

Maine Injury Prevention Conference

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**The Burden of Injury In Maine
Injury By The Numbers**

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Why Injury????

2008 – A Typical Year in Maine

Emergency Department Visits

- Each day there were 512 injury related ED visits
- Each hour 6 people presented to an ED because of a fall
- Every 2 hours someone presented to the ED because of assault
- Every 48 minutes a person presented to the ED because of a motor vehicle crash

2008 – A Typical Year in Maine

Inpatient Hospital Visits

- Each day there were 22 injury related inpatient hospitalizations
- Each day 3 people were admitted to the hospital after poisoning
- Each day 2 people were admitted to the hospital after a motor vehicle crash
- Every 2 hours a person was admitted to the hospital because of a fall

2008 – A Typical Year in Maine

Fatality

- Each day there were 2 injury related deaths
- Every 2 days someone died from poison
- Every 2 days someone died by suicide
- Every 2 days someone died from a motor vehicle crash
- Every 3 days someone died from a firearm injury
- Every 4 days someone died because of a fall
- Every 11 days a 15-24 year old died from a motor vehicle crash
- Every 12 days someone died from a homicide
- Every 14 days someone died from drowning

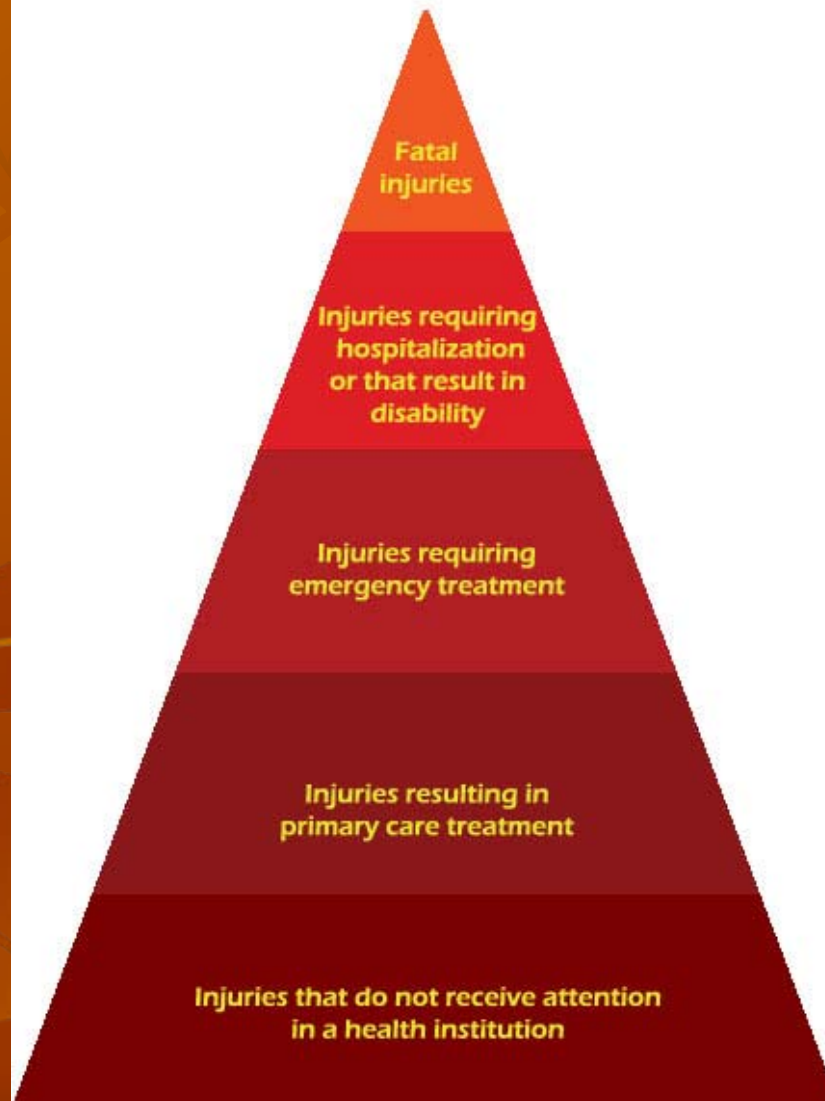
In Maine, Injury was the Leading Cause of Death Ages 1-44

**Intentional and Unintentional Deaths
were the 3rd leading cause of death
across the lifespan (2007)**

What is an Injury?

- Physical Damage: Physical damage to the body or a body part
- Wound: An instance of physical damage to a body part, i.e., serious back injury
- Harm or Hurt: A wound or maim; usually applied by an external force
- Injury is damage or hurt caused to the structure or function of the body caused by an outside agent or force, which may be physical or chemical, and is either unintentional or intentional

Injury Pyramid



Injury in Maine 2004-2008

	Emergency Department	Hospitalizations	Fatality
1 st	Fall (191,309)	Fall (19,576)	Suicide (876)
2 nd	Struck By/Against (103,811)	Poison (5,660)	Motor Vehicle (860)
3 rd	Overexertion (91,238)	Motor Vehicle (4,586)	Poison (723)
4 th	Cut/pierce (72,625)	Transport, Other (1,330)	Fall (406)
5 th	Motor Vehicle (49,043)	Struck By/Against (1,122)	Unspecified (236)

Source: MHDO Hospital
Dataset; Maine ODRVS

What Data Will We Use Today?

- Emergency Department
- Hospital Discharge
- Death Certificate
- Uniform Crime Reporting System
- Fatality Analysis Reporting System
- Medical Examiner Reports
- Maine Fire Incident Reporting System

Injury By Health District

Emergency Department Visits 2004-2008

(District, Number, Rate per 100K)

■ Aroostook	55,560	(15,415)
■ Central	130,732	(15,233)
■ Cumberland	142,081	(10,355)
■ Down East	55,500	(12,919)
■ Mid Coast	92,225	(12,274)
■ Penquis	96,236	(11,674)
■ Western	131,066	(13,590)
■ York	105,038	(10,464)

Injury By Health District Hospitalizations 2004-2008 (District, Number, Rate per 100K)

■ Aroostook	2,665	(739)
■ Central	6,028	(702)
■ Cumberland	7,847	(571)
■ Down East	3,136	(730)
■ Mid Coast	4,941	(657)
■ Penquis	5,452	(661)
■ Western	6,318	(655)
■ York	4,557	(454)

Injury Indicators Reviewed Today

- Falls Among Elderly
 - Hip Fractures
- Motor Vehicle
- Suicide and Self Inflicted
- Poisoning
- Drowning
- Fire
- Domestic Violence
- Homicide
- Traumatic Brain Injury

