

Tennessee Traumatic Brain Injury Registry

2009 Statewide Profile



April 2011

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Introduction

Tennessee Traumatic Brain Injury Statewide Profile

2009 Provisional Data



The Tennessee Traumatic Brain Injury Statewide Profile is produced annually to provide statistics on the number and types of brain injuries by age group and gender, trauma severity, race and Hispanic status, to rank the external injury causes and to identify the three top ranked causes of traumatic brain injury by age group. The number of TBI cases reporting injury cause (E-Code) for 2000-2009 is provided.

In 2008 and 2009 falls were the number one cause of brain injury. In all other years the number one cause has been motor vehicle traffic accidents. The ranking of injury causes for the overall ten-year span, 2000-2009, is presented on pages 40-42.

In this profile, the term 'injury cause' is synonymous with 'external cause' (E-Code), the ICD-9 CM standard. The term 'case' represents a single person who had a traumatic brain injury and was added to the Tennessee Traumatic Brain Injury Registry as a 2009 discharge. 'MVTA' is an acronym for motor vehicle traffic accident.

Definition of Traumatic Brain Injury

A traumatic brain injury (TBI) is defined as an acquired injury to the brain caused by an external physical force that may result in impairment, partial or total disability or death. The outcome of traumatic brain injury is dependent on many factors including age, type of injury, severity, pre-morbid status and availability of medical treatment. A TBI can result in short or long-term problems with independent function.

Information about the Tennessee Traumatic Brain Injury Registry

The Traumatic Brain Injury Registry includes information on inpatients treated in a Tennessee hospital, with specific ICD-9 CM diagnosis codes and individuals who died from their brain injury. Inclusion in the Registry for a given year is based on the year of discharge and not the year of admission. The Registry

includes all patients treated in Tennessee regardless of residence. For 2009 discharges, 77 percent of the TBI cases were Tennessee residents. The remaining 23 percent were residents of other states, countries or the residence was unknown.

Data collection officially began for the TBI Registry with patients discharged during 1996. The TBI Registry attempts to collect the following data elements;

- ◆ Facility information:
 - Reporting hospital
- ◆ Patient information:
 - Medical record number
 - Social security number
 - Name
 - Mailing address
 - Resident county
 - Race/Hispanic origin
 - Sex/Gender
 - Age at time of injury
 - Date of birth
- ◆ Injury information:
 - Principal diagnosis at the time of admission
 - Nature of injury codes
 - External cause of injury codes and description
 - Date of injury
 - Admission date
 - State and county of injury
 - Work-related
 - Type of care
 - Length of stay
 - Discharge date
 - Discharge disposition

Some data elements maybe unknown for a patient.

Data Release Information

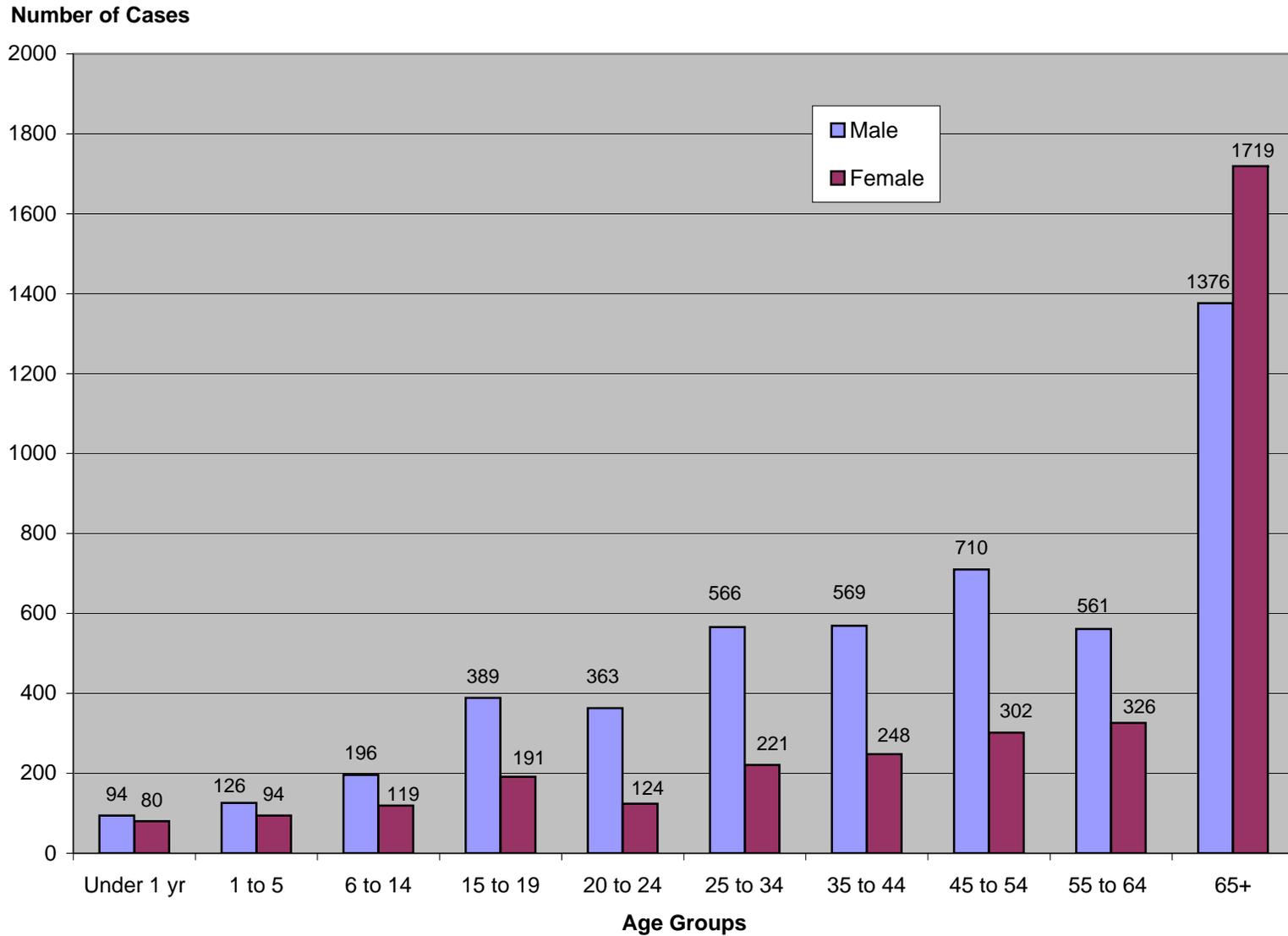
Traumatic brain injury record level data with identifiers cannot be released to the public in any form. Bi-annual newsletters containing provisional data for January through June and July through December are available from the TBI Registry as soon after data collection is as complete as possible. Traumatic Brain Injury data is matched to Hospital Discharge data for the year. Hospitals are notified of any TBI cases that appear to have been missed. After the missing TBI cases are retrieved from the hospitals and added to the TBI Registry, data is considered final.

Traumatic Brain Injuries
Treated in Tennessee by Residence, Age Group and Gender
2009

Total Cases	Number of TBI Cases	Percent of TBI Cases	Number of Males	Percent Males	Number of Females	Percent Females
Ages <1	174	2.1	94	1.1	80	1.0
1-5	220	2.6	126	1.5	94	1.1
6-14	315	3.8	196	2.3	119	1.4
15-19	580	6.9	389	4.6	191	2.3
20-24	487	5.8	363	4.3	124	1.5
25-34	787	9.4	566	6.8	221	2.6
35-44	817	9.8	569	6.8	248	3.0
45-54	1012	12.1	710	8.5	302	3.6
55-64	887	10.6	561	6.7	326	3.9
65-74	962	11.5	540	6.4	422	5.0
75-84	1266	15.1	548	6.5	718	8.6
85+	867	10.4	288	3.4	579	6.9
Totals	8374	100.0	4950	59.1	3424	40.9
Tennessee Residents	Number of TBI Cases	Percent of TBI Cases	Number of Males	Percent Males	Number of Females	Percent Females
Ages <1	136	2.1	69	1.1	67	1.0
1-5	152	2.4	91	1.4	61	1.0
6-14	224	3.5	137	2.1	87	1.4
15-19	434	6.8	302	4.7	132	2.1
20-24	331	5.2	253	3.9	78	1.2
25-34	595	9.3	430	6.7	165	2.6
35-44	582	9.1	396	6.2	186	2.9
45-54	746	11.6	505	7.9	241	3.8
55-64	670	10.4	423	6.6	247	3.8
65-74	739	11.5	412	6.4	327	5.1
75-84	1047	16.3	442	6.9	605	9.4
85+	762	11.9	239	3.7	523	8.1
Totals	6418	100.0	3699	57.6	2719	42.4
Non-TN Residents	Number of TBI Cases	Percent of TBI Cases	Number of Males	Percent Males	Number of Females	Percent Females
Ages <1	38	1.9	25	1.3	13	0.7
1-5	68	3.5	35	1.8	33	1.7
6-14	91	4.7	59	3.0	32	1.6
15-19	146	7.5	87	4.4	59	3.0
20-24	156	8.0	110	5.6	46	2.4
25-34	192	9.8	136	7.0	56	2.9
35-44	235	12.0	173	8.8	62	3.2
45-54	266	13.6	205	10.5	61	3.1
55-64	217	11.1	138	7.1	79	4.0
65-74	223	11.4	128	6.5	95	4.9
75-84	219	11.2	106	5.4	113	5.8
85+	105	5.4	49	2.5	56	2.9
Totals	1956	100.0	1251	64.0	705	36.0

Traumatic Brain Injuries

Graph I - Gender by Age Groups 2009



Traumatic Brain Injuries
Treated in Tennessee with External Cause of Injury (ECode) Reported
by Tennessee and Non-Tennessee Residents
2009

Reported Cause of Brain Injury	Total	Tennessee Residents	Non-TN Residents
Railway Accidents (E800-E807)	2	2	0
Motor Vehicle Traffic Accidents (E810-E819)*	2759	1890	869
Motor Vehicle Non-Traffic Accidents (E820-E825)*	315	183	132
Other Road Vehicle Accidents (E826-E829)*	167	114	53
Water Transport Accidents (E830-E838)	13	8	5
Air and Space Transport Accidents (E840-E845)	4	4	0
Vehicle Accidents Not Elsewhere Classified (E846-E848)*	9	5	4
Accidental Poisoning (E850-E869)	1	1	0
Surgical/Medical Procedures - Misadventures/Abnormal Reaction (E870-E879)	0	0	0
Accidental Falls (E880-E888)	3727	3110	617
Accidents Caused by Fire and Flames (E890-E899)	0	0	0
Accidents Due to Natural and Environmental Factors (E900-E909)	23	14	9

*See definitions on page 47.

Traumatic Brain Injuries
Treated in Tennessee with External Cause of Injury (ECode) Reported
by Tennessee and Non-Tennessee Residents
2009

Reported Cause of Brain Injury	Total	Tennessee Residents	Non-TN Residents
Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910-E915)	4	2	2
Other Accidents (E916-E928)*	406	317	89
Late Effects of Accidental Injury (E929)	19	14	5
Drugs Causing Adverse Effects in Therapeutic Use (E930-E949)	0	0	0
Suicide and Self-Inflicted Injury (E950-E959)	119	97	22
Homicide and Injury Purposely Inflicted by Another (E960-E969)	586	462	124
Legal Intervention (E970-E978)	4	4	0
Injury Undetermined Whether Accidentally or Purposely Inflicted (E980-E989)	47	40	7
Injury Resulting from Operations of War (E990-E999)	0	0	0
TOTALS	8205	6267	1938

*See definitions on page 47.

