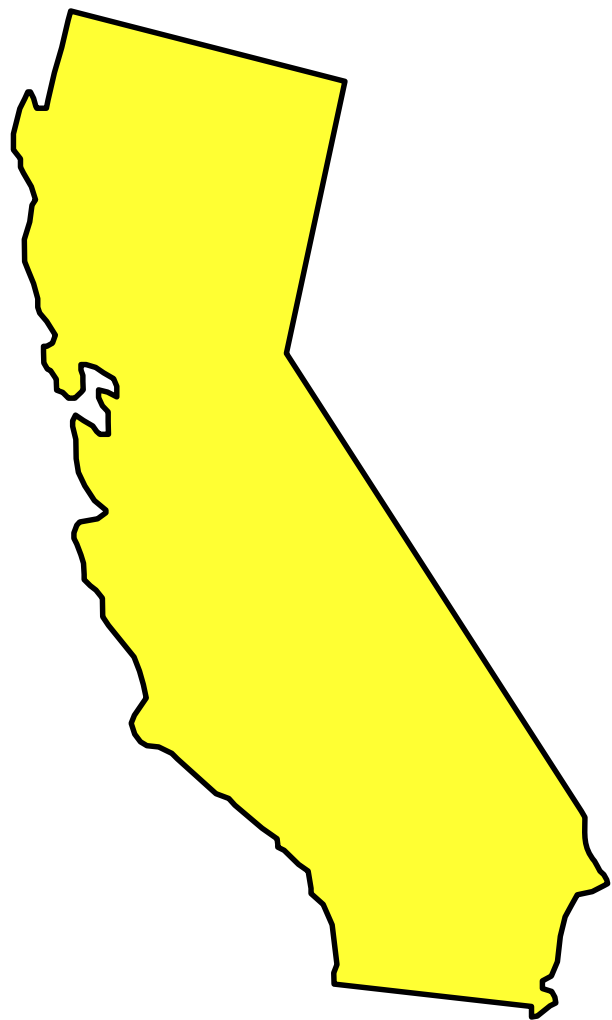


# Injuries among American Indians in California

1993-2002



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1993-2002



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# Injuries among American Indians in California (1993-2002)

## Table of Contents

### Preface

Introduction .....	1
What is a Rate? .....	2
Definitions for Fatal and Non-fatal Injuries.....	2
Calculating Injury Rates .....	2
Aggregate Populations .....	2
Significance .....	3
Limitations .....	3
Sources for the Data Used .....	3
California EPICenter.....	4
Population Growth of American Indians and Alaska Natives (AI/AN) in California .....	5
Years of Potential Life Lost (YPLL) among AI/AN, by Cause .....	6

### Fatal Injuries and Injury Rates

Fatal Injury Rates by Race/Ethnicity .....	7
Fatal Injury Rates among AI/AN, by Year .....	8
Fatal Injury Rates among AI/AN, by Intent .....	9
Fatal Injury Percentage among AI/AN, by Injury Type .....	10
Fatal Injury Rates, by Race/Ethnicity .....	11
Top Ten Leading Causes of Death for All Races, by Age Group .....	12
Population, Fatal Injuries, and Injury Rates among AI/AN .....	13
Top Ten Leading Causes of Death among AI/AN .....	14
Fatal Injury Rate Trends among AI/AN, by Age Group .....	15

### Non-Fatal Injuries and Injury Rates

Non-fatal Injuries among AI/AN, by Intent .....	16
Non-fatal Injuries among AI/AN, by Year .....	17
Non-fatal Injury Rates among AI/AN, by Year .....	18
Population, Non-fatal Injuries, and Injury Rates among AI/AN .....	19
Non-fatal Injuries among AI/AN, by Age Group .....	20
Non-fatal Injury Rates among AI/AN, by Age Group .....	21
Age-Adjusted Non-fatal Injury Rates among AI/AN .....	22

# Injuries among American Indians in California (1993-2002)

## Table of Contents

### Unintentional Injuries

Unintentional Injury Rates among AI/AN, by Injured Person .....	23
Unintentional Injury Rates among AI/AN, by Gender .....	24
Motor Vehicle Injuries among AI/AN, by Injured Person .....	25
Fatal and Non-fatal Motor Vehicle Injuries among AI/AN, by County .....	26
Fatal and Non-fatal Fall Injuries among AI/AN, by County .....	27

### Intentional Injuries

Assault/Homicide Injury Rates among AI/AN, by Cause .....	28
Assault/Homicide Injury Rates among AI/AN, by Age .....	29
Assault/Homicide Injury Rates among AI/AN, by Gender .....	30
Fatal and Non-fatal Assault/Homicide Injuries among AI/AN, by County .....	31
Self-inflicted Injuries among AI/AN, by Cause .....	32
Self-inflicted Injury Rates among AI/AN, by Age .....	33
Self-inflicted Injury Rates among AI/AN, by Gender .....	34
Fatal and Non-fatal Self-Inflicted/Suicide Injuries among AI/AN, by County .....	35

### Costs Associated with Injuries

Estimated Medical Costs for Fatal and Non-fatal Injuries among AI/AN .....	36
Medical Costs of Injury Hospitalizations among AI/AN, by Injury Type .....	37
Estimated Medical Costs per Incident, by Injury Type (All Races) .....	38

### Appendix

Population, Fatal, and Non-fatal Injuries among AI/AN, by County .....	39-40
Five Leading Causes of Injuries in California .....	41
Definitions .....	42
Injury Classification Codes (ICD-9 and ICD-10) .....	43-45
References .....	45
Sources for Additional Data and Injury Information .....	46-48

# Injuries among American Indians in California

## 1993-2002

### Introduction

American Indians and Alaska Natives (AI/AN) continue to incur death and disability from injuries at a rate three times higher than that of other racial and ethnic groups in the United States. This disproportionate phenomenon is not new. Additional assessments and programs need to continue to be developed to reduce the tragic impact of injuries among Indian people. In the 2000 U.S. Census, the number of people in California reporting themselves as the single race of AI/AN was 336,342<sup>(1)</sup>.

This Injury Atlas is divided into seven sections:

**Introduction:** An explanation of the terms and calculations used to compile this report

**Fatal Injuries:** Charts and tables illustrating fatal injury patterns and injury rates

**Non-fatal Injuries:** Charts and tables illustrating non-fatal injury patterns and injury rates

**Unintentional Injuries:** Charts, maps, and tables showing rates by county and injury type

**Intentional Injuries:** Charts, maps, and tables showing rates by county and injury type

**Cost Analysis:** Charts and tables associating costs with injury types

**Appendix:** A list of resources for more information on injury prevention statistics

Under-reporting of injury fatalities to AI/AN is significant in California due to racial misclassification. Therefore, the patterns for injuries identified in this report are generally accurate; but the numbers of injuries reported for AI/AN are generally assumed to be less than the actual amount. Reports published by the national office of the Indian Health Service routinely exclude or separate mortality data for AI/AN in California, highlighting suspected inaccuracies due to racial misclassification<sup>(2)</sup>. Almost two-thirds of the 336,342 AI/AN in California reside in urban counties where misclassification is much more likely to occur<sup>(2)</sup>. For the purpose of this report, misreporting adjustments were made using an under-reported fatal injury percentage of 30.4%.<sup>2</sup> This adjustment estimate has undergone extensive research utilizing the National Death Index (NDI) and was established by the Department of Health and Human Services<sup>(3)</sup>.

## What is a Rate?

A rate is defined as the number of events that happen during a period of time divided by the average (midpoint) population that is at risk. It is used to estimate the risk for a small affected population, or in a short time period. In the calculations below, the total number of persons in the population, at that time, is considered the “person-time units.”

## Definitions for Fatal and Non-fatal injuries

### Fatal Injury

A death certificate is issued  
as a result of an injury incident

### Non-fatal Injury

A hospitalization is established  
as a result of an injury incident

## Calculating Injury Rates

### Fatal/Nonfatal Injury Rate:

$$\frac{\text{Number of Injuries (fatal/nonfatal) in County or State (YEAR(s))}}{\text{Total Population in County or State (YEAR(s))}} * 100,000 = \text{Number of deaths per 100,000}$$

### Example of a Specific Injury Fatality or Hospitalization Rate:

$$\frac{\text{Number of Fatalities or Hospitalizations from burns in County or State (YEAR(s))}}{\text{Total Population in County or State (YEAR(s))}} * 100,000 = \text{Number of burn deaths or hospitalizations per 100,000}$$

## Aggregate Populations: State and County (1993-2002)

The analysis described in this atlas includes the severity of injuries to AI/AN over a ten-year period. To adjust for people being born, dying, and moving in and out of a county, this number is actually the sum of each year’s population. If you divide the populations by 10, you will get the average population over a ten year period. Although the rate shown can be treated as the number of injuries per 100,000 people, it is a more accurate definition to view the number of injuries per 100,000 persons per year.

## Significance

The overall small number of reported injuries for Indians living in some counties in California results in problems when comparing rates. If there were not more than 20 events (injuries) when calculating rates, the rate is suspect for accuracy and generally should not be used for comparison purposes. In this report, statistically significant relationships were determined as valid for data sets with 20 or more injuries. The maps and charts in the report provide comparisons between statistically significant data unless otherwise noted. The tables in this report list all of the data available (both statistically and non-statistically significant) in detailed form.

Unintentional fall injuries were most likely to occur among females in the 75+ age group, while elevated motor vehicle injuries were seen among males in the 25-44 age groups. Intentional injuries were most prevalent among the 20-34 age groups. Homicides/assault injuries were highest among the male AI/AN population and self-inflicted (poisoning) injuries were highest among the female AI/AN population for the state of California. When the data was reviewed by County of occurrence, fatal and non-fatal motor vehicle injuries were dominant over the rate for all races for California. Rates by County for Intentional injuries (Homicides/Assault and Self-inflicted) were both above and below the rate for all races for California. For fall injury rates, all AI/AN County rates fell below the rate for all races in California.

## Limitations

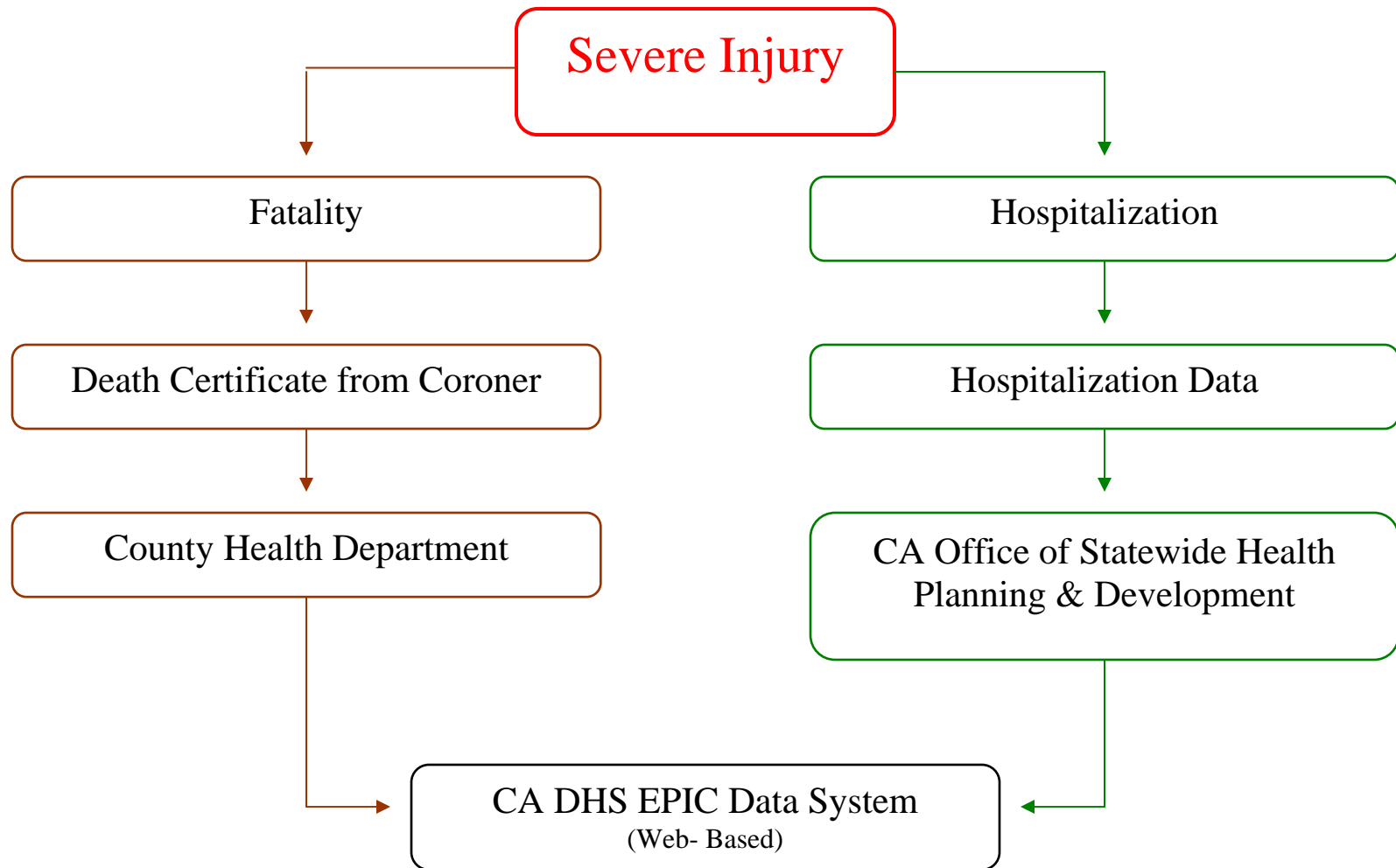
Population statistics used in this report were limited in the discrimination between AI/AN populations with more than one race/ethnicity. Therefore, all populations were based on the single reported race of AI/AN. Discrepancies due to single and multi-racial classifications were noted between U.S. Census population statistics and that of California derived data. A ten year segment (1993-2002) was chosen to reduce insignificance due to low injury numbers (<20) that can drastically misrepresent injury trends.

## Sources for the Data Used

The Top Ten Leading Causes of Death and the various charts and graphs for National and State data were created using the Web-based Injury Statistics Query and Reporting System (WISQARS) from the National Center for Injury Prevention and Control at the Centers for Disease Control and Prevention. Rates for injuries occurring at the State and County levels are depicted in maps by using injury records from the California Department of Health Services EPICenter program which is available on-line. Population data and statistics were derived from the 2000 U.S. Census, also available on-line. County of residence is used when hospitalization or fatal data are recorded. For example, if an American Indian is injured in a County other than his/her residence, the record will reflect that the injury occurred in his/her county of residence. Cost Analysis data was taken for the mid-year (1997) population of this report. Medical costs are estimations based on 1997 hospital discharge data of the state<sup>(4)</sup>. The costs were adapted using a state-specific medical price adjuster<sup>(4)</sup>.

## The California EPICenter: California Injury Data Online

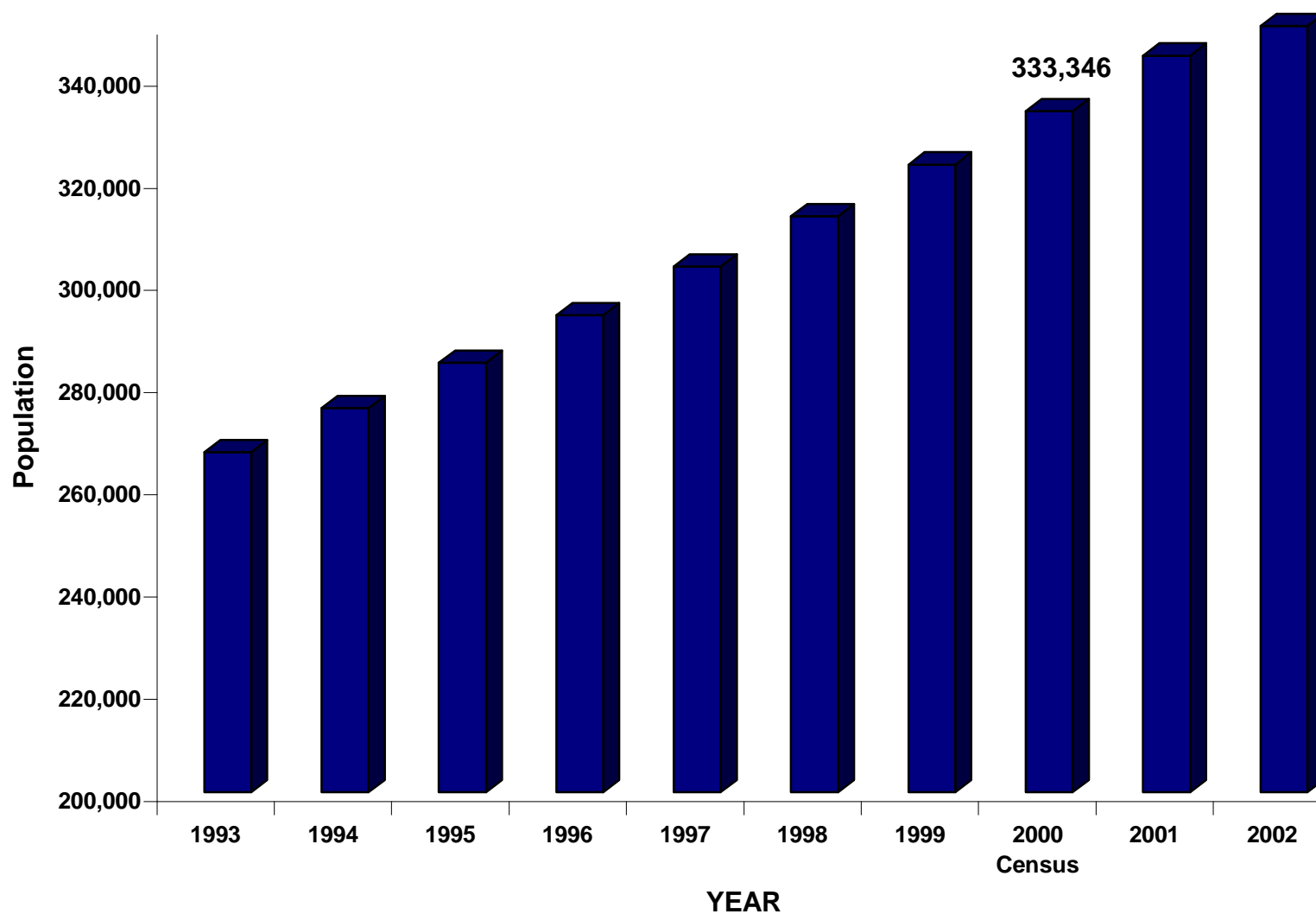
The EPICenter is maintained by the Department of Health Services (DHS) to fulfill the Epidemiology and Prevention Injury Control (EPIC) mission of providing accurate, timely, and objective information on injuries. It is the most complete source of injury data for California. The flow of information for the system is diagrammed below:





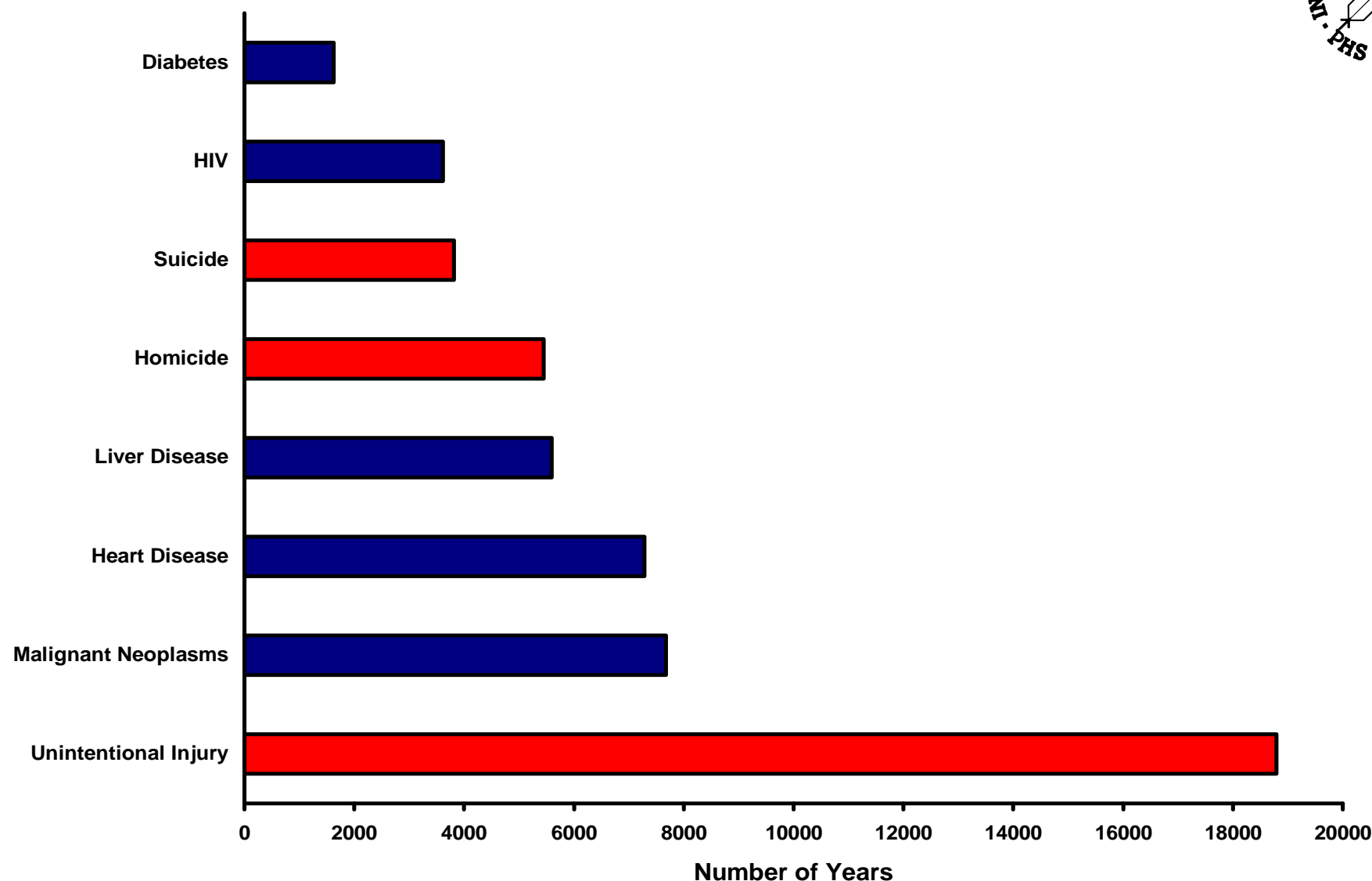


## Population Growth among AI/AN California, 1993-2002



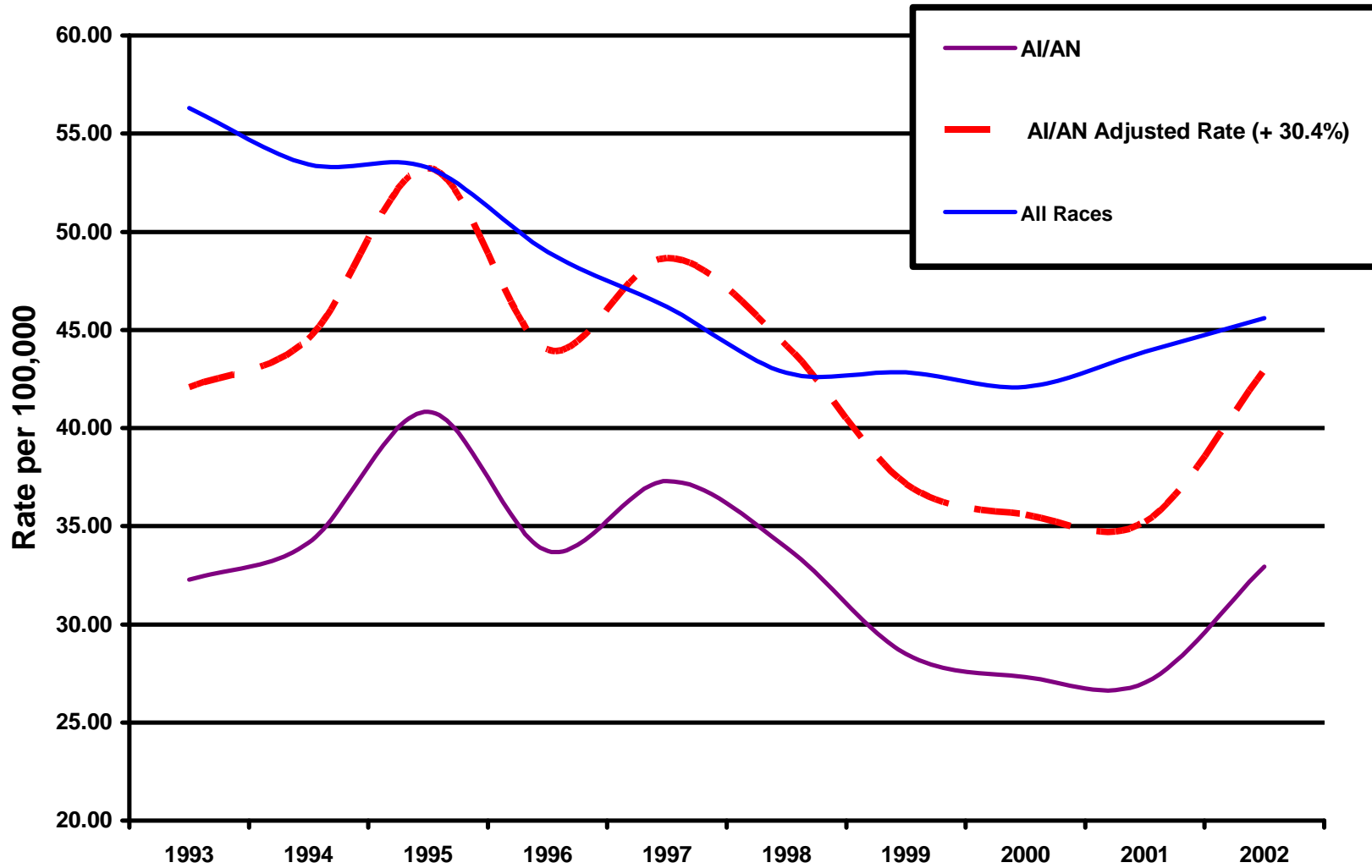
Population estimates for years other than 1990 & 2000 are calculated based on average rate of change and are limited in accuracy.  
Source: [www.ihs.gov/NonMedicalPrograms/IHS\\_Stats](http://www.ihs.gov/NonMedicalPrograms/IHS_Stats).

## Years Potential Life Lost (YPLL) among AI/AN, by Cause California, 1993-2001\*



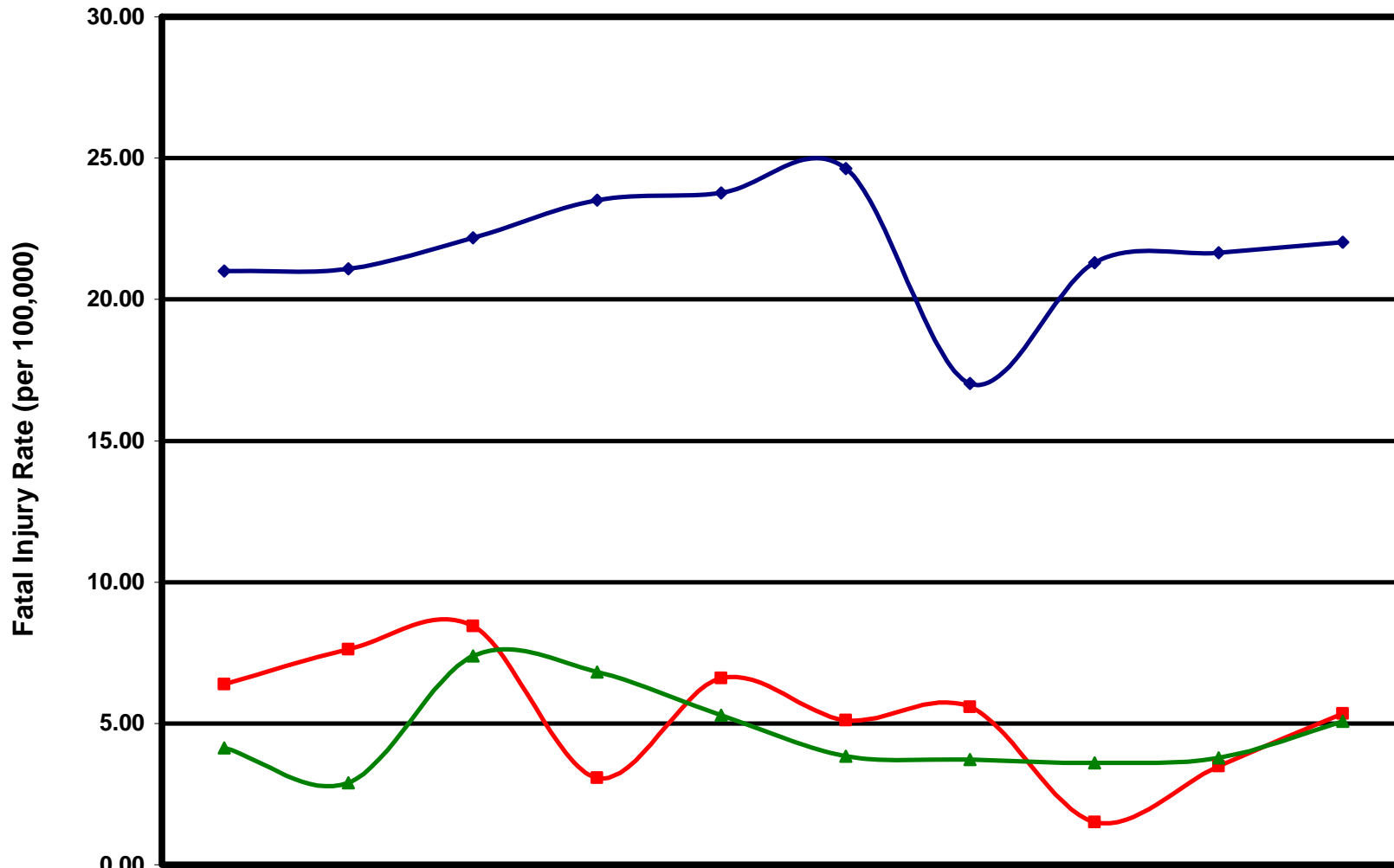
YPLL is calculated by subtracting the age at death from the standard year (65), and then summarizing the individual YPLL across each cause of death. Note: YPLL does not include people who died at the standard year (65) or older.  
 Source: WISQARS (Data was not available for 2002)

## Comparison of Fatal Injury Rates for AI/AN and All Races, California, 1993-2002



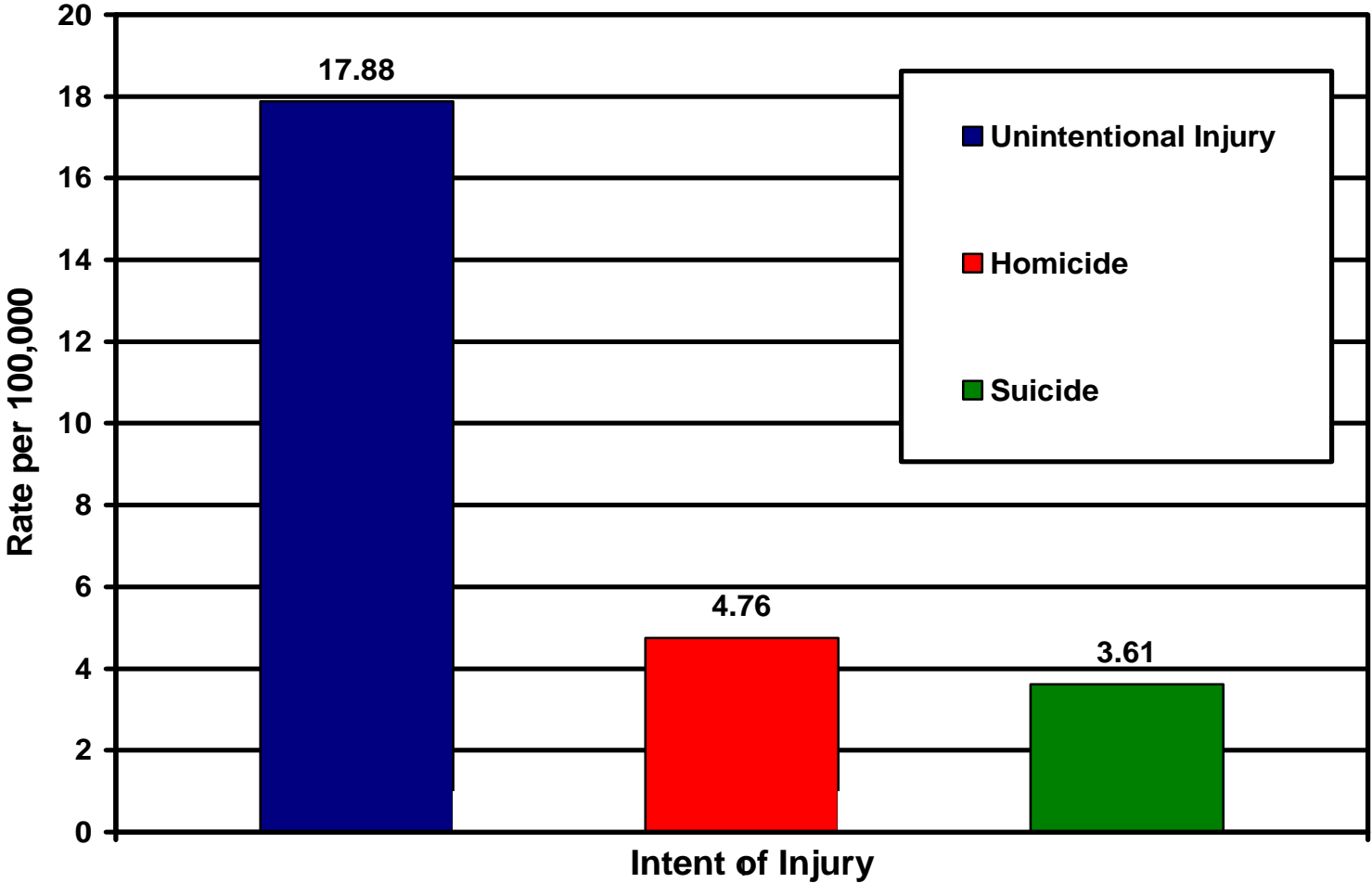
*Adjusted Rate - adjusted to compensate for misreporting of AI/AN race on state death certificates*

# Fatal Injury Rates among AI/AN, by Year California, 1993-2002

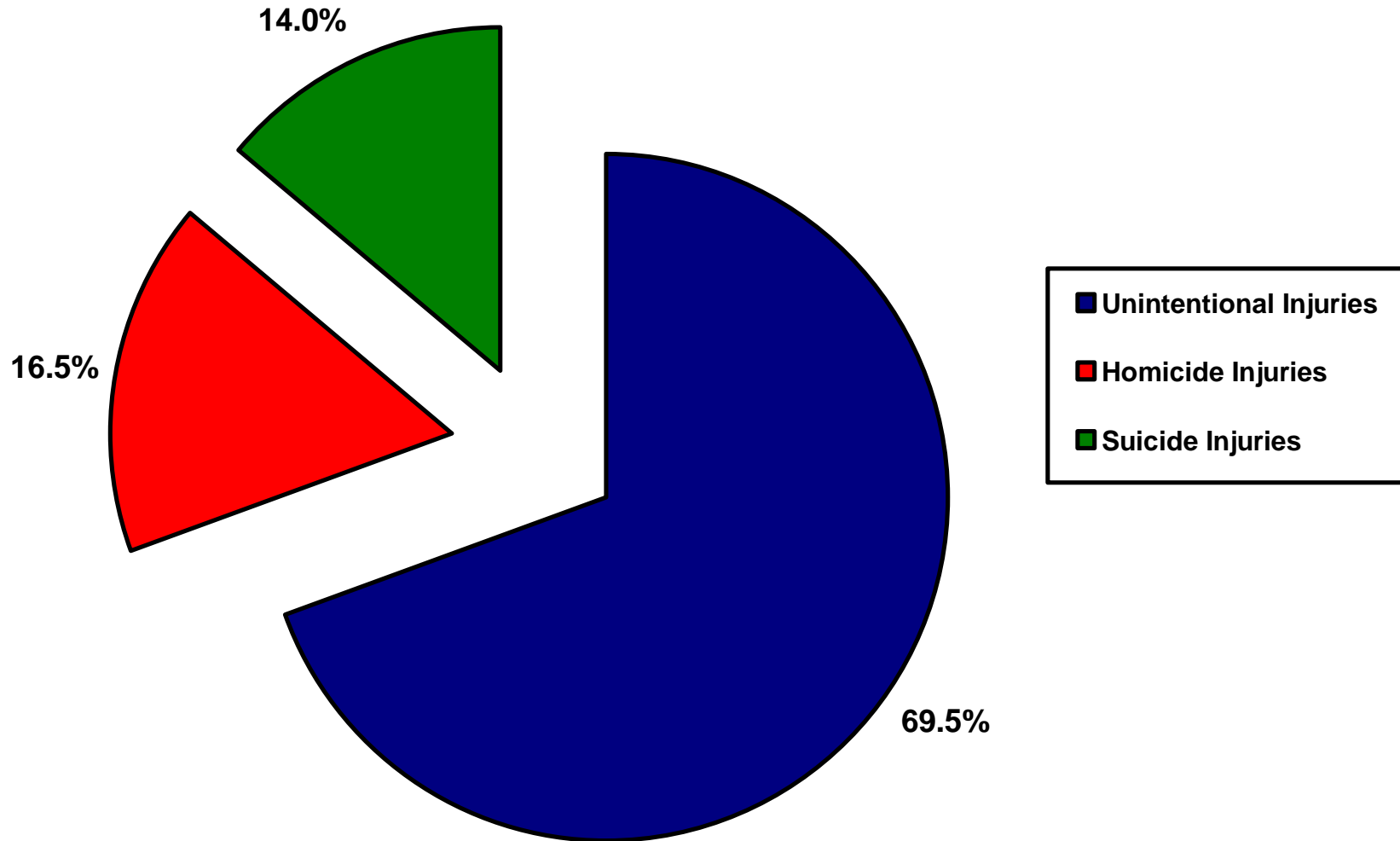


	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
◆ Unintentional	21.0	21.1	22.2	23.5	23.8	24.6	17.0	21.3	21.7	22.0
■ Homicide	6.4	7.6	8.4	3.1	6.6	5.1	5.6	1.5	3.5	5.3
▲ Suicide	4.1	2.9	7.4	6.8	5.3	3.8	3.7	3.6	3.8	5.1

# Fatal Injury Rates among AI/AN, by Intent California, 1993-2002



# Fatal Injury Percentage among AI/AN, by Injury Type California, 1993-2002





## Fatal Injury Rates by Race/Ethnicity California, 1993-2002

Year	<i>American Indian/Alaska Native</i>				<i>White</i>		<i>Hispanic</i>		<i>Black</i>		<i>Asian/Pacific Islander</i>	
	Unadjusted Number	Adjusted* Number	Unadjusted Rate	Adjusted* Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1993	86	112	32.3	42.1	9,561	56.7	4,650	52.8	2,365	108.1	972	30.5
1994	94	123	34.2	44.5	9,241	55.5	4,365	48.1	2,158	98.2	987	29.8
1995	116	151	40.8	53.2	9,262	56.3	4,490	48.0	2,029	92.1	990	28.9
1996	99	129	33.7	44.0	8,782	54.0	4,085	42.5	1,760	79.5	915	25.8
1997	113	147	37.3	48.7	8,500	52.4	3,728	37.4	1,586	70.7	1,045	28.3
1998	106	138	33.9	44.2	8,115	50.4	3,493	34.0	1,454	64.1	888	23.1
1999	92	120	28.5	37.2	8,249	51.3	3,639	34.1	1,383	60.1	929	23.2
2000	91	119	27.3	35.6	8,146	50.7	3,636	33.2	1,429	61.3	934	22.6
2001	93	120	27.0	35.2	7,991	54.0	3,575	31.5	1,365	65.7	938	22.9
2002	117	121	32.9	42.9	7,839	56.6	3,514	29.9	1,305	73.7	943	22.2

\* Adjusted-specifies a number or rate adjusted to compensate for misreporting of AI/AN race on state death certificates.

