampling error* is the variation that may occur by chance because a sample rather than a complete numeration of the population was conducted. *Nonsampling error* can be attributed to many sources, such as nonresponses, differences in the interpretation of questions among inmates, recall difficulties, and processing errors. In any survey the full extent of the nonsampling error is never known.

The sampling error, as measured by an estimated standard error, varies by the size of the estimate and the size of the base population. Estimates of the standard errors for selected characteristics have been calculated for 1997 Surveys of Inmates in State and Federal Correctional Facilities (see appendix tables). These standard errors may be used to construct confidence intervals around estimated percentages. For example, the 95%-confidence interval around the percentage of State prison inmates who reported having any physical impairment or mental condition is approximately 31.0% plus or minus 1.96 times 0.50% (or 30.0% to 32.0%).

### Summary of medical services provided to State prisoners

Inmates were asked questions on medical services provided by the prison facility at the time of admission and since admission. More than 8 out of 10 State inmates reported having a medical exam since being admitted to prison. Nearly 60% of State inmates reported being checked by staff to see if they were sick, injured or intoxicated at time of admission; about 82% were asked questions about their health or medical history. The medical services provided at admission to those inmates who reported later medical problems did not differ from that given to inmates with no reported medical problems.

Among State inmates who reported any medical problem since admission to prison, 91% reported visiting a health care professional because of their medical problem. Among inmates who had been injured, 87% reported seeing a health care professional, as did 96% of those who said they had a problem that required surgery.

Medical service provided	Percent of all State inmates
<b>At time of admission</b>	
Staff checked to see if you were sick, injured, or intoxicated?	59.7 %
Staff asked questions about your health or medical history?	82.3
Staff asked if you had ever thought about suicide?	81.4
<b>Since admission</b>	
Has anyone pricked your skin to test for TB?	96.2%
Have you had a blood test for any reason?	86.7
Have you had a medical exam?	85.0
Percent of State inmates who reported medical problem and saw a health care professional	
Total	91.2%
Injury	87.2
Surgery	95.9
Other medical problem	92.7

These standard errors may also be used to test the statistical significance of the difference between two sample statistics by pooling the standard errors of the two sample estimates. For example, the standard error of the difference between male and female State inmates who report having a physical impairment or mental condition would be .59% (or the square root of the sum of the squared standard errors for each group). The 95%-confidence interval around the difference would be 1.96 times .59% (or 1.2%). Since the difference of 3.7% (34.4% minus 30.7%) is greater than 1.2%, the difference would be considered statistically significant.

#### *National Adult Literacy Survey, 1992*

Questions on physical impairments and mental conditions in the BJS surveys were adapted from the National Adult Literacy Survey, conducted by the National Center for Education Statistics in 1992. Interviews were completed with nearly 1,150 inmates in 80 State and Federal prisons and a nationally representative sample of about 13,600 adults age 16 and older. Both prisons and inmates were randomly selected to be representative of prisons across the country. (For an overview of the survey design, statistical procedures, and other findings, see *Literacy Behind Prison Walls*, National Center for Education Statistics, Washington, DC, October 1994.)

**Appendix table 1. Standard errors of inmates who reported a physical impairment or mental condition or a medical problem**

	Standard error for estimated percentages	
	State	Federal
<b>Physical impairment of mental condition</b>		
Any condition	0.50%	0.89%
Learning	0.33	0.46
Speech	0.21	0.31
Hearing	0.25	0.48
Vision	0.30	0.56
Mental	0.33	0.45
Physical	0.35	0.66
<b>Medical problem since admission</b>		
Injury	0.49%	0.92%
Medical problem (exclude injury)	0.45	0.87
Required surgery	0.29	0.62
Other	0.41	0.77

#### *National Health Interview Survey, 1996*

To compare the prevalence of medical problems among inmates with the prevalence of medical problems in the general U.S. population, data were drawn from the National Health Interview Survey, 1996. (See *Current Estimates From the National Health Interview Survey, 1996*, National Center for Health Statistics, PHS 99-1528, October 1999). The survey, conducted yearly, is based on in-home interviews of the civilian noninstitutionalized U.S. population. Estimates were provided on, but were not limited to, prevalence of chronic conditions. For purposes of the survey, chronic conditions were defined as conditions that had been first noticed 3 or more months prior to the interview or belong to a group of conditions that are considered chronic regardless of onset.