Traumatic Brain Injuries
Falls and Motor Vehicle Traffic Accidents by Tennessee Resident County
2009

Tennessee Resident		Falls		Motor Vehicle Traffic	
County	Total	Number	Percent	Number	Percent
Anderson	77	40	51.9	16	20.8
Bedford	53	24	45.3	17	32.1
Benton	20	9	45.0	8	40.0
Bledsoe	21	6	28.6	9	42.9
Blount	136	84	61.8	30	22.1
Bradley	104	42	40.4	37	35.6
Campbell	45	17	37.8	17	37.8
Cannon	24	9	37.5	11	45.8
Carroll	32	17	53.1	12	37.5
Carter	34	15	44.1	8	23.5
Cheatham	31	8	25.8	14	45.2
Chester	24	9	37.5	6	25.0
Claiborne	29	11	37.9	6	20.7
Clay	10	7	70.0	2	*
Cocke	39	20	51.3	13	33.3
Coffee	75	34	45.3	22	29.3
Crockett	17	8	47.1	4	*
Cumberland	58	32	55.2	18	31.0
Davidson	515	286	55.5	123	23.9
Decatur	4	2	*	2	*
DeKalb	17	9	52.9	7	41.2
Dickson	46	15	32.6	19	41.3
Dyer	64	30	46.9	18	28.1
Fayette	28	14	50.0	8	28.6
Fentress	42	17	40.5	17	40.5
Franklin	57	32	56.1	16	28.1
Gibson	84	41	48.8	26	31.0
Giles	40	24	60.0	7	17.5
Grainger	29	15	51.7	8	27.6

* Number of cases at county level are not reported if fewer than 5 cases.

Percents are of all cases including those without injury cause reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Falls and Motor Vehicle Traffic Accidents by Tennessee Resident County
2009

Tennessee Resident		Falls		Motor Vehicle Traffic	
County	Total	Number	Percent	Number	Percent
Greene	74	44	59.5	20	27.0
Grundy	25	7	28.0	13	52.0
Hamblen	74	36	48.6	22	29.7
Hamilton	380	172	45.3	119	31.3
Hancock	6	0	0.0	5	*
Hardeman	29	13	44.8	7	24.1
Hardin	40	18	45.0	11	27.5
Hawkins	80	32	40.0	34	42.5
Haywood	23	15	65.2	1	*
Henderson	34	16	47.1	11	32.4
Henry	42	19	45.2	17	40.5
Hickman	24	9	37.5	12	50.0
Houston	19	5	26.3	7	36.8
Humphreys	21	9	42.9	6	28.6
Jackson	14	7	50.0	3	*
Jefferson	63	31	49.2	19	30.2
Johnson	14	2	*	3	*
Knox	453	227	50.1	117	25.8
Lake	11	6	54.5	1	*
Lauderdale	26	10	38.5	5	19.2
Lawrence	54	24	44.4	21	38.9
Lewis	12	6	*	5	41.7
Lincoln	35	17	48.6	6	17.1
Loudon	54	26	48.1	17	31.5
Macon	16	4	*	7	43.8
Madison	112	55	49.1	34	30.4
Marion	49	20	40.8	19	38.8
Marshall	25	12	48.0	8	32.0
Maury	74	21	28.4	36	48.6

* Number of cases at county level are not reported if fewer than 5 cases.

Percents are of all cases including those without injury cause reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Falls and Motor Vehicle Traffic Accidents by Tennessee Resident County
2009

Tennessee Resident		Falls		Motor Vehicle Traffic	
County	Total	Number	Percent	Number	Percent
McMinn	74	42	56.8	16	21.6
McNairy	35	14	40.0	11	31.4
Meigs	26	8	30.8	9	34.6
Monroe	71	34	47.9	24	33.8
Montgomery	100	54	54.0	26	26.0
Moore	4	1	*	2	*
Morgan	24	11	45.8	5	20.8
Obion	37	16	43.2	13	35.1
Overton	28	15	53.6	6	21.4
Perry	8	2	*	4	*
Pickett	3	3	*	0	0.0
Polk	32	16	50.0	12	37.5
Putnam	85	39	45.9	31	36.5
Rhea	40	14	35.0	18	45.0
Roane	60	24	40.0	23	38.3
Robertson	62	30	48.4	19	30.6
Rutherford	246	128	52.0	65	26.4
Scott	26	4	*	9	34.6
Sequatchie	17	4	*	7	41.2
Sevier	113	54	47.8	30	26.5
Shelby	685	326	47.6	175	25.5
Smith	39	20	51.3	14	35.9
Stewart	12	3	*	7	58.3
Sullivan	204	96	47.1	69	33.8
Sumner	164	92	56.1	35	21.3
Tipton	60	24	40.0	27	45.0
Trousdale	5	3	*	1	*
Unicoi	16	10	62.5	2	*
Union	38	15	39.5	16	42.1

* Number of cases at county level are not reported if fewer than 5 cases.

Percents are of all cases including those without injury cause reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Falls and Motor Vehicle Traffic Accidents by Tennessee Resident County
2009

Tennessee Resident		Falls		Motor Vehicle Traffic	
County	Total	Number	Percent	Number	Percent
Van Buren	6	3	*	3	*
Warren	59	29	49.2	24	40.7
Washington	126	80	63.5	27	21.4
Wayne	12	6	50.0	2	*
Weakley	24	11	45.8	8	33.3
White	31	16	51.6	8	25.8
Williamson	119	80	67.2	21	17.6
Wilson	89	43	48.3	34	38.2
All Tennessee Residents	6418	3110	48.5	1890	29.4

* Number of cases at county level are not reported if fewer than 5 cases.

Percents are of all cases including those without injury cause reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

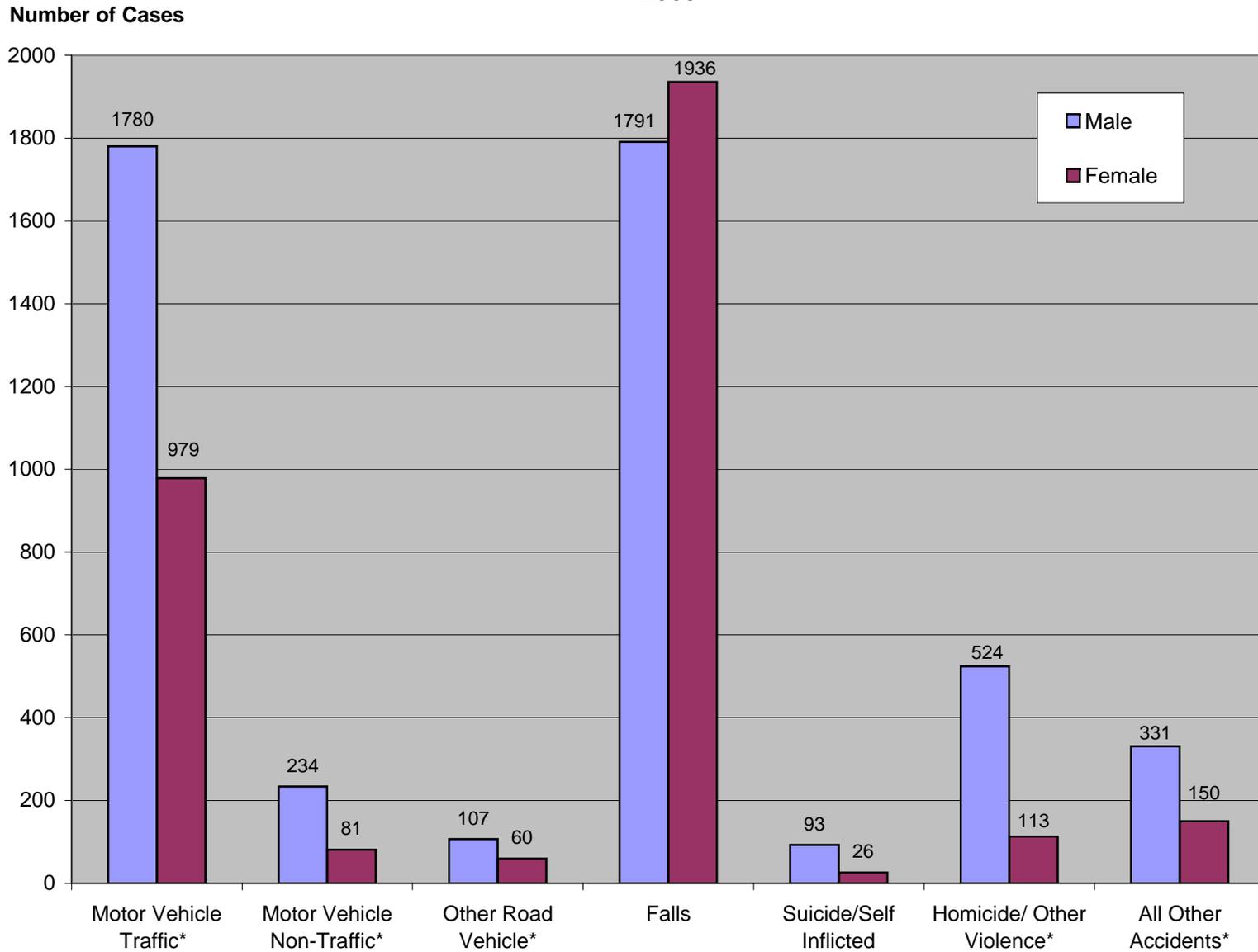
Traumatic Brain Injuries
External Cause of Injury by Gender
2009

Cause of Injury (Ecode)	Number of Cases	Percent of Cases	Number of Males	Percent of Males	Number of Females	Percent of Females
Railway Accidents (E800-E807)	2	0.0	2	0.0	0	0.0
Motor Vehicle Traffic Accidents (E810-E819)*	2759	33.6	1780	36.6	979	29.3
Motor Vehicle Non-Traffic Accidents (E820-E825)*	315	3.8	234	4.8	81	2.4
Other Road Vehicle Accidents (E826-E829)*	167	2.0	107	2.2	60	1.8
Water Transport Accidents (E830-E838)	13	0.2	8	0.2	5	0.1
Air and Space Transport Accidents (E840-E845)	4	0.0	4	0.1	0	0.0
Vehicle Accidents Not Elsewhere Classified (E846-E848)*	9	0.1	6	0.1	3	0.1
Accidental Poisoning (E850-E858, E860-E869)	1	0.0	1	0.0	0	0.0
Surgical/Medical Procedures - Misadventures or Abnormal Reaction (E870-E879)	0	0.0	0	0.0	0	0.0
Accidental Falls (E880-E888)	3727	45.4	1791	36.9	1936	57.9
Accidents Caused by Fire and Flames (E890-E899)	0	0.0	0	0.0	0	0.0
Accidents Due to Natural and Environmental Factors (E900-E909)	23	0.3	20	0.4	3	0.1
Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910-E915)	4	0.0	4	0.1	0	0.0
Other Accidents (E916-E928)*	406	4.9	273	5.6	133	4.0
Late Effects of Accidental Injury (E929)	19	0.2	13	0.3	6	0.2
Drugs Causing Adverse Effects in Therapeutic Use (E930-E949)	0	0.0	0	0.0	0	0.0
Suicide and Self-Inflicted Injury (E950-E959)	119	1.5	93	1.9	26	0.8
Legal Intervention (E970-E978)	586	7.1	485	10.0	101	3.0
Homicide and Injuries Purposely Inflicted by Another (E960-E969)	4	0.0	4	0.1	0	0.0
Injury Undetermined Whether Accidentally or Purposely Inflicted (E980-E989)	47	0.6	35	0.7	12	0.4
Injury Resulting from Operations of War (E990-E999)	0	0.0	0	0.0	0	0.0
Total	8205	100.0	4860	100.0	3345	100.0

*See definitions on page 47.

