

# Elderly Falls: Facts, Risk, and Prevention



**COUNTY OF SAN DIEGO**  
HEALTH AND HUMAN  
SERVICES AGENCY  
**PHS**  
**Public Health Services**  
EMERGENCY MEDICAL SERVICES

You can't help getting  
older, but you don't  
have to get old.

-George Burns

# How many seniors fall?

There are currently **365,931** residents of San Diego County ages 65+ years. §

At least one in three (121,977) will fall within the next 12 months.\*

**334 EVERY DAY**

\*Source: CDC, "Preventing Falls Among Older Adults" Accessed 3/2009 and applied to San Diego County population data.

§Population Estimates: SANDAG, 2009 estimates. 10/2009 update.

# How many seniors fall?

Of these, **75% (91,483)** will fall a second time within six months of the initial fall.\*

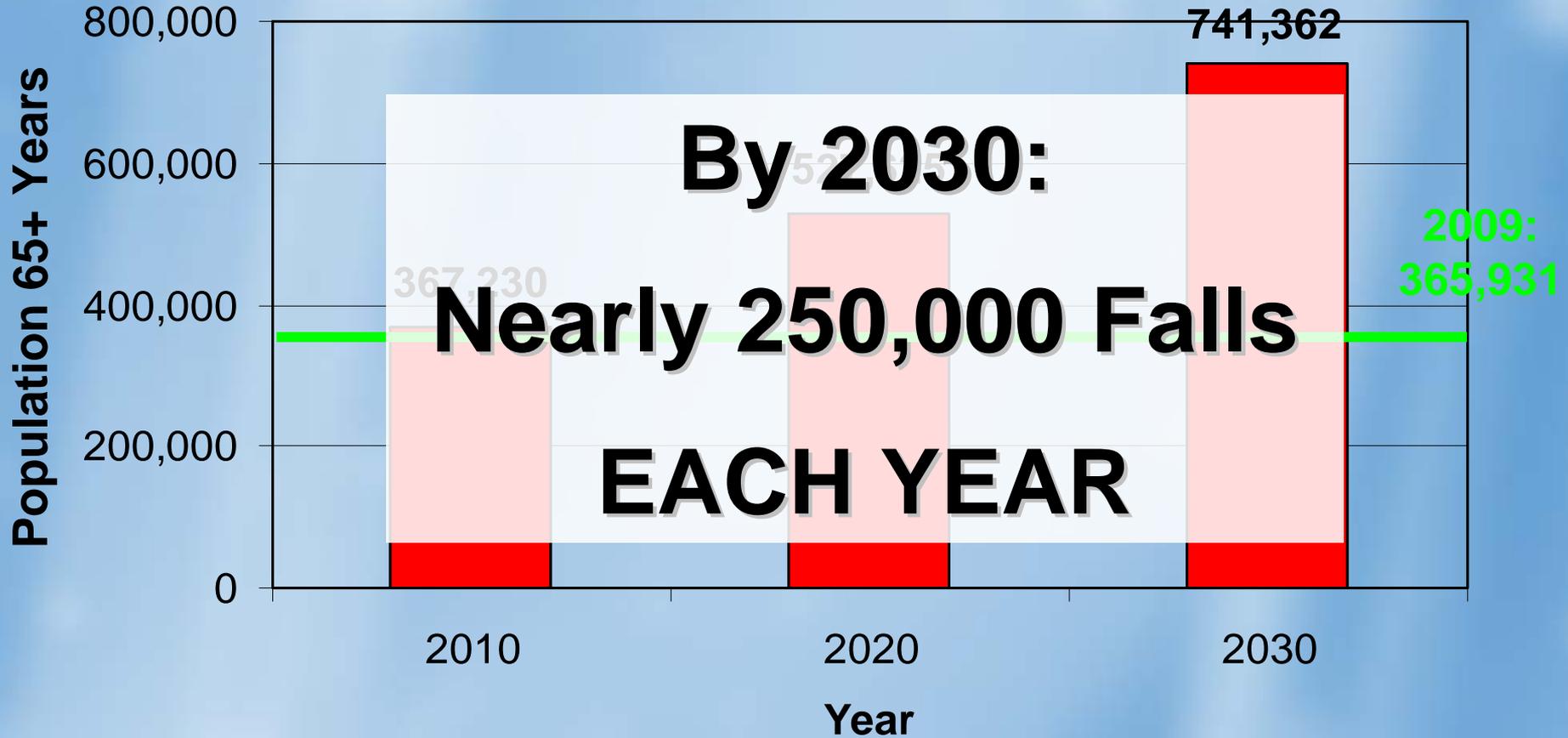
**20% to 30% (24,395 to 36,593)** will suffer injuries that will make it difficult to get around or live alone.\*