# Top Ten Leading Causes of Death California, 1993-2001\*

Total Population, All Races



Rank	AGE GROUPS										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 7,368	Unintentional Injury 2,189	Unintentional Injury 1,322	Unintentional Injury 1,439	Unintentional Injury 11,336	Unintentional Injury 12,561	Malignant Neoplasms 16,559	Malignant Neoplasms 41,731	Malignant Neoplasms 75,814	Heart Disease 524,369	Heart Disease 621,551
2	Short Gestation 3,170	Congenital Anomalies 818	Malignant Neoplasms 678	Malignant Neoplasms 658	Homicide 9,523	HIV 7,661	Unintentional Injury 15,607	Heart Disease 28,450	Heart Disease 56,654	Malignant Neoplasms 325,729	Malignant Neoplasms 468,496
3	SIDS 2,843	Malignant Neoplasms 552	Congenital Anomalies 300	Homicide 449	Suicide 3,702	Homicide 7,241	HIV 13,480	Unintentional Injury 11,119	Cerebro-vascular 9,367	Cerebro-Vascular 132,371	Cerebro-Vascular 151,334
4	Respiratory Distress Syn 1,168	Homicide 453	Homicide 185	Suicide 247	Malignant Neoplasms 1,966	Suicide 5,536	Heart Disease 10,504	Liver Disease 7,971	Chronic Lower Resp. Dis 9,254	Chronic Lower Respiratory Disease 93,058	Chronic Lower Respiratory Disease 106,950
5	Maternal Complications 1,055	Heart Disease 180	Heart Disease 128	Congenital Anomalies 244	Heart Disease 792	Malignant Neoplasms 4,829	Suicide 6,390	HIV 7,119	Liver Disease 7,231	Influenza & Pneumonia 81,477	Influenza and Pneumonia 89,235
6	Intrauterine Hypoxia 511	Influenza & Pneumonia 175	Influenza & Pneumonia 65	Heart Disease 146	Congenital Anomalies 516	Heart Disease 2,700	Liver Disease 4,948	Cerebro-Vascular 5,713	Diabetes Mellitus 7,167	Diabetes Mellitus 36,387	Unintentional Injury 82,193
7	Unintentional Injury 487	Perinatal Period 111	Chronic Lower Resp. Dis 48	Chronic Lower Respiratory Disease 99	HIV 324	Liver Disease 849	Homicide 4,321	Suicide 5,041	Unintentional Injury 6,220	Unintentional Injury 19,466	Diabetes Mellitus 49,760
8	Perinatal Infections 479	Benign Neoplasms 76	Benign Neoplasms 47	Cerebrovascular 46	Chronic Lower Resp Dis 191	Cerebrovascular 768	Cerebro-Vascular 2,640	Diabetes Mellitus 1,716	Influenza & Pneumonia 3,401	Alzheimer's 17,088	Liver Disease 32,408
9	Circulatory System Disease 622	Benign Neoplasms 58	Cerebro-Vascular 38	Influenza & Pneumonia 46	Influenza & Pneumonia 181	Congenital Anomalies 458	Diabetes Mellitus 1,958	Chronic Lower Respiratory Disease 3,324	Nephritis 3,284	Unintentional Injury 32,694	Nephritis 39,480

\* Source: National Center for Health Statistics, (NCHS) Vital Statistics Systems (Data was not available for 2002)



## Population, Fatal Injuries, and Injury Rates among AI/AN California, 1993-2002

Year	AI/AN Population	Number of All Injuries		Rate of All Injuries		Number of Unintentional Injuries		Rate of Unintentional Injuries		Number of Homicide Injuries		Rate of Homicide Injuries		Number of Suicide Injuries		Rate of Suicide Injuries	
		Unadj	Adj	Unadj	Adj	Unadj	Adj	Unadj	Adj	Unadj	Adj	Unadj	Adj	Unadj	Adj	Unadj	Adj
1993	303,782	86	112	34.0	42.1	53	73	22.1	27.4	17	22	6.7*	8.3	11	14	4.3*	5.4*
1994	308,233	94	123	34.6	44.5	66	66	21.3	27.5	21	27	7.72	10.0	8	10	2.9*	3.8
1995	312,749	116	151	40.0	53.2	56	82	21.7	28.9	24	31	8.27	11.0	21	27	7.24	9.6
1996	317,331	99	129	32.1	44.0	58	90	22.3	30.7	9	12	2.9*	4.0	20	26	6.48	8.9
1997	321,981	113	147	34.3	48.7	63	94	21.8	31.0	20	26	6.07	8.6	16	21	4.8*	6.9
1998	326,699	106	138	30.4	44.2	69	100	22.1	32.1	16	21	4.59	6.7	12	16	3.4*	5.0*
1999	331,485	92	120	24.8	37.2	72	72	14.9	22.2	18	23	4.86	7.3	12	16	3.2*	4.8*
2000	336,342	91	119	23.5	35.6	77	93	18.4	27.8	5	7	1.2*	2.0	12	16	3.3*	5.1*
2001	341,217	93	121	22.2	35.2	55	97	18.0	28.2	12	16	1.2*	2.0	13	17	3.6*	5.7*
2002	346,271	117	153	20.9	42.9	71	102	17.6	28.7	19	25	1.2*	2.1	18	23	3.8*	6.3

*Population estimates for years other than 1990 & 2000 are calculated based on average rate of change and are limited in accuracy.*

*Adj - specifies a number or rate adjusted to compensate for misreporting of AI/AN race on state death certificates*

*\*Rates based on 20 or fewer events may be unstable. Use with caution.*

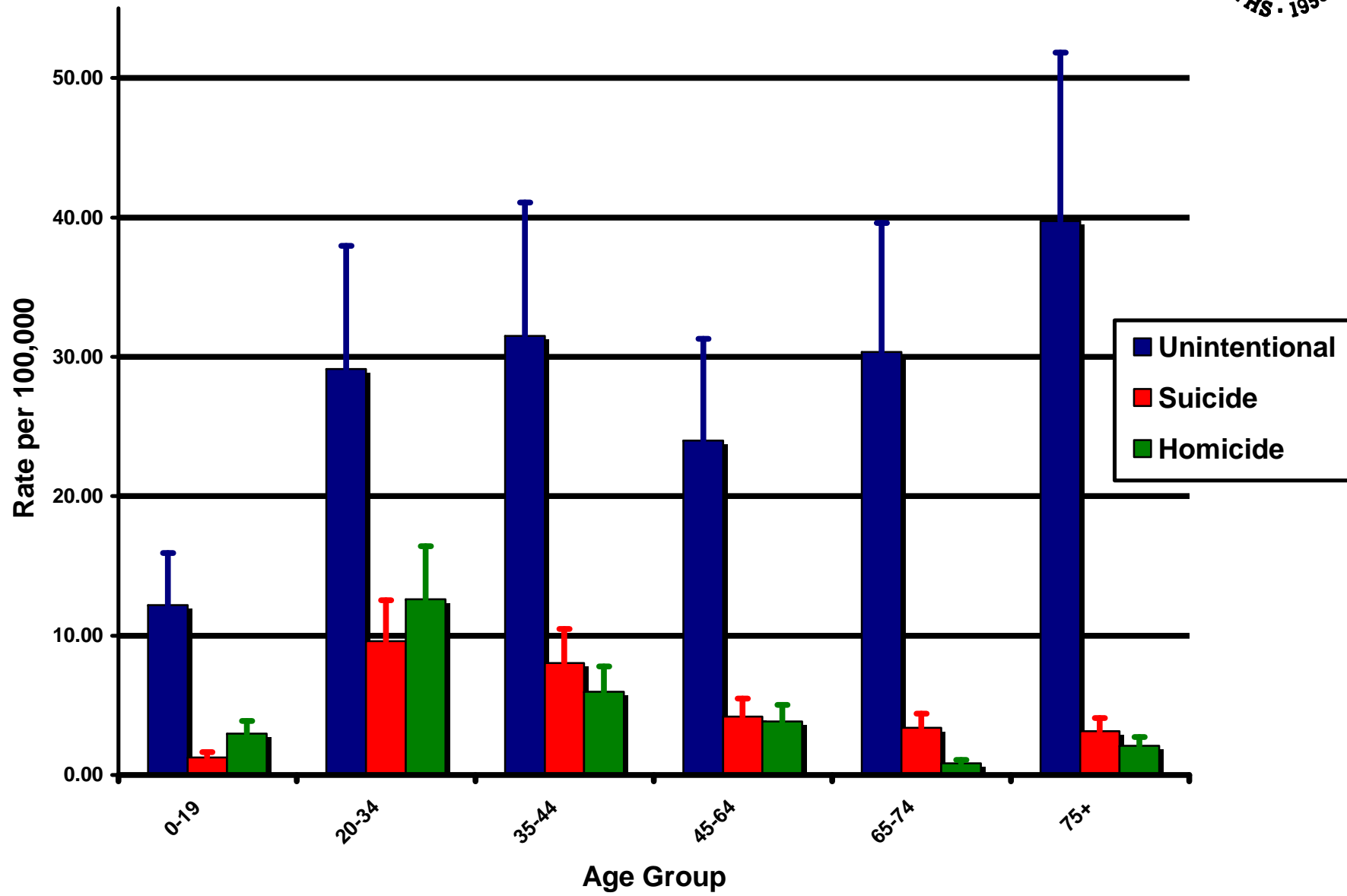
## Top Ten Leading Causes of Death among AI/AN California, 1993-2001\*



AGE GROUPS											
Rank	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	Total
1	SIDS 27	Unintentional Injuries 24	Unintentional Injuries 7	Unintentional Injuries 16	Unintentional Injuries 123	Unintentional Injuries 128	Unintentional Injury 146	Heart Disease 195	Malignant Neoplasms 303	Heart Disease 1,336	Heart Disease 1,926
2	Congenital Anomalies 23	Malignant Neoplasms 4	Malignant Neoplasms 2	Malignant Neoplasms 4	Homicide 39	Homicide 60	Liver Disease 100	Malignant Neoplasms 174	Heart Disease 301	Malignant Neoplasms 785	Malignant Neoplasms 1,375
3	Short Gestation 19	Congenital Anomalies 3	Congenital Anomalies 2	Cerebro-vascular 1	Suicide 26	Suicide 40	Malignant Neoplasms 78	Liver Disease 118	Liver Disease 101	Cerebro-vascular 339	Unintentional Injury 661
4	Unintentional Injuries 6	Heart Disease 3	Influenza & Pneumonia 2	Homicide 1	Malignant Neoplasms 9	HIV 38	Heart Disease 68	Unintentional Injury 97	Diabetes Mellitus 95	Chronic Lower Resp. Disease 247	Cerebro-vascular 448
5	Maternal Complications 5	Pneumonia & Influenza 2		Suicide 1	Congenital Anomalies 6	Liver Disease 19	HIV 68	Cerebro-Vascular 39	Chronic Lower Resp 56	Diabetes Mellitus 227	Liver Disease 413
6	Intrauterine Hypoxia 6	Homicide 2			Heart Disease 4	Heart Disease 17	Suicide 33	Diabetes Mellitus 35	Cerebro-Vascular 49	Influenza & Pneumonia 172	Diabetes Mellitus 378
7	Homicide & Legal Int. 4	Meningococcal Infection 2			Benign Neoplasms 3	Malignant Neoplasms 16	Homicide 30	HIV 26	Unintentional Injury 45	Liver Disease 73	Chronic Lower Resp. Disease 324
8	Respiratory Distress Syn 3				Chronic Lower Resp. Disease 1	Congenital Anomalies 4	Cerebro-vascular 17	Homicide 12	Influenza & Pneumonia 28	Unintentional Injury 69	Influenza & Pneumonia 234
9	Placental Cord Membranes 3				Diabetes Mellitus 1	Diabetes Mellitus 2	Diabetes Mellitus 14	Viral Hepatitis 11	Nephritis 15	Nephritis 56	Homicide 124
10	Atelectasis 2				Liver Disease 1		Viral Hepatitis 10	Chronic Lower Resp. Disease 10	Suicide 9	Alzheimer's Disease 26	HIV 113

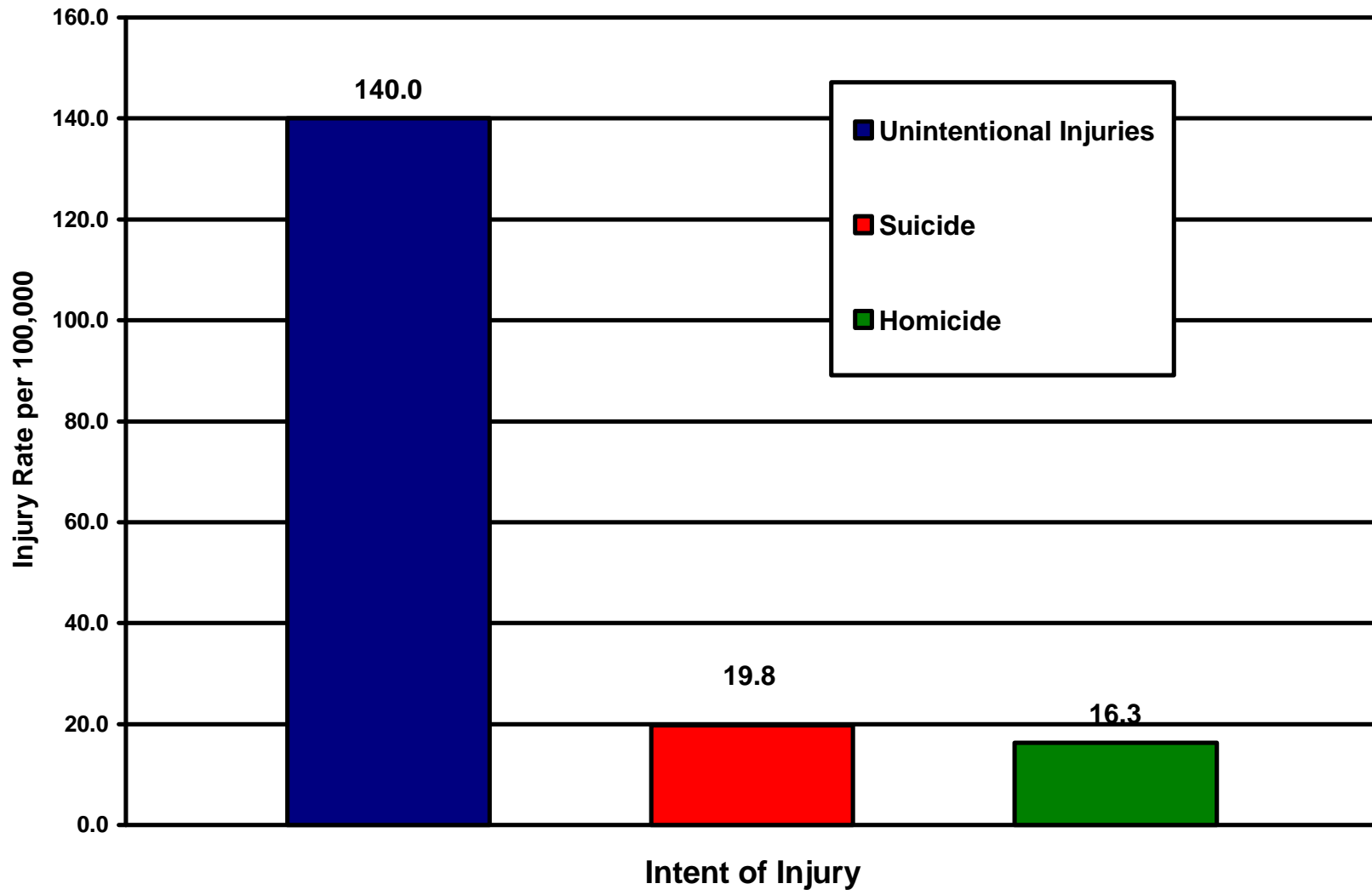
\* Source: National Center for Health Statistics, (NCHS) Vital Statistics System (Data was not available for 2002)