Traumatic Brain Injuries

Graph II - External Cause of Injury by Gender 2009



*See page 47.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain injuries
Rank Order by Reported External Cause of Brain Injury
2009

Rank Order	Reported External Cause of Traumatic Brain Injury (TBI)	Number of TBI Cases by Reported Cause of Injury	Percent of All TBI Cases Reporting Cause of Injury
1	Accidental Falls (E880-E888)	3727	45.4
2	Motor Vehicle Traffic Accidents (E810-E819)*	2759	33.6
3	Homicide and Injuries Purposely Inflicted by Another (E960-E969)	586	7.1
4	Other Accidents (E916-E928)*	406	4.9
5	Motor Vehicle Non-Traffic Accidents (E820-E825)*	315	3.8
6	Other Road Vehicle Accidents (E826-E829)*	167	2.0
7	Suicide and Self-Inflicted Injury (E950-E959)	119	1.5
8	Injury Undetermined Whether Accidentally or Purposely Inflicted (E980-E989)	47	0.6
9	Accidents Due to Natural and Environmental Factors (E900-E909)	23	0.3
10	Late Effects of Accidental Injury (E929)	19	0.2
11	Water Transport Accidents (E830-E838)	13	0.2
12	Vehicle Accidents Not Elsewhere Classified (E846-E848)*	9	0.1
13	Air and Space Transport Accidents (E840-E845)	4	0.0
13	Legal Intervention (E970-E978)	4	0.0
13	Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910-E915)	4	0.0
14	Railway Accidents (E800-E807)	2	0.0
15	Accidental Poisoning (E850-E858, E860-E869)	1	0.0
16	Drugs Causing Adverse Effects in Therapeutic Use (E930-E949)	0	0.0
16	Accidents Caused by Fire and Flames (E890-E899)	0	0.0
16	Surgical/Medical Procedures - Misadventures or Abnormal Reaction (E870-E879)	0	0.0
16	Injury Resulting from Operations of War (E990-E999)	0	0.0
Total 2009 TBI Cases with Cause of Injury Reported		8205	100.0

*See definitions on page 47.

Traumatic Brain Injuries
Top Three External Causes of Brain Injury by Age Groups
2009

	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
< 1 Year	1st	ACCIDENTAL FALLS (E880-E888)	96	55.5
	2nd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	36	20.8
	3rd	OTHER ACCIDENTS (E916-E928)*	19	11.0
	>>>	All other causes for this age group	22	12.7
	Total Brain Injury Cases			173
Ages 1 - 5	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	76	35.5
	2nd	ACCIDENTAL FALLS (E880-E888)	70	32.7
	3rd	OTHER ACCIDENTS (E916-E928)*	29	13.6
	>>>	All other causes for this age group	39	18.2
	Total Brain Injury Cases			214
Ages 6 - 14	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	117	37.4
	2nd	ACCIDENTAL FALLS (E880-E888)	64	20.4
	3rd	OTHER ROAD VEHICLE ACCIDENTS (E826-E829)*	51	16.3
	>>>	All other causes for this age group	81	25.9
	Total Brain Injury Cases			313

*See definitions on page 47.

Traumatic Brain Injuries
Top Three External Causes of Brain Injury by Age Groups
2009

Ages 15 - 19	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	366	63.7
	2nd	ACCIDENTAL FALLS (E880-E888)	57	9.9
	3rd	MOTOR VEHICLE NON-TRAFFIC ACCIDENTS (E820-E825)*	48	8.3
	>>>	All other causes for this age group	104	18.1
Total Brain Injury Cases			575	100.0
Ages 20 - 24	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	298	61.8
	2nd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	57	11.8
	3rd	ACCIDENTAL FALLS (E880-E888)	53	11.0
	>>>	All other causes for this age group	74	15.4
Total Brain Injury Cases			482	100.0
Ages 25 - 34	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	424	54.2
	2nd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	112	14.3
	3rd	ACCIDENTAL FALLS (E880-E888)	99	12.6
	>>>	All other causes for this age group	148	18.9
Total Brain Injury Cases			783	100.0

*See definitions on page 47.

Traumatic Brain Injuries
Top Three External Causes of Brain Injury by Age Groups
2009

Ages 35 - 44	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	399	49.3
	2nd	ACCIDENTAL FALLS (E880-E888)	165	20.4
	3rd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	113	14.0
	>>>	All other causes for this age group	133	16.4
Total Brain Injury Cases			810	100.0
Ages 45 - 54	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	378	38.3
	2nd	ACCIDENTAL FALLS (E880-E888)	325	32.9
	3rd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	107	10.8
	>>>	All other causes for this age group	178	18.0
Total Brain Injury Cases			988	100.0
Ages 55 - 64	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	ACCIDENTAL FALLS (E880-E888)	429	49.3
	2nd	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	270	31.0
	3rd	HOMICIDES AND INJURIES INFLICTED BY ANOTHER (E960-E969)	59	6.8
	>>>	All other causes for this age group	113	13.0
Total Brain Injury Cases			871	100.0

*See definitions on page 47.

Traumatic Brain Injuries
Top Three External Causes of Brain Injury by Age Groups
2009

Ages 65 - 74	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	ACCIDENTAL FALLS (E880-E888)	615	65.8
	2nd	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	222	23.7
	3rd	OTHER ACCIDENTS (E916-E928)*	35	3.7
	>>>	All other causes for this age group	63	6.7
Total Brain Injury Cases			935	100.0
Ages 75 - 84	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	ACCIDENTAL FALLS (E880-E888)	1005	82.2
	2nd	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	148	12.1
	3rd	OTHER ACCIDENTS (E916-E928)*	22	1.8
	>>>	All other causes for this age group	47	3.8
Total Brain Injury Cases			1222	100.0
Ages 85+	Rank	Top Three Causes of Traumatic Brain Injury (TBI)	Number of TBI Cases	Percent of Age Group
	1st	ACCIDENTAL FALLS (E880-E888)	749	89.3
	2nd	MOTOR VEHICLE TRAFFIC ACCIDENTS (E810-E819)*	49	5.8
	3rd	OTHER ACCIDENTS (E916-E928)*	27	3.2
	>>>	All other causes for this age group	14	1.7
Total Brain Injury Cases			839	100.0

*See definitions on page 47.

Traumatic Brain Injuries
Top Three Leading External Causes of Brain Injury by Severity Index
2009

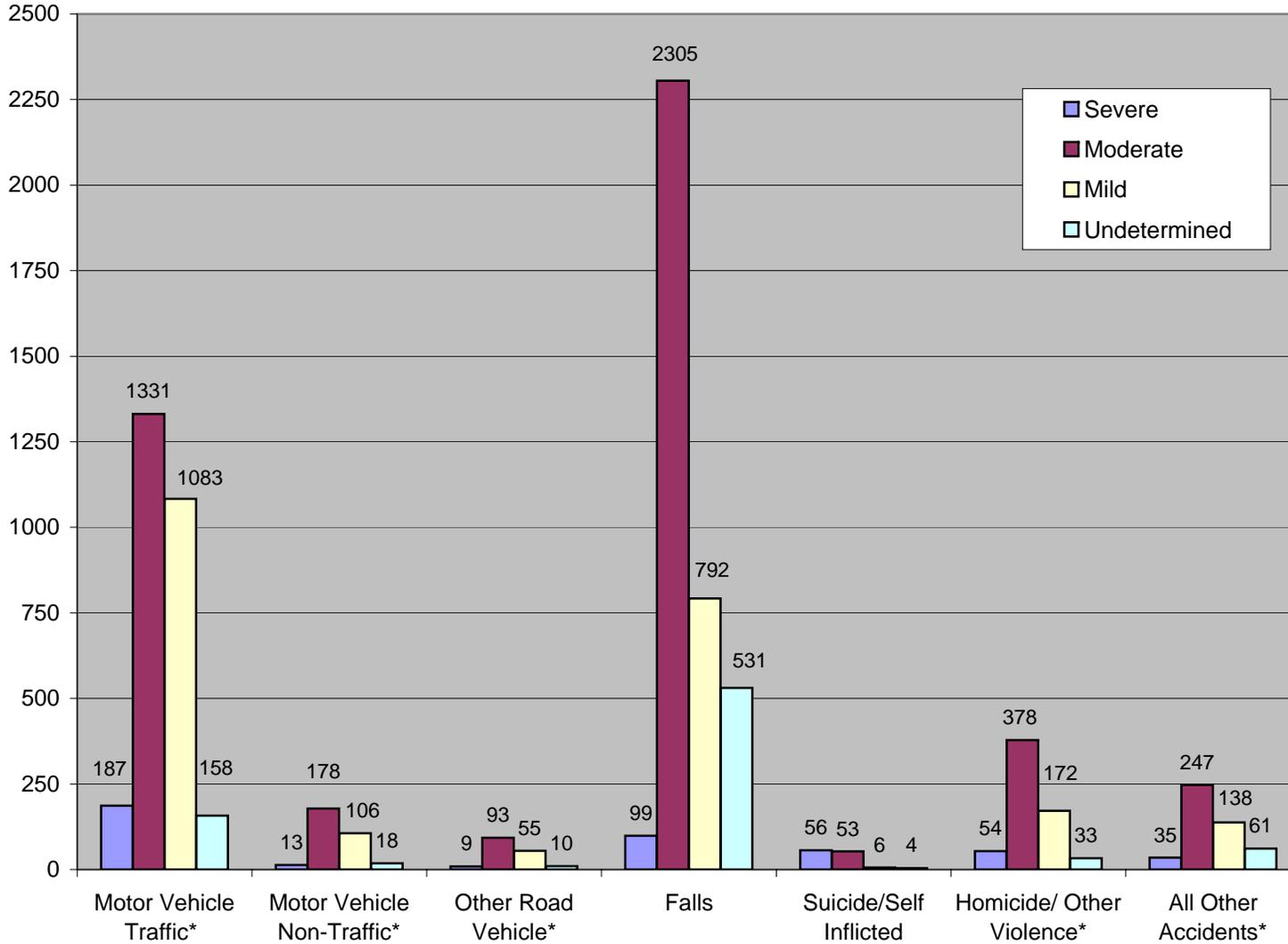
Rank	Severe Trauma	Number Severe	Percent
1st	Motor Vehicle Traffic Accidents (E810-E819)*	187	41.3
2nd	Accidental falls (E880-E888)	99	21.9
3rd	Suicides and Self-inflicted Injuries (E950-E959)	56	12.4
NA	All other injury causes with severe trauma	111	24.5
Severe Trauma with Cause of Brain Injury Reported		453	100.0
Rank	Moderate Trauma	Number Moderate	Percent
1st	Accidental falls (E880-E888)	2305	50.3
2nd	Motor Vehicle Traffic Accidents (E810-E819)*	1331	29.0
3rd	Homicides or Injuries Purposely Inflicted by Another (E960-E969)	353	7.7
NA	All other injury causes with moderate trauma	596	13.0
Moderate Trauma with Cause of Brain Injury Reported		4585	100.0
Rank	Mild Trauma	Number Mild	Percent
1st	Motor Vehicle Traffic Accidents (E810-E819)*	1083	46.0
2nd	Accidental falls (E880-E888)	792	33.7
3rd	Homicides or Injuries Purposely Inflicted by Another (E960-E969)	164	7.0
NA	All other injury causes with mild trauma	313	13.3
Mild Trauma with Cause of Brain Injury Reported		2352	100.0
Rank	Trauma Severity Undetermined	Number Undetermined	Percent
1st	Accidental falls (E880-E888)	531	65.2
2nd	Motor Vehicle Traffic Accidents (E810-E819)*	158	19.4
3rd	Other Accidents(E916-E928)*	55	6.7
NA	All other injury causes where trauma severity was undetermined	71	8.7
Trauma Severity Undetermined with Cause of Brain Injury Reported		815	100.0

*See definitions on page 47.