Fall Related Injuries

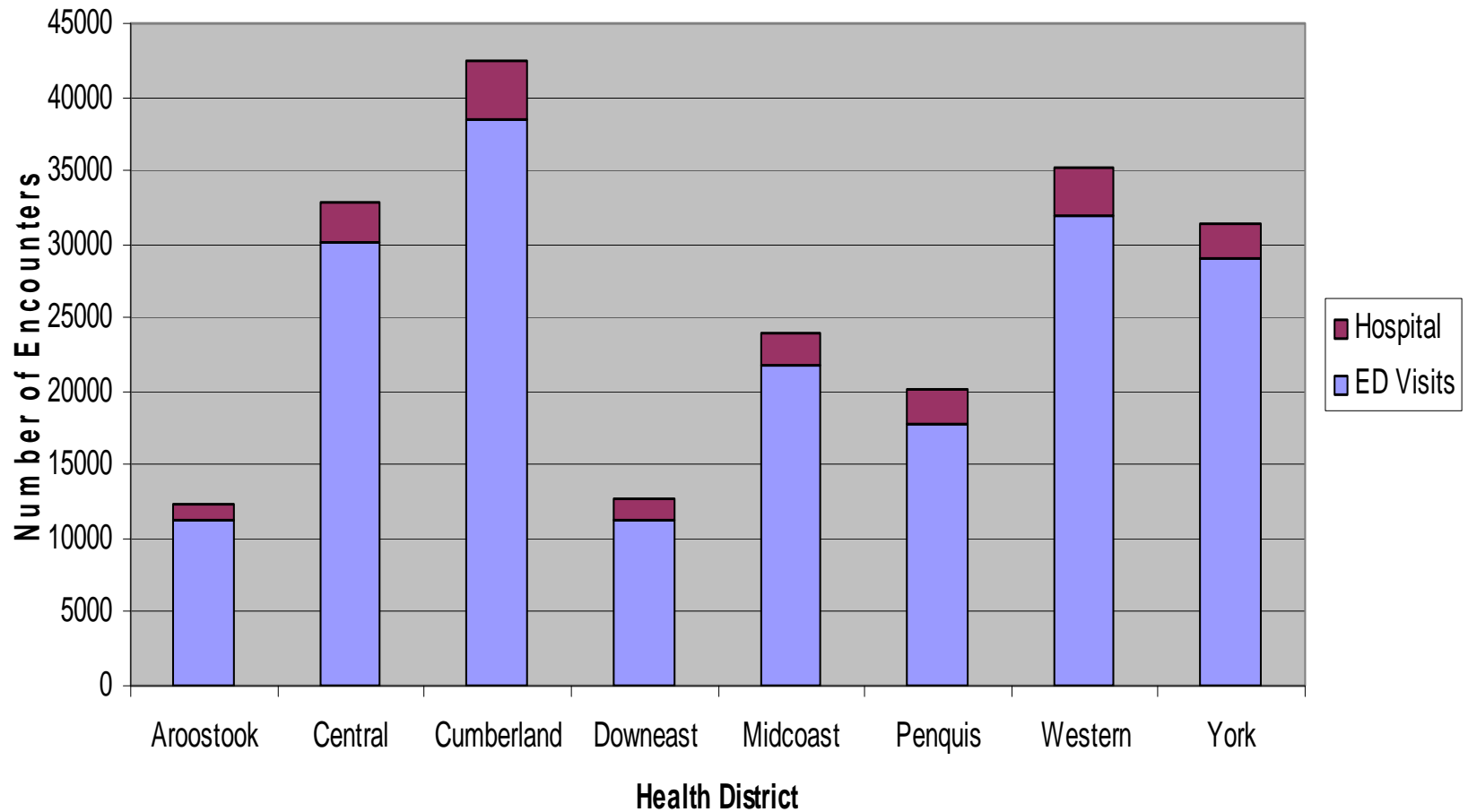
In 2008, fall related injuries were the number one cause of injury emergency department visits and hospitalizations and the fourth leading cause of injury deaths in Maine.

FALLS

2008

- Every week there were 2 deaths and 82 hospitalizations related to falls
- Every week there were 975 ED visits related to falls (55% female, 45% male)
- 65+ year olds represented 15% of the Maine population but they accounted for 78% of fall related deaths and 70% of fall related hospitalizations
- One in three fall related hospitalizations involved a hip fracture; this increased to 43% among 65+ year olds
- Females were significantly higher risk than males of a hospitalization (65% to 35%); there was no statistical difference in the death data

Falls in Maine 2004-2008



Why Falls Prevention?

- 25% of people who have falls that result in hip fractures die within one year.
- Up to 55% of community dwelling older adults report fear of falling.
- Some studies have shown a \$21 to \$1 cost benefit after implementing falls prevention programming.



Hip Fractures

Hip Fracture, 2008

- In 2008, there were 1,432 hip fracture injury hospitalizations (age 65 and older) in Maine.
- Females were at significantly higher risk than males of having a hip fracture hospitalization.
- The risk of hip fracture increased with age. The risk among 85+ year olds was 12 times greater than among 65-74 year olds.
- 90% of hip fracture hospitalizations were known to be due to unintentional fall.