# Fatal Injury Rate Trends among AI/AN, by Age Group California, 1993-2002

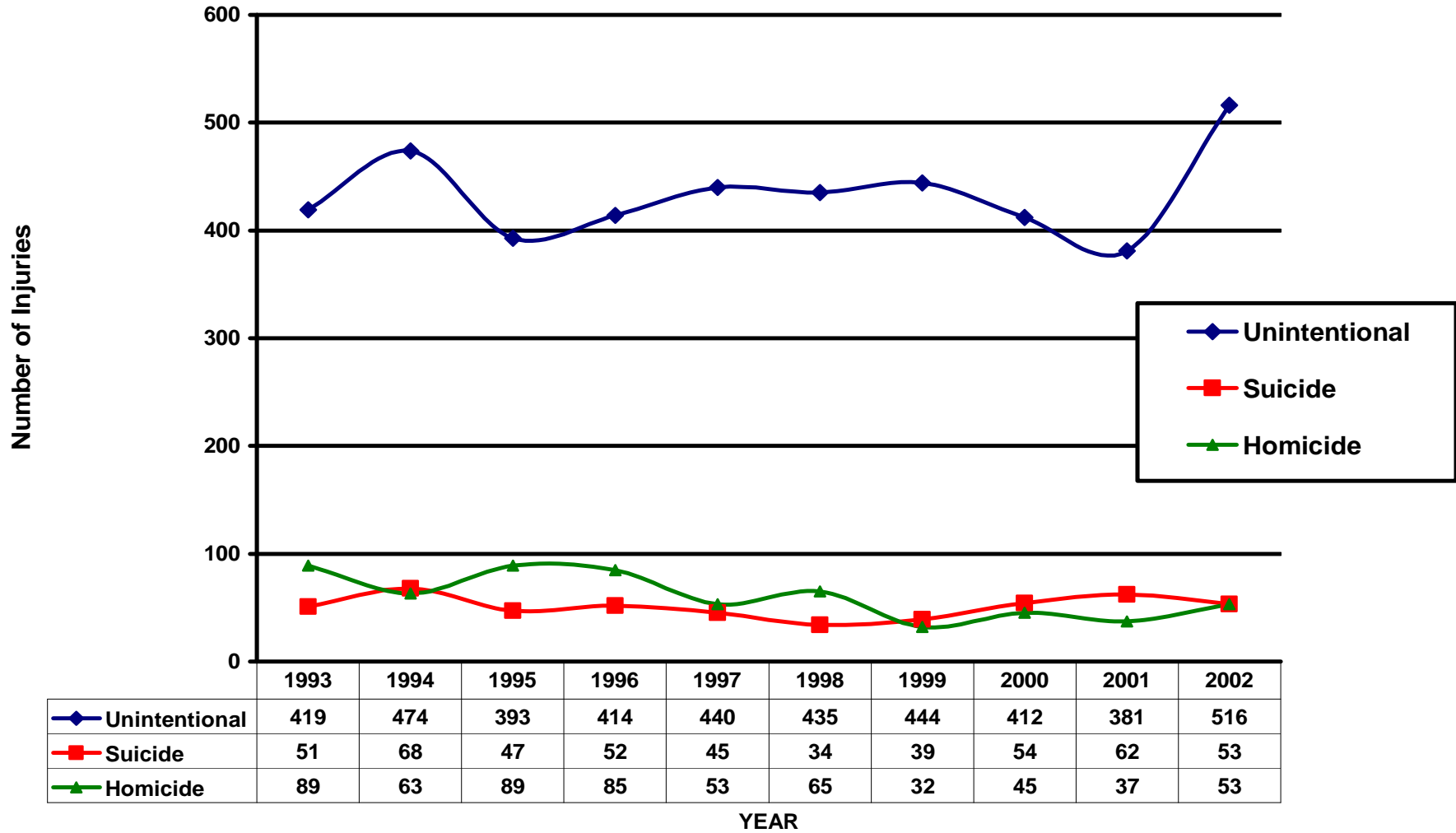


*Error bar levels include an adjustment to compensate for misreporting of AI/AN race on death certificates.*

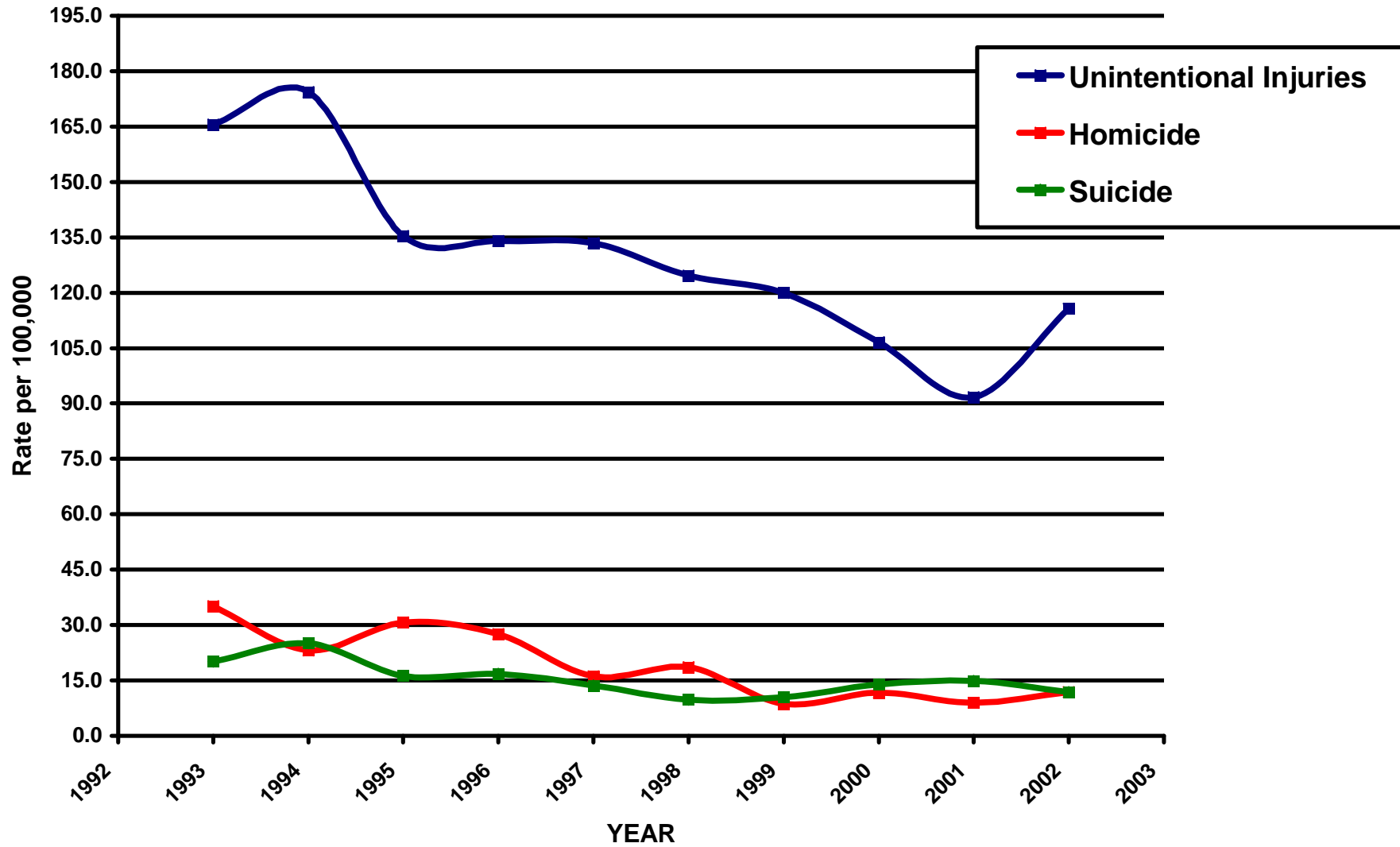
# Non-fatal Injuries among AI/AN, by Intent California, 1993-2002



# Non-fatal Injuries among AI/AN, by Year California, 1993-2002



# Non-fatal Injury Rates among AI/AN, by Year California, 1993-2002



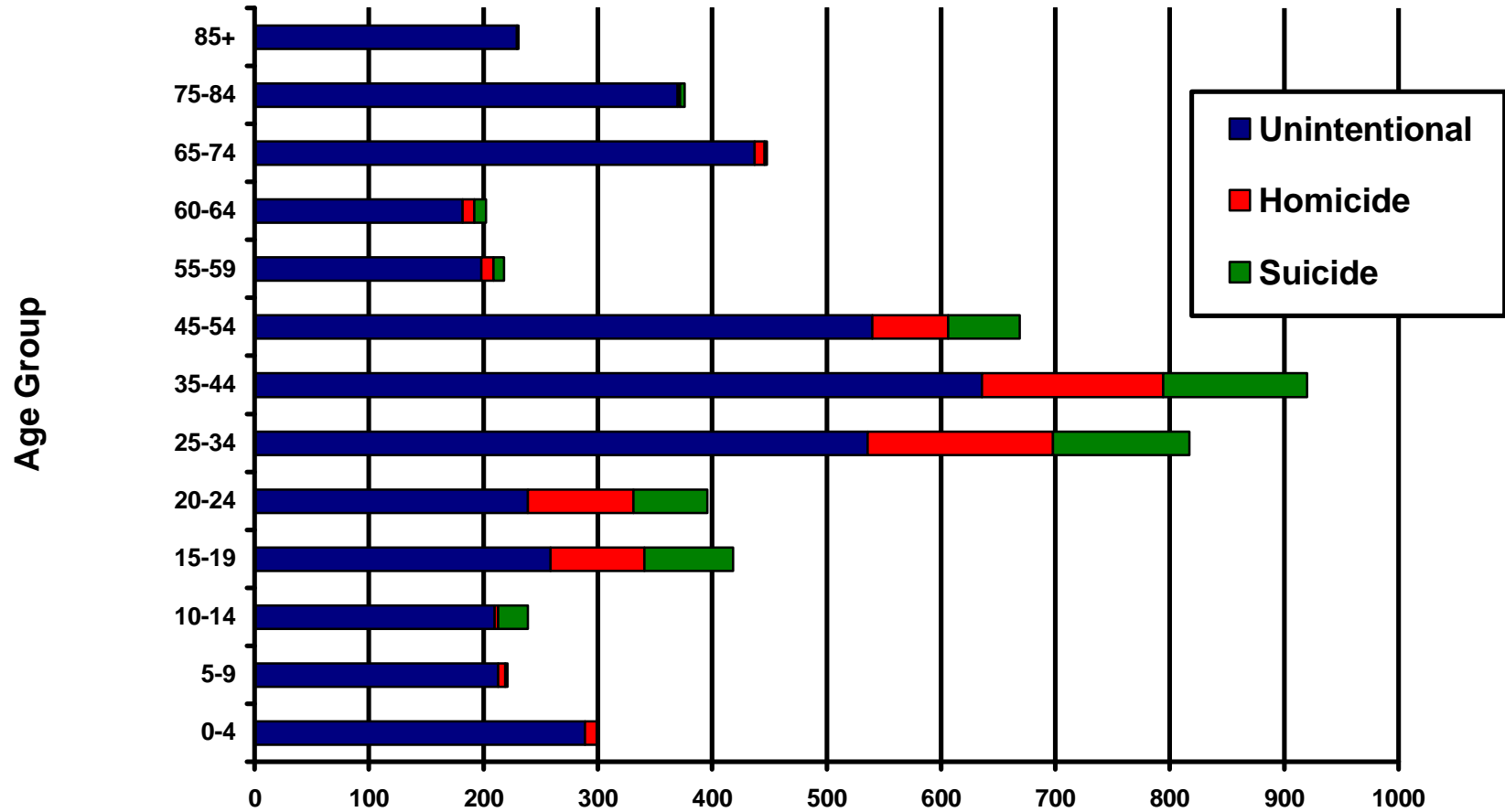
## Population, Nonfatal Injuries, and Injury Rates among AI/AN California, 1993-2002



Year	Population	Number of Nonfatal Injuries	Nonfatal Injury Rate (per 100,000)	Number of Unintentional Injuries	Unintentional Injury Rate (per 100,000)	Number of Self Inflicted Injuries	Self Inflicted Injury Rate (per 100,000)	Number of Assault Injuries	Assault Injury Rate (per 100,000)
1993	266,529	587	220.2	419	157.2	51	19.1	89	33.4
1994	275,184	638	231.8	474	172.2	68	24.7	63	22.9
1995	284,120	567	199.6	393	138.3	47	16.5	89	31.3
1996	293,346	598	203.9	414	141.1	52	17.7	85	29.0
1997	302,872	571	188.5	440	145.3	45	14.9	53	17.5
1998	312,707	574	183.6	435	139.1	34	10.9	65	20.8
1999	322,861	551	170.7	444	137.5	39	12.1	32	9.9
2000	333,346	540	162.0	412	123.6	54	16.2	45	13.5
2001	344,170	528	153.4	381	110.7	62	18.0	37	10.8
2002	355,346	690	194.2	516	145.2	53	14.9	53	14.9

*Population estimates for years other than 1990 & 2000 are calculated based on average rate of change and are limited in accuracy.*

## Non-fatal Injuries among AI/AN, by Age Group California, 1993-2002

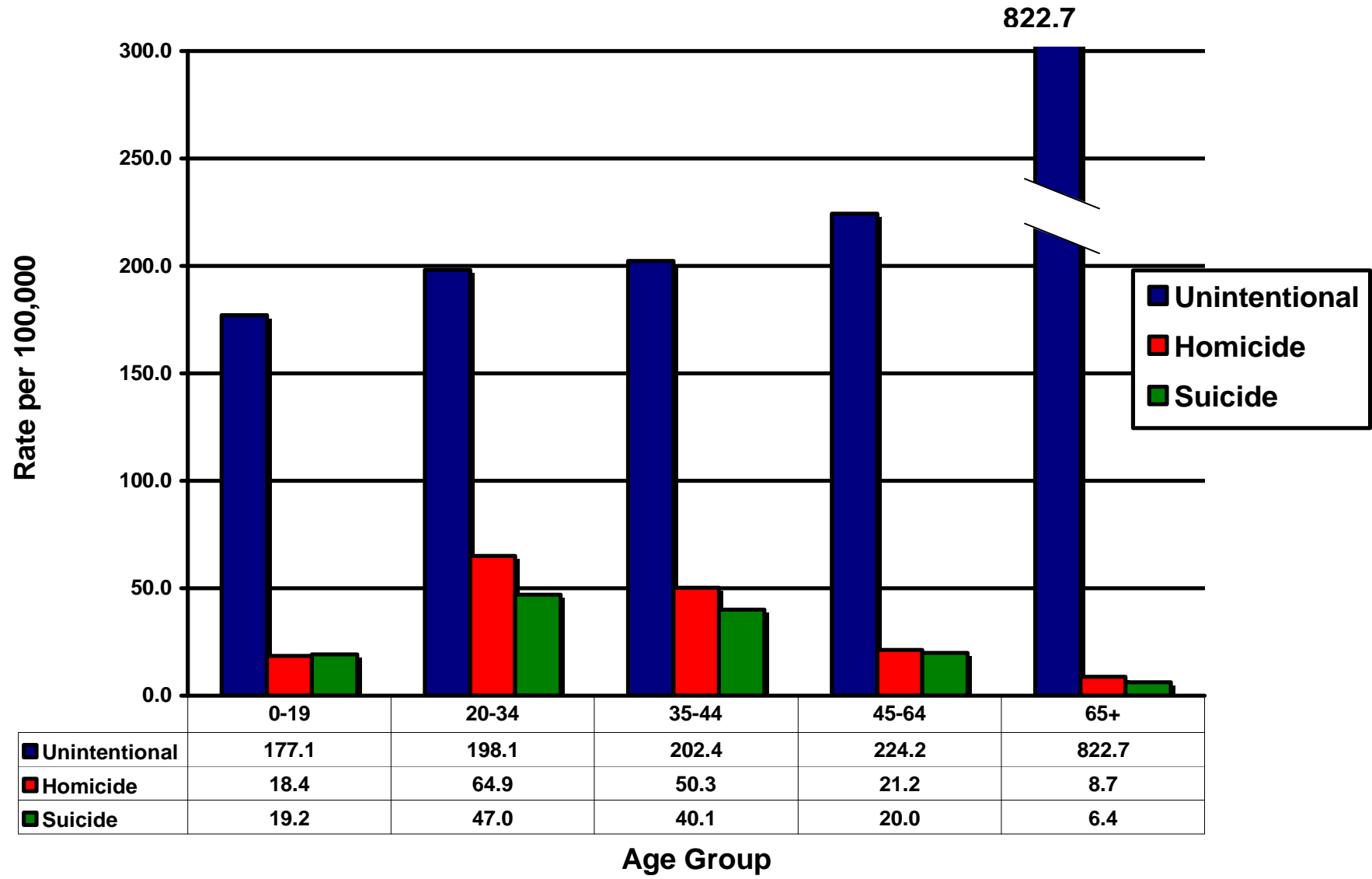


	0-4	5-9	10-14	15-19	20-24	25-34	35-44	45-54	55-59	60-64	65-74	75-84	85+
<b>Suicide</b>	0	2	26	77	65	119	126	63	9	10	2	4	2
<b>Homicide</b>	10	6	3	82	92	162	158	66	11	10	9	2	0
<b>Unintentional</b>	289	213	210	259	239	536	636	540	198	182	437	370	229

**Number of Injuries**



## Non-fatal Injury Rates among AI/AN, by Age Group California, 1993-2002



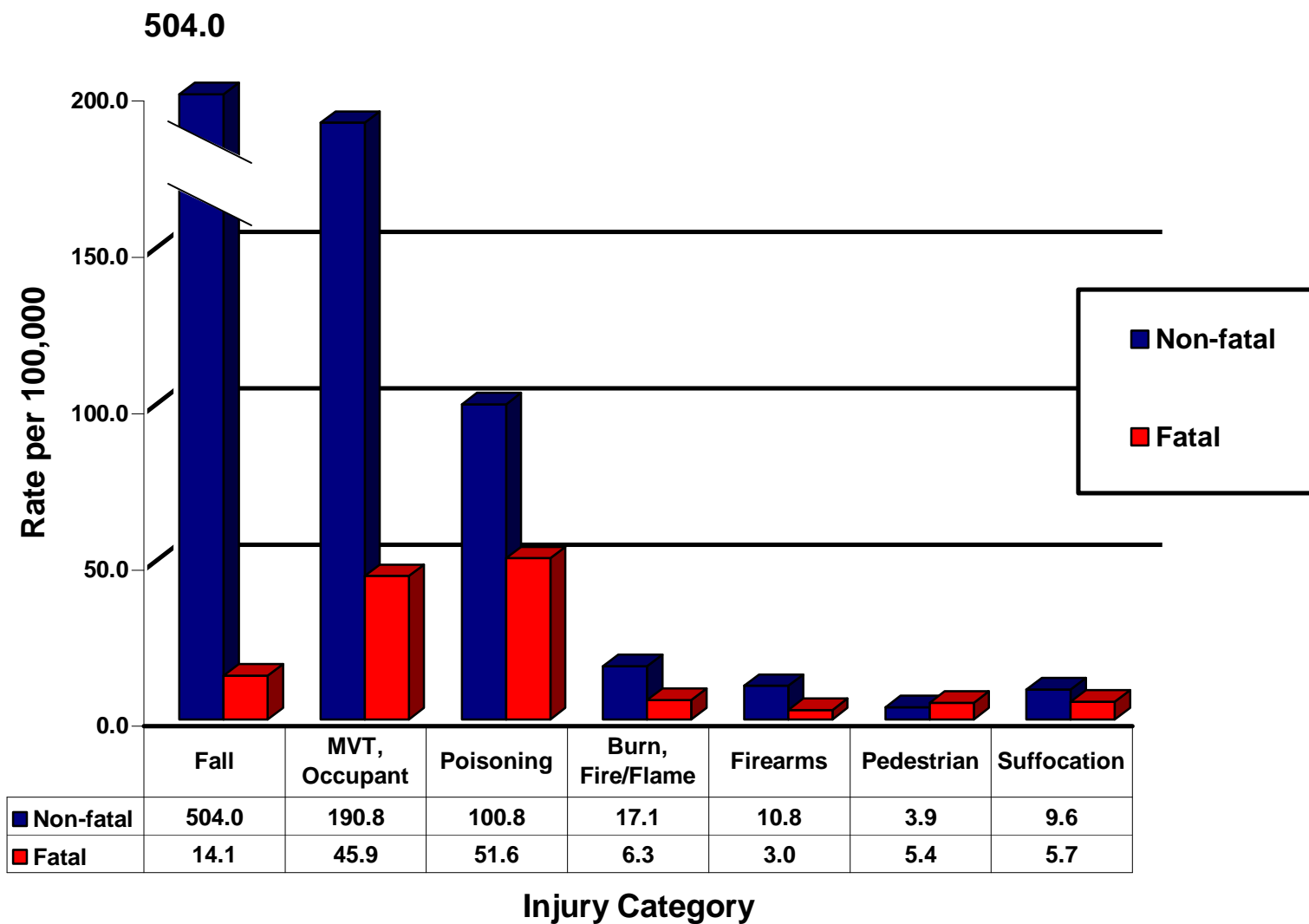
## Age-Adjusted Nonfatal Injury Rates among AI/AN California, 1993-2002



