



# VITAL STATISTICS REPORT

## Health Interview Survey—Provisional Data

VOL. 19, NO. 4  
SUPPLEMENT  
JULY 10, 1970

FROM THE  
NATIONAL CENTER FOR HEALTH STATISTICS

### Annual Estimates of Persons Injured in Moving Motor Vehicle Accidents in the United States, 1968

Annual estimates of persons injured in moving motor vehicle accidents shown in this report are based on sample data collected by the Health Interview Survey (HIS) during the calendar year 1968 using a special supplement to the HIS questionnaire.

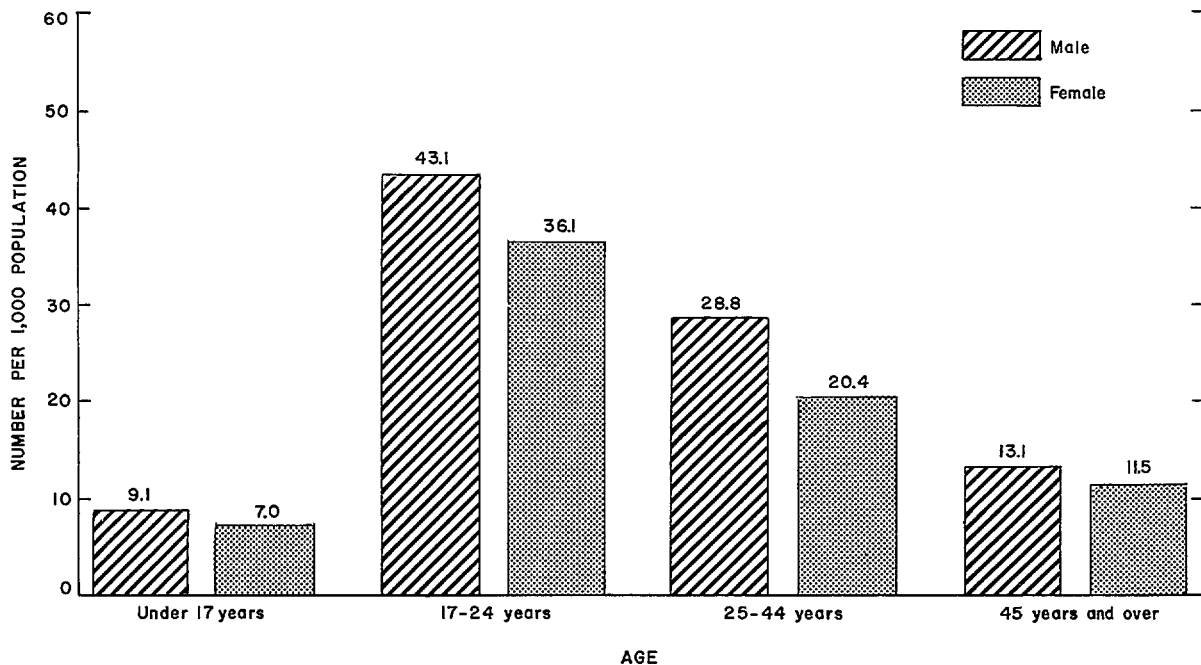
During 1968 an estimated 3.3 million persons in moving motor vehicle accidents sustained injuries that required medical attention or resulted in 1 or more days of restricted activity. The annual rate of persons injured was 17.0 per 1,000 population, 18.8 for males and 15.3 for females (table 1). Rates peaked at 39.4 per 1,000 in the age group 17-24 years with a

substantial decline at age 25 and over. This same pattern existed for both males and females. In each age group males had higher rates than females (figure 1).

Rates were highest in the Northeast Region, 19.8 per 1,000 population, and lowest in the North Central Region, 12.8 per 1,000 (table 2). The rate among males in the South equaled that in the Northeast (figure 2). In each region males had higher rates than females.