Motor Vehicle Crash Injuries

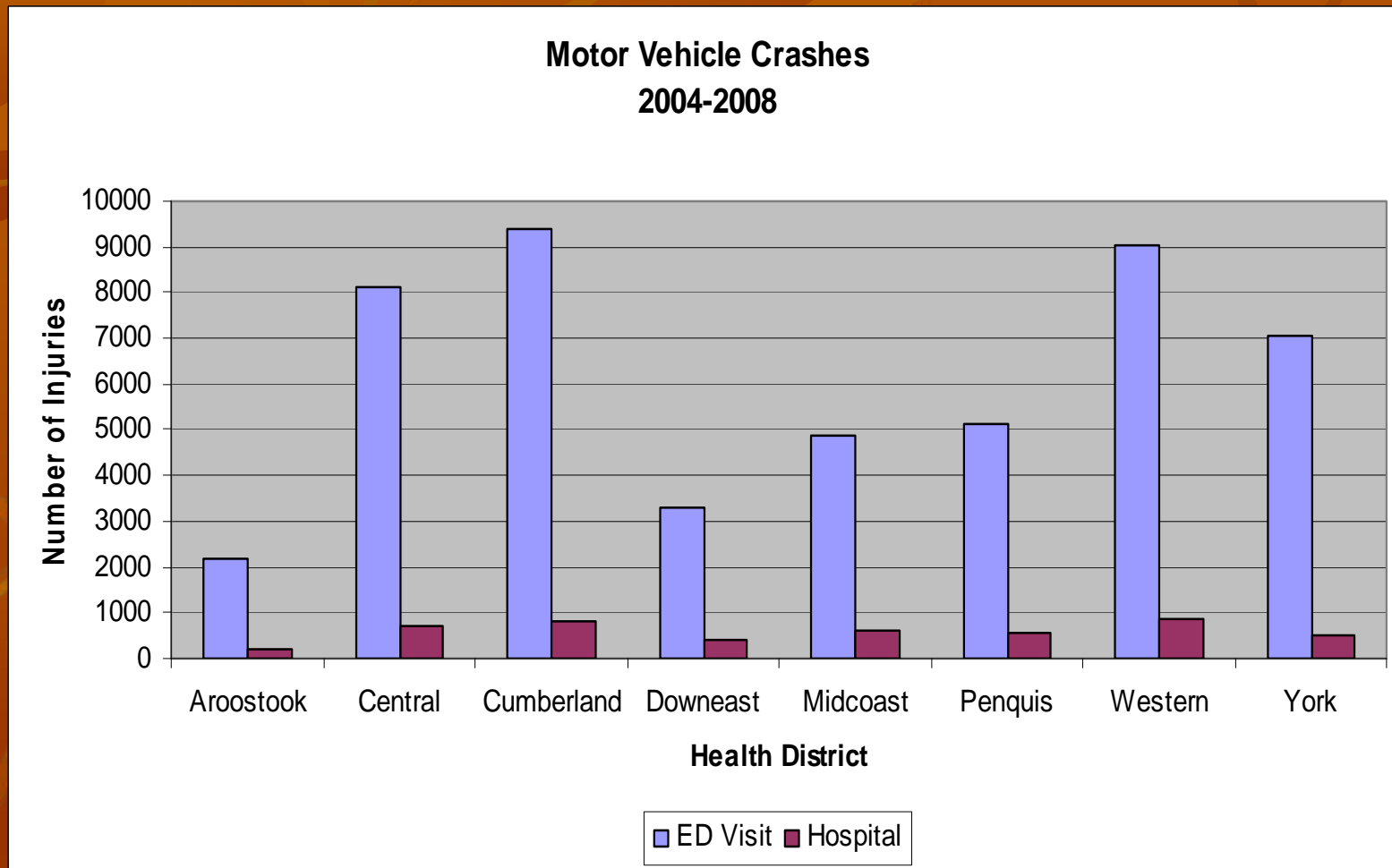
In 2008, Motor Vehicle Crash injuries were the 5th leading cause of emergency department injury visits; 3rd leading cause of injury hospitalizations and 2nd leading cause of injury deaths in Maine

Motor Vehicle, 2008

(Rates per 100,000)

- Every 48 minutes there was an ED visit because of a motor vehicle injury
- Every day 2 people were admitted to the hospital because of motor vehicle injuries
- Every 2 days someone died from a motor vehicle crash

Motor Vehicle Crash Medical Follow-up



Driver Blood Alcohol Content

Person Killed in MVC

2008

BAC	Number	Percentage
= 0.0	108	69.5%
= 0.1-0.7	4	2.5%
= 0.8 +	43	28.0%

Motor Vehicle Fatalities, 2008

Health District, Number, Rate per 100K

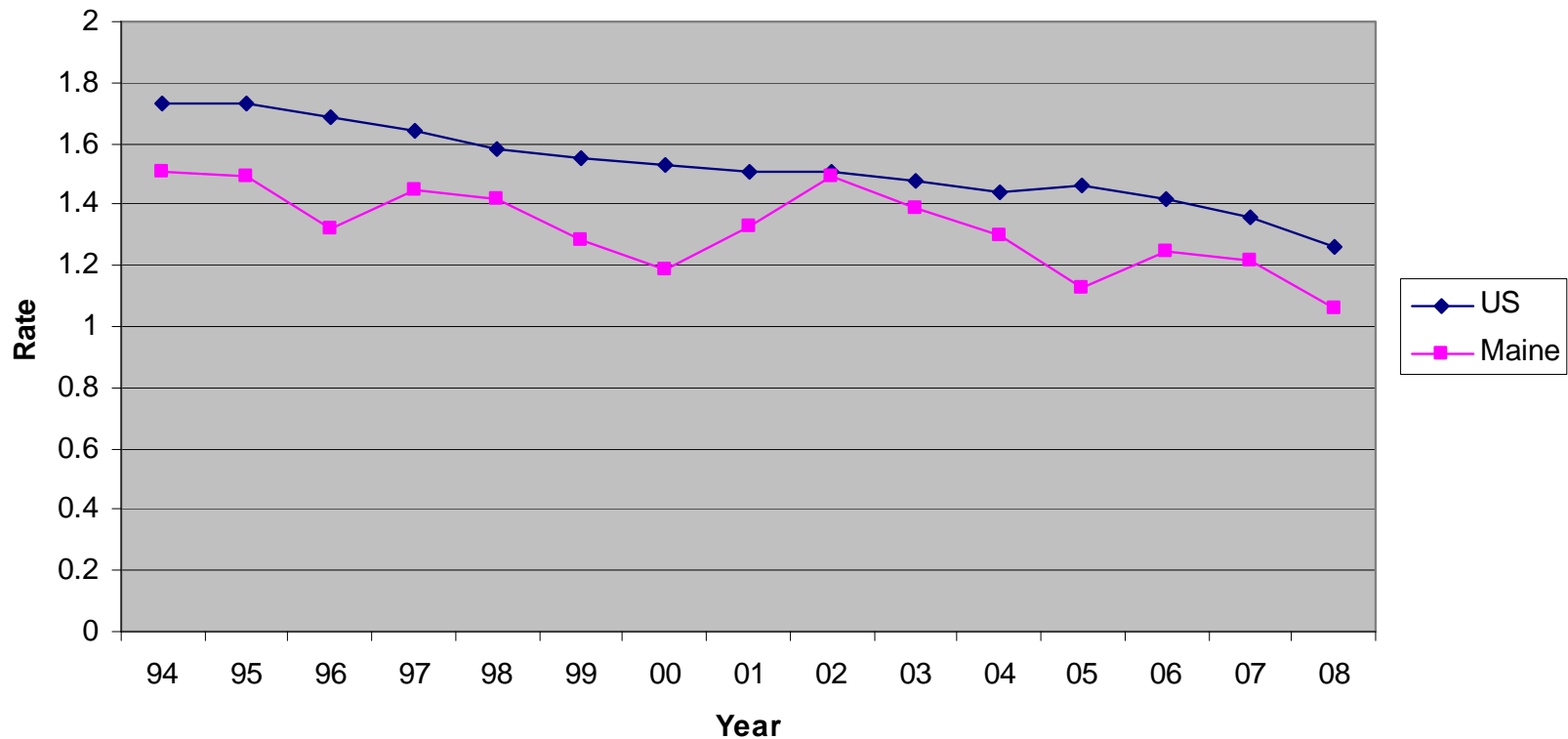
■ Aroostook (7)	9.79
■ Central (25)	14.53
■ Cumberland (21)	7.53
■ Down East (14)	16.36
■ Mid Coast (24)	15.99
■ Penquis (18)	10.82
■ Western (20)	10.38
■ York (26)	12.87