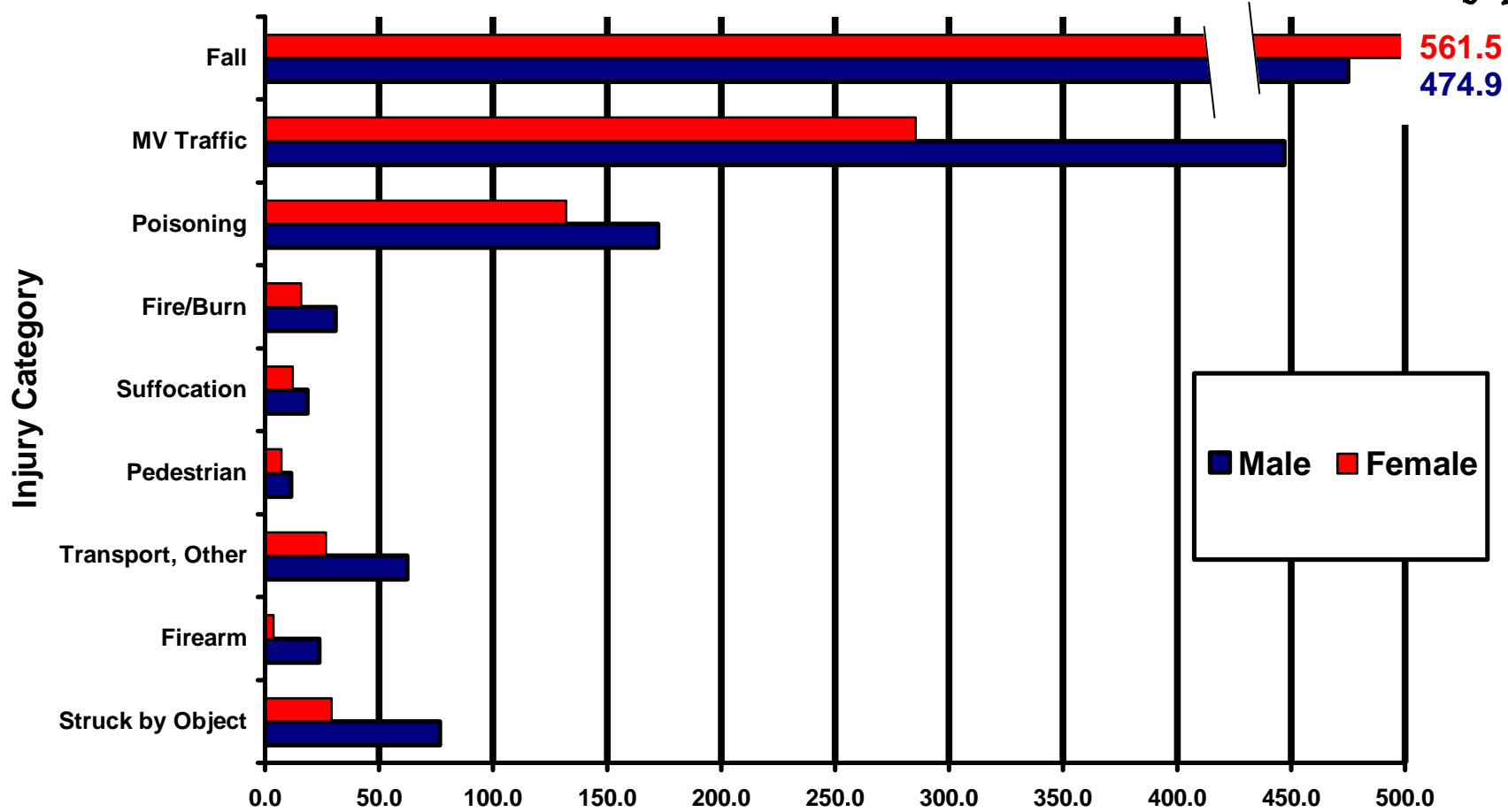
Age Group	Population 2000	Number of Unintentional Injuries	Unintentional Injury Rate (per 100,000)	Number of Self-Inflicted Injuries	Self-Inflicted Injury Rate (per 100,000)	Number of Assault Injuries	Assault Injury Rate (per 100,000)
0-4	12,281	289	155.3	0	0.0*	10	5.4*
5-9	15,123	213	91.9	2	0.9*	6	2.6*
10-14	16,098	210	87.4	26	10.8	3	1.3*
15-19	15,500	259	118.5	77	35.2	82	37.5
20-24	14,023	239	119.3	65	32.5	92	45.9
25-34	27,859	536	123.2	119	27.4	162	37.2
35-44	33,478	636	130.9	126	25.9	158	32.5
45-54	28,222	540	141.4	63	16.5	66	17.3
55-59	9,332	198	159.6	9	7.3*	11	8.9*
60-64	6,818	182	201.8	10	11.1*	10	11.1*
65-74	8,411	437	368.6	2	1.7*	9	7.6*
75-84	4,190	370	587.2	1	6.4*	2	3.2*
85+	1,418	229	702.0	2	6.1*	0	0.0*

\* Rates based on 20 or fewer events may be unstable. Use with caution.

# Unintentional Injury Rates among AI/AN, by Injured Person California, 1993-2002



# Unintentional Injury Rates among AI/AN, by Gender California, 1993-2002

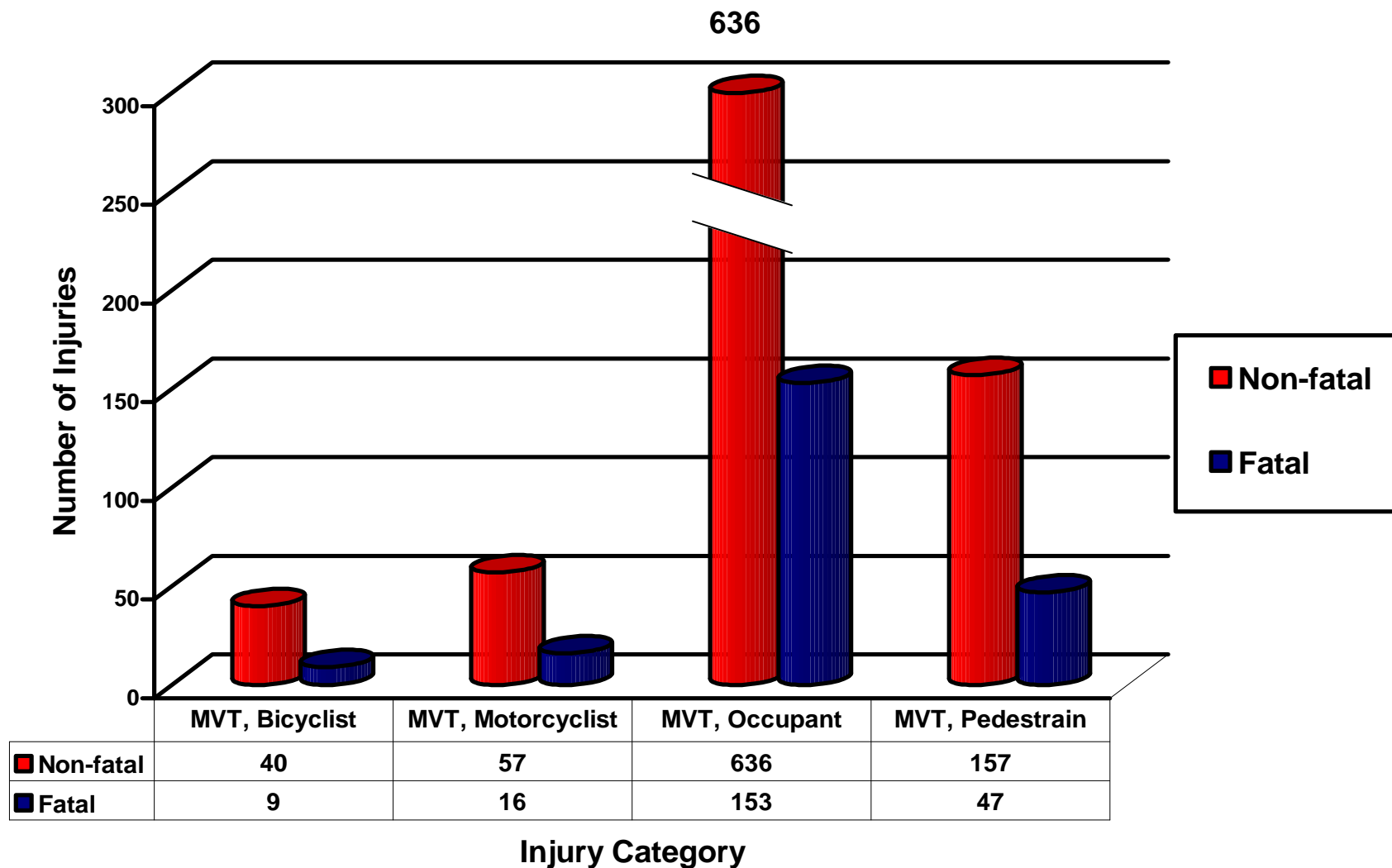


	Struck by Object	Firearm	Transport, Other	Pedestrian	Suffocation	Fire/Burn	Poisoning	MV Traffic	Fall
Female	29.1	3.6	26.7	7.3	12.1	15.7	132.0	285.3	561.5
Male	76.7	23.8	62.4	11.3	18.4	30.9	172.4	447.0	474.9

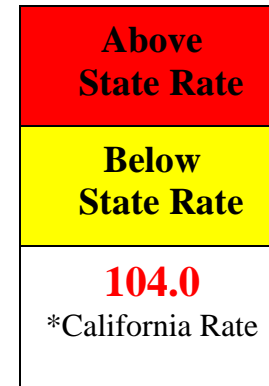
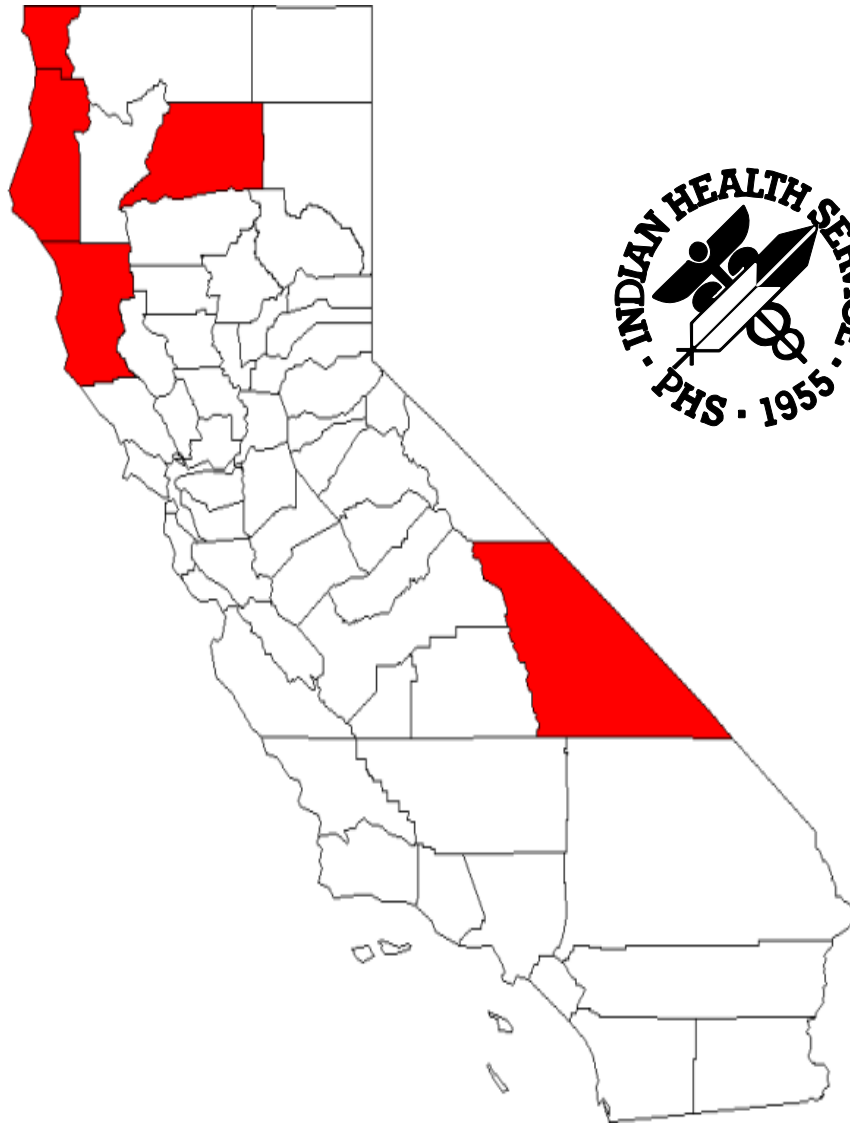
Injury Rate (per 100,000)



## Motor Vehicle Injuries Involving AI/AN, by Injury Category California, 1993-2002



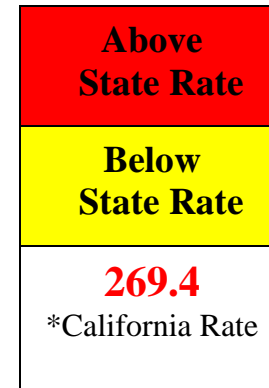
## Fatal and Non-fatal Motor Vehicle Injuries among AI/AN, by County California, 1993-2002



<b>Top 5 Rates, by County</b>	
Humboldt	169.9
Del Norte	135.6
Inyo	116.5
Shasta	108.2
Mendocino	107.2

*\*California Rate includes all races.  
Rates calculated based on 2000 U.S. Census population for both State and County*

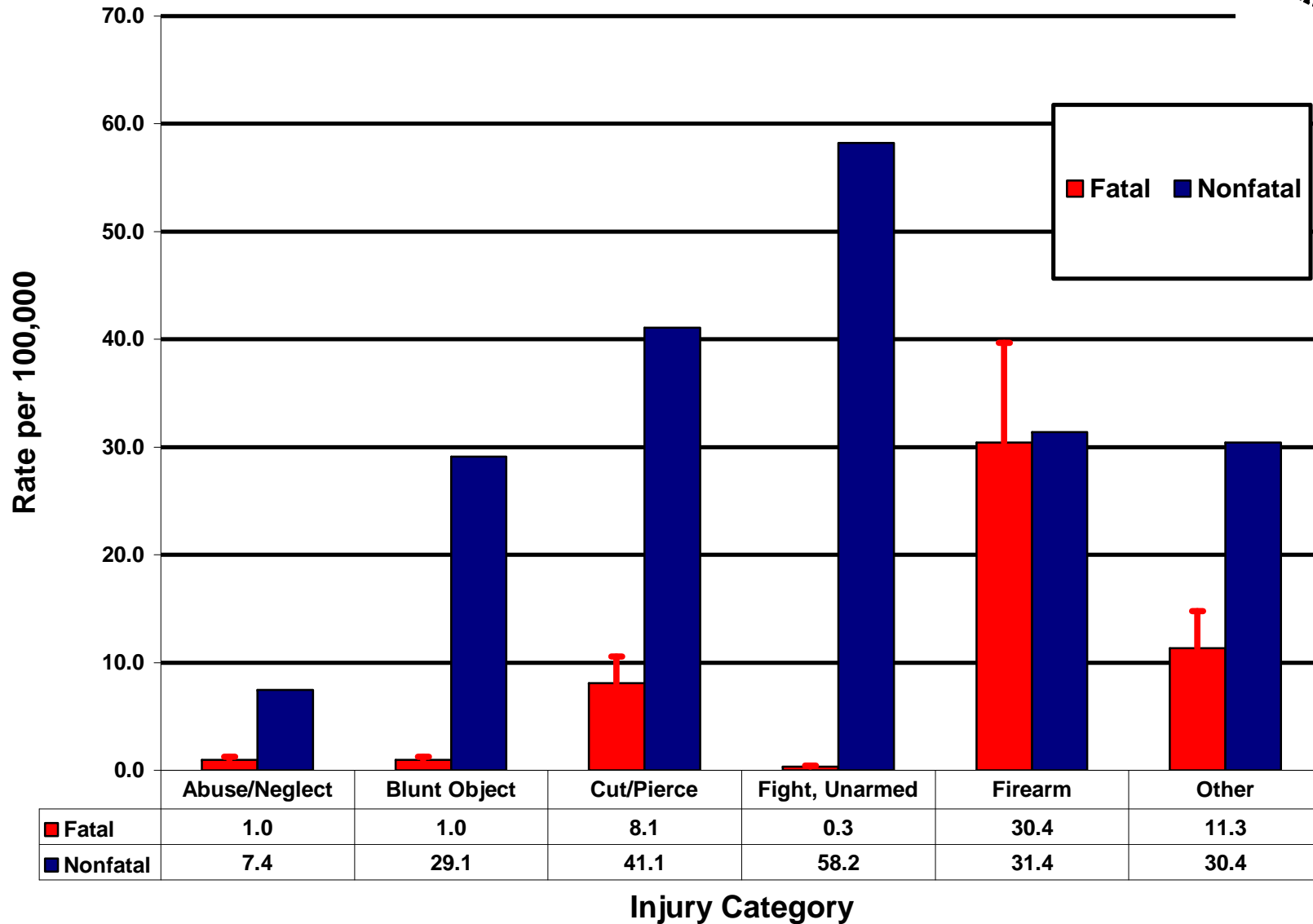
## Fatal and Non-fatal Fall Injuries among AI/AN, by County California, 1993-2002



<b>Top 5 Rates, by County</b>	
Mendocino	185.2
Del Norte	163.8
Inyo	106.9
Lake	146.7
San Francisco	114.6

*\*California Rate includes all races.  
Rates calculated based on 2000 U.S. Census population for both State and County*