Comparisons with the general U.S. population are sharply affected by differences in the demographic characteristics of State and Federal inmates, who are disproportionately male and middle-aged. To control for these differences, estimates of the percentage of the U.S. population with selected physical impairments were calculated by standardizing the general population to resemble the age and gender distribution of State inmates.

Age-standardized rates for males were calculated by multiplying the rate of males in the general population reporting a physical impairment within specified age groups by the proportion of male State prisoners in each respective age group and then summing. The same was done for females in the general population. To calculate the overall age and gender standardized rate, the age-standardized rate for males was then multiplied by the proportion of males in State prisons and added to the result of the age-standardized rate for females multiplied by the proportion of females in State prisons.

	Standardizing the rate of speech impairment among males	
	Percent in State prison population	Rate per 100 in the general population
17 or younger	0.46%	16.3
18-44	86.75	14.6
45-64	12.09	7.9
65 or older	0.70	15.2
Weighted average		13.8

*Estimating the likelihood that an inmate will be injured or will require surgery at some time while in prison*

Prevalence rates may be used to estimate the likelihood that inmates will be injured or require surgery at some time prior to their release. Such estimates assume that incoming

**Appendix table 2. Standard errors of inmates who reported a physical impairment or mental condition or a medical problem, by gender and age**

	Standard error for estimated percentages			
	Medical problems (exclude injury)		Physical impairment or mental condition	
	State	Federal	State	Federal
Gender				
Male	0.46%	0.88%	0.52%	0.91%
Female	0.25	0.50	0.27	0.50
Age				
24 or younger	0.36%	0.68%	0.46%	0.72%
25-34	0.41	0.74	0.48	0.78
35-44	0.47	0.86	0.52	0.87
45 or older	0.53	1.02	0.54	1.02

**Appendix table 3. Standard errors of inmates who reported a physical impairment or mental condition or a medical problem, by time served**

	Standard error for estimated percentages			
	Injured		Medical problems (exclude injury)	
	State	Federal	State	Federal
Less than 12 mo	0.38%	0.80%	0.41%	0.79%
12-23 mo	0.44	0.88	0.44	0.86
24-47 mo	0.49	0.94	0.45	0.80
48-71 mo	0.54	0.98	0.45	0.91
72 mo or more	0.56	0.99	0.51	0.96

inmates will experience the same chances of injury or the same need for surgery as those in prison at the time of the interview.

For example, the expected need for surgery among incoming inmates (5.8%) was estimated by weighting each reported percent requiring surgery within categories of time served by the percent of inmates who are expected to serve the specified amount of time and then summing.

	Percent of new admissions* Time expected to be served	Percent of State inmates in survey Required medical surgery	Other problem
6 mo or less	22.1%	2.5%	13.6%
7-12	27.4	4.2	14.2
13-24	21.6	4.7	15.7
25-36	8.0	6.0	16.3
37-48	4.8	6.1	17.1
49-60	3.5	6.6	15.8
61-72	2.4	8.0	16.5
73-119	2.7	12.4	20.1
120 mo or more	7.6	21.0	22.6
Weighted average		5.8%	15.6%

\*Based on data for inmates admitted in the 6 months prior to the 1997 Survey of Inmates in State Correctional Facilities.

The Bureau of Justice Statistics is the statistical agency of the U.S. Department of Justice. Jan M. Chaiken, Ph.D., is director.

BJS Special Reports address a specific topic in depth from one or more datasets that cover many topics.

Laura M. Maruschak and Allen J. Beck wrote this report. Christopher J. Mumola provided statistical assistance. Tom Hester edited the report. Tina Dorsey prepared the report for publication.

January 2001, NCJ 181644

This report and others from the Bureau of Justice Statistics are available through the Internet —

<http://www.ojp.usdoj.gov/bjs/>

The data from the 1997 Surveys of Inmates in State and Federal Correctional Facilities are available from the National Archive of Criminal Justice Data, maintained by the Institute for Social Research at the University of Michigan, 1-800-999-0960. The archive may also be accessed through the BJS Internet site.