Motor Vehicle Fatalities in Maine

1994-2008

30% Reduction in Deaths Over 15 Years

Fatalities per 100 Million Miles Traveled



National Motor Vehicle Injury Prevention Policy Solutions

- A \$30 booster seat produces cost savings greater than 9 to 1.
- The public saves between \$3 and \$7 for every \$1 spent on ignition interlock devices.
- Increasing seat belt usage to 90% in all states would save an additional \$5.2 billion a year in legal, medical and productivity costs.
- For a cost of \$70 per teen, graduated licensing programs generate \$500 in cost savings.

Suicide

was the leading cause of injury deaths
in Maine in 2008

Suicide

- There were 181 suicides in 2008
- The highest rate was among 45-54 year olds
- Men died at a higher rate than women
- Maine ranked 14th in the nation in the rate of suicides (2007)

Suicide

2008

■ Cause of Death

■ Firearm	55%
■ Hanging	18%
■ Poison	18%
■ Blunt Force	5%
■ Cutting	5%
■ Drowning	1%
■ Fire	1%

■ Sex

Male	81%
Female	19%

Suicide

2008

Cause of Death

■ Male

■ GSW	62%
■ Hanging	20%
■ Poison	10%
■ Blunt Force	4%
■ Cut/Stab	2%
■ Drowning	1%

■ Female

■ GSW	31%
■ Hanging	11%
■ Poison	50%
■ Blunt Force	0%
■ Cut/Stab	5%
■ Drowning	3%

Suicide

Rate per 100,000

Residence by Health District, 2004-2008

■ Aroostook	14.13
■ Central	12.58
■ Cumberland	11.92
■ Down East	12.09
■ Mid Coast	16.07
■ Penquis	13.71
■ Western	12.24
■ York	13.74

Self Injury

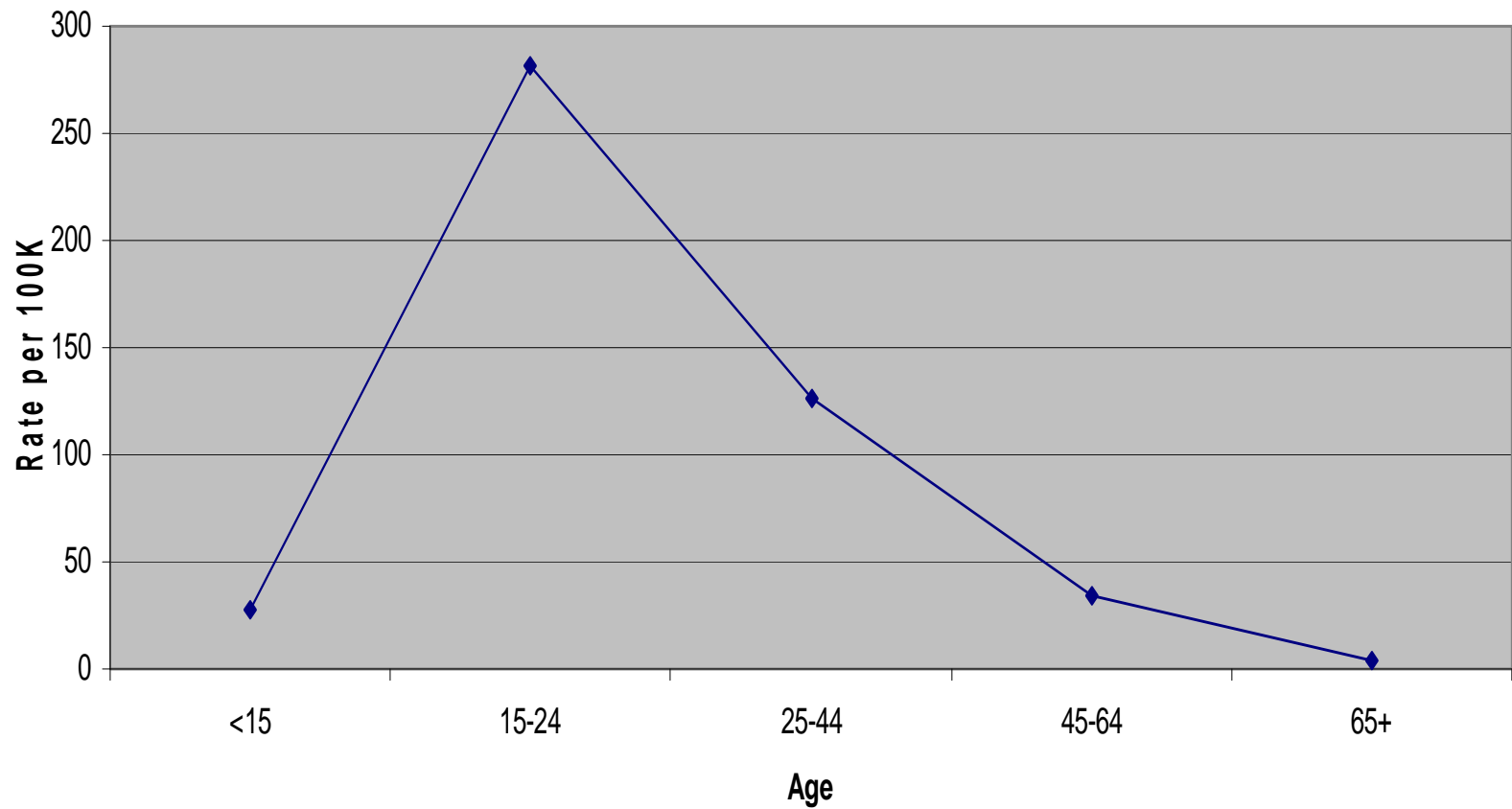
2008

- For every suicide death in Maine in 2008 (n=181) there were:
 - 6 people hospitalized for a self inflicted injury
 - 11 people who visited an emergency department for a self inflicted injury