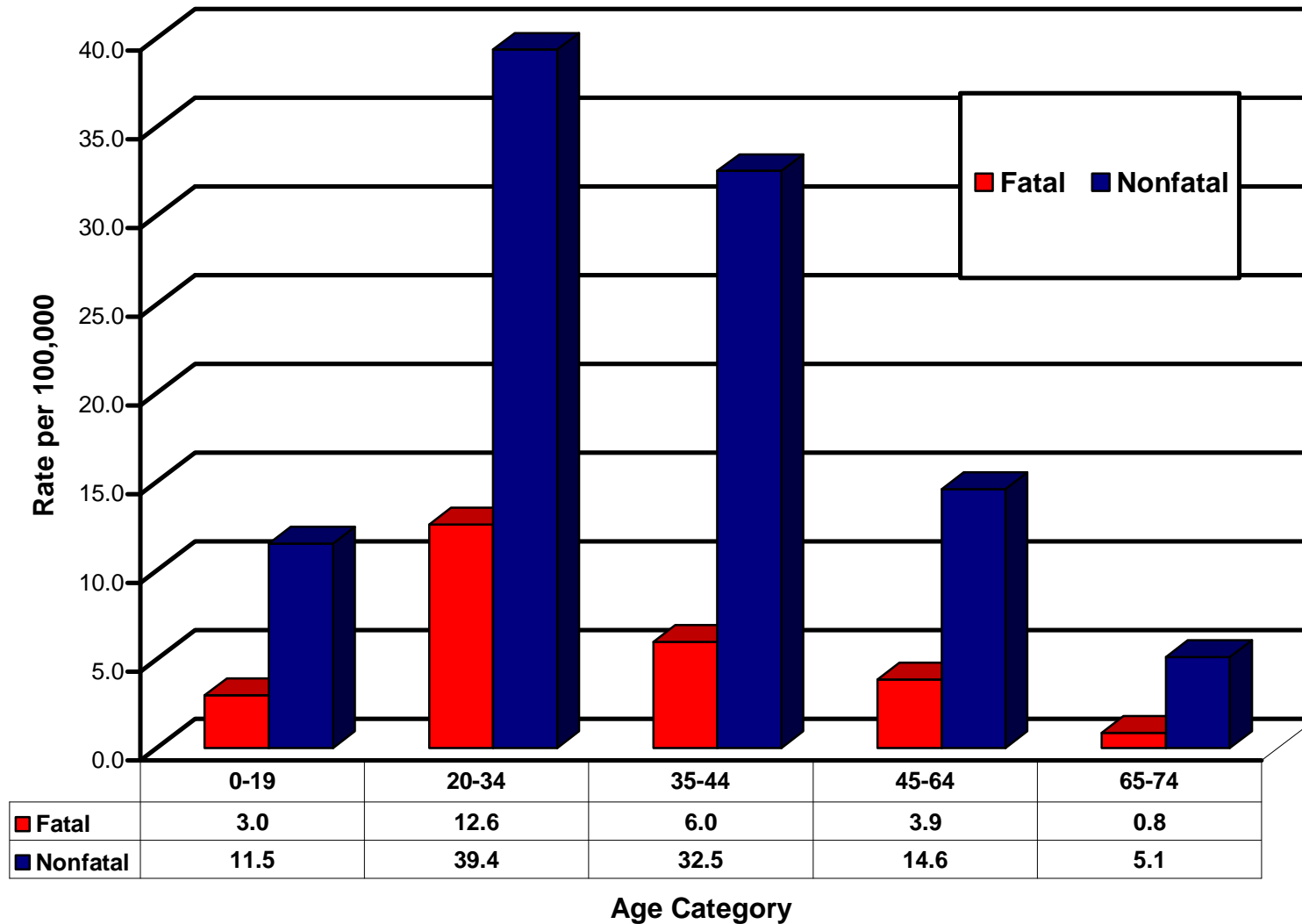
# Assault/Homicide Injury Rates among AI/AN, by Cause California, 1993-2002



*Error bar levels include adjustment to compensate for misreporting of AI/AN race death certificates*

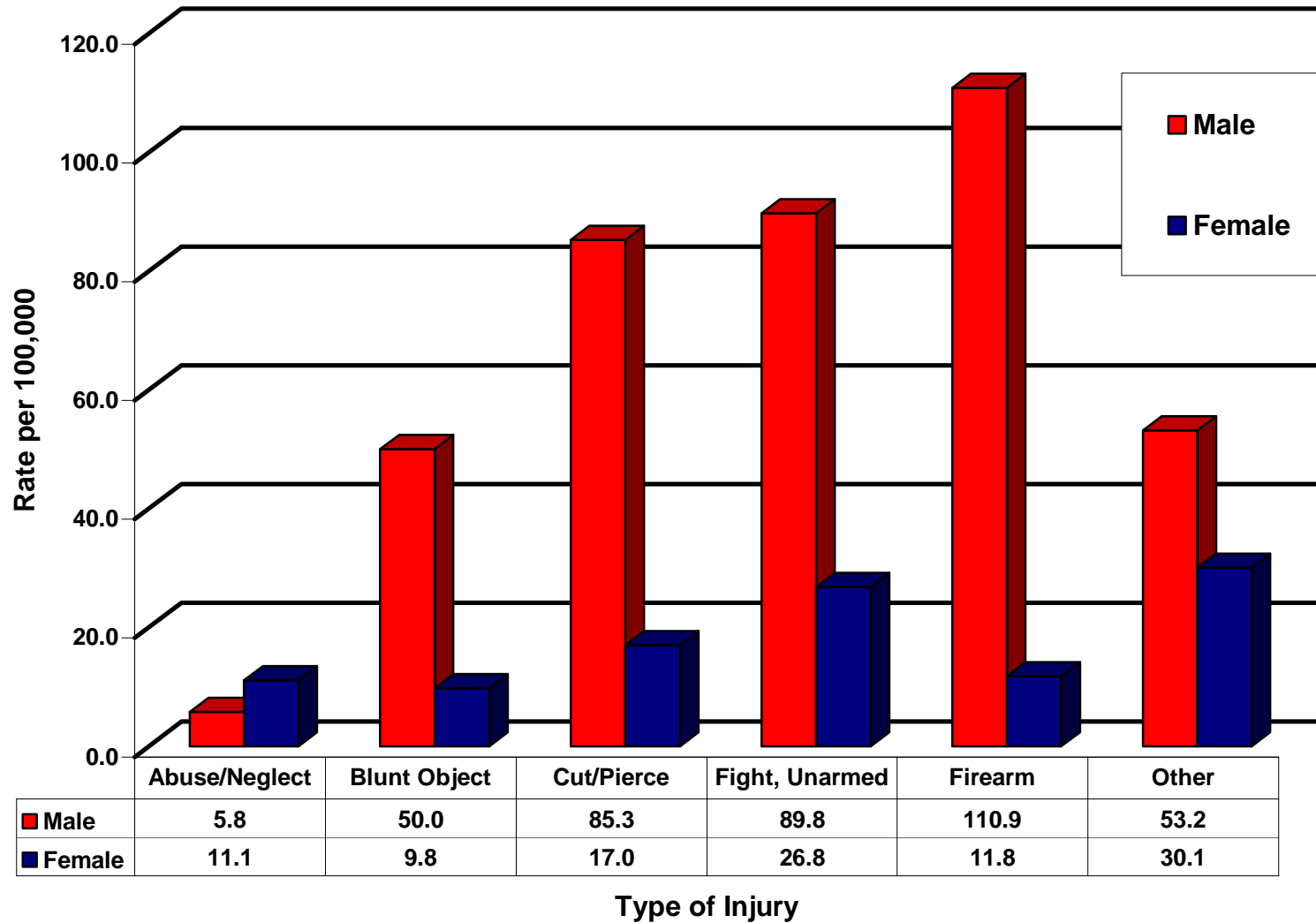


## Assault/Homicide Injury Rates among AI/AN, by Age California, 1993-2002

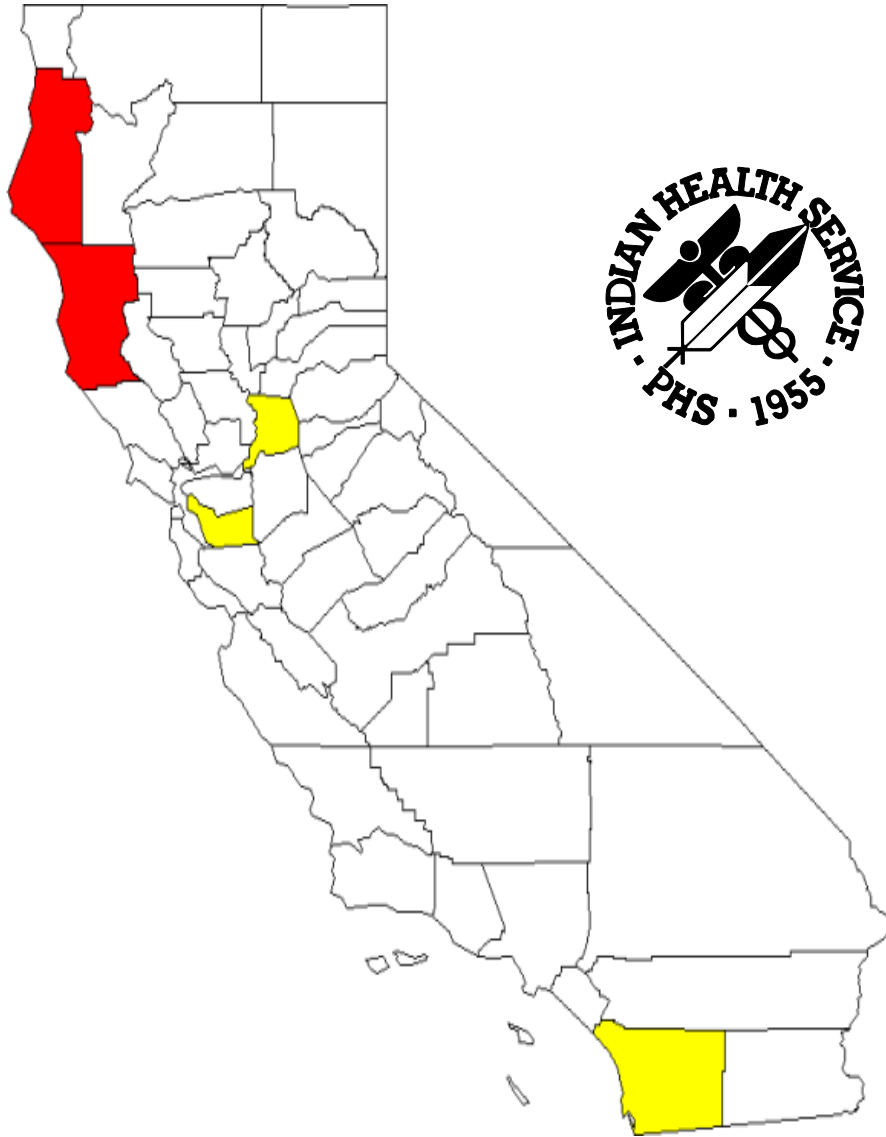


*Fatal and non-fatal rates for the 65+ age group are not statistically significant because the reported injuries are <20.*

# Assault/Homicide Injury Rates among AI/AN, by Gender California, 1993-2002



## Fatal and Non-fatal Assault/Homicide Injuries among AI/AN, by County California, 1993-2002

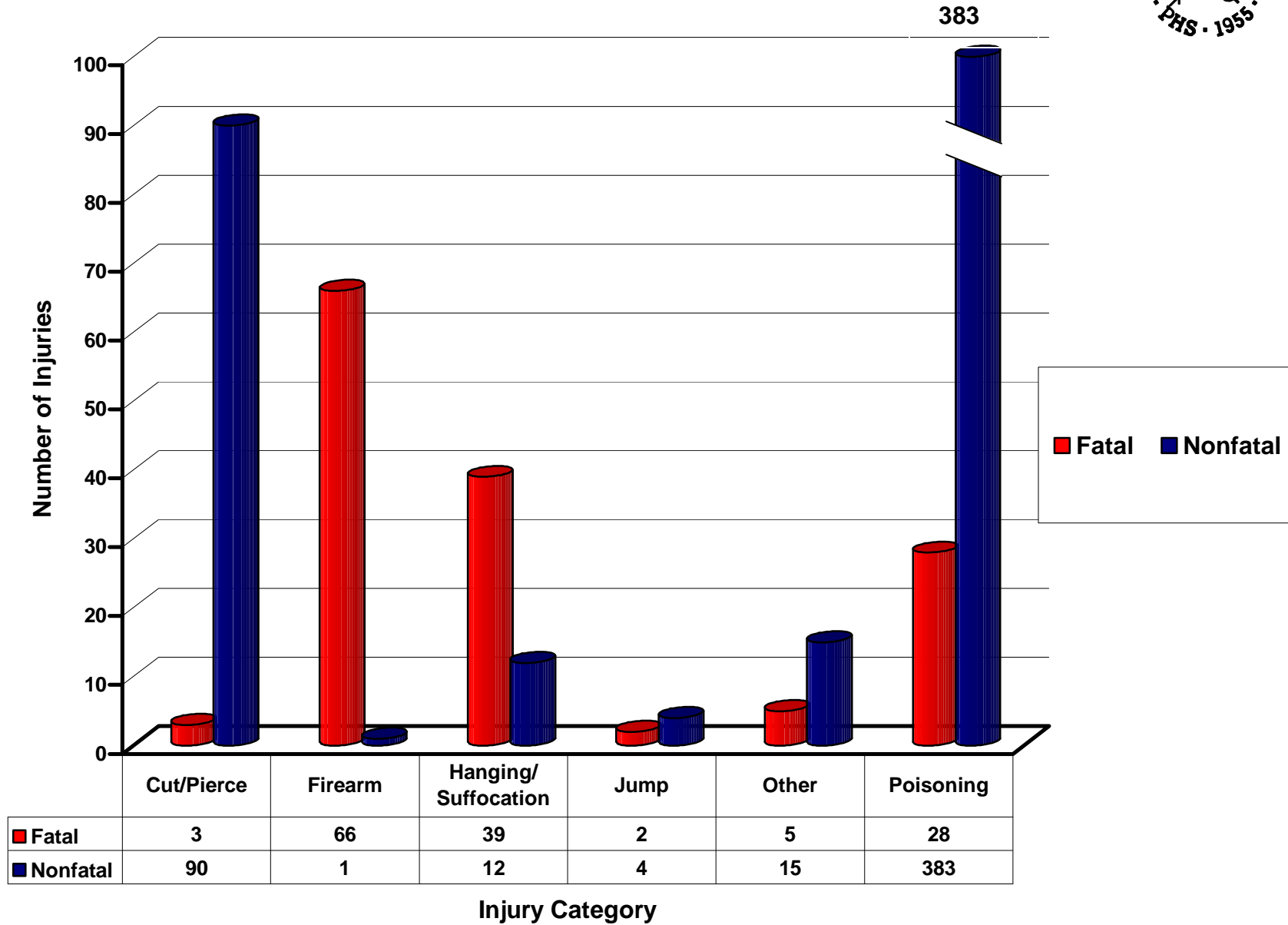


<b>Above State Rate</b>
<b>Below State Rate</b>
<b>54.5</b> *California Rate

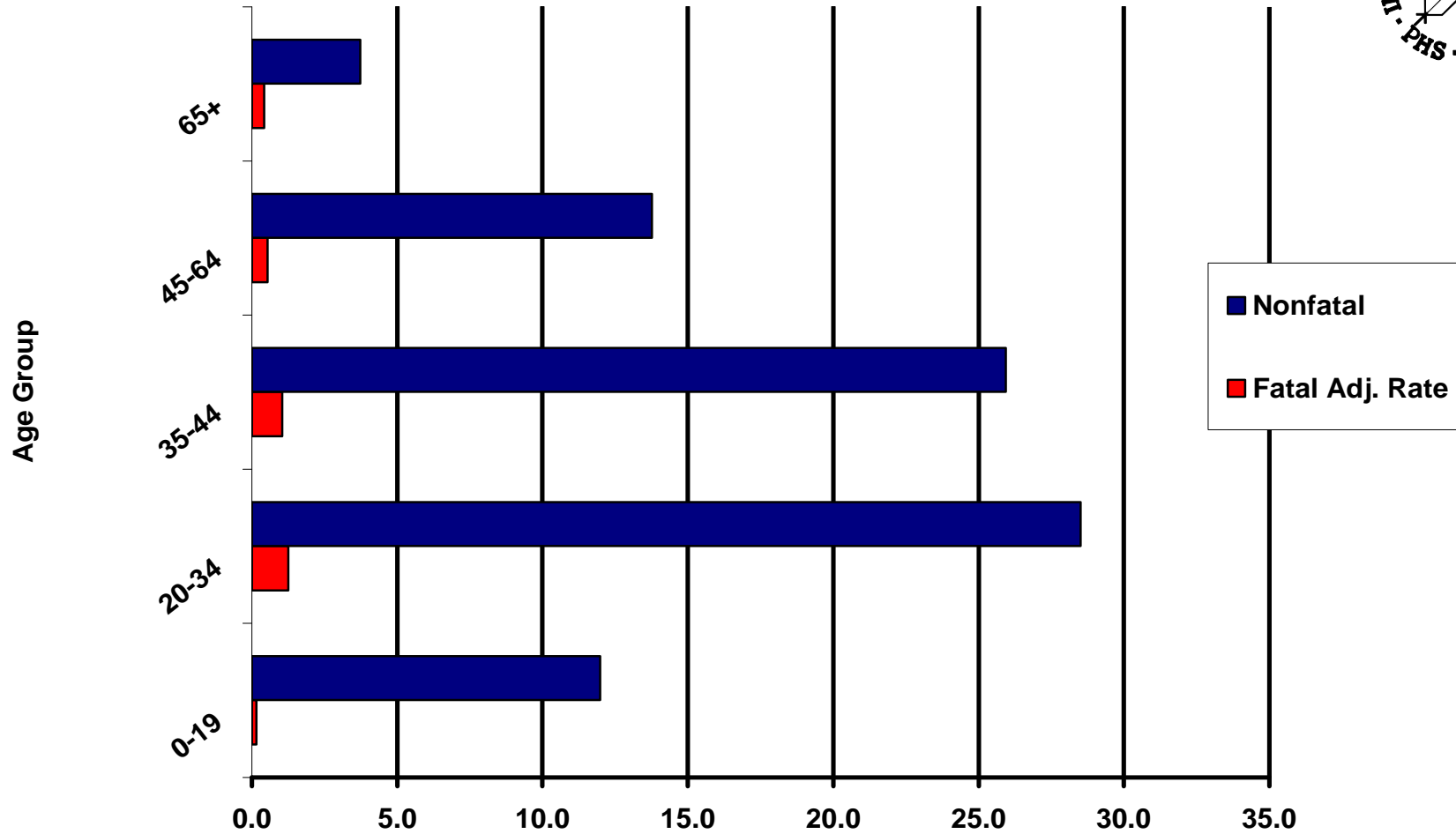
<b>Top 5 Rates, by County</b>	
Mendocino	78.0
Humboldt	56.6
Sacramento	53.9
Alameda	45.9
San Diego	38.6

*\*California Rate includes all races.  
Rates calculated based on 2000 U.S. Census population for both State and County*