**Up to 100 EVERY DAY**

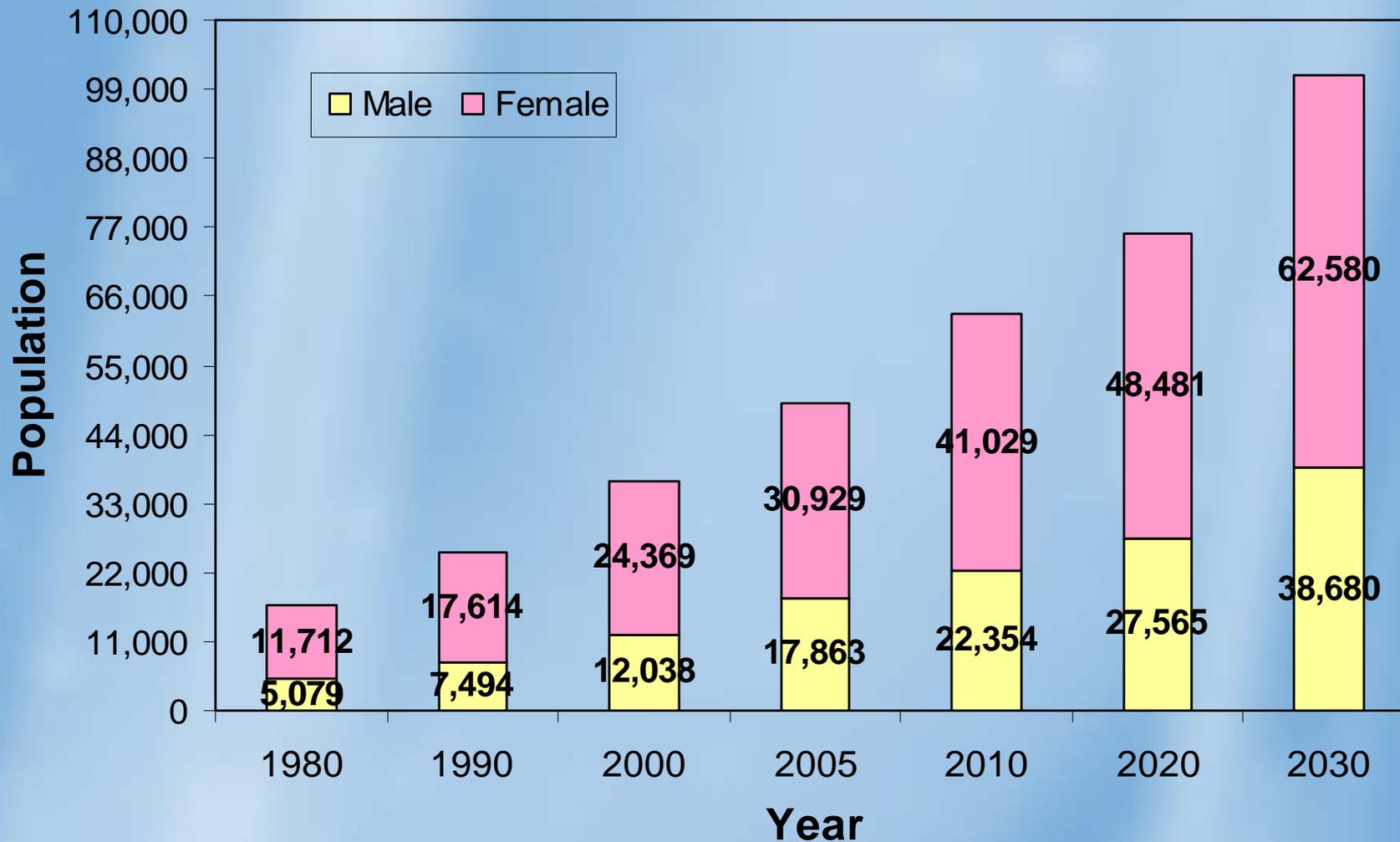
\*Source: CDC, "Preventing Falls Among Older Adults" Accessed 3/2009 and applied to San Diego County population data.

§Population Estimates: SANDAG, 2009 estimates. 10/2009 update.

# Population Projections – 65+ Years San Diego County



# Population Projections – 85+ Years San Diego County



I don't care how old  
I live; I just want  
to be **LIVING**  
while I am living!