Traumatic Brain Injuries

Graph III - Severity Index by External Cause of Injury
2009

Number of Cases



*See page 47.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Treated in Tennessee by Age Groups, Gender, and Race/Hispanic Origin
2009

Age Group	Cases by Sex	Total		White		Black		Other Race		Unknown Race		Hispanic	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
< 1	Both	174	2.1	114	1.4	39	0.5	11	0.1	10	0.1	12	0.1
	Males	94	1.1	66	0.8	22	0.3	3	0.0	3	0.0	2	0.0
	Females	80	1.0	48	0.6	17	0.2	8	0.1	7	0.1	10	0.1
1-5	Both	220	2.6	155	1.9	42	0.5	15	0.2	8	0.1	14	0.2
	Males	126	1.5	89	1.1	25	0.3	9	0.1	3	0.0	8	0.1
	Females	94	1.1	66	0.8	17	0.2	6	0.1	5	0.1	6	0.1
6-14	Both	315	3.8	244	2.9	42	0.5	16	0.2	13	0.2	18	0.2
	Males	196	2.3	155	1.9	25	0.3	10	0.1	6	0.1	11	0.1
	Females	119	1.4	89	1.1	17	0.2	6	0.1	7	0.1	7	0.1
15-19	Both	580	6.9	466	5.6	75	0.9	17	0.2	22	0.3	22	0.3
	Males	389	4.6	311	3.7	46	0.5	15	0.2	17	0.2	20	0.2
	Females	191	2.3	155	1.9	29	0.3	2	0.0	5	0.1	2	0.0
20-24	Both	487	5.8	372	4.4	65	0.8	26	0.3	24	0.3	28	0.3
	Males	363	4.3	271	3.2	53	0.6	21	0.3	18	0.2	24	0.3
	Females	124	1.5	101	1.2	12	0.1	5	0.1	6	0.1	4	0.0
25-34	Both	787	9.4	605	7.2	107	1.3	41	0.5	34	0.4	51	0.6
	Males	566	6.8	420	5.0	82	1.0	34	0.4	30	0.4	46	0.5
	Females	221	2.6	185	2.2	25	0.3	7	0.1	4	0.0	5	0.1

Hispanic is an ethnic origin not a race. Hispanics by race is not available.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Treated in Tennessee by Age Groups, Gender, and Race/Hispanic Origin
2009

Age Group	Cases by Sex	Total		White		Black		Other Race		Race Unknown		Hispanic	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
35-44	Both	817	9.8	661	7.9	91	1.1	22	0.3	42	0.5	28	0.3
	Males	569	6.8	454	5.4	65	0.8	17	0.2	32	0.4	26	0.3
	Females	248	3.0	207	2.5	26	0.3	5	0.1	10	0.1	2	0.0
45-54	Both	1012	12.1	819	9.8	140	1.7	14	0.2	39	0.5	11	0.1
	Males	710	8.5	563	6.7	113	1.3	7	0.1	27	0.3	6	0.1
	Females	302	3.6	256	3.1	27	0.3	7	0.1	12	0.1	5	0.1
55-64	Both	887	10.6	744	8.9	109	1.3	7	0.1	26	0.3	5	0.1
	Males	561	6.7	468	5.6	68	0.8	4	0.0	20	0.2	2	0.0
	Females	326	3.9	276	3.3	41	0.5	3	0.0	6	0.1	3	0.0
65-74	Both	962	11.5	853	10.2	77	0.9	8	0.1	24	0.3	4	0.0
	Males	540	6.4	473	5.6	43	0.5	6	0.1	18	0.2	3	0.0
	Females	422	5.0	380	4.5	34	0.4	2	0.0	6	0.1	1	0.0
75-84	Both	1266	15.1	1160	13.9	61	0.7	9	0.1	36	0.4	3	0.0
	Males	548	6.5	490	5.9	30	0.4	5	0.1	23	0.3	1	0.0
	Females	718	8.6	670	8.0	31	0.4	4	0.0	13	0.2	2	0.0
85+	Both	867	10.4	806	9.6	39	0.5	7	0.1	15	0.2	4	0.0
	Males	288	3.4	264	3.2	14	0.2	5	0.1	5	0.1	3	0.0
	Females	579	6.9	542	6.5	25	0.3	2	0.0	10	0.1	1	0.0
Total		8374	100.0	6999	83.6	887	10.6	193	2.3	293	3.5	200	2.4

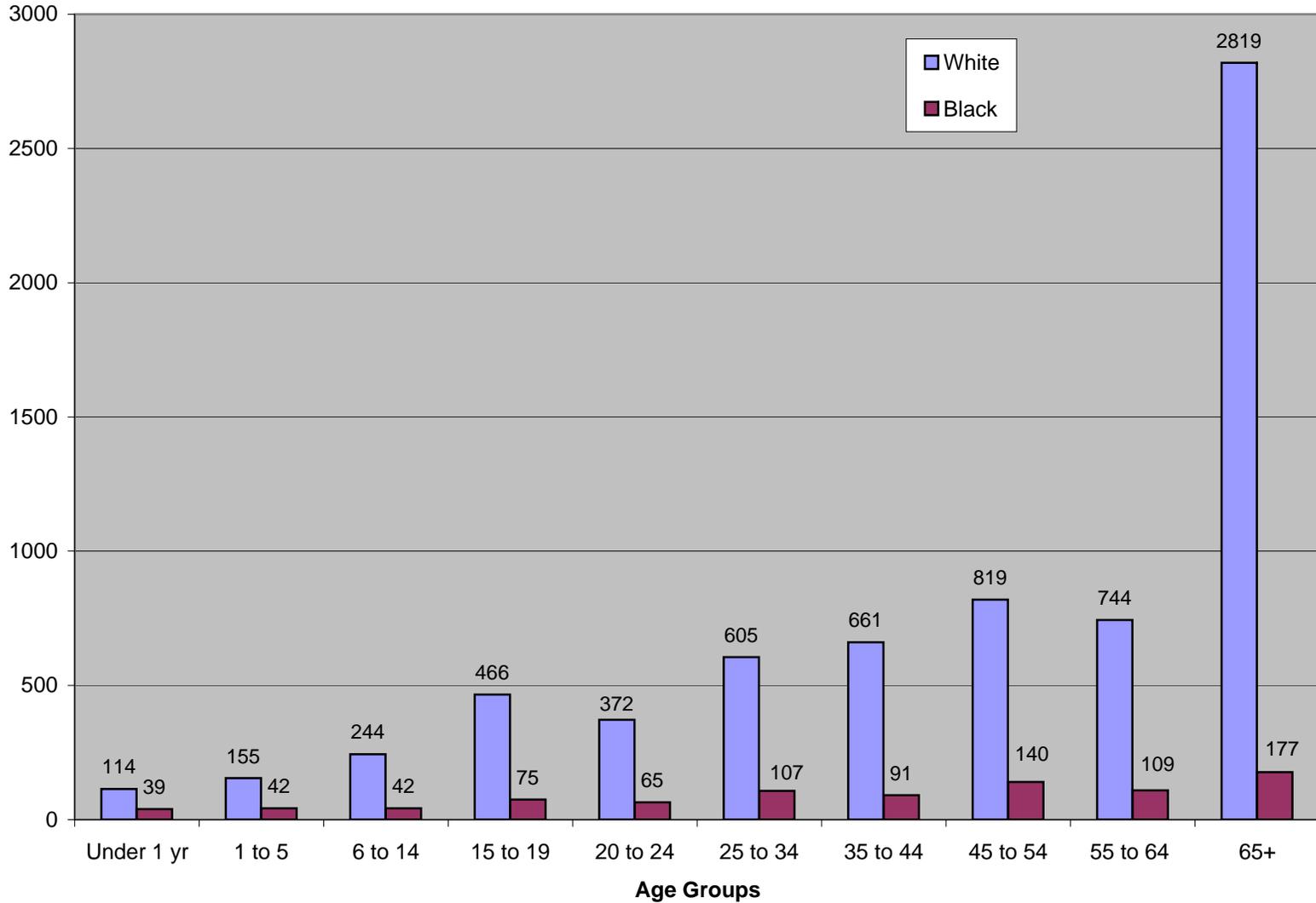
Hispanic is an ethnic origin not a race. Hispanics by race is not available.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries

Graph IV - Race by Age Groups 2009

Number of Cases



Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Accidental Falls (E880-E888)	Ages	3727	3257	324	46	100	41
	<1	96	60	24	6	6	8
	1-5	70	57	8	2	3	2
	6-14	64	52	7	3	2	2
	15-19	57	44	8	4	1	3
	20-24	53	40	8	3	2	1
	25-34	99	77	13	4	5	9
	35-44	165	130	23	5	7	5
	45-54	325	258	50	3	14	2
	55-64	429	362	56	3	8	2
	65-74	615	549	50	2	14	3
	75-84	1005	931	42	9	23	3
	85+	749	697	35	2	15	1
Motor Vehicle Traffic Accidents (E810-E819)*	Ages	2759	2267	291	88	113	88
	<1	12	7	3	1	1	
	1-5	76	51	16	7	2	4
	6-14	117	79	25	8	5	9
	15-19	366	308	37	8	13	12
	20-24	298	233	29	20	16	19
	25-34	424	338	50	20	16	27
	35-44	399	338	31	9	21	8
	45-54	378	315	42	5	16	4
	55-64	270	228	27	4	11	1
	65-74	222	196	20	2	4	1
	75-84	148	130	10		8	
	85+	49	44	1	4		3

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Homicide and Injuries Purposely Inflicted by Another (E960-E969)	Ages	586	370	150	34	32	43
	<1	36	24	6	4	2	4
	1-5	20	10	8	2		2
	6-14	4	2	1		1	1
	15-19	44	25	13	3	3	4
	20-24	57	35	17	2	3	7
	25-34	112	63	32	10	7	10
	35-44	113	73	24	7	9	12
	45-54	107	72	29	4	2	2
	55-64	59	40	15	1	3	1
	65-74	19	16	1	1	1	
	75-84	13	8	4		1	
	85+	2	2				
Other Accidents (E916-E928)*	Ages	406	332	49	9	16	10
	<1	19	16	2		1	
	1-5	29	19	6	2	2	4
	6-14	34	30	3	1		1
	15-19	37	28	8		1	
	20-24	21	15	4		2	
	25-34	39	31	4	3	1	3
	35-44	34	26	6	1	1	
	45-54	56	46	7	1	2	1
	55-64	53	44	5		4	1
	65-74	35	31	1	1	2	
	75-84	22	20	2			
	85+	27	26	1			