Self Injury ED Visits and Hospitalizations

2004-2008

Rates per 100K, by Age



Self Injury

2008

- Emergency Department Self-injury Visits
 - 49% poisoning
 - 29% cutting/piercing
 - 21% Other/NEC
- Hospitalizations
 - 93% poisoning

Poison Injuries in Maine 2008

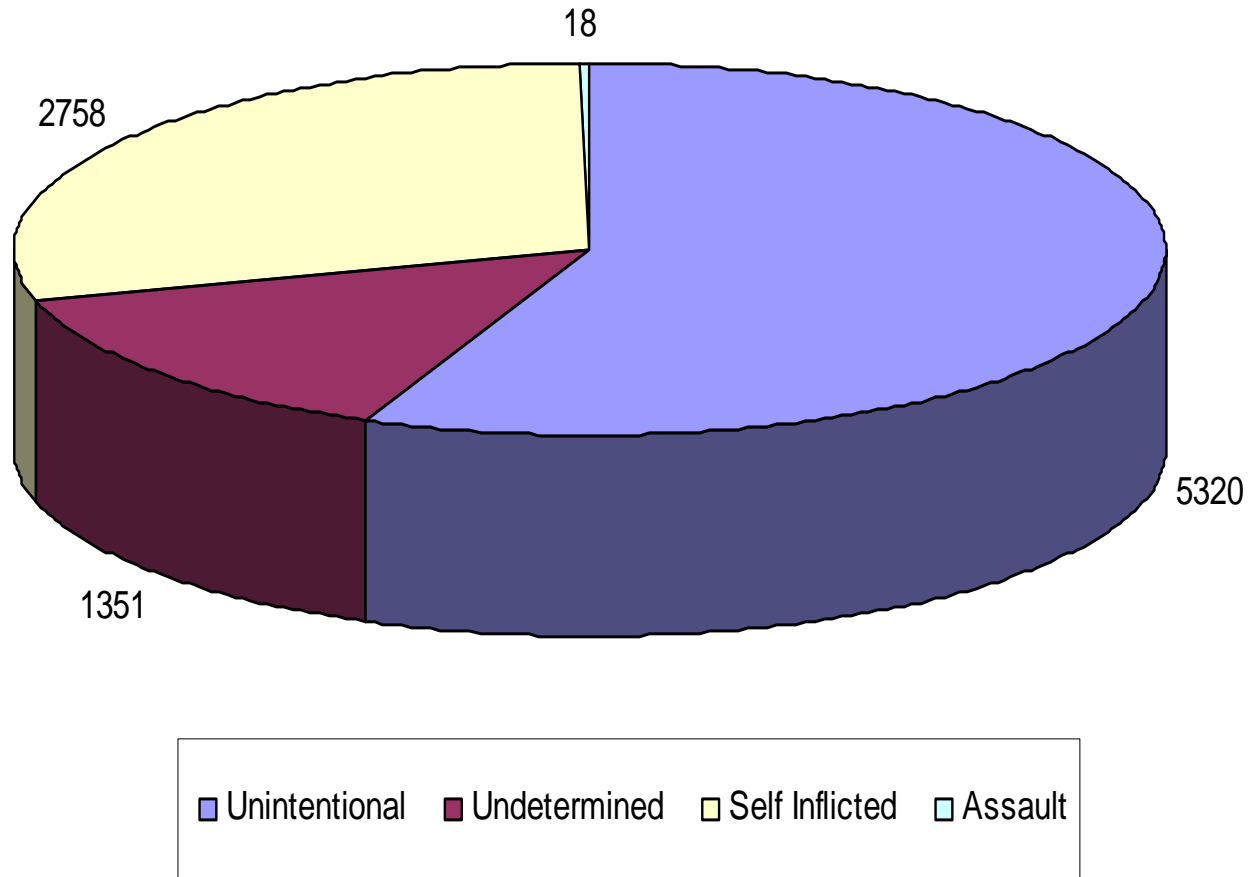
2nd leading cause of injury hospitalizations