-Jack LaLanne

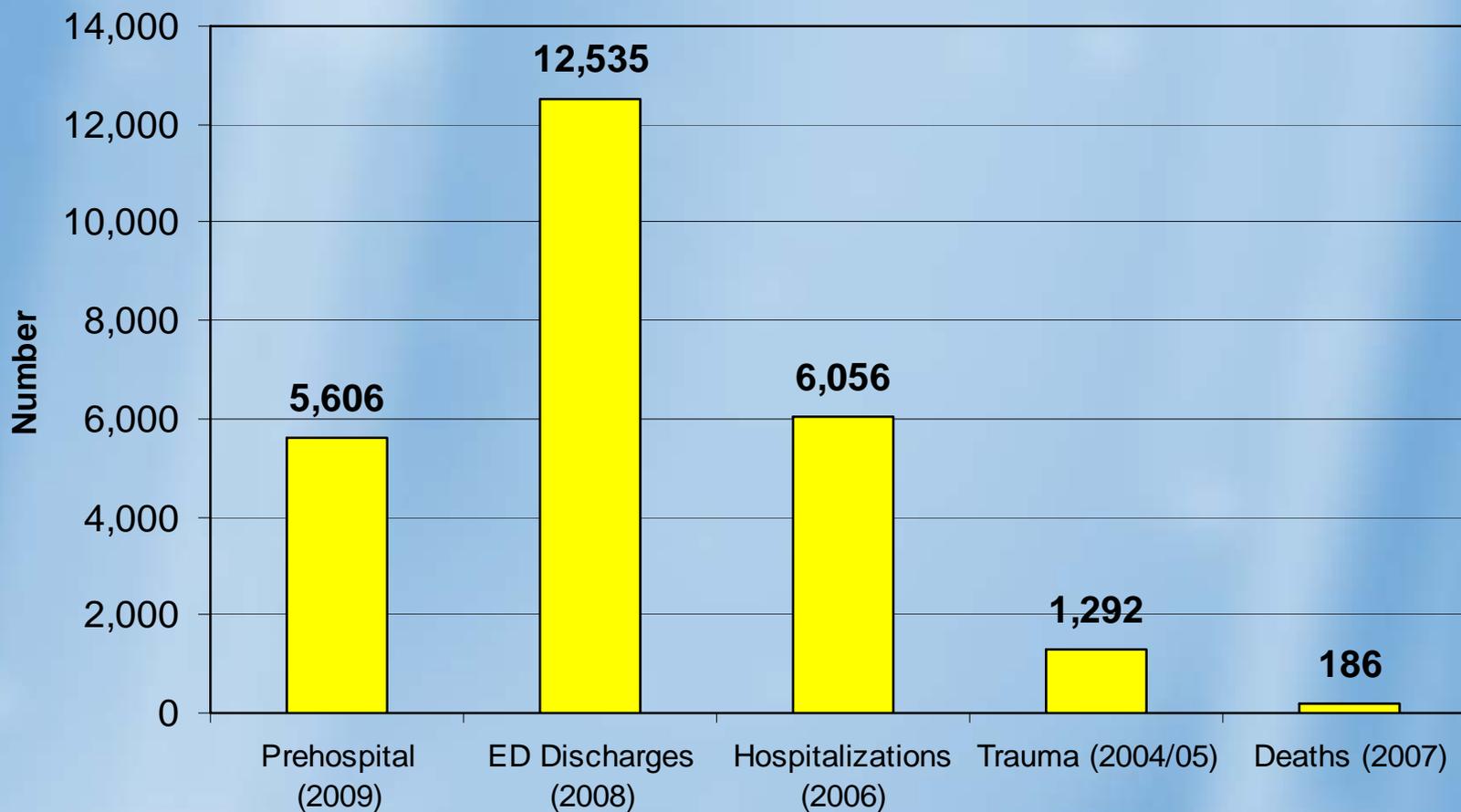
# Importance of the Prehospital Setting

- Three out of four seniors who fall will have a second fall within six months.
- An entry point to the system
  - Opportunity for intervention and education
    - Fear
    - Medical management
    - Home modification
    - Address conditions that may contribute to a fall
      - Balance
      - Vision

# Injury Surveillance

- Prehospital: base hospital (MICN) data
- Emergency Department (ED) Discharges
- Hospital Inpatient Discharges
- Trauma Registry
- Medical Examiner/Vital Records

# Number of Fall-Related Injuries by Type of Encounter, 65+ Years, San Diego County



# Among older adults, falls are the leading cause of:

- unintentional injury
- injury ED discharge and hospitalization
- trauma admission
- loss of independence
- injury death

**In 2009, one out of every  
27 seniors ages 85 years  
and older in San Diego  
County called 9-1-1  
because of a fall.**