## Self-Inflicted Injuries among, AI/AN, by Cause California, 1993-2002



## Self-Inflicted Injury Rates among AI/AN, by Age California, 1993-2002

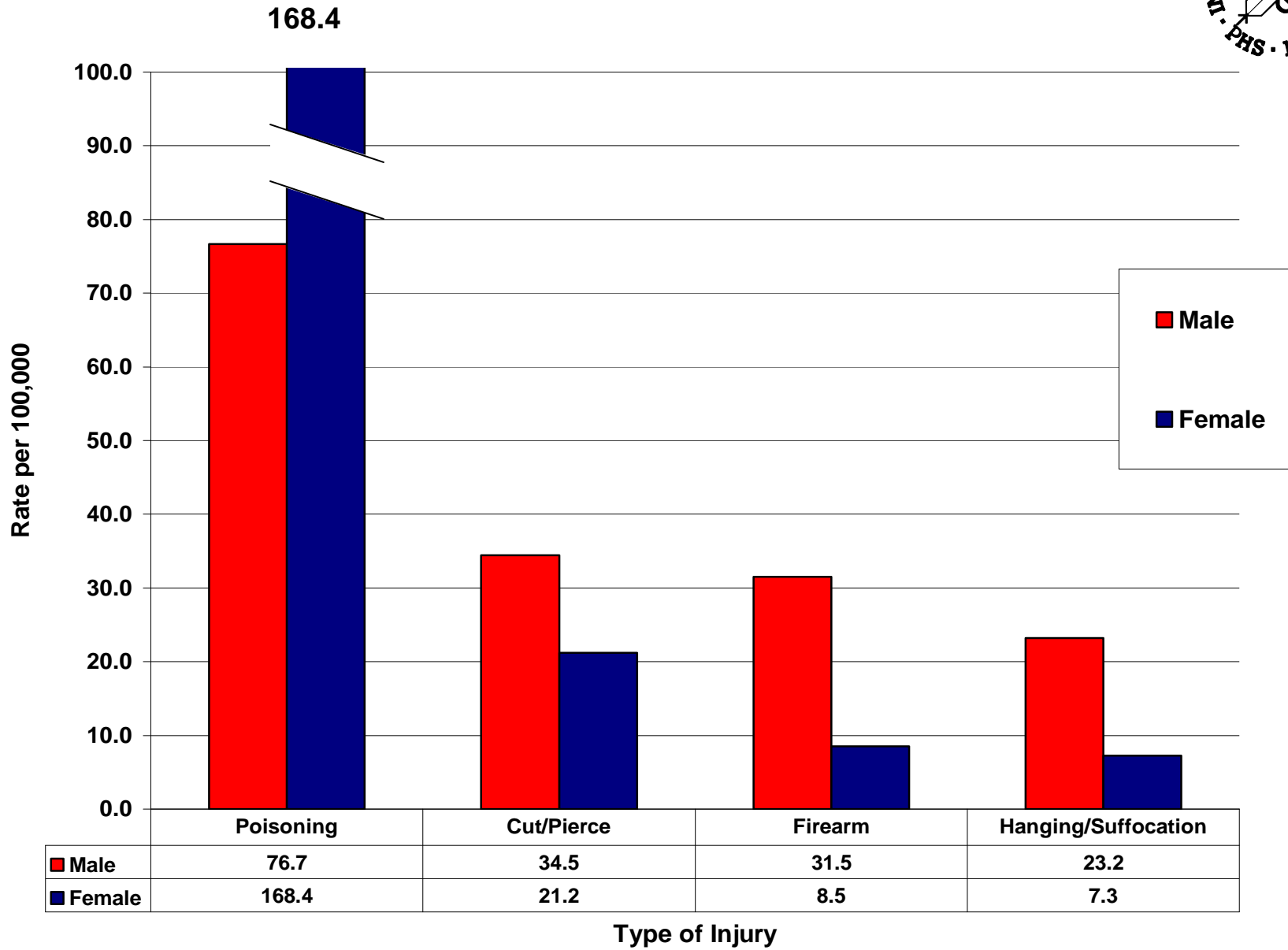


	0-19	20-34	35-44	45-64	65+
■ Nonfatal	12.0	28.5	25.9	13.8	3.7
■ Fatal Adj. Rate	0.2	1.3	1.0	0.5	0.4

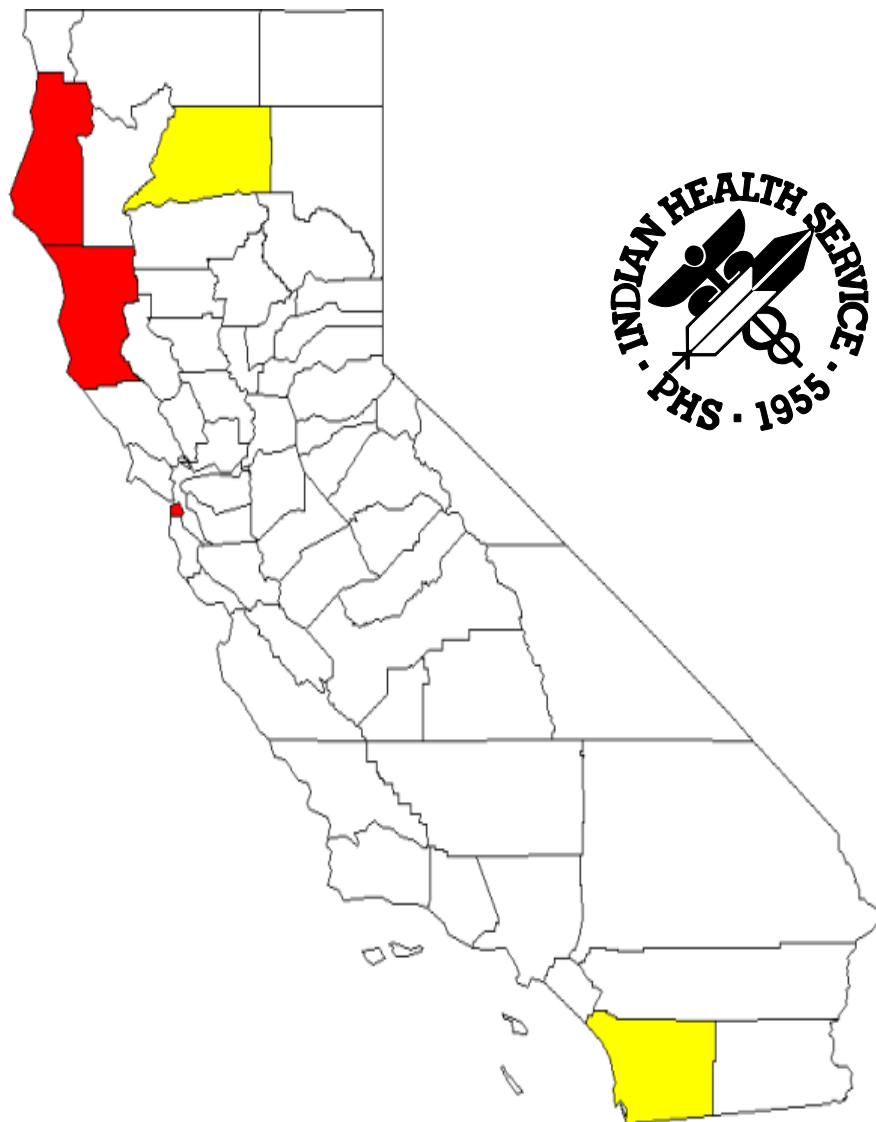
Rate per 100,000

*\* Fatal injuries rates for age groups 0-19 and 65+ and non-fatal injury rates for age group 65+ were not statistically significant. Adjusted-specifies a number or rate adjusted to compensate for misreporting of AI/AN race on state death certificates*

# Self-Inflicted Injury Rates among, AI/AN, by Gender California, 1993-2002



# Fatal and Non-fatal Self-Inflicted/Suicide Injuries among AI/AN, by County California, 1993-2002

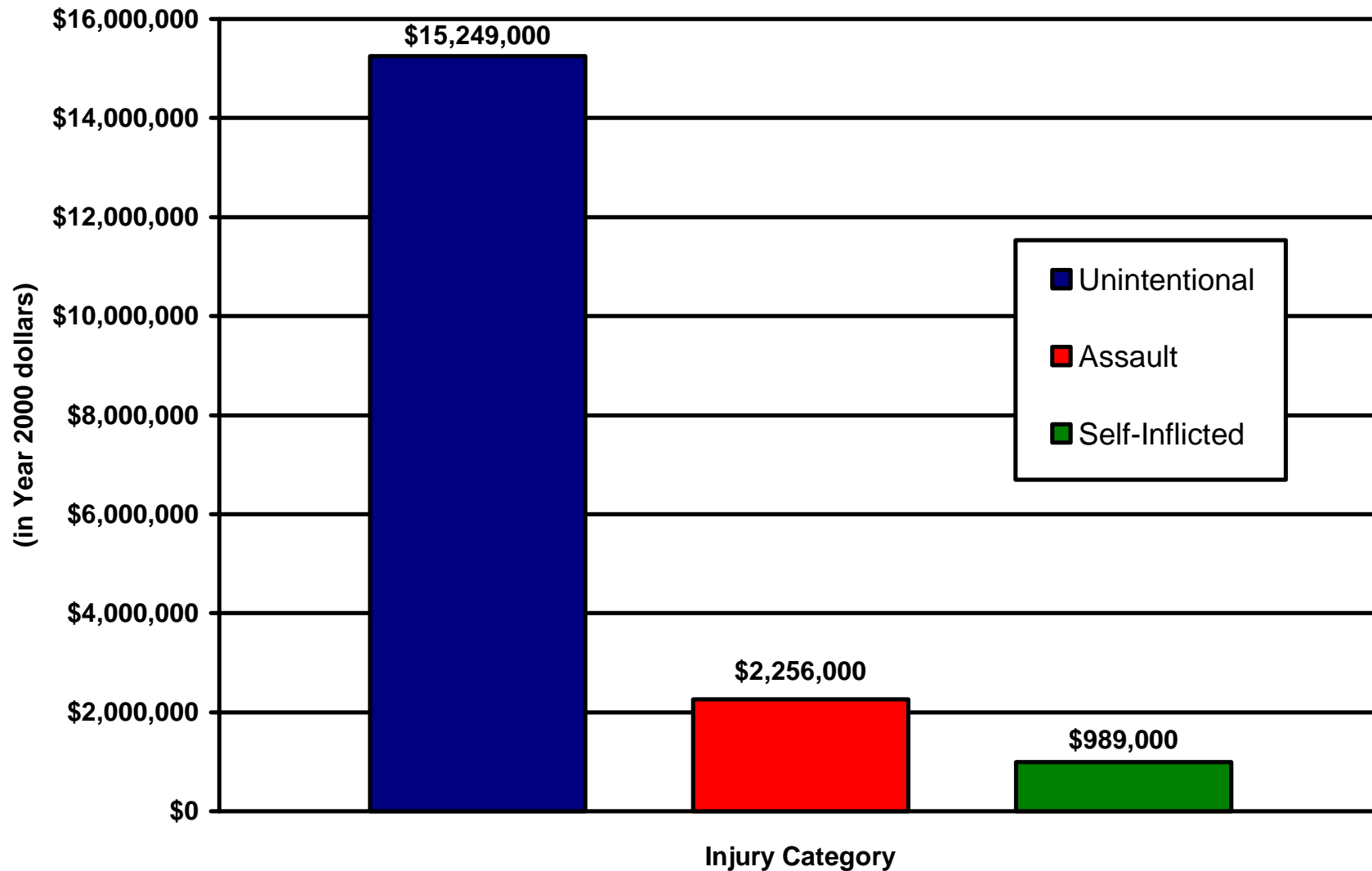


<b>Above State Rate</b>
<b>Below State Rate</b>
<b>56.2</b> *California Rate

<u>Top 5 Rates, by County</u>	
Mendocino	58.5
Humboldt	58.0
San Francisco	57.8
Shasta	44.2
San Diego	34.5

*\*California Rate includes all races.  
Rates calculated based on 2000 U.S. Census population for both State and County*

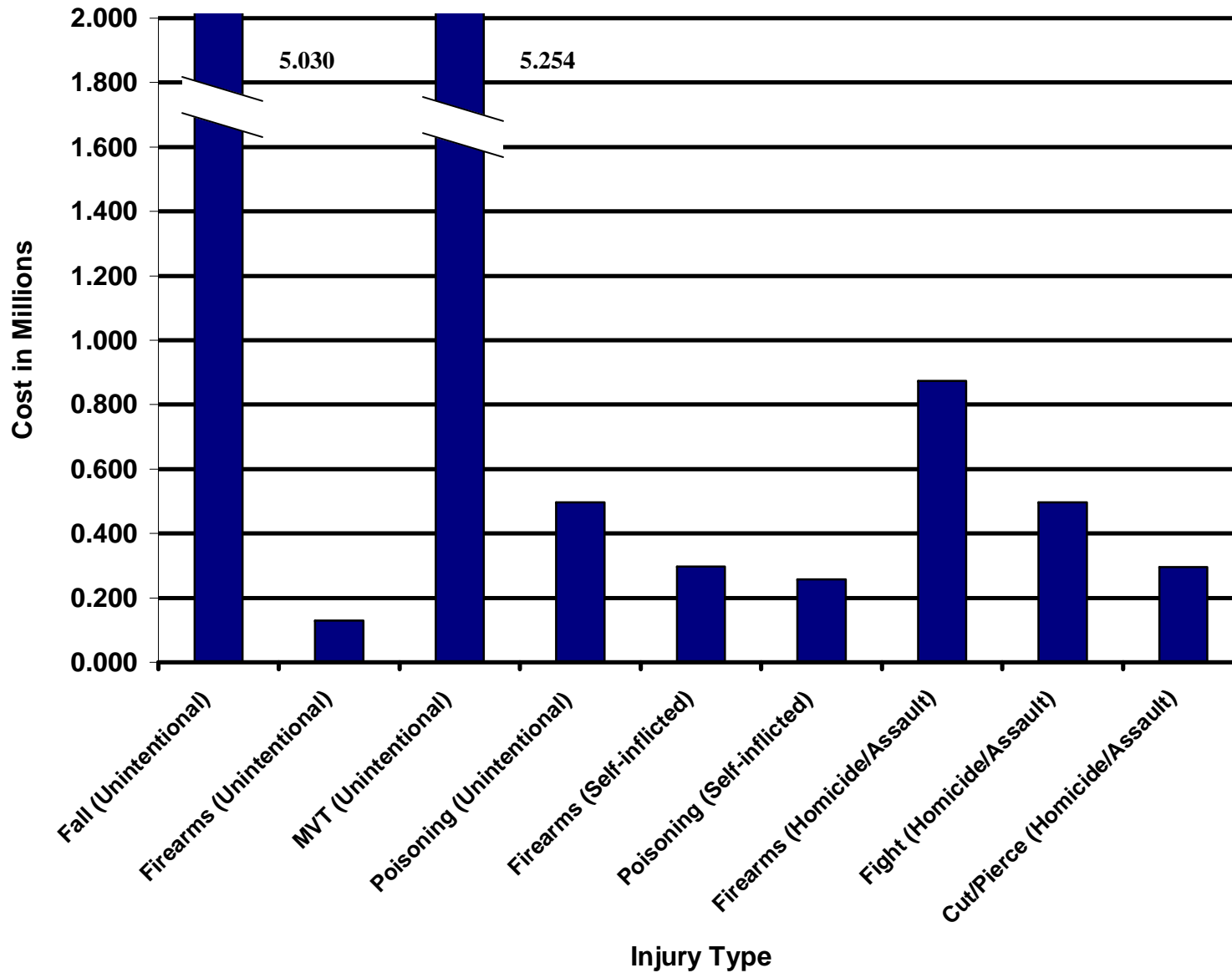
# Estimated Medical Costs for Fatal and Non-fatal Injuries among AI/AN California, 1997



Source: *The Children's Safety Network Economics and Insurance Resource Center, 1997.*



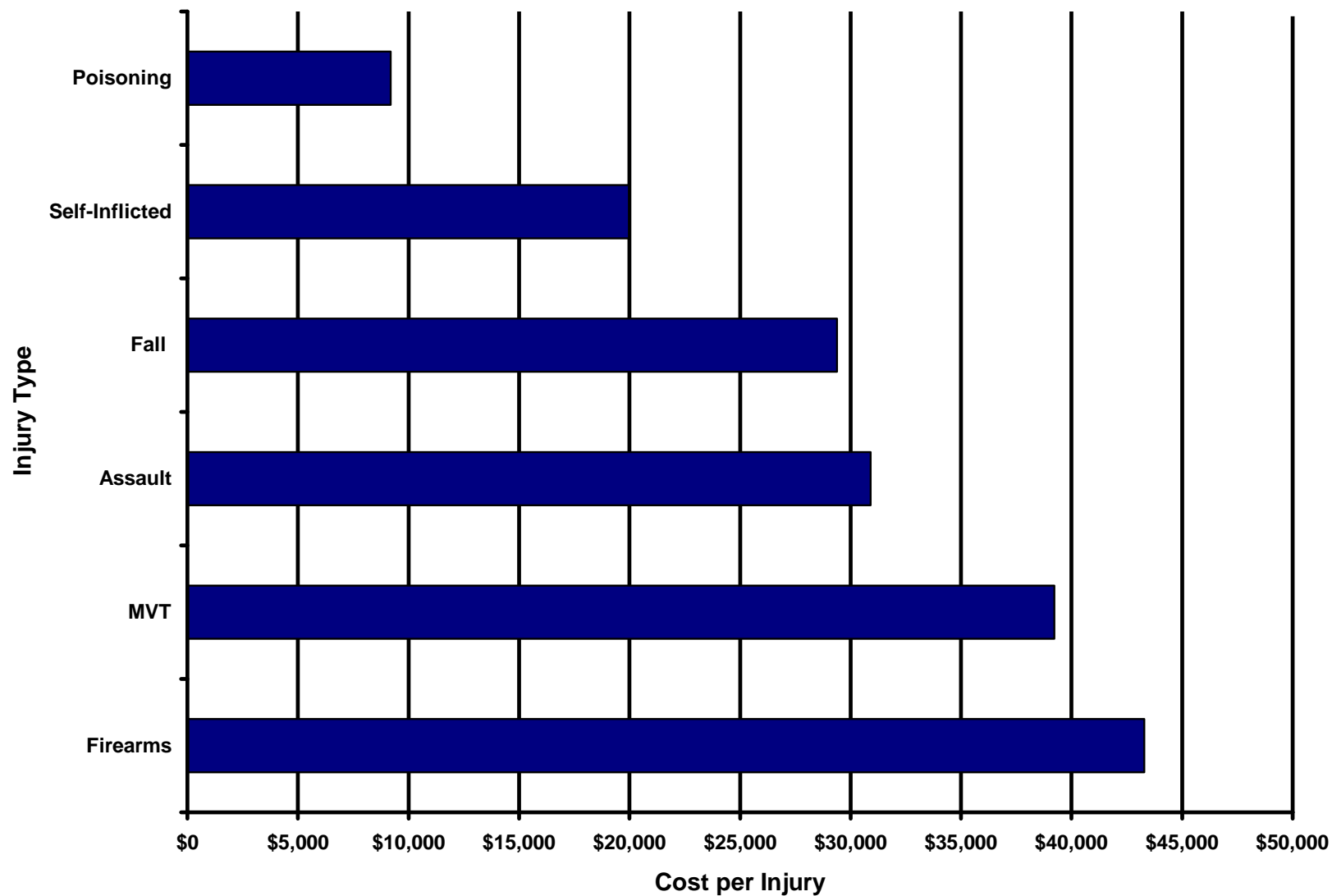
# Medical Costs of Injury Hospitalizations among AI/AN, by Injury Type California, 1997



Source: *The Children's Safety Network Economics and Insurance Resource Center, 1997.*



## Estimated Medical Cost per Incident, by Injury Type California, 1997 (All Races)



Source: *The Children's Safety Network Economics and Insurance Resource Center, 1997.*

## Population, Fatal, and Nonfatal Injuries among AI/AN by California County, 1993-2002

<b>County</b>	<b>County Population</b>	<b>County Population AI/AN</b>	<b>Fatal Injuries</b>	<b>Nonfatal Injuries</b>
Alameda	1,443,741	9,146	52	183
Alpine	1,208	228	0	6
Amador	35,100	626	2	20
Butte	203,171	3,866	21	128
Calaveras	40,554	705	5	13
Colusa	18,804	439	0	10
Contra Costa	948,816	5,830	16	86
Del Norte	27,507	1,770	18	96
El Dorado	156,299	1,566	5	14
Fresno	799,407	12,790	25	122
Glenn	26,453	552	4	11
Humboldt	126,518	7,241	84	474
Imperial	142,361	2,666	8	24
Inyo	17,945	1,802	8	110
Kern	661,645	9,999	29	76
Kings	129,461	2,178	8	27
Lake	58,309	1,772	14	77
Lassen	33,828	1,104	4	19
Los Angeles	9,519,338	76,988	106	951
Madera	123,109	3,212	8	31
Marin	247,289	1,061	0	16
Mariposa	17,130	602	4	8
Mendocino	86,265	4,103	37	245
Merced	210,554	2,510	3	12
Modoc	9,449	398	6	24
Mono	12,853	309	3	5
Monterey	401,762	4,202	9	22
Napa	124,279	1,045	1	7
Nevada	92,033	814	6	25