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Motor Vehicle Non-Traffic Accidents (E820-E825)*	Ages	315	279	21	6	9	5
	1-5	3	3				
	6-14	38	34		1	3	2
	15-19	48	40	5	1	2	1
	20-24	28	26	2			
	25-34	63	55	4	2	2	
	35-44	46	41	4		1	1
	45-54	44	40	3	1		1
	55-64	16	14	2			
	65-74	12	10	1	1		
	75-84	16	15			1	
	85+	1	1				
Other Road Vehicle Accidents (E826-E829)*	Ages	167	153	7	3	4	4
	<1	2	2				
	1-5	6	6				
	6-14	51	43	3	3	2	3
	15-19	8	7	1			
	20-24	5	5				
	25-34	11	11				
	35-44	19	17	1		1	
	45-54	28	27			1	1
	55-64	18	17	1			
	65-74	15	14	1			
	75-84	4	4				

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Suicide and Self-Inflicted Injury (E950-E959)	Ages	119	107	4	1	7	0
	6-14	1	1				
	15-19	8	7			1	
	20-24	12	10	1		1	
	25-34	19	17	1	1		
	35-44	20	19			1	
	45-54	29	27	1		1	
	55-64	15	14	1			
	65-74	6	4			2	
	75-84	7	6			1	
	85+	2	2				
Injury Undetermined Whether Accidentally or Purposely Inflicted (E980-E989)	Ages	47	27	15	2	3	2
	<1	8	4	4			
	1-5	5	2	1	1	1	1
	15-19	2		2			
	20-24	6	2	3	1		1
	25-34	6	4	1		1	
	35-44	6	5	1			
	45-54	7	4	2		1	
	55-64	2	1	1			
	65-74	4	4				
	85+	1	1				

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Accidents Due to Natural and Environmental Factors (E900-E909)	Ages	23	19	0	1	3	3
	1-5	4	3		1		1
	6-14	1	1				
	15-19	1	1				
	25-34	2	1			1	1
	35-44	4	3			1	1
	45-54	4	3			1	
	55-64	3	3				
	65-74	3	3				
	75-84	1	1				
Late Effects of Accidental Injury (E929)	Ages	19	18	1	0	0	0
	15-19	1	1				
	20-24	1	1				
	35-44	2	1	1			
	45-54	2	2				
	55-64	3	3				
	65-74	2	2				
	75-84	2	2				
	85+	6	6				

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Water Transport Accidents (E830-E838)	Ages	13	13	0	0	0	0
	6-14	1	1				
	15-19	2	2				
	25-34	3	3				
	35-44	1	1				
	45-54	3	3				
	65-74	1	1				
	75-84	2	2				
Vehicle Accidents Not Elsewhere Classified (E846-E848)*	Ages	9	7	2	0	0	0
	1-5	1		1			
	25-34	1	1				
	45-54	3	2	1			
	55-64	2	2				
	75-84	2	2				
Air and Space Transport Accidents (E840-E845)	Ages	4	3	1	0	0	0
	6-14	1	1				
	15-19	1	1				
	85+	2	1	1			
Legal Intervention (E970-E978)	Ages	4	1	3	0	0	0
	25-34	3	1	2			
	45-54	1		1			

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Age Groups and Race/Hispanic Origin
2009

Cause of Injury		Total	White	Black	Other Races	Race Unknown	Hispanic
Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910-E915)	Ages	4	1	2	1	0	1
	6-14	1		1			1
	20-24	1	1				
	25-34	1			1		
	65-74	1		1			
Railway Accidents (E800-E807)	Ages	2	2	0	0	0	0
	35-44	1	1				0
	45-54	1	1				
Accidental Poisoning (E850-E858, E860-E869)	Ages	1	1	0	0	0	0
	55-64	1	1				0
Totals for TBI Cases Reporting Injury Cause		ALL 8205	Whites 6857	Blacks 870	Other Races 191	Race Unknown 287	Hispanics 197

*See page 47.

Causes and age groups that had no cases are not presented. Hispanic is an ethnic origin not a race and not available by race.
Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Severity Index
2009

Severity Index		Severe		Moderate		Mild		Undetermined	
Injury Causes	Total	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause
Railway Accidents (E800-E807)	2	0	0.0	0	0.0	2	100.0	0	0.0
Motor Vehicle Traffic Accidents (E810-E819*)	2759	187	6.8	1331	48.2	1083	39.3	158	5.7
Motor Vehicle Non-Traffic Accidents (E820-E825*)	315	13	4.1	178	56.5	106	33.7	18	5.7
Other Road Vehicle Accidents (E826-E829*)	167	9	5.4	93	55.7	55	32.9	10	6.0
Water Transport Accidents (E830-E838)	13	0	0.0	9	69.2	4	30.8	0	0.0
Air and Space Transport Accidents (E840-E845)	4	0	0.0	2	50.0	1	25.0	1	25.0
Vehicle Accidents Not Elsewhere Classified (E846-E848*)	9	0	0.0	5	55.6	3	33.3	1	11.1
Accidental Poisoning (E850-E869)	1	0	0.0	0	0.0	0	0.0	1	100.0
Surgical/Medical Procedures - Misadventures/Abnormal Reaction (E870-E879)	0	0	0.0	0	0.0	0	0.0	0	0.0

*See definitions on page 47.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Severity Index
2009

Severity Index		Severe		Moderate		Mild		Undetermined	
Injury Causes	Total	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause
Accidental Falls (E880-E888)	3727	99	2.7	2305	61.8	792	21.3	531	14.2
Accidents Caused by Fire and Flames (E890-E899)	0	0	0.0	0	0.0	0	0.0	0	0.0
Accidents Due to Natural and Environmental Factors (E900-E909)	23	0	0.0	9	39.1	12	52.2	2	8.7
Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910-E915)	4	1	25.0	2	50.0	1	25.0	0	0.0
Other Accidents (E916-E928*)	406	34	8.4	203	50.0	114	28.1	55	13.5
Late Effects of Accidental Injury (E929)	19	0	0.0	17	89.5	1	5.3	1	5.3
Drugs Causing Adverse Effects in Therapeutic Use (E930-E949)	0	0	0.0	0	0.0	0	0.0	0	0.0
Suicide and Self-Inflicted Injury (E950-E959)	119	56	47.1	53	44.5	6	5.0	4	3.4
Homicide and Injuries Purposely Inflicted by Another (E960-E969)	586	38	6.5	353	60.2	164	28.0	31	5.3

*See definitions on page 47.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
External Cause of Injury by Severity Index
2009

Severity Index		Severe		Moderate		Mild		Undetermined	
Injury Causes	Total	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause	Number of Cases by Cause	Percent of Cause
Legal Intervention (E970-E978)	4	0	0.0	3	75.0	1	25.0	0	0.0
Injury Undetermined Whether Accidentally or Purposely Inflicted (E980-E989)	47	16	34.0	22	46.8	7	14.9	2	4.3
Injury Resulting from Operations of War (E990-E999)	0	0	0.0	0	0.0	0	0.0	0	0.0
Total TBI Cases with Cause of Injury Reported	8205	453	5.5	4585	55.9	2352	28.7	815	9.9

*See definitions on page 47.

Traumatic Brain Injuries
Severity Index by Age Groups and Gender
2009

Sex	Severe Injury		Moderate Injury		Mild Injury		Severity Undetermined		Total
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Total									
Ages <1	5	0.1	113	1.3	46	0.5	10	0.1	174
1-5	15	0.2	101	1.2	75	0.9	29	0.3	220
6-14	13	0.2	139	1.7	127	1.5	36	0.4	315
15-19	46	0.5	286	3.4	219	2.6	29	0.3	580
20-24	40	0.5	236	2.8	188	2.2	23	0.3	487
25-34	51	0.6	373	4.5	311	3.7	52	0.6	787
35-44	58	0.7	401	4.8	298	3.6	60	0.7	817
45-54	80	1.0	529	6.3	295	3.5	108	1.3	1012
55-64	51	0.6	507	6.1	234	2.8	95	1.1	887
65-74	34	0.4	599	7.2	214	2.6	115	1.4	962
75-84	37	0.4	832	9.9	236	2.8	161	1.9	1266
85+	26	0.3	575	6.9	134	1.6	132	1.6	867
Total	456	5.4	4691	56.0	2377	28.4	850	10.2	8374
Males									
Ages <1	3	0.0	62	0.7	25	0.3	4	0.0	94
1-5	9	0.1	59	0.7	38	0.5	20	0.2	126
6-14	8	0.1	87	1.0	82	1.0	19	0.2	196
15-19	32	0.4	202	2.4	137	1.6	18	0.2	389
20-24	30	0.4	192	2.3	126	1.5	15	0.2	363
25-34	36	0.4	285	3.4	215	2.6	30	0.4	566
35-44	40	0.5	288	3.4	202	2.4	39	0.5	569
45-54	62	0.7	371	4.4	222	2.7	55	0.7	710
55-64	35	0.4	322	3.8	152	1.8	52	0.6	561
65-74	25	0.3	347	4.1	117	1.4	51	0.6	540
75-84	22	0.3	380	4.5	87	1.0	59	0.7	548
85+	13	0.2	212	2.5	33	0.4	30	0.4	288
Total	315	3.8	2807	33.5	1436	17.1	392	4.7	4950
Females									
Ages <1	2	0.0	51	0.6	21	0.3	6	0.1	80
1-5	6	0.1	42	0.5	37	0.4	9	0.1	94
6-14	5	0.1	52	0.6	45	0.5	17	0.2	119
15-19	14	0.2	84	1.0	82	1.0	11	0.1	191
20-24	10	0.1	44	0.5	62	0.7	8	0.1	124
25-34	15	0.2	88	1.1	96	1.1	22	0.3	221
35-44	18	0.2	113	1.3	96	1.1	21	0.3	248
45-54	18	0.2	158	1.9	73	0.9	53	0.6	302
55-64	16	0.2	185	2.2	82	1.0	43	0.5	326
65-74	9	0.1	252	3.0	97	1.2	64	0.8	422
75-84	15	0.2	452	5.4	149	1.8	102	1.2	718
85+	13	0.2	363	4.3	101	1.2	102	1.2	579
Total	141	1.7	1884	22.5	941	11.2	458	5.5	3424

Traumatic Brain Injuries
Length of Hospital Stay by Severity Index
2009

Length of Stay	Total Injured	Deaths	Severity Index							
			Severe		Moderate		Mild		Undetermined	
			Total	Died	Total	Died	Total	Died	Total	Died
Less than 24 hours	323	228	116	115	158	65	20	19	29	29
1 day	1651	187	113	106	662	68	649	9	227	4
2 days	1452	78	52	43	756	32	494	3	150	0
3 days	1045	46	26	18	578	25	310	2	131	1
4 days	778	38	17	11	467	24	204	2	90	1
5 days	551	34	14	10	328	19	158	3	51	2
6 days	369	25	14	12	235	12	90	0	30	1
7 days	311	22	10	6	204	14	80	1	17	1
8 through 14 days	1009	73	36	17	661	51	240	2	72	3
15 through 21 days	405	23	29	7	282	14	74	1	20	1
22 through 28 days	201	11	10	2	155	9	23	0	13	0
29 days or longer	279	7	19	3	205	2	35	0	20	2
Total	8374	772	456	350	4691	335	2377	42	850	45

Other injuries may effect the length of stay. Underlying cause of death may be something other than the brain injury.
Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Discharge Status by Severity Index
2009

Discharge Status	Total Discharges	Severity Index			
		Severe	Moderate	Mild	Undetermined
Home - self care or requiring non-skilled assistance	4811	34	2520	1754	503
Residential facility - Skilled Nursing Services (SNF), Intermediate Care (ICF), Nursing home	1036	21	680	213	122
Transferred to an inpatient rehabilitation facility	805	26	599	144	36
*Patient died	772	350	335	42	45
Home - requiring home health services and/or outpatient rehabilitation	523	8	285	143	87
Other	224	7	157	35	25
Transferred to another acute care hospital	124	6	72	32	14
Against Medical Advice (AMA)	61	2	34	7	18
Correctional facility - includes prison, jail or detention center	18	2	9	7	0
Totals	8374	456	4691	2377	850