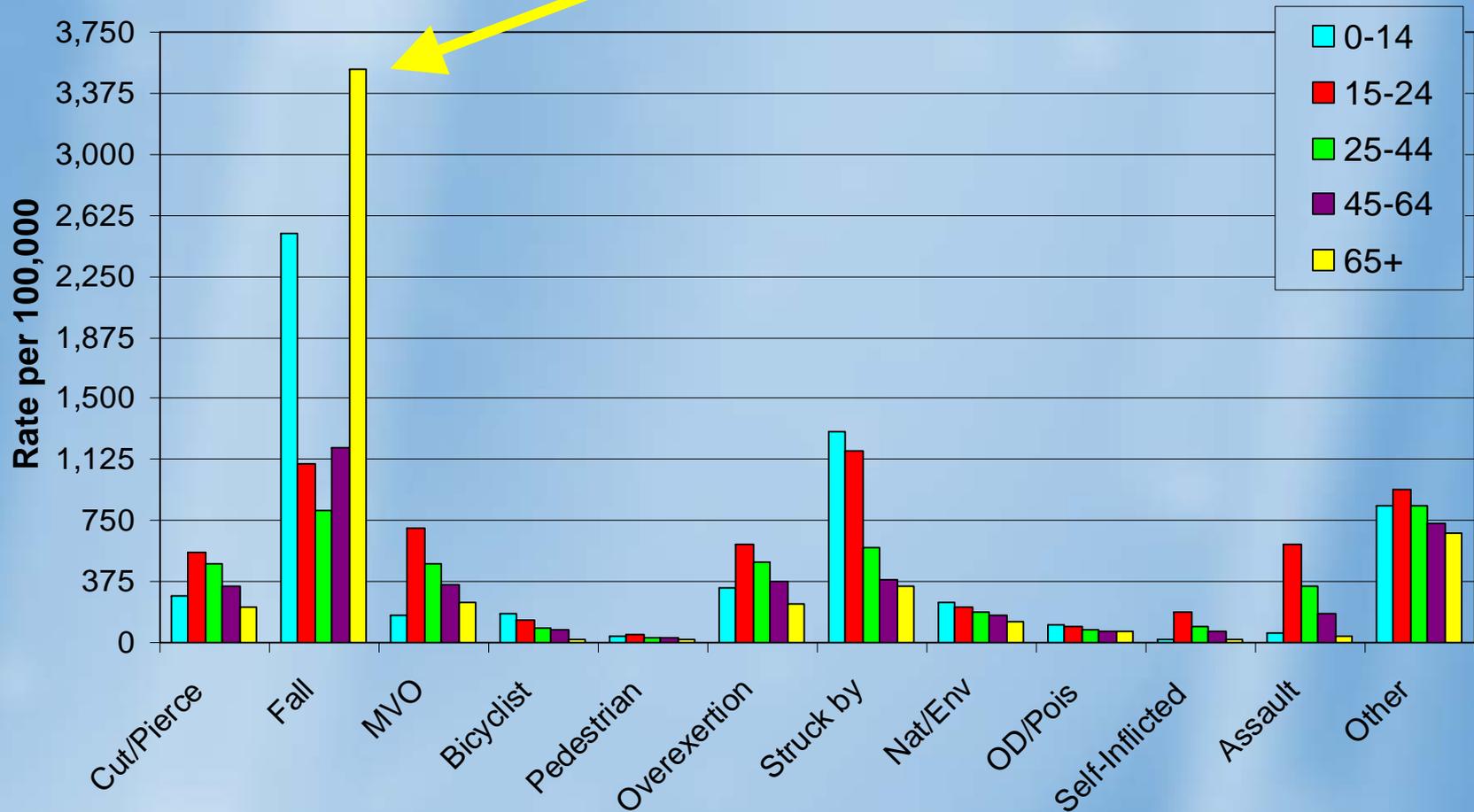
# Ten Most Common Reasons for a Prehospital Call, 65+ Years, San Diego County, 2009, (N=62,572)

	Number	Percent
Alt Neuro (Med)	8748	14.0%
Resp Distress	6941	11.1%
Other Medical	6789	10.9%
<b><i>Fall Injury</i></b>	<b>5606</b>	<b>9.0%</b>
Chest Pain Card	5451	8.7%
Ab Pain	2864	4.6%
GI/GU	2821	4.5%
Trauma Head/Neck	2512	4.0%
Alt Neuro (Diab)	1918	3.1%
Fever Flu Rash	1159	1.9%

# Ten Most Common Reasons for a Prehospital Call, 85+ Years, San Diego County, 2009, (N=20,424)

	Number	Percent
Alt Neuro (Med)	3206	15.7%
<b>Fall Injury</b>	<b>2279</b>	<b>11.2%</b>
Otr Med	2218	10.9%
Resp Distress	2206	10.8%
Chest Pain Card	1447	7.1%
Trauma Extrm	1299	6.4%
Syncope	1072	5.2%
GI/GU	981	4.8%
Trauma Head/Neck	876	4.3%
AB Pain	803	3.9%