*Populations based on 2000 U.S. Census data*

## Population, Fatal, and Nonfatal Injuries among AI/AN by California County, 1993-2002

County	County Population	County Population AI/AN	Fatal Injuries	Nonfatal Injuries
Orange	2,846,289	19,906	115	246
Placer	248,399	2,031	6	31
Plumas	20,824	530	2	24
Riverside	1,545,387	18,168	73	311
Sacramento	1,223,499	13,359	55	289
San Benito	53,234	616	1	2
San Bernardino	1,709,434	19,915	48	189
San Diego	2,813,833	24,337	80	843
San Francisco	776,733	3,458	18	137
San Joaquin	563,598	6,377	23	53
San Luis Obispo	246,681	2,335	2	24
San Mateo	707,161	3,140	8	76
Santa Barbara	399,347	4,784	5	28
Santa Clara	1,682,585	11,350	19	161
Santa Cruz	255,602	2,461	4	4
Shasta	163,256	4,528	38	149
Sierra	3,555	67	0	1
Siskiyou	44,301	1,726	15	30
Solano	394,542	3,110	7	32
Sonoma	458,614	5,389	31	122
Stanislaus	446,997	5,676	13	46
Tehama	56,039	1,178	2	10
Trinity	13,022	631	2	15
Tulare	368,021	5,737	24	76
Tuolumne	54,501	992	7	13
Ventura	753,197	7,106	11	39
Yolo	168,660	1,953	7	20
Yuba	60,219	1,569	5	14

*Populations based on 2000 U.S. Census data*

## Five Leading Causes of Injury, All Races and Ages California, 1993-2002



### Fatal Injuries

Rank	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1	Homicide/ Assault 4,167	Homicide/ Assault 3,789	Suicide/Self- Inflicted 3,815	Suicide/Self- Inflicted 3,393	Suicide/Self- Inflicted 3,417	Suicide/Self- Inflicted 3,211	Suicide/Self- Inflicted 3,036	Suicide/Self- Inflicted 3,105	Suicide/Self- Inflicted 3,240	Suicide/Self- Inflicted 3,198
2	Suicide/Self- Inflicted 3,811	Suicide/Self- Inflicted 3,678	Homicide/ Assault 3,584	Homicide/ Assault 2,971	Homicide/ Assault 2,735	Homicide/ Assault 2,236	Unintentional - Poisoning 2,219	Homicide/ Assault 2,052	Homicide/ Assault 2,253	Homicide/ Assault 2,411
3	Unintentional - MVT, Occupant 2,532	Unintentional - MVT, Occupant 2,686	Unintentional - MVT, Occupant 2,663	Unintentional - MVT, Occupant 2,589	Unintentional - MVT, Occupant 2,195	Unintentional - MVT, Occupant 2,159	Homicide/ Assault 2,007	Unintentional - Poisoning 1,879	Unintentional - Poisoning 1,981	Unintentional - Poisoning 2,376
4	Unintentional - Poisoning 1,995	Unintentional - Poisoning 1,824	Unintentional - Poisoning 1,981	Unintentional - Poisoning 1,958	Unintentional - Poisoning 1,772	Unintentional - Poisoning 1,773	Unintentional - MVT, Occupant 1,439	Unintentional - MVT, Occupant 1,528	Unintentional - MVT, Occupant 1,557	Unintentional - MVT, Occupant 1,628
5	Unintentional - Fall 882	Unintentional - Fall 908	Unintentional - Fall 988	Unintentional - Fall 969	Unintentional - Fall 1,052	Unintentional - Fall 1,116	Unintentional - Fall 1,201	Unintentional - Fall 1,251	Unintentional - Fall 1,299	Unintentional - Fall 1,472

### Nonfatal Injuries

Rank	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
1	Unintentional - Fall 79,538	Unintentional - Fall 81,994	Unintentional - Fall 84,266	Unintentional - Fall 86,631	Unintentional - Fall 90,816	Unintentional - Fall 93,318	Unintentional - Fall 94,119	Unintentional - Fall 95,387	Unintentional - Fall 96,936	Unintentional - Fall 98,216
2	Homicides/ Assault 21,143	Unintentional - MVT, Occupant 21,040	Unintentional - MVT, Occupant 20,672	Unintentional - MVT, Occupant 20,115	Unintentional - MVT, Occupant 19,746	Unintentional - MVT, Occupant 20,361	Unintentional - MVT, Occupant 20,128	Unintentional - MVT, Occupant 20,995	Unintentional - MVT, Occupant 20,897	Unintentional - MVT, Occupant 21,909
3	Unintentional - MVT, Occupant 20,658	Homicide/ Assault 19,151	Homicide/ Assault 18,248	Suicide/Self- Inflicted 16,141	Suicide/Self- Inflicted 16,562	Suicide/Self- Inflicted 15,675	Suicide/Self- Inflicted 14,938	Suicide/Self- Inflicted 16,461	Suicide/Self- Inflicted 16,927	Suicide/Self- Inflicted 17,141
4	Suicide/Self- Inflicted 15,859	Suicide/Self- Inflicted 16,631	Suicide/Self- Inflicted 16,697	Homicide/ Assault 16,107	Homicide/ Assault 15,258	Homicide/ Assault 14,093	Homicide/ Assault 12,694	Homicide/ Assault 13,131	Homicide/ Assault 13,158	Homicide/ Assault 13,573
5	Unintentional - Poisoning 9,541	Unintentional - Poisoning 10,157	Unintentional - Poisoning 9,792	Unintentional - Poisoning 10,208	Unintentional - Poisoning 10,263	Unintentional - Poisoning 10,075	Unintentional - Poisoning 9,859	Unintentional - Poisoning 9,675	Unintentional - Poisoning 9,917	Unintentional - Poisoning 10,653

Source: California EPICenter, California Injury Data Online

## Definitions

## ICD-9

## ICD-10

<b>Assault/Homicide</b>	Any deliberate injury caused by another person or persons	E960-E969	Y04-Y07, X85-X95
<b>Firearm (Accidental)</b>	Unintentional injury due to a firearm.	E922	W32-W34
<b>ICD-9 E-Code</b>	(The International Classification of Diseases, 9 <sup>th</sup> Revision) Code for External Causes of Injury. A standardized method to classify different causes of injury (< 1999)		
<b>ICD-10 E-Code</b>	(The International Classification of Diseases, 10 <sup>th</sup> Revision) Code for External Causes of Injury. A standardized Method to classify different causes of injury (> 1999)		
<b>Injury Rate Rank</b>	The 58 counties in California were ranked by injury rate, by County highest (1) to lowest.		
<b>Motor Vehicle Injuries</b>	Any unintentional injury caused by or due to a motor vehicle.	E810.0-E825.9	V20-V79
<b>Self-inflicted Injury and Suicide</b>	Any deliberate self-inflicted injury	E950.0-E959	X60-X84
<b>Unintentional Falls</b>	Any type of slip, trip, stumble, or fall that causes unintentional injury or death. This includes cases where the fall was intentional but the injury was not (ex: sports)	E890.0-E899	W00-W019
<b>Unintentional Poisonings</b>	Any exposure to a chemical substance that causes injury. This includes alcohol poisonings and unintentional drug overdoses.	E850.0-E869.9	X40-X49

*For more specific code descriptions see “ Injury Classification Codes” on the following pages*

## Injury Classification Codes (ICD-9 and ICD-10)

<b>Cause of Injury</b>	<b>ICD-9-E Codes</b>	<b>ICD-10 VWXY Codes</b>
Unintentional-Burn, Fire/Flame	890-891 (.0-.9), 892, 893 (.0-.9), 894-899	X00-X09
Unintentional-Burn, Hot Object/Substance	924 (.0-.9)	X10-X19
Unintentional-Cut/Pierce	920 (.0-.9)	W25-W29, W45
Unintentional-Drowning/Submersion	830 (.0-.9), 832 (.0-.9), 910 (.0-.9)	W65-W74
Unintentional-Fall	880-881 (.0-.9), 882, 883-884 (.0-.9), 885, 885(.1-.9), 886 (.0-.9), 888	W00-W19
Unintentional-Firearms	922 (.0-.9)	W32-W34
Unintentional-Machinery	919 (.0-.9)	W24, W30-W31
Unintentional-Motor Vehicle Traffic, Occupant	810-819 (.0,.1)	V30-V79(.4-.9), V81.1, V82.1, V83-V86(.0-.3)
Unintentional-Motor Vehicle Traffic, Motorcyclist	810-819(.2,.3)	V20-V28(.3-.9), V29(.4-.9)
Unintentional-Motor Vehicle Traffic, Bicyclist	810-819(.6)	V12-V14(.3-.9), V19(.4-.6)
Unintentional-Motor Vehicle Traffic, Pedestrian	810-819(.7)	V02-V04(.1,.9), V09.2
Unintentional-Motor Vehicle Traffic, Other	810-819(.4,.5,.8)	V80(.3-.5)
Unintentional-Motor Vehicle Traffic, Unspecified	810-819(.9)	V87(.0-.8), V89.2
Unintentional-Bicyclist, Other	800-807(.3), 820-825(.6), 826(.1,.9), 827-829(.1)	V10-V11(.0-.9), V12-V14(.0-.2), V15-V18(.0-.9), V19(.0,.1,.3,.9)
Unintentional-Pedestrian, Other	800-807(.2), 820-825(.7), 826-829(.0)	V01(.0-.9), V02-V04(.0), V05-V06(.0-.9), V19(.0-.3,.8,.9)

Source: EPICenter, California Department of Health Service. Note: ICD-9 Codes (<1999) and ICD-10 Codes are for 1999 and later.

## Injury Classification Codes (ICD-9 and ICD-10)

Cause of Injury	ICD-9-E Codes	ICD-10 VWXY Codes
Unintentional-Transport, Other	800-807(.0,.1,.8,.9), 820-825(.0-.5,.8,.9), 826(.2-.8), 827-829(.2-.9), 831(.0-.9), 833-845(.0-.9)	V20-V28(.0-.2), V29(.0-.3), V30-V79(.0-.3) V80(.0-.2,.6-.9), V81-V82(.0,.2-.9), V83-V86(.4-.9), V87.9, V88(.0-.9) V89(.0,.1,.3,.9), V90-V99
Unintentional-Natural/Environment	900-902(.0-.9), 903, 904-906(.0-.9), 907, 908-909(.0-.9), 928(.0-.2)	W42-W43, W53-W64, W92-W99, X20-X39, X51-X57
Unintentional, Overexertion	927	X50
Unintentional, Poisoning	850(.0-.9), 851, 852-866(.0-.9), 867, 868-869(.0-.9)	X40-X49
Unintentional, Struck by Object	916, 917(.0-.9)	W20-W22, W50-W52
Unintentional-Other	846-848, 887, 914-915, 918, 921(.0-.9), 922.5, 923(.0-.9), 925-926(.0-.9), 928(.3,.8-.9)	W23, W35-W41, W44, W49, W85-W91, X58-X59
Unintentional-Suffocation	911-912, 913(.0-.9)	W75-W84
Self-Inflicted/Suicide - Cut/Pierce	956	X78
Self-Inflicted/Suicide - Firearm	955(.0-.4)	X72-X74
Self-Inflicted/Suicide - Hanging/Suffocation	953(.0-.9)	X70
Self-Inflicted/Suicide - Jump	957(.0-.9), 958	X80-X81
Self-Inflicted/Suicide - Poisoning	950-952(.0-.9)	X60-X69
Self-Inflicted/Suicide - Other	954, 955(.5-.9), 958(.1-.9)	X71, X75-X77, X79, X82-X84
Assault/Homicide - Abuse and Neglect	967(.0-.9), 698.4	Y06(.0-.9), Y07(.0-.9)
Assault/Homicide - Blunt Object	968.2	Y00
Assault/Homicide - Cut/Pierce	966	X99
Assault/Homicide - Fight, Unarmed	960	Y04
Assault/Homicide - Firearm	965(.0-.4)	X93-X95
Assault/Homicide - Other	960.1, 961, 962(.0-.9), 963-964 965(.5-.9), 968(.0-.1,.3,.7,.5-.9), 979(.0-.9)	X85-92, X96-X98, Y01-Y03, Y05, Y08-Y09

Source: EPICenter, California Department of Health Service. Note: ICD-9 Codes (<1999) and ICD-10 Codes are for 1999 and later



## Injury Classification Codes (ICD-9 and ICD-10)

Cause of Injury	ICD-9-E Codes	ICD-10 VWXY Codes
Legal Intervention/War	970-976, 978, 990-991(.0-.9), 992-996, 997(.0-.9), 998	Y35-Y36(.0-.9)
Undetermined Intent	980-983(.0-.9), 984, 985(.0-.7), 986, 987-988(.0-.9)	Y10-Y34
Late Effects	929(.0-.9), 959, 969, 977, 989-999(.0-.1)	Y85(.0-.9), Y86, Y87(.0-.2), Y89(.0-.9)
<b><u>Special Definitions Used In State of California EPIC Data</u></b>		
Motor Vehicle Traffic, Drivers Only	810-819(.0)	V30-V79(.5), V83-V86(.0)
Violent Injuries (Combination of all types of Assault/ Homicide groups above)	960(.0-.1), 961, 962(.0-.9), 963-964, 965(.0-.9), 966, 967-968(.0-.9), 979(.0-.9)	X85-Y05, Y06-Y07(.0-.9), Y08-Y09
Abuse of Females by their Spouse or Partner	967.3	Y06-Y07(.0)

*Source: EPICenter, California Department of Health Service. Note: ICD-9 Codes (<1999) and ICD-10 Codes are for 1999 and later*

## REFERENCES

1. IHS Division of Program Statistics. American Indian and Alaska Native population estimates by state for each year 1980 to 2000. [www.ihs.gov/NonMedicalPrograms/IHS\\_Stats](http://www.ihs.gov/NonMedicalPrograms/IHS_Stats) (accessed on 7/20/2004)
2. Epstein, M., Morena, R., Bacchetti, P., and Arellano, M. Under Reporting of Deaths to American Indian Children in California, 1979-1993. A Report of the California Area Indian Health Service. California Area Indian Health Service Office, 1993; 1-8.
3. IHS, Division of Program Statistics. Adjusting for Miscoding of Indian Race on State Death Certificates. November 1996.
4. Miller TR, BA Lawrence, AF Jensen, GM Waehrer, RS Spicer, DC Lestina, and MA Cohen. Estimating the cost to society of consumer product injuries: the revised injury cost model, Bethesda, MD: US Consumer Product Safety Commission, 1998.

## Additional Sources for Injury Data and Information

This list comprises many of the major National, State, and non-government sources of injury and injury prevention data and resources. Many others exist that deal with specific topics (Occupational, Head and Neck Injury, etc). For more information on these, contact the California Area IHS Injury Prevention specialist at (916) 930-3953 or visit the IHS Injury Prevention Program resource page at [www.ihs.gov/MedicalPrograms/InjuryPrevention/resources.asp](http://www.ihs.gov/MedicalPrograms/InjuryPrevention/resources.asp).



### Epidemiology and Prevention for Injury Control

[www.dhs.ca.gov](http://www.dhs.ca.gov)

California Department of Health Services  
P.O. Box 997413  
Sacramento, CA 95814

The EPIC's mission is to provide accurate, timely and objective information on injuries. It is the most complete source of injury data for California. Here is a way to easily create data tables to answer specific questions about injury in California and its 58 counties. EPIC's fatal injury data comes from California Death Statistical Master File and data about hospitalized nonfatal injuries comes from the Office of Statewide Health Planning and Development (OSHPD) patient discharge data.



### Department of Finance

[www.dof.ca.gov](http://www.dof.ca.gov)

Demographic Research Unit  
915 L Street  
Sacramento CA, 95814  
(916) 323-4086

The Demographic Research Unit of the California Department of Finance is designated as the single official source of demographic data for State planning and budgeting.



## U.S. Census Bureau

Web address: [www.census.gov](http://www.census.gov)

E-mail: [ipc@census.gov](mailto:ipc@census.gov)

The Census Bureau serves as the leading source of quality data about the nation's people and economy. Their goal is to provide the best mix of timeliness, relevancy, quality, and cost for the data collected and services they provide.



## National Center for Injury Prevention and Control (NCIPC)

Mail stop K65

4770 Buford Highway NE

Atlanta, GA 30341-3724

Phone: 770-488-1506

Email: [ohcinfo@cdc.gov](mailto:ohcinfo@cdc.gov)

Web address: [www.cdc.gov/ncipc](http://www.cdc.gov/ncipc)

*(Web-based Injury Statistics Query and Reporting System)* is an interactive database system that provides customized reports of injury-related data. The NCIPC mission is to “reduce morbidity, disability, mortality, and costs associated with injuries.” They operate the *Safe USA* program, which offers consumer safety information, including a number of free publications. The *Safe USA* site can be accessed at [www.cdc.gov/safeusa/default.htm](http://www.cdc.gov/safeusa/default.htm).

WISQUARS covers the years 1981-2001 and are available by Year, Age, Race/Ethnicity, Gender, and State in five report formats:

- Fatal Injury Reports
- Nonfatal Injury Reports
- Leading Causes of Death Reports
- Leading Causes of Nonfatal Injury Reports
- Years of Potential Life Lost (YPLL)



## National Center for Health Statistics

6525 Belcrest Road  
Hyattsville, MD 20782-2003  
Phone: 301-458-4636  
[www.cdc.gov/nchs](http://www.cdc.gov/nchs)  
Email: [ospinfo@cdc.gov](mailto:ospinfo@cdc.gov)

The NCHS has data on vital events (birth, death, etc.) as well as information on health status, lifestyle and exposure to unhealthy influences, the onset and diagnosis of illness and disability, and the use of health care. NCHS produces a number of databases including:

- National Health Interview Survey (NHIS), which collects data on illness, injury, and chronic diseases from a survey of approximately 42,000 U.S. households
- National Vital Statistics System (NVSS), which is the official source for national vital statistics
- National Health Care Survey (NHCS) is the combination of four surveys: National Hospital Discharge Survey (NHDS): collecting data on diagnosis, procedures, and length-of-stay for non-Federal Patients



## National Highway Traffic Safety Administration (NHTSA)

Region IX Office 201 Mission Street, Suite 2230  
San Francisco, CA 94105  
Phone: 415-744-3089 Fax: 415-744-2532  
[www.nhtsa.dot.gov/nhtsa/](http://www.nhtsa.dot.gov/nhtsa/)

NHTSA's mission is to reduce deaths, injuries, and economic losses resulting from motor vehicle crashes. They provide a number of publications as well as research and program funding for programs focused on traffic safety. NHTSA is responsible for the Fatality Analysis Reporting System (FARS), an online database on all vehicle crashes in the United States that occur on a public roadway and involve a fatality in the crash. Data include occupant injury time and location of incident, weather conditions, restraint use, blood alcohol licensing files, driver record data, death certificates, and hospital records. FARS can be accessed at [www-fars.nhtsa.dot.gov](http://www-fars.nhtsa.dot.gov).