3rd leading cause of injury deaths

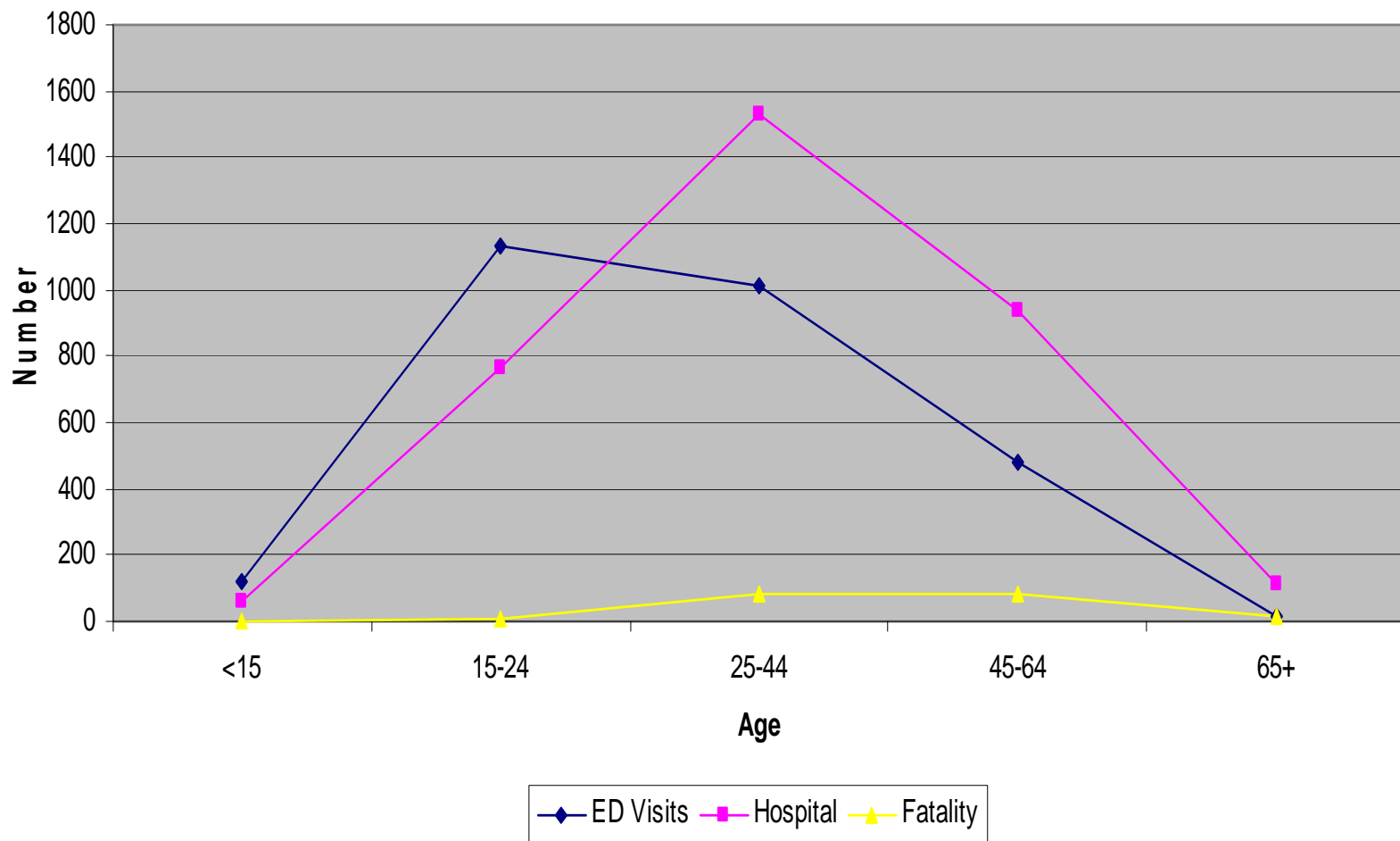
Poison

- Unintentional poisoning deaths are on the rise. Poisoning death rates in the United States increased by 63% from 1999 to 2004.
- 96% of unintentional poisoning deaths are a result of drug poisoning—and more than half of them are due to prescription drugs.

ED Visits Poison Intent 2004-2008



Poisoning in Maine 2008



Source: MHDO Hospital
Dataset; Maine ODRVS



Drowning in Maine

Drowning

2008

- 65 drowning related emergency department visits in 2008
- 20 drowning related hospitalizations
- 26 drowning deaths
 - 25 male
 - 1 female

Drowning Rates

(Rate per 100,000), 2008

- Emergency Department
 - Highest rate among 1-4 year olds (10.5)
 - Lowest rate among 55-64 year olds (1.12)
- Hospitalizations
 - Highest rate among 1-4 year olds (7.0)
 - No hospitalizations for <1 year, 15-24 year olds and over age 55
- Deaths
 - Highest rate among 85+ year olds (3.48)
 - No reported deaths for birth to 4, and 65-74 year olds

Fire Related Injuries

2008

- 616 unintentional fire related emergency department visits in 2008
- 46 unintentional fire related hospitalizations
- 14 unintentional fire related deaths

Maine Fire Incident Reporting System

2008

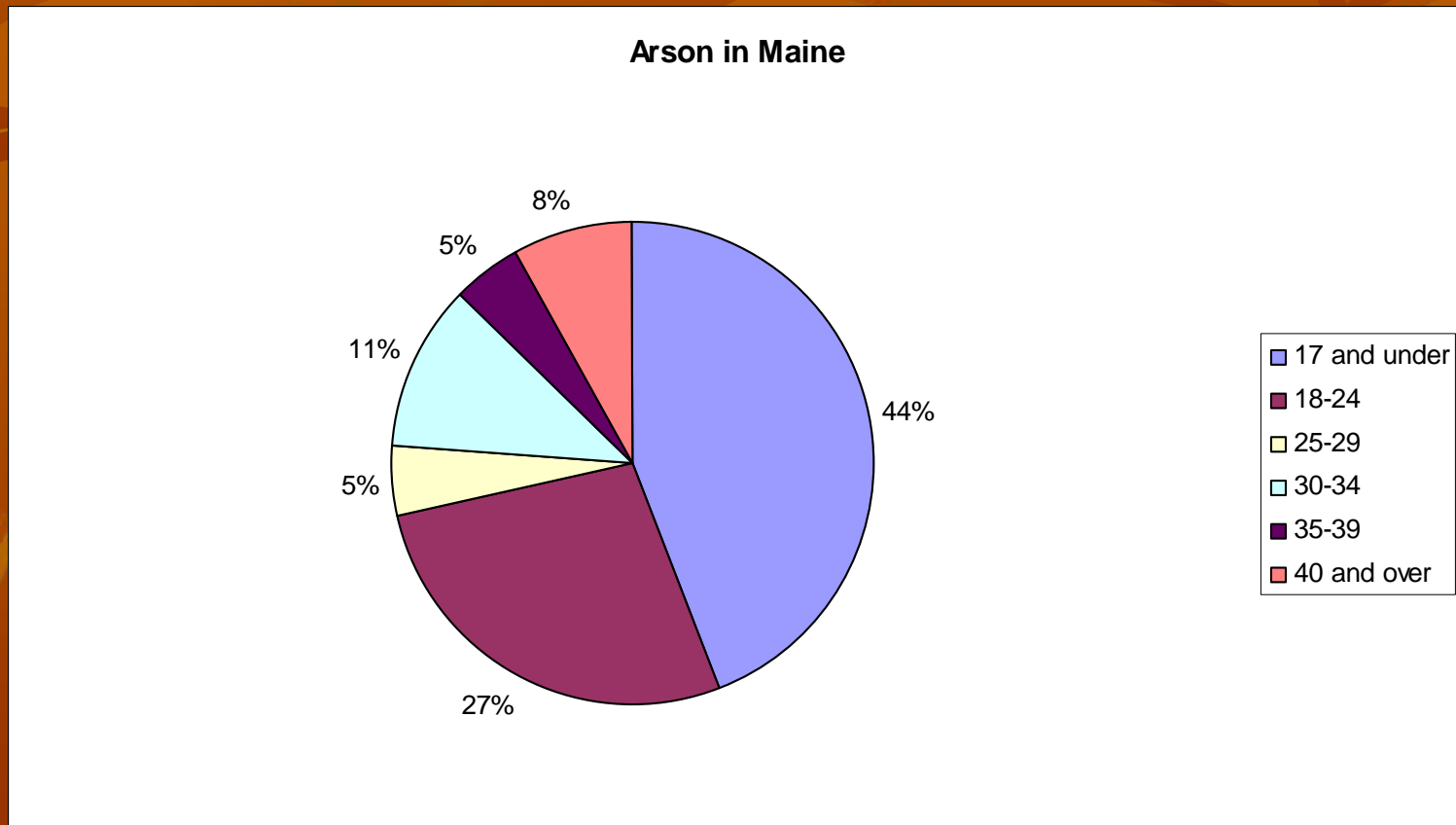
- There were 3,531 fire calls; over 9 per day
- There were 42 civilian fire related injuries
- There were 22 fire service fire related injuries