*Underlying cause of death may not be due to brain injury. Severity index alone should not be used as a predictor of discharge status.
Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries

Due to Falls, Motor Vehicle Accidents and Homicides or Injuries Purposely Inflicted by Another within Age Groups
2009

Age Groups	TOTAL	Number of FALLS	Percent by Age Group	Number of MOTOR VEHICLE ACCIDENTS	Percent by Age Group	Number of HOMICIDES and INJURIES PURPOSELY INFLICTED BY ANOTHER	Percent by Age Group
<1	174	96	55.2	12	6.9	36	20.7
1-5	220	70	31.8	76	34.5	20	9.1
6-14	315	64	20.3	117	37.1	4	1.3
15-19	580	57	9.8	366	63.1	44	7.6
20-24	487	53	10.9	298	61.2	57	11.7
25-34	787	99	12.6	424	53.9	112	14.2
35-44	817	165	20.2	399	48.8	113	13.8
45-54	1012	325	32.1	378	37.4	107	10.6
55-64	887	429	48.4	270	30.4	59	6.7
65-74	962	615	63.9	222	23.1	19	2.0
75-84	1266	1005	79.4	148	11.7	13	1.0
85+	867	749	86.4	49	5.7	2	0.2
TOTAL	8374	3727	44.5	2759	32.9	586	7.0

Traumatic Brain Injuries Type of Fall by Age Groups 2009

Fall Description	Number and Percent of Type Fall by Age Group												
	Total	<1 Year	1 - 5	6 - 14	15 - 19	20 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85+
Fall from or out of building or other structure	61	1	3	3	3	5	7	11	11	8	4	3	2
Percent	100.0	1.6	4.9	4.9	4.9	8.2	11.5	18.0	18.0	13.1	6.6	4.9	3.3
Fall into hole or other opening in surface	6		1				1	3				1	
Percent	100.0	0.0	16.7	0.0	0.0	0.0	16.7	50.0	0.0	0.0	0.0	16.7	0.0
Fall on or from ladders or scaffolding	127		1	1	1	1	10	15	28	25	33	9	3
Percent	100.0	0.0	0.8	0.8	0.8	0.8	7.9	11.8	22.0	19.7	26.0	7.1	2.4
Fall on or from stairs or steps	280	5	4	4	4	1	7	19	31	40	58	74	33
Percent	100.0	1.8	1.4	1.4	1.4	0.4	2.5	6.8	11.1	14.3	20.7	26.4	11.8
Other fall from one level to another	628	70	44	31	15	26	24	31	52	60	76	104	95
Percent	100.0	11.1	7.0	4.9	2.4	4.1	3.8	4.9	8.3	9.6	12.1	16.6	15.1
Total falls from one level to another	1102	76	53	39	23	33	49	79	122	133	171	191	133
Percent	100.0	6.9	4.8	3.5	2.1	3.0	4.4	7.2	11.1	12.1	15.5	17.3	12.1
Fall on same level from collision, pushing, or shoving, by or with other person	7		1	2	1	1						2	
Percent	100.0	0.0	14.3	28.6	14.3	14.3	0.0	0.0	0.0	0.0	0.0	28.6	0.0
Fall on same level from slipping, tripping, or stumbling	658		6	12	9	4	7	19	39	73	117	222	150
Percent	100.0	0.0	0.9	1.8	1.4	0.6	1.1	2.9	5.9	11.1	17.8	33.7	22.8
Total falls from same level	665	0	7	14	10	5	7	19	39	73	117	224	150
Percent	100.0	0.0	1.1	2.1	1.5	0.8	1.1	2.9	5.9	11.0	17.6	33.7	22.6
Fracture, cause unspecified	10	6	1						1	1	1		
Percent	100.0	60.0	10.0	0.0	0.0	0.0	0.0	0.0	10.0	10.0	10.0	0.0	0.0
Other and unspecified fall	1950	14	9	11	24	15	43	67	163	222	326	590	466
Percent	100.0	0.7	0.5	0.6	1.2	0.8	2.2	3.4	8.4	11.4	16.7	30.3	23.9
Total other and unspecified falls	1960	20	10	11	24	15	43	67	164	223	327	590	466
Percent	100.0	1.0	0.5	0.6	1.2	0.8	2.2	3.4	8.4	11.4	16.7	30.1	23.8
Total Falls	3727	96	70	64	57	53	99	165	325	429	615	1005	749
Percent	100.0	2.6	1.9	1.7	1.5	1.4	2.7	4.4	8.7	11.5	16.5	27.0	20.1

Traumatic Brain Injuries

Motor Vehicle Traffic Accidents by Injured Person's Involvement and Age Group 2009

Involvement	Total	Number and Percent of MVTA Involvement by Age Group											
		<1 Year	1 - 5	6 - 14	15 - 19	20 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85+
Driver	1455			6	177	169	257	214	208	152	142	105	25
Percent	100.0	0.0	0.0	0.4	12.2	11.6	17.7	14.7	14.3	10.4	9.8	7.2	1.7
Passenger	591	12	60	73	123	53	64	57	44	32	38	21	14
Percent	100.0	2.0	10.2	12.4	20.8	9.0	10.8	9.6	7.4	5.4	6.4	3.6	2.4
Motorcyclist	280			6	16	29	40	67	61	47	13	1	
Percent	100.0	0.0	0.0	2.1	5.7	10.4	14.3	23.9	21.8	16.8	4.6	0.4	0.0
Passenger on motorcycle	16		2	1		2		2	4	3	2		
Percent	100.0	0.0	12.5	6.3	0.0	12.5	0.0	12.5	25.0	18.8	12.5	0.0	0.0
Occupant of streetcar	0												
Percent	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rider of animal; Occupant of animal-drawn vehicle	2						2						
Percent	100.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0
Pedal cyclist	40			11	6	3	5	3	6	4	2		
Percent	100.0	0.0	0.0	27.5	15.0	7.5	12.5	7.5	15.0	10.0	5.0	0.0	0.0
Pedestrian	161		13	19	11	11	22	23	28	14	11	5	4
Percent	100.0	0.0	8.1	11.8	6.8	6.8	13.7	14.3	17.4	8.7	6.8	3.1	2.5
Other specified person*	16			1	6	1	1	4	3				
Percent	100.0	0.0	0.0	6.3	37.5	6.3	6.3	25.0	18.8	0.0	0.0	0.0	0.0
Unspecified person	198		1		27	30	33	29	24	18	14	16	6
Percent	100.0	0.0	0.5	0.0	13.6	15.2	16.7	14.6	12.1	9.1	7.1	8.1	3.0
Total	2759	12	76	117	366	298	424	399	378	270	222	148	49
Percent	100.0	0.4	2.8	4.2	13.3	10.8	15.4	14.5	13.7	9.8	8.0	5.4	1.8

*Occupant of vehicle other than above; person in railway train involved in accident; unauthorized rider of motor vehicle
Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries

Type of Homicide and Injuries Purposely Inflicted by Other Persons by Age Groups

2009

Homicide Description	Total	Number and Percent for Type of Assault by Age Groups											
		<1 Year	1 - 5	6 - 14	15 - 19	20 - 24	25 - 34	35 - 44	45 - 54	55 - 64	65 - 74	75 - 84	85+
Assault by corrosive or caustic substance, except poisoning	0												
Percent		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assault by cutting and piercing instrument	12			1			1	4	4	2			
Percent	100.0	0.0	0.0	8.3	0.0	0.0	8.3	33.3	33.3	16.7	0.0	0.0	0.0
Assault by firearms or explosives	59			1	12	14	14	9	4	4	1		
Percent	100.0	0.0	0.0	1.7	20.3	23.7	23.7	15.3	6.8	6.8	1.7	0.0	0.0
Assault by hanging and strangulation	0												
Percent		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assault by striking with a blunt or thrown object	145	1			11	14	34	34	26	18	5	1	1
Percent	100.0	0.7	0.0	0.0	7.6	9.7	23.4	23.4	17.9	12.4	3.4	0.7	0.7
Assault by submersion (drowning)	0												
Percent		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Assault by other and unspecified means	201	21	11	1	9	14	27	32	46	24	4	11	1
Percent	100.0	10.4	5.5	0.5	4.5	7.0	13.4	15.9	22.9	11.9	2.0	5.5	0.5
Assault by poisoning	0												
Percent		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perpetrator of child and adult abuse	32	13	9				2	5		1	2		
Percent	100.0	40.6	28.1	0.0	0.0	0.0	6.3	15.6	0.0	3.1	6.3	0.0	0.0
Fight, brawl, rape	133			1	12	15	34	27	27	10	6	1	
Percent	100.0	0.0	0.0	0.8	9.0	11.3	25.6	20.3	20.3	7.5	4.5	0.8	0.0
Late effects of injury purposely inflicted by other person	4	1						2			1		
Percent	100.0	25.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	0.0	25.0	0.0	0.0
Total	586	36	20	4	44	57	112	113	107	59	19	13	2
Percent	100.0	6.1	3.4	0.7	7.5	9.7	19.1	19.3	18.3	10.1	3.2	2.2	0.3

Traumatic Brain Injuries
Number of Cases by Injury Cause in Rank Order for Ten-Year Span
2000-2009

Rank	EXTERNAL CAUSE (E-CODE)	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	Row Totals for Each Injury Cause for Ten Year Span
#1	Motor Vehicle Traffic Accidents (E810 - E819)*	2759	3038	3397	3484	3301	3571	3488	3122	3233	3461	32,854
#2	Accidental Falls (E880 - E888)	3727	3130	2952	2754	2546	2354	2217	1771	1630	1664	24,745
#3	Homicide and Injuries Purposely Inflicted by Another (E960 - E969)	586	627	606	575	521	472	522	369	373	400	5051
#4	Other Accidents (E916 - E928)*	406	364	434	420	369	385	347	288	295	354	3662
#5	Motor Vehicle Non-Traffic Accidents (E820 - E825)*	315	390	372	324	326	308	256	222	239	258	3010
#6	Other Road Vehicle Accidents (E826 - E829)*	167	138	168	165	156	157	123	119	118	149	1460
#7	Suicide and Self-Inflicted Injury (E950 - E959)	119	105	107	104	103	99	135	97	87	101	1057
#8	Injury Undetermined Whether Accidentally or Purposely Inflicted (E980 - E989)	47	48	60	41	53	53	46	41	43	50	435
#9	Accidents Due to Natural and Environmental Factors (E900 - E909)	23	43	19	39	26	27	32	27	31	20	287

*See page 47.

Includes only patients that had the cause of injury reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Number of Cases by Injury Cause in Rank Order for Ten-Year Span
2000-2009

Rank	EXTERNAL CAUSE (E-CODE)	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	Row Totals for Each Injury Cause for Ten Year Span
#10	Late Effects of Accidental Injury (E929)	19	32	32	31	24	25	26	28	22	14	253
#11	Water Transport Accidents (E830 - E838)	13	4	14	15	13	12	10	12	7	18	118
#12	Air and Space Transport Accidents (E840 - E845)	4	7	11	6	9	10	14	8	9	9	87
#13	Vehicle Accidents Not Elsewhere Classified (E846 - E848)*	9	5	10	8	8	13	8	8	5	10	84
#14	Accidents Caused by Submersion, Suffocation and Foreign Bodies (E910 - E915)	4	6	7	9	3	2	2	6	4	2	45
#15	Legal Intervention (E970 - E978)	4	6	7	5	4	4	7	1	6	0	44
#16	Railway Accidents (E800 - E807)	2	4	6	3	3	3	6	3	3	4	37
#17	Accidents Caused by Fire and Flames (E890 - E899)	0	1	0	9	1	1	4	2	2	4	24
#18	Drugs Causing Adverse Effects in Therapeutic Use (E930 - E949)	0	0	0	0	0	0	1	6	4	4	15

*See page 47.