# Rate of Injury ED Discharge by Cause and Age, San Diego County, 2008

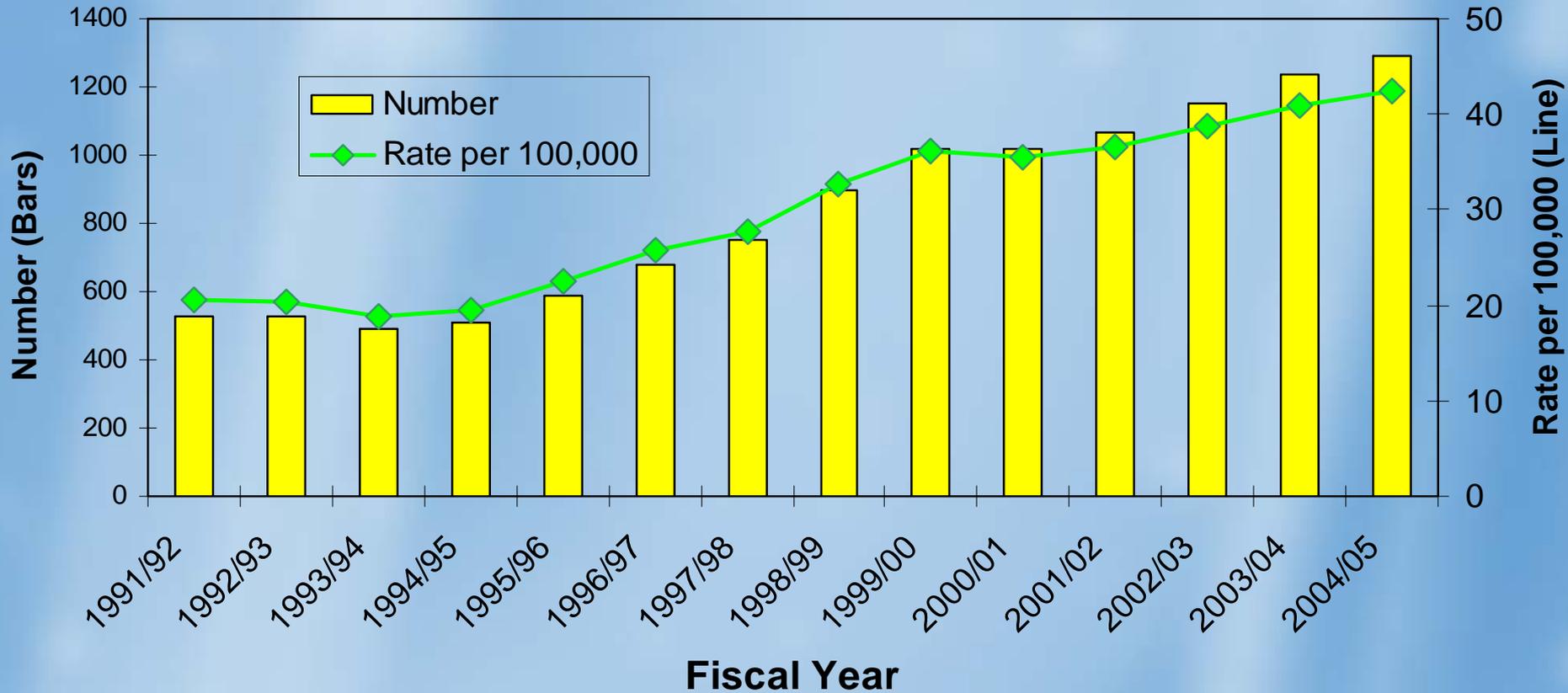


# Leading Causes of Unintentional Injury Hospitalization by Age Group of Victim, 55+ Years, San Diego County, 2006

Age Group of Victim	Rank of Cause of Injury				
	1	2	3	4	5
<b>55-64</b>	<b>Fall</b> 879	<b>MVO</b> 186	Poisoning 123	Natural/ Environmental 69	Struck by/Against 48
<b>65-74</b>	<b>Fall</b> 1131	<b>MVO</b> 102	Poisoning 96	Natural/ Environmental 38	Struck by/Against 37
<b>75-84</b>	<b>Fall</b> 2571	Poisoning 133	<b>MVO</b> 122	Natural/ Environmental 45*	Struck by/Against 45*
<b>85+</b>	<b>Fall</b> 2354	Poisoning 57	<b>MVO</b> 49	Struck by/Against 36	Suffocation 24