Arson

2008

- There was an arson related crime every 46 hours and 43 minutes
- In Maine, there were 188 arson events in 2008
- Top four counties for arson
 - Cumberland
 - Penobscot
 - Androscoggin
 - Kennebec

Who committed fire crimes? 2008



Homicide

2008

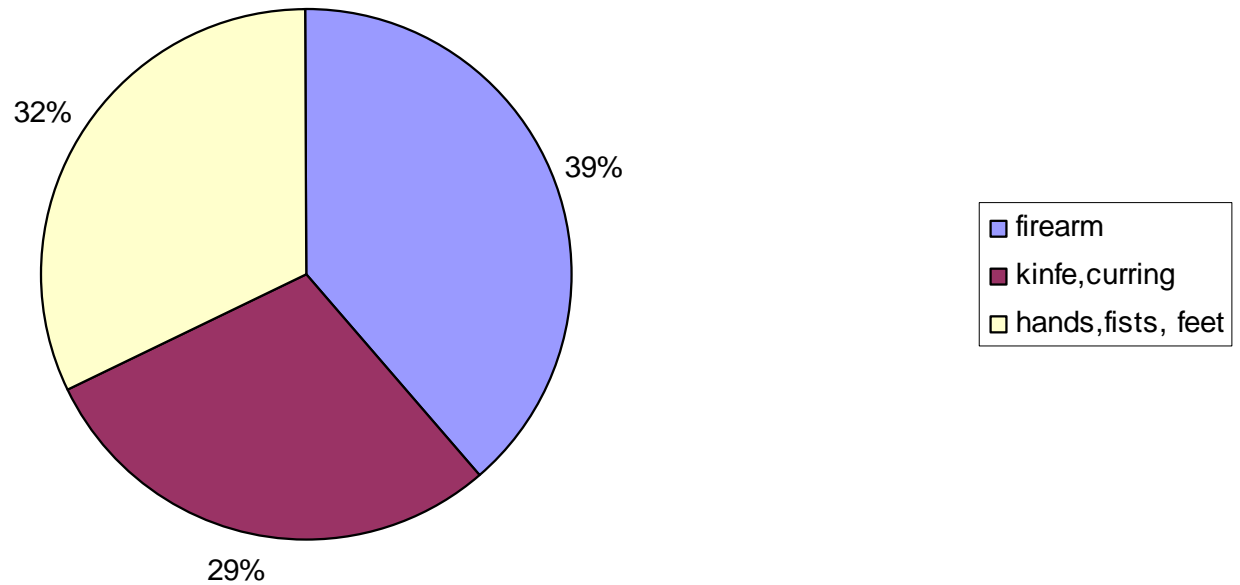
- There were 31 homicides in 2008; 5 were children under age 3
- There were 3 homicide/suicide cases
- There were 3 cases with multiple deaths; 1 case with multiple assailants
- 87% of cases were non-stranger to non-stranger; 0.0% were stranger to stranger; 12.9% were of unknown relationship

Homicide

2008

by weapon used

Homicides in Maine, 2008



Homicide

2008

■ Victim

- 21 Males
- 10 Females

- Average Age 35
- Range 1 month - 72

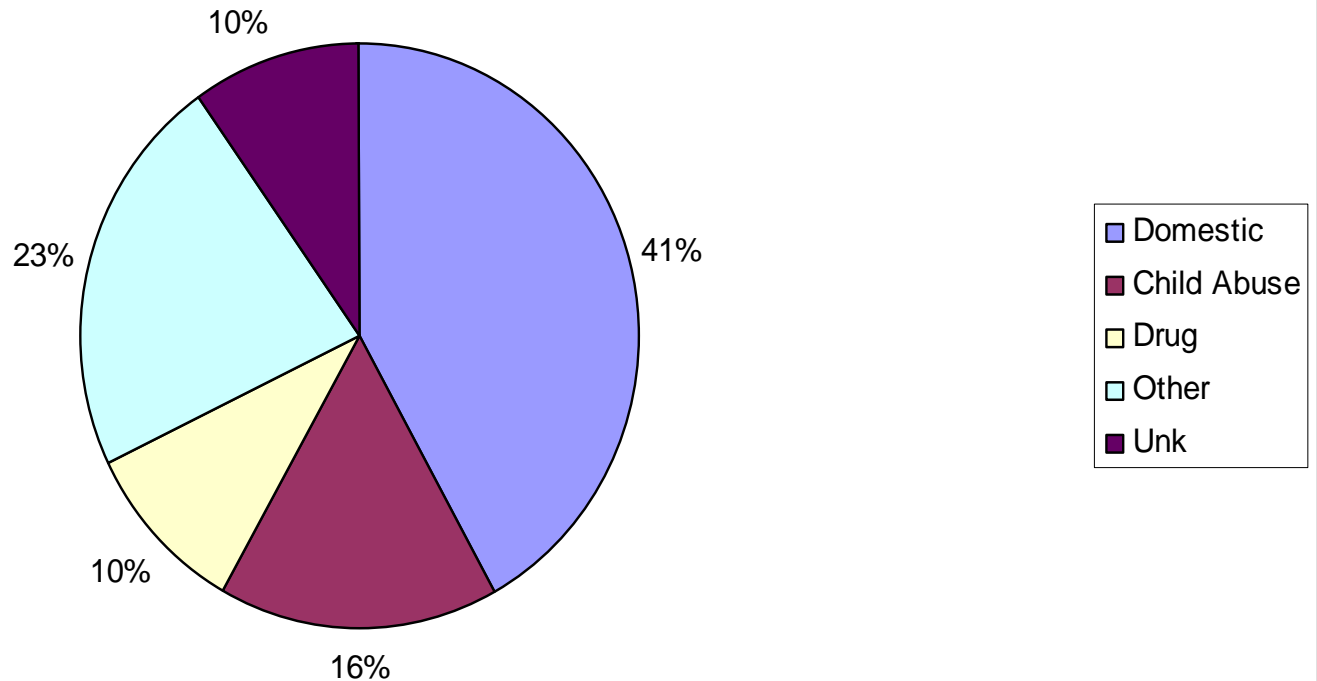
■ Offender

- 21 Males
- 4 Females

- Average Age 35
- Range 19-63

Homicide 2008

Homicide Circumstance 2008



Domestic Violence

2008

- A domestic assault occurs every 1 hour and 39 minutes in Maine
- In 2008, there were 5,311 reported domestic violence offenses