The majority of persons injured (69.4 percent) were involved in accidents of two or more vehicles (table 3). The proportion of persons injured in these

Figure 1. NUMBER OF PERSONS INJURED IN MOVING MOTOR VEHICLE ACCIDENTS PER 1,000 POPULATION, BY AGE AND SEX: 1968



## MONTHLY VITAL STATISTICS REPORT

Table 1. Annual number of persons injured in moving motor vehicle accidents and number per 1,000 population, by sex and age: United States, 1968

Age	Both sexes	Male	Female
	Number of persons injured in thousands		
All ages-----	3,322	1,770	1,551
Under 17 years-----	539	310	229
17-24 years-----	942	473	468
25-44 years-----	1,123	633	490
45-64 years-----	607	310	297
65 years and over---	*	*	*
	Persons injured per 1,000 population		
All ages-----	17.0	18.8	15.3
Under 17 years-----	8.0	9.1	7.0
17-24 years-----	39.4	43.1	36.1
25-44 years-----	24.4	28.8	20.4
45-64 years-----	15.1	16.2	14.1
65 years and over---	*	*	*

multiple vehicle accidents increased with age and was especially high in the West (79.4 percent). Single vehicle accidents were overrepresented among persons under 17 years of age. The rate of persons injured in multiple vehicle accidents was generally twice the rate for those in single vehicle accidents (table 4). This differential increased with age.

Of the persons involved in single vehicle accidents, 40.0 percent were injured when the vehicle collided with an object such as a pole, signpost, animal, or person outside the motor vehicle (table 5). Another 22.9 percent were injured when they themselves were outside the vehicle.

About 59.6 percent of the persons injured in moving motor vehicle accidents were drivers and 37.4 percent were passengers (table 6). In single vehicle accidents relatively more of the injured were drivers (65.0 percent). The distribution of drivers and passengers was similar for two types of vehicles: sedan or station wagon and hardtop or convertible. The "other" category, which includes trucks, motorcycles, and

sports cars as well as buses did show relatively more drivers than the other two categories. In accidents involving two or more vehicles, the proportion of persons injured who were drivers increased with age and was substantially higher for males (table 7). No marked variation occurred by region.

Three-fifths of the persons injured in moving motor vehicle accidents during 1968 were involved in accidents during daylight hours, three-fourths on dry roads, and over one-third in residential areas (table 8).

When comparing estimates of persons injured during calendar year 1968 with previously published estimates for July-December 1967 (*Monthly Vital Statistics Report*, Vol. 18, No. 6, Supplement, September 9, 1969), the different collection periods should be kept in mind. Since both sets of data use a 3-month recall period, the 1967 data reflects an average of persons injured from mid-May to mid-November, whereas the 1968 data covers a full calendar year. The overall rate of persons injured was similar in the two periods, 17.0 in 1968 compared with 16.0 in 1967. Since the estimates are based on relatively small numbers, many of the apparent differences between the 1967 and 1968 data fall within the range of sampling error.

Table 2. Annual number of persons injured in moving motor vehicle accidents and number per 1,000 population, by sex and geographic region: United States, 1968

Region	Both sexes	Male	Female
	Number of persons injured in thousands		
All regions---	3,322	1,770	1,551
Northeast-----	951	497	454
North Central-----	701	355	346
South-----	1,078	626	452
West-----	592	293	299
	Persons injured per 1,000 population		
All regions---	17.0	18.8	15.3
Northeast-----	19.8	21.6	18.1
North Central-----	12.8	13.4	12.2
South-----	18.0	21.6	14.6
West-----	18.3	18.8	17.8