\*Tie for fourth

# Number and Rate of Major Trauma Patients With a Fall Injury by Fiscal Year, San Diego County, FY 2004/05

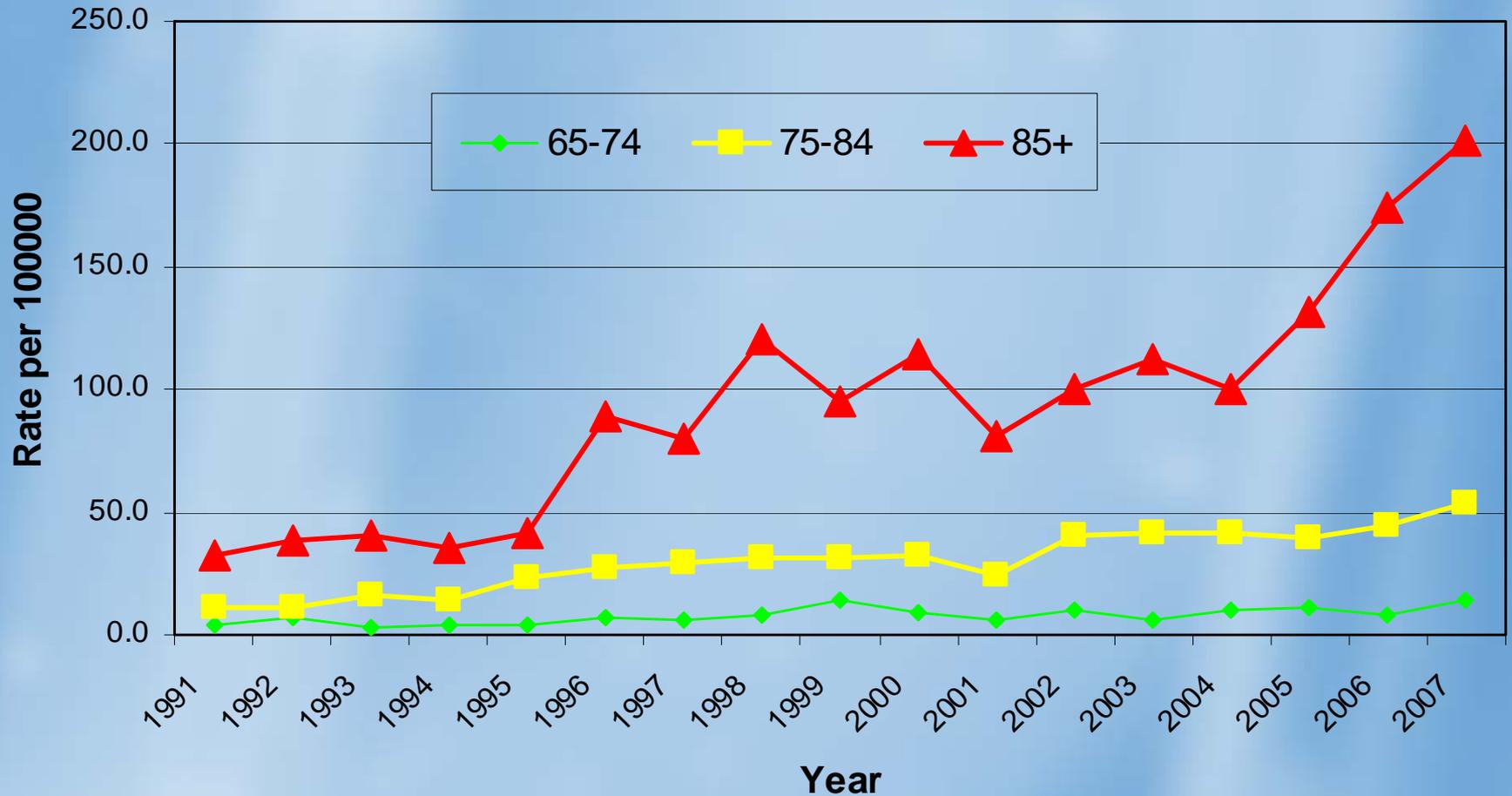


Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, FY 1991/92 – FY 2004/2005

# Unintentional Injury Deaths

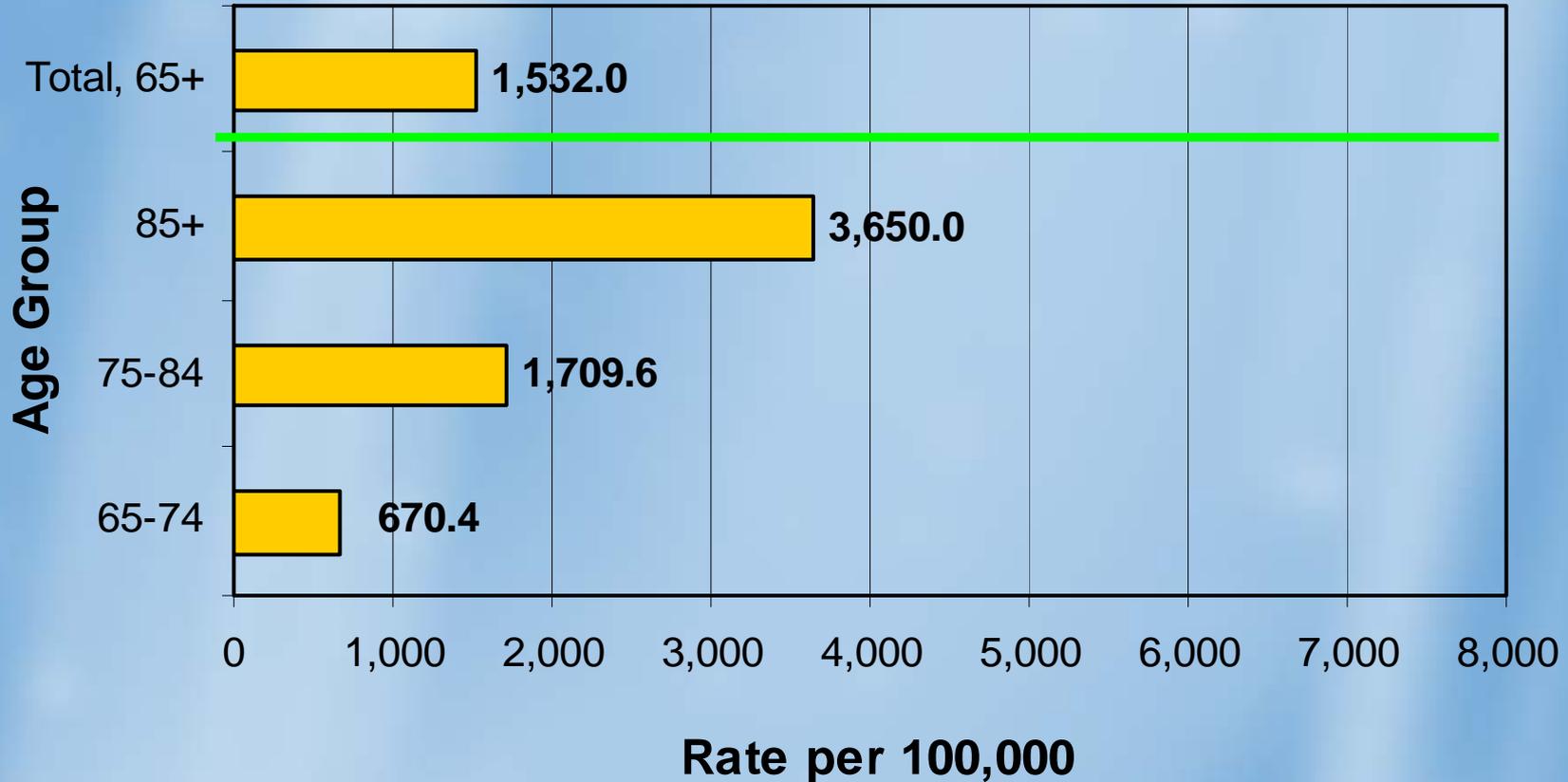
- In 2007, the most common cause of unintentional injury death among people aged 65+ years was a fall.
  - **186 deaths** in San Diego County
    - 129 were due to falls from the same level
  - The second most common cause of unintentional injury death was a motor vehicle occupant crash.
    - 37 deaths in San Diego County