Includes only patients that had the cause of injury reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Number of Cases by Injury Cause in Rank Order for Ten-Year Span
2000-2009

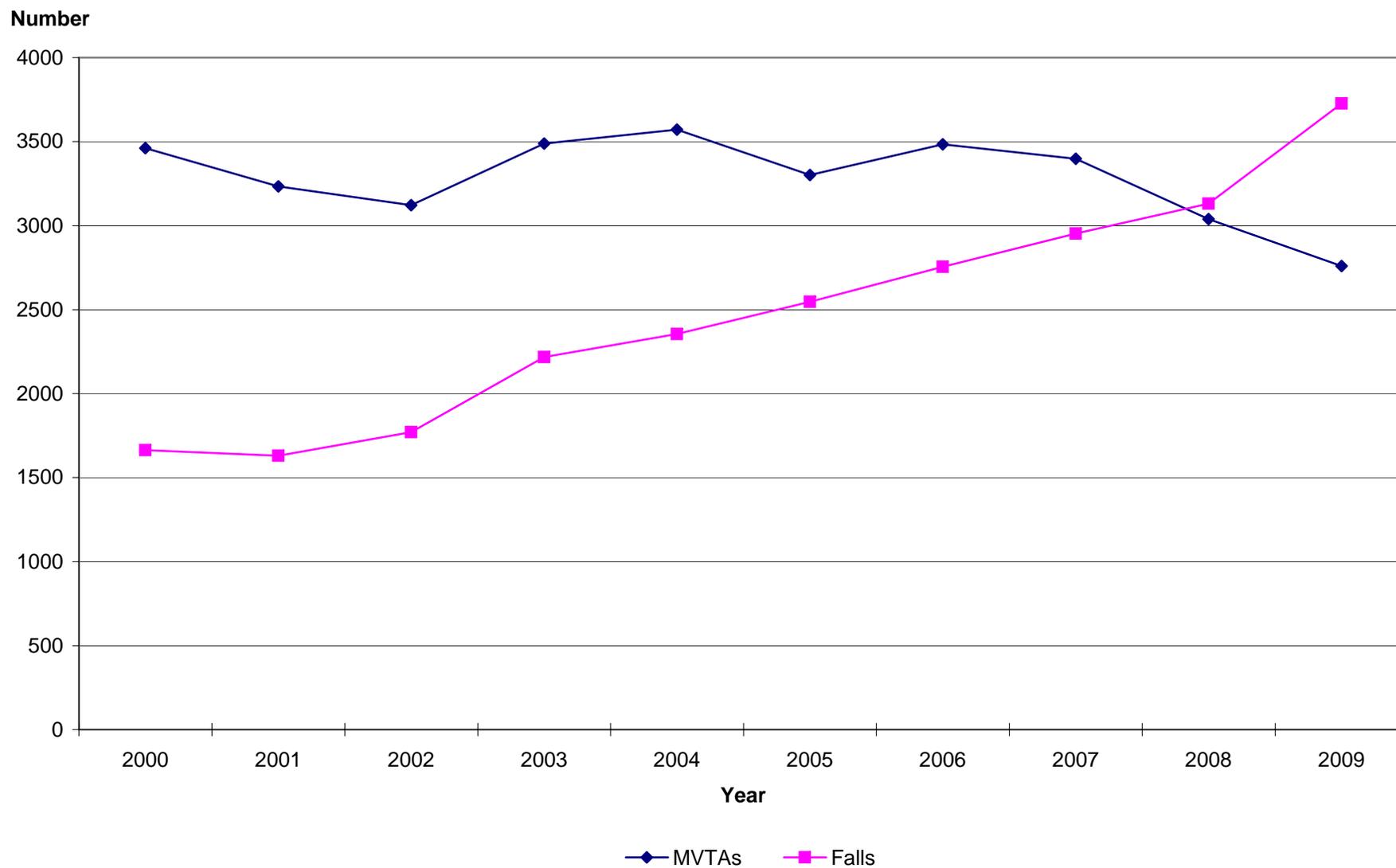
Rank	EXTERNAL CAUSE (E-CODE)	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	Row Totals for Each Injury Cause for Ten Year Span
#19	Surgical/Medical Procedures - Misadventures/Abnormal Reaction (E870 - E879)	0	0	0	0	0	0	2	7	5	4	18
#20	Accidental Poisoning (E850 - E869)	1	0	0	1	0	0	0	1	4	1	8
#21	Injuries from Operations of War (E990 - E999)	0	1	2	0	0	0	0	0	0	0	3
Total Number of Cases Per Year		8205	7949	8204	7993	7466	7496	7246	6138	6120	6527	73,297

*See page 47.

Includes only patients that had the cause of injury reported.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Traumatic Brain Injuries
Graph V - Falls and Motor Vehicle Traffic Accidents
2000-2009



**TRAUMATIC BRAIN INJURY INCIDENCE RATES PER 100,000 POPULATION
BY COUNTY OF RESIDENCE-TENNESSEE 2005 - 2009**

Resident County	2009 TBI Cases	2008 TBI Cases	2007 TBI Cases	2006 TBI Cases	2005 TBI Cases	2009 RATE/ 100,000 POP	2008 RATE/ 100,000 POP	2007 RATE/ 100,000 POP	2006 RATE/ 100,000 POP	2005 RATE/ 100,000 POP	2009 POP	2008 POP	2007 POP	2006 POP	2005 POP
Anderson	77	68	98	91	86	104.11	92.14	133.03	123.68	118.62	73,963	73,804	73,667	73,578	72,498
Bedford	53	37	66	59	57	115.90	82.36	149.56	135.96	134.92	45,728	44,925	44,130	43,394	42,247
Benton	20	26	11	19	19	120.68	157.54	66.86	115.95	115.20	16,573	16,504	16,453	16,387	16,493
Bledsoe	21	11	30	20	14	157.72	83.26	228.68	153.53	108.56	13,315	13,212	13,119	13,027	12,896
Blount	136	123	120	121	114	111.27	101.80	100.44	102.38	98.62	122,228	120,826	119,478	118,186	115,599
Bradley	104	87	111	109	87	107.95	91.24	117.57	116.57	94.42	96,340	95,349	94,415	93,505	92,140
Campbell	45	43	42	43	34	108.76	104.40	102.42	105.27	83.81	41,376	41,187	41,009	40,846	40,567
Cannon	24	19	16	19	22	173.07	138.37	117.69	141.05	164.73	13,867	13,731	13,595	13,470	13,355
Carroll	32	45	55	55	39	108.54	153.32	188.22	188.89	134.33	29,483	29,351	29,221	29,118	29,033
Carter	34	26	47	43	40	57.10	43.77	79.31	72.71	67.94	59,545	59,398	59,262	59,142	58,879
Cheatham	31	23	31	43	31	76.30	57.43	78.47	110.24	80.46	40,628	40,049	39,505	39,005	38,528
Chester	24	15	16	22	17	145.60	91.86	98.84	137.11	106.90	16,484	16,329	16,188	16,046	15,902
Claiborne	29	40	55	42	49	90.73	126.00	174.44	134.02	157.77	31,962	31,745	31,530	31,338	31,058
Clay	10	8	10	7	14	122.88	98.68	123.81	86.88	174.76	8,138	8,107	8,077	8,057	8,011
Cocke	39	42	50	53	44	108.24	117.50	140.94	150.46	126.14	36,032	35,745	35,476	35,225	34,881
Coffee	75	79	69	79	97	141.09	150.12	132.41	153.02	190.75	53,156	52,625	52,112	51,628	50,852
Crockett	17	13	19	15	16	114.97	88.82	130.92	104.27	110.37	14,786	14,636	14,513	14,386	14,497
Cumberland	58	49	50	36	49	107.08	91.54	94.49	68.79	95.79	54,164	53,529	52,913	52,333	51,154
Davidson	515	546	510	530	562	87.13	93.07	87.55	91.58	97.84	591,074	586,636	582,518	578,712	574,419
Decatur	*	8	11	15	22	*	69.84	96.24	131.30	189.66	11,483	11,454	11,430	11,424	11,600
DeKalb	17	24	33	31	18	90.01	128.31	178.09	168.76	98.44	18,886	18,704	18,530	18,369	18,286
Dickson	46	54	60	58	71	95.51	113.44	127.51	124.57	154.97	48,160	47,604	47,054	46,561	45,815
Dyer	64	47	43	40	40	166.35	122.89	112.99	105.59	105.89	38,472	38,246	38,057	37,882	37,774
Fayette	28	17	23	27	26	74.40	45.86	62.91	74.83	75.53	37,632	37,068	36,558	36,084	34,423
Fentress	42	31	30	38	32	235.65	175.16	170.53	217.48	186.31	17,823	17,698	17,592	17,473	17,176
Franklin	57	70	65	53	57	135.01	167.09	156.23	128.25	139.43	42,218	41,894	41,604	41,326	40,880
Gibson	84	79	69	63	44	172.17	162.38	142.12	130.00	91.50	48,790	48,651	48,552	48,463	48,089
Giles	40	24	12	29	28	134.80	81.31	40.85	99.09	95.85	29,674	29,518	29,376	29,267	29,211
Grainger	29	41	31	25	36	125.36	179.02	136.71	111.41	162.32	23,134	22,902	22,676	22,440	22,178
Greene	74	65	108	90	95	110.38	97.52	162.93	136.46	145.62	67,043	66,650	66,285	65,955	65,238
Grundy	25	40	43	30	33	169.96	273.43	295.49	207.24	226.32	14,709	14,629	14,552	14,476	14,581
Hamblen	74	59	73	57	78	118.72	95.36	118.85	93.45	129.60	62,331	61,868	61,424	60,998	60,187
Hamilton	380	417	447	388	377	120.34	132.50	142.47	124.00	121.36	315,785	314,710	313,761	312,909	310,656
Hancock	6	8	6	10	10	88.50	118.31	88.84	148.54	148.83	6,780	6,762	6,754	6,732	6,719
Hardeman	29	33	27	22	38	99.54	114.62	94.76	78.04	135.17	29,134	28,790	28,492	28,191	28,112
Hardin	40	40	28	38	31	150.65	151.64	106.77	145.69	119.18	26,552	26,378	26,224	26,082	26,012
Hawkins	80	76	78	77	58	137.29	131.52	136.14	135.45	103.21	58,271	57,785	57,296	56,846	56,195
Haywood	23	21	19	18	30	117.48	107.64	97.60	92.64	154.45	19,578	19,510	19,467	19,430	19,424
Henderson	34	32	44	36	35	124.35	118.00	163.44	134.74	132.55	27,343	27,118	26,922	26,718	26,406
Henry	42	39	43	30	51	130.32	121.56	134.61	94.26	162.11	32,228	32,084	31,945	31,827	31,460

*Numbers less than 5 are not disclosed.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