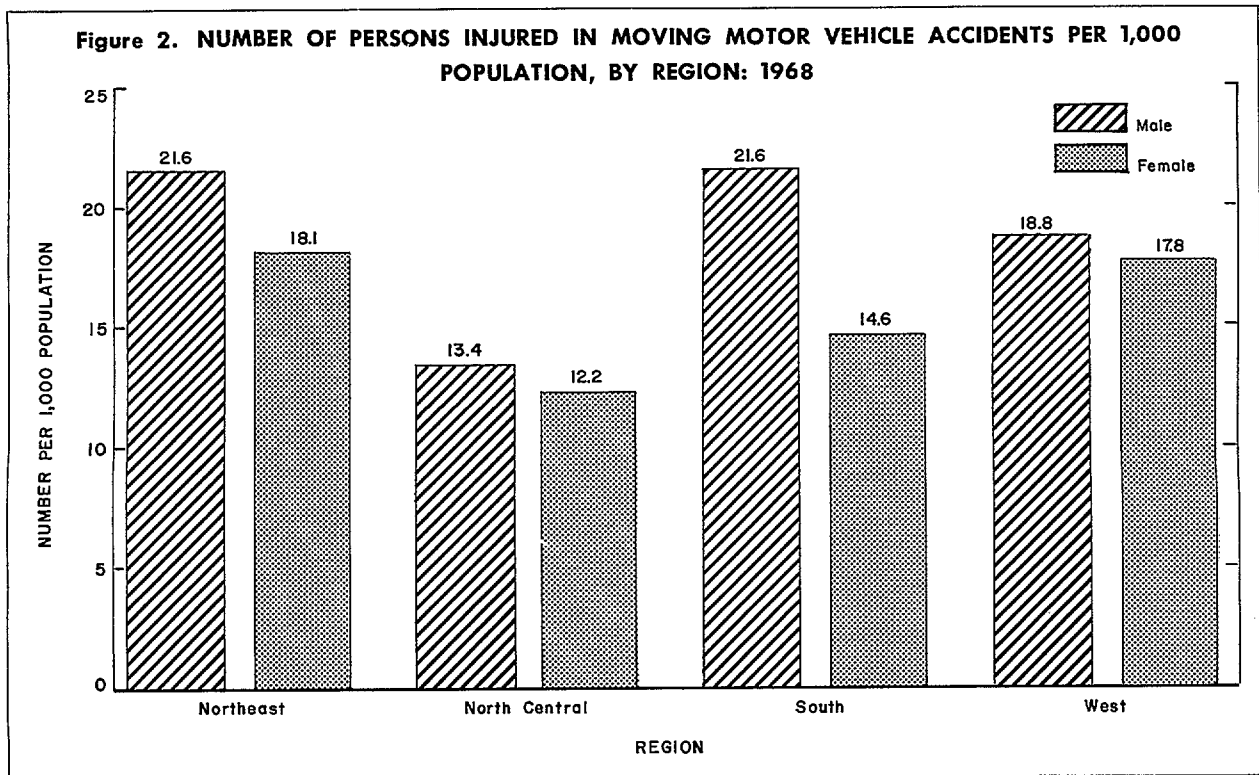


Table 3. Annual number and percent distribution of persons injured in moving motor vehicle accidents by number of vehicles involved, according to age and geographic region: United States, 1968

Age and region	Total	One vehicle	Two vehicles or more	Total	One vehicle	Two vehicles or more
	Number of persons injured in thousands			Percent distribution		
<b>AGE</b>						
All ages-----	3,322	1,016	2,306	100.0	30.6	69.4
Under 17 years-----	539	255	284	100.0	47.3	52.7
17-24 years-----	942	323	619	100.0	34.3	65.7
25-44 years-----	1,123	286	837	100.0	25.5	74.5
45 years and over-----	718	152	566	100.0	21.2	78.8
<b>REGION</b>						
Northeast-----	951	289	662	100.0	30.4	69.6
North Central-----	701	247	454	100.0	35.2	64.8
South-----	1,078	358	720	100.0	33.2	66.8
West-----	592	*	470	100.0	*	79.4

## MONTHLY VITAL STATISTICS REPORT

Table 4. Number of persons injured in moving motor vehicle accidents per 1,000 population, by number of vehicles involved, age, and geographic region: United States, 1968