## Fall Death Rates by Age Group and Year, San Diego County, 65+ Years

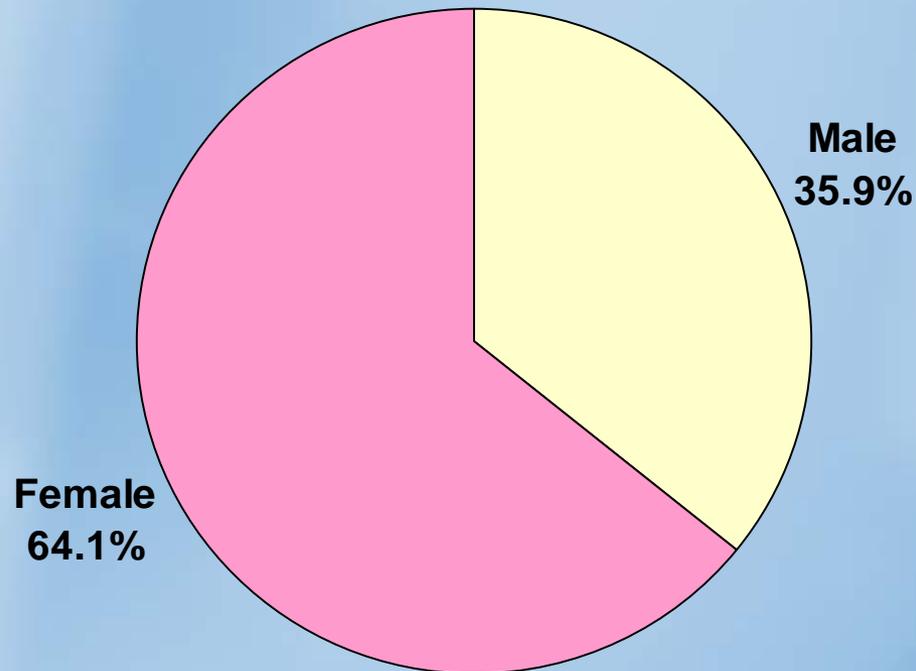


The risk of falling increases with age and is greater for women than for men.

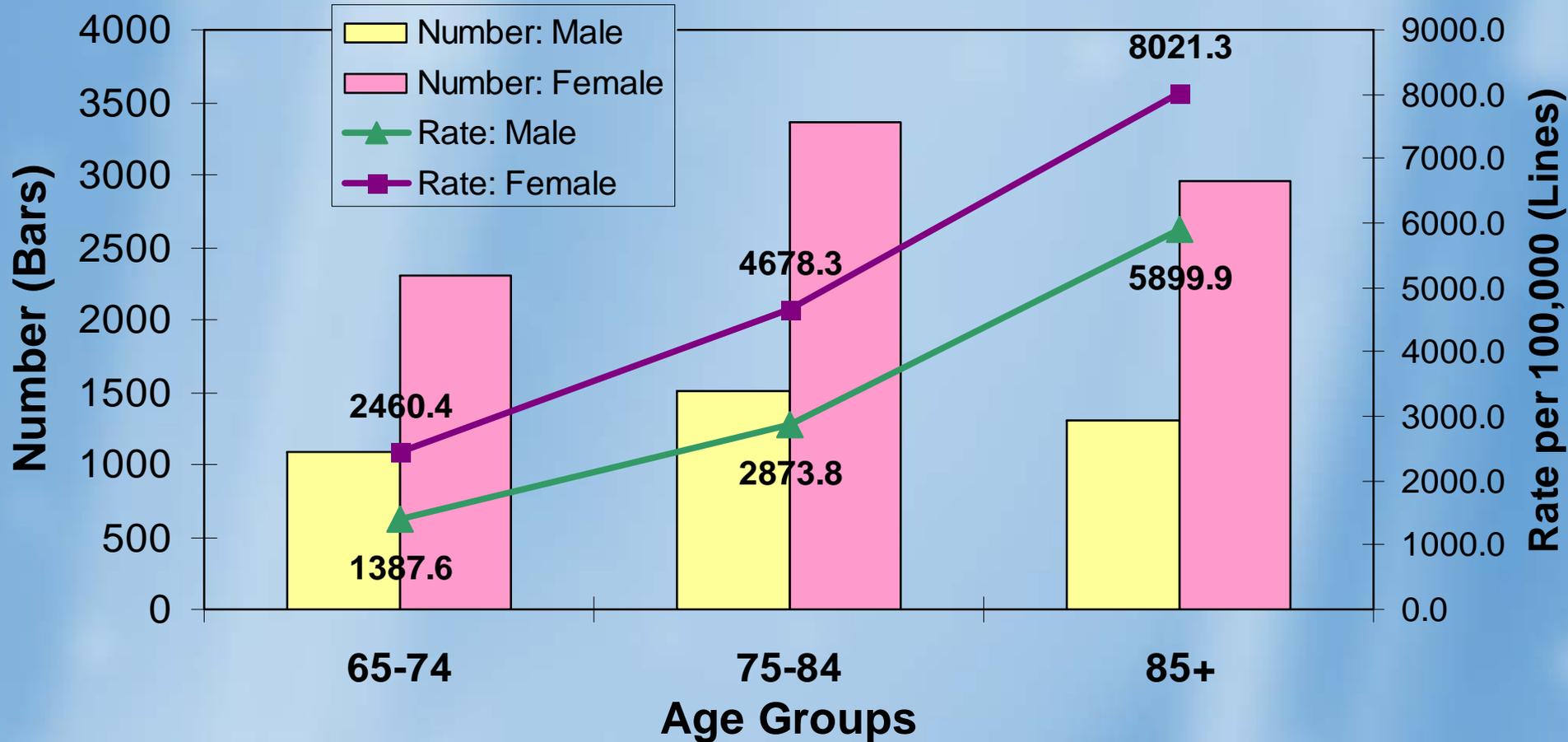
# Rate of Prehospital Calls by Seniors With a Fall Injury by Age Group, 65+ Years, San Diego County, 2009 (N=5,606)