Domestic Violence

Number/Rates 1,000

Residence by Health District, 2008

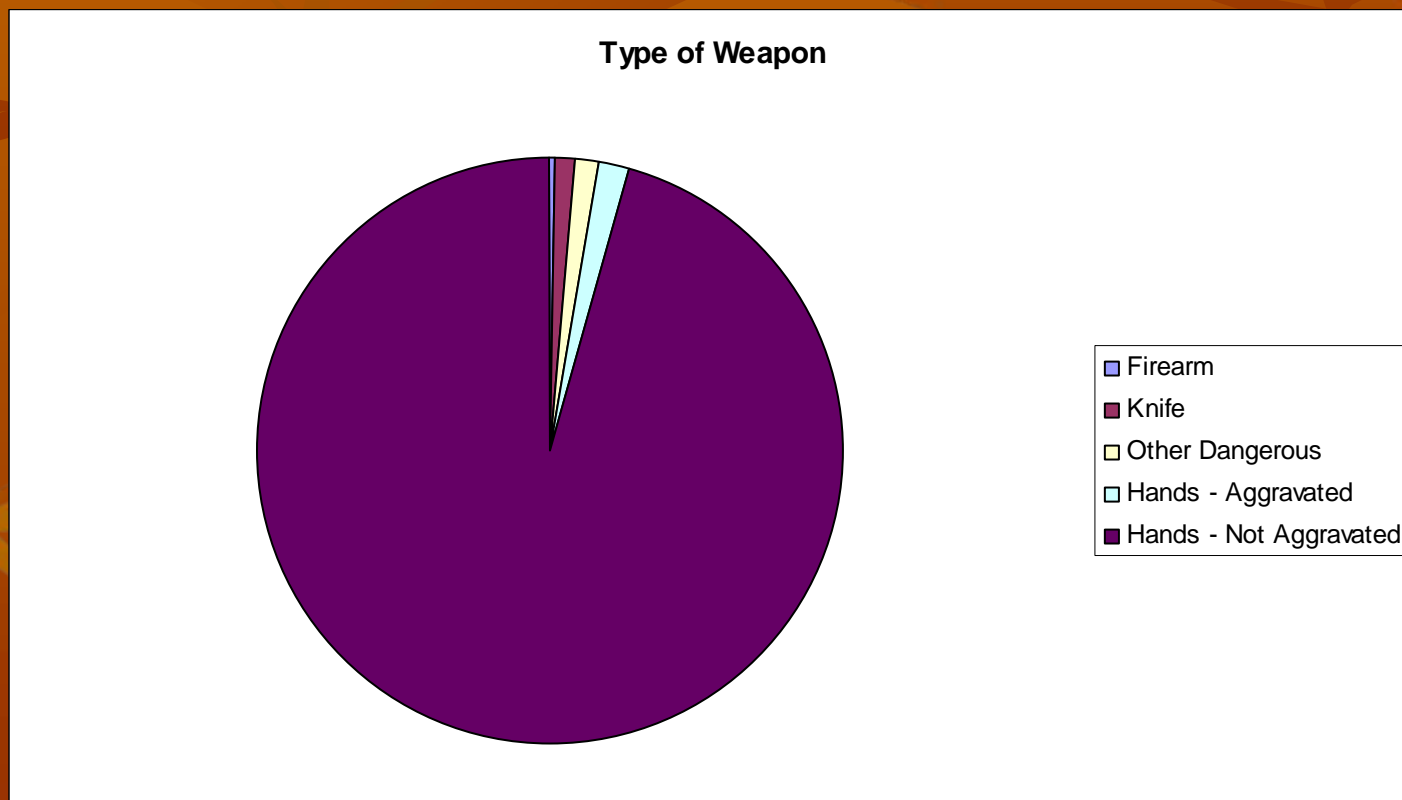
■ Aroostook	229	(3.20)
■ Central	824	(4.78)
■ Cumberland	1,122	(4.02)
■ Down East	182	(2.12)
■ Mid Coast	675	(4.49)
■ Penquis	522	(3.14)
■ Western	1,194	(6.20)
■ York	1,023	(5.06)

Domestic Assaults

2008

■ Male on Female	5,997 (56.4%)
■ Female on Male	1,067 (20.1%)
■ Parent on Child	455 (8.6%)
■ Child on Parent	228 (4.3%)
■ All Others	564 (10.6%)

Domestic Assault 2008





Firearm Injuries

Firearm Related Injuries

Rates per 100,000

- There were 121 firearm related deaths in 2008
 - The highest rate was among 85+ year olds (27.86)
- There were 81 emergency department visits
 - The highest rate was among 15-34 year olds (15.21)
- There were 23 firearm related hospitalizations
 - The highest rate was among 15-34 year olds (3.80)

Firearms

2008

- Used in 101 suicide deaths
- Used in 17 domestic violence cases
- Used in 12 homicides
- Used in 53 robberies
- Used in 61 aggravated assaults

Traumatic Brain Injury

“occurs when sudden trauma results in injury to the brain”.

TBIs can result “when the head suddenly and violently hits an object, or when an object pierces the skull and enters brain tissue.”

TBI

2008

- There were 9,222 Emergency Department visits for Traumatic Brain Injury
- There were 998 Hospitalizations for TBI
- There were 263 TBI related deaths

TBI

2008

- 65+ year olds represented approximately 15% of the Maine population, but they accounted for more than one third of TBI related deaths (37.2%) and hospital discharges (41.5%)

TBI

2008

- The three leading cause of TBI related deaths were self-inflicted firearm injury, motor vehicle traffic incidents and falls.
- The three leading cause of TBI related hospitalizations were falls, motor vehicle traffic incidents and other transport incidents

Summary

- Injury was the leading cause of injury deaths from ages 1-44
- Injury was in the top 10 leading causes of death across the lifespan
- Of the 2.9M people who were discharged from the ED to home or self care, approximately 27% had an injury principal diagnosis
- Of the 922K people who were hospitalized, 5.2% had an injury principal diagnosis



Questions