Age and region	Total	One vehicle	Two vehicles or more
AGE	Persons injured per 1,000 population		
All ages-----	17.0	5.2	11.8
Under 17 years-----	8.0	3.8	4.2
17-24 years-----	39.4	13.5	25.9
25-44 years-----	24.4	6.2	18.2
45 years and over-----	12.3	2.6	9.7
REGION			
Northeast-----	19.8	6.0	13.8
North Central-----	12.8	4.5	8.3
South-----	18.0	6.0	12.0
West-----	18.3	*	14.5

Table 5. Annual number and percent distribution of persons injured in moving motor vehicle accidents involving one vehicle, by type of accident: United States, 1968

Type of accident	Persons injured	
	Number in thousands	Percent distribution
All accidents-----	1,016	100.0
Vehicle collided with object-----	406	40.0
Injured person outside vehicle-----	233	22.9
Vehicle overturned or brought to sudden stop-----	*	*
Unknown-----	252	24.8

MONTHLY VITAL STATISTICS REPORT

Table 6. Annual number and percent distribution of persons injured inside moving motor vehicles by driving status of injured persons, according to number of vehicles involved and type of vehicle: United States, 1968

Number and type of motor vehicles involved	Total <sup>1</sup>	Driver	Passenger	Total <sup>1</sup>	Driver	Passenger
	Number of persons injured in thousands			Percent distribution		
All motor vehicles----	3,089	1,841	1,155	100.0	59.6	37.4
<b>MOTOR VEHICLES INVOLVED</b>						
1 motor vehicle-----	783	509	212	100.0	65.0	27.1
2 motor vehicles or more----	2,306	1,332	943	100.0	57.8	40.9
<b>TYPE OF MOTOR VEHICLE</b>						
Sedan or station wagon-----	1,384	842	530	100.0	60.8	38.3
Hardtop or convertible-----	1,087	642	426	100.0	59.1	39.2
Other-----	478	335	*	100.0	70.1	*
Unknown-----	*	*	*	*	*	*

<sup>1</sup>Includes unknown status of injured person.

Table 7. Annual number and percent distribution of persons injured in accidents involving two or more motor vehicles by driving status of injured person, according to age, sex, and geographic region: United States, 1968

Age, sex, and region	Total <sup>1</sup>	Driver	Passenger	Total <sup>1</sup>	Driver	Passenger
	Number of persons injured in thousands			Percent distribution		
All persons injured---	2,306	1,332	943	100.0	57.8	40.9
<b>AGE</b>						
Under 17 years-----	284	*	255	100.0	*	89.8
17-24 years-----	619	369	244	100.0	59.6	39.4
25-44 years-----	837	555	269	100.0	66.3	32.1
45 years and over-----	566	379	175	100.0	67.0	30.9
<b>SEX</b>						
Male-----	1,052	786	261	100.0	74.7	24.8
Female-----	1,254	546	683	100.0	43.5	54.5
<b>REGION</b>						
Northeast-----	662	361	290	100.0	54.5	43.8
North Central-----	454	264	189	100.0	58.1	41.6
South-----	720	427	281	100.0	59.3	39.0
West-----	470	280	183	100.0	59.6	38.9

<sup>1</sup>Includes unknown status of injured person.

## MONTHLY VITAL STATISTICS REPORT

Table 8. Annual number and percent distribution of persons injured in moving motor vehicle accidents, by visibility condition at time of accident, area in which accident occurred, and road condition: United States, 1968

Visibility condition, area, and road condition	Persons injured	
	Number in thousands	Percent distribution
All persons injured-----	3,322	100.0
VISIBILITY CONDITION		
Daylight-----	1,981	59.6
Dawn or dusk-----	271	8.2
Dark-----	980	29.5
Other and unknown-----	*	*
AREA		
Residential-----	1,236	37.2
Business-----	874	26.3
Open country-----	847	25.5
Other-----	250	7.5
Unknown-----	*	*
ROAD CONDITION		
Dry-----	2,487	74.9
Wet-----	454	13.7
Other and unknown-----	381	11.5

## SYMBOLS USED IN TABLES

Data not available-----	---
Category not applicable-----	...
Quantity zero-----	-
Quantity more than 0 but less than 0.05-----	0.0
Figure does not meet standards of reliability or precision--	*

## Technical Notes

**SOURCE OF DATA.** During the year 1968 detailed information on persons injured in moving motor vehicle accidents was obtained through household interviews conducted by the Health Interview Survey. The probability sample of the civilian, noninstitutional population of the United States included approximately 42,000 households representing about 134,000 persons.