**TRAUMATIC BRAIN INJURY INCIDENCE RATES PER 100,000 POPULATION
BY COUNTY OF RESIDENCE-TENNESSEE 2005 - 2009**

Resident County	2009 TBI Cases	2008 TBI Cases	2007 TBI Cases	2006 TBI Cases	2005 TBI Cases	2009 RATE/ 100,000 POP	2008 RATE/ 100,000 POP	2007 RATE/ 100,000 POP	2006 RATE/ 100,000 POP	2005 RATE/ 100,000 POP	2009 POP	2008 POP	2007 POP	2006 POP	2005 POP
Hickman	24	23	21	28	28	96.14	93.60	86.76	117.46	117.91	24,964	24,572	24,205	23,837	23,746
Houston	19	6	8	9	10	232.39	73.62	98.44	110.97	124.39	8,176	8,150	8,127	8,110	8,039
Humphreys	21	17	26	21	21	112.05	91.29	140.46	114.07	115.35	18,741	18,622	18,510	18,410	18,206
Jackson	14	12	12	9	13	125.26	108.27	109.16	82.50	117.23	11,177	11,083	10,993	10,909	11,089
Jefferson	63	59	69	61	66	122.38	116.25	137.94	123.64	136.83	51,480	50,752	50,022	49,337	48,236
Johnson	14	8	26	19	22	75.99	43.74	143.08	105.33	121.67	18,423	18,291	18,172	18,038	18,082
Knox	453	417	370	339	387	107.67	99.84	89.21	82.29	95.48	420,733	417,649	414,746	411,976	405,334
Lake	11	10	5	*	*	148.41	134.70	67.29	*	*	7,412	7,424	7,430	7,444	7,554
Lauderdale	26	32	28	19	16	94.28	117.27	103.65	71.00	59.94	27,576	27,287	27,014	26,761	26,692
Lawrence	54	59	53	44	50	129.09	142.09	128.53	107.44	121.98	41,831	41,524	41,235	40,954	40,989
Lewis	12	13	8	11	11	100.67	110.10	68.31	94.70	96.03	11,920	11,807	11,712	11,616	11,455
Lincoln	35	17	31	31	22	104.64	51.20	94.04	94.64	67.93	33,448	33,202	32,965	32,754	32,387
Loudon	54	66	58	42	59	117.46	145.18	128.96	94.30	136.00	45,973	45,460	44,976	44,537	43,381
Macon	16	24	15	25	21	71.20	108.01	68.29	115.07	97.34	22,472	22,221	21,965	21,725	21,573
Madison	112	101	79	117	99	113.84	103.59	81.72	122.01	104.56	98,386	97,502	96,674	95,890	94,686
Marion	49	52	60	61	56	173.71	184.97	214.11	218.22	201.93	28,208	28,112	28,023	27,953	27,732
Marshall	25	31	31	24	22	83.52	104.89	106.18	83.19	77.69	29,933	29,554	29,195	28,851	28,317
Mauzy	74	76	80	79	79	91.09	94.77	100.99	100.91	103.64	81,234	80,198	79,218	78,291	76,222
McMinn	74	68	74	86	59	138.55	128.51	141.06	165.34	114.93	53,410	52,913	52,460	52,013	51,336
McNairy	35	30	45	31	24	134.41	115.75	174.39	120.63	94.82	26,040	25,917	25,804	25,699	25,312
Meigs	26	18	29	19	22	215.34	150.64	245.45	162.46	189.92	12,074	11,949	11,815	11,695	11,584
Monroe	71	41	45	56	36	154.77	90.56	100.68	126.88	83.41	45,875	45,273	44,694	44,135	43,160
Montgomery	100	96	78	115	84	65.29	63.56	52.34	78.18	57.20	153,165	151,041	149,016	147,088	146,853
Moore	*	*	*	7	*	*	*	*	115.66	*	6,212	6,156	6,100	6,052	6,017
Morgan	24	21	28	19	34	116.94	103.03	138.21	94.40	169.11	20,523	20,382	20,259	20,128	20,105
Obion	37	45	28	30	26	113.88	139.02	86.76	93.21	80.75	32,489	32,369	32,272	32,187	32,198
Overton	28	21	18	18	19	132.89	100.21	86.37	86.81	92.71	21,070	20,955	20,840	20,736	20,495
Perry	8	9	7	11	10	103.39	116.69	91.13	143.68	131.13	7,738	7,713	7,681	7,656	7,626
Pickett	*	5	*	8	*	*	101.61	*	164.61	*	4,963	4,921	4,887	4,860	4,863
Polk	32	22	30	28	25	198.86	137.34	187.88	175.89	155.74	16,092	16,019	15,968	15,919	16,052
Putnam	85	91	78	93	82	120.76	130.63	113.13	136.23	122.64	70,390	69,660	68,947	68,267	66,864
Rhea	40	42	58	48	47	128.73	136.35	189.85	158.26	157.41	31,072	30,804	30,551	30,330	29,858
Roane	60	52	64	49	54	111.11	96.77	119.65	91.98	102.37	53,999	53,738	53,488	53,274	52,752
Robertson	62	54	78	61	60	94.85	84.04	123.48	98.14	99.38	65,366	64,255	63,170	62,158	60,374
Rutherford	246	201	180	175	152	101.22	84.42	77.13	76.47	69.58	243,026	238,085	233,363	228,835	218,458
Scott	26	25	22	35	27	115.01	111.69	99.30	159.53	123.59	22,606	22,384	22,154	21,939	21,847
Sequatchie	17	14	19	23	15	125.64	104.93	144.39	177.14	118.16	13,531	13,342	13,159	12,984	12,695
Sevier	113	84	86	102	92	132.55	100.10	104.12	125.38	115.99	85,254	83,912	82,600	81,351	79,317
Shelby	685	735	701	717	571	73.60	79.57	76.42	78.67	63.04	930,689	923,753	917,343	911,444	905,705
Smith	39	40	36	40	23	200.52	208.20	189.54	213.09	123.65	19,449	19,212	18,993	18,771	18,601

*Numbers less than 5 are not disclosed.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

**TRAUMATIC BRAIN INJURY INCIDENCE RATES PER 100,000 POPULATION
BY COUNTY OF RESIDENCE-TENNESSEE 2005 - 2009**

Resident County	2009 TBI Cases	2008 TBI Cases	2007 TBI Cases	2006 TBI Cases	2005 TBI Cases	2009 RATE/ 100,000 POP	2008 RATE/ 100,000 POP	2007 RATE/ 100,000 POP	2006 RATE/ 100,000 POP	2005 RATE/ 100,000 POP	2009 POP	2008 POP	2007 POP	2006 POP	2005 POP
Stewart	12	18	5	12	14	88.17	134.25	37.83	92.05	107.74	13,610	13,408	13,217	13,036	12,994
Sullivan	204	183	190	162	128	132.64	119.18	123.89	105.72	83.90	153,802	153,552	153,368	153,234	152,563
Sumner	164	138	170	142	157	105.13	89.78	112.20	95.04	108.44	155,990	153,708	151,521	149,412	144,779
Tipton	60	43	32	47	33	99.62	72.61	54.93	81.93	58.93	60,227	59,219	58,261	57,368	56,002
Trousdale	5	5	*	9	12	62.08	62.78	*	115.13	156.51	8,054	7,964	7,890	7,817	7,667
Unicoi	16	17	35	21	14	89.91	95.76	197.64	118.81	79.54	17,796	17,753	17,709	17,676	17,602
Union	38	27	15	28	26	189.96	137.09	77.37	146.64	136.79	20,004	19,695	19,387	19,094	19,007
Van Buren	6	9	10	9	10	109.31	164.56	183.52	165.59	184.23	5,489	5,469	5,449	5,435	5,428
Warren	59	32	55	65	47	143.42	78.53	136.21	162.36	118.60	41,139	40,747	40,379	40,035	39,629
Washington	126	82	122	154	115	107.75	70.69	105.98	134.76	102.29	116,936	116,005	115,117	114,275	112,426
Wayne	12	17	10	19	12	70.02	99.78	59.01	112.76	71.13	17,139	17,037	16,946	16,850	16,870
Weakley	24	44	26	24	24	71.28	131.14	77.73	71.93	71.39	33,672	33,552	33,451	33,365	33,619
White	31	33	51	43	38	124.04	132.98	206.97	175.68	156.97	24,992	24,815	24,641	24,477	24,208
Williamson	119	133	93	111	93	68.92	78.94	56.53	69.04	60.61	172,662	168,477	164,507	160,773	153,451
Wilson	89	108	81	100	89	81.43	100.50	76.62	96.12	88.59	109,303	107,463	105,722	104,039	100,467
Tennessee	6418	6,155	6,288	6,241	5,864	103.47	100.17	103.25	103.35	98.46	6,202,803	6,144,738	6,090,043	6,038,636	5,955,935

*Numbers less than 5 are not disclosed.

Source: Tennessee Department of Health, Division of Health Statistics, Traumatic Brain Injury Registry

Appendix A

Cause of Injury Definitions

All Other Accidents includes the following causes of injury for the graphs located on pages 12, 19 and 43:

- Railway accidents (E800-E807)
- Water transport accidents (E830-E838)
- Air and space transport accidents (E840-E845)
- Vehicle accidents not elsewhere classified (E846-E848)
- Surgical/medical procedures – misadventures or abnormal reaction (E870-E879)
- Accidents caused by fire and flames (E890-E899)
- Accidents due to natural and environmental factors (E900-E909)
- Accidents caused by submersion, suffocation, and foreign bodies (E910-E915)
- Other accidents (E916-E929)
- Late effects of accidental injury (E929)
- Drugs causing adverse effects in therapeutic use (E930-E949)

Homicide/Other Violence includes the following causes of injury for the graphs located on pages 12, 19 and 43:

- Homicide and injury purposely inflicted by other persons (E960-E969)
- Legal intervention (E970-E978)
- Injury undetermined whether accidentally or purposely inflicted (E980-E989)

Motor Vehicle Traffic Accident (E810 - E819) is any motor vehicle accident occurring on a public highway [i.e., originating, terminating, or involving a vehicle partially on the highway]. A motor vehicle accident is assumed to have occurred on the highway unless another place is specified, except in the case of accidents involving only off-road motor vehicles which are classified as non traffic accidents unless the contrary is stated.

Motor Vehicle Nontraffic Accident (E820 – E825) is any motor vehicle accident which occurs entirely in any place other than a public highway.

Other Accidents (E916 – E928) Includes:

- E916 Struck accidentally by falling object
- E917 Striking against or struck accidentally by objects or persons.
- E918 Caught accidentally in or between objects
- E919 Accidents caused by machinery
- E920 Accidents caused by cutting or piercing instruments or objects
- E921 Accident caused by explosion of pressure vessel
- E922 Accident caused by firearm, and air gun missile
- E923 Accident caused by explosive material
- E924 Accident caused by hot substance or object, caustic or corrosive material, and steam
- E925 Accident caused by electrical current
- E926 Exposure to radiation
- E927 Overexertion and strenuous and repetitive movements or loads
- E928 Other and unspecified environmental and accidental causes

Other Road Vehicle is any device, except a motor vehicle, in, on, or by which any person or property may be transported on a highway. Includes animal carrying a person or goods, animal-drawn vehicles, animal harnessed to conveyance, bicycle [pedal cycle], streetcar, tricycle.

Other Road Vehicle Accidents (E826 – E829) are transport accidents involving road vehicles other than motor vehicles.

Vehicle Accidents not elsewhere classified (E846 – E848)

E846 Accidents involving powered vehicles used solely within the buildings and premises of industrial or commercial establishment.

E847 Accidents involving cable cars not running on rails or ski lifts

E848 Accidents involving other vehicles not elsewhere classified