In past years estimates on the incidence of all types of injuries have been based on injuries occurring during the 2-week recall period preceding the week of interview; these frequencies have then been inflated to obtain annual estimates. Recently a methodological study was conducted by the Division of Health Interview Statistics to determine the optimum recall period for reporting injuries received from moving motor vehicle accidents. This study disclosed that the recall period for these injuries could be extended from 2 weeks to 3 months without adversely affecting the reliability of the data. When annual estimates are based on a 3-month recall period instead of a 2-week period, the sampling error is decreased and it is possible to analyze motor vehicle injury data in greater detail. The estimated number of persons injured in moving motor vehicles based on the 3-month recall period is 3,322,000 compared with 3,414,000 based on the 2-week recall period (*Current Estimates From the Health Interview Survey, United States, 1968*, PHS Publication No. 1,000, Series 10, No. 60). Figures shown in tables of this report were based on this new estimating procedure.

Since the estimates shown are based on a sample of the population rather than on the entire population,

they are subject to sampling error. The standard errors appropriate for the estimates of the number of persons with injuries resulting from moving motor vehicle accidents are shown in table I. Table II shows the standard errors appropriate for the percent of persons who were injured in moving motor vehicle accidents.

**DEFINITIONS.** A person is classified as being injured in a moving motor vehicle accident if (1) he sustained one or more injuries which resulted in either medical attention or 1 or more days of restricted activity and (2) the accident involved at least one motor vehicle which was moving at the time of the accident.

A person classified as injured inside the motor vehicle may be the driver or a passenger; in addition a person is classified as being inside if he had his arms, legs, or head protruding outside, was thrown or fell out, or was riding in the "bed" of a truck or on an "open" motor vehicle such as a motorcycle. All other persons are considered as being outside the vehicle. Besides pedestrians, this category includes persons hanging or riding on some outside part—a fender, a tailgate of a truck, or the like—persons riding on a nonmotor vehicle or a pedestrian conveyance such as a bicycle, train, wagon, or baby carriage, and persons getting in or out of a motor vehicle.

A motor vehicle is any mechanically or electrically powered device, not operated on rails, on which or by which any person or property may be transported or drawn on a land highway.

Table I. STANDARD ERRORS OF ESTIMATES OF AGGREGATES

Size of estimate	Standard error
200,000-----	42,000
300,000-----	51,000
400,000-----	60,000
500,000-----	68,000
1,000,000-----	98,000
2,000,000-----	144,000
3,000,000-----	177,000
4,000,000-----	204,000
5,000,000-----	230,000

Table II. STANDARD ERRORS, EXPRESSED IN PERCENTAGE POINTS, OF ESTIMATED PERCENTAGES

Estimated percentage	Base of percentage shown in thousands			
	500	1,000	2,000	5,000
2 or 98-----	1.6	1.4	1.2	0.5
5 or 95-----	2.7	1.9	1.6	1.0
10 or 90-----	3.4	2.6	1.9	1.3
25 or 75-----	4.9	4.1	2.9	2.0
50-----	6.7	4.7	3.4	2.3

MONTHLY VITAL STATISTICS REPORT



POSTAGE AND FEES PAID  
U.S. DEPARTMENT OF H.E.W.

U.S. DEPARTMENT OF  
HEALTH, EDUCATION, AND WELFARE  
Public Health Service  
HEALTH SERVICES AND MENTAL HEALTH ADMINISTRATION  
National Center for Health Statistics  
Rockville, Md. 20852

Official Business

FIRST CLASS MAIL