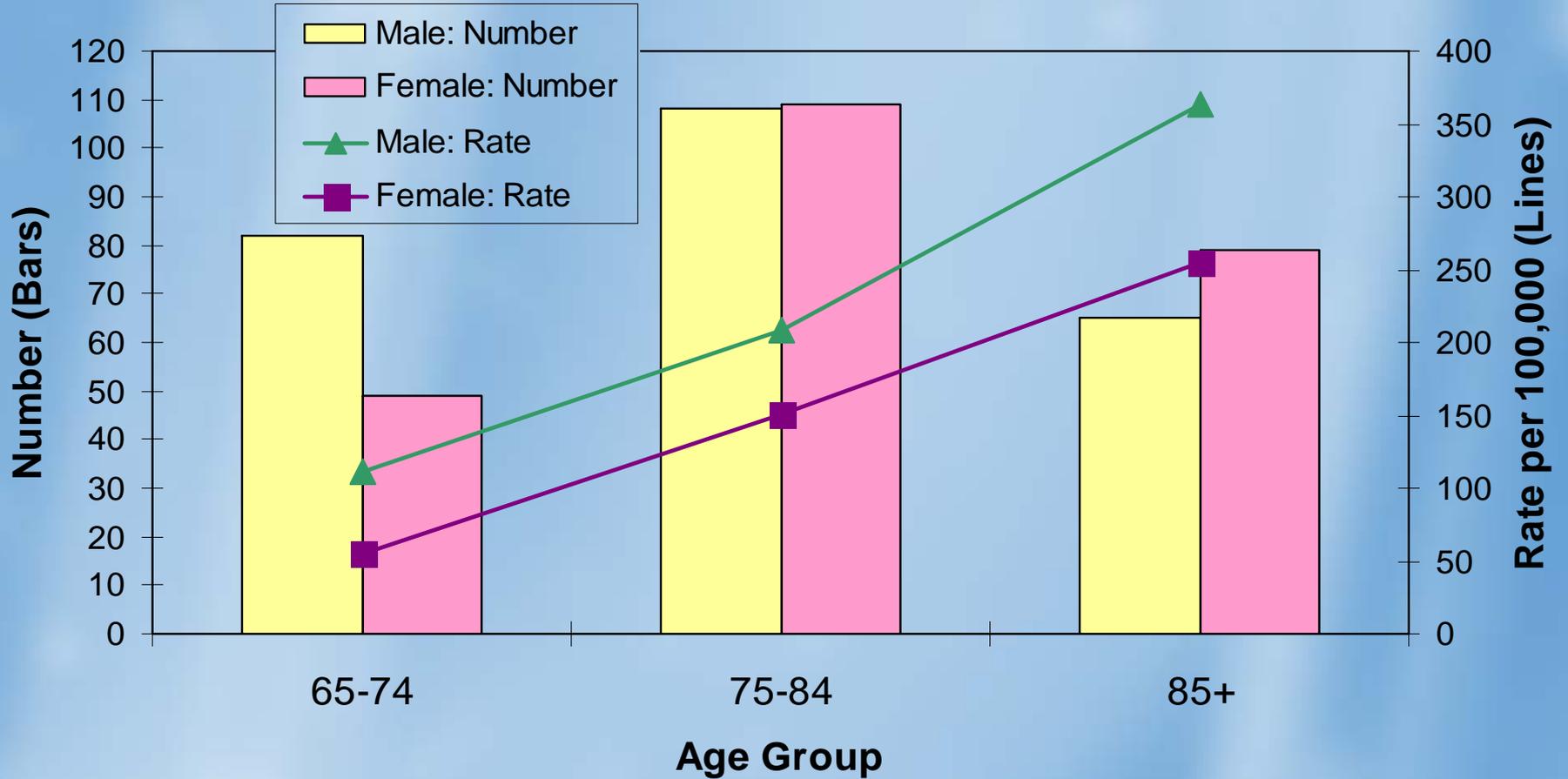
# Percent of Prehospital Calls for Falls by Sex, San Diego County, 65+ Years, 2006, (N=5,606)



# Number and Rate of ED Discharge with a Fall Injury by Age Group and Sex, 65+ Years San Diego County, 2008, (N=12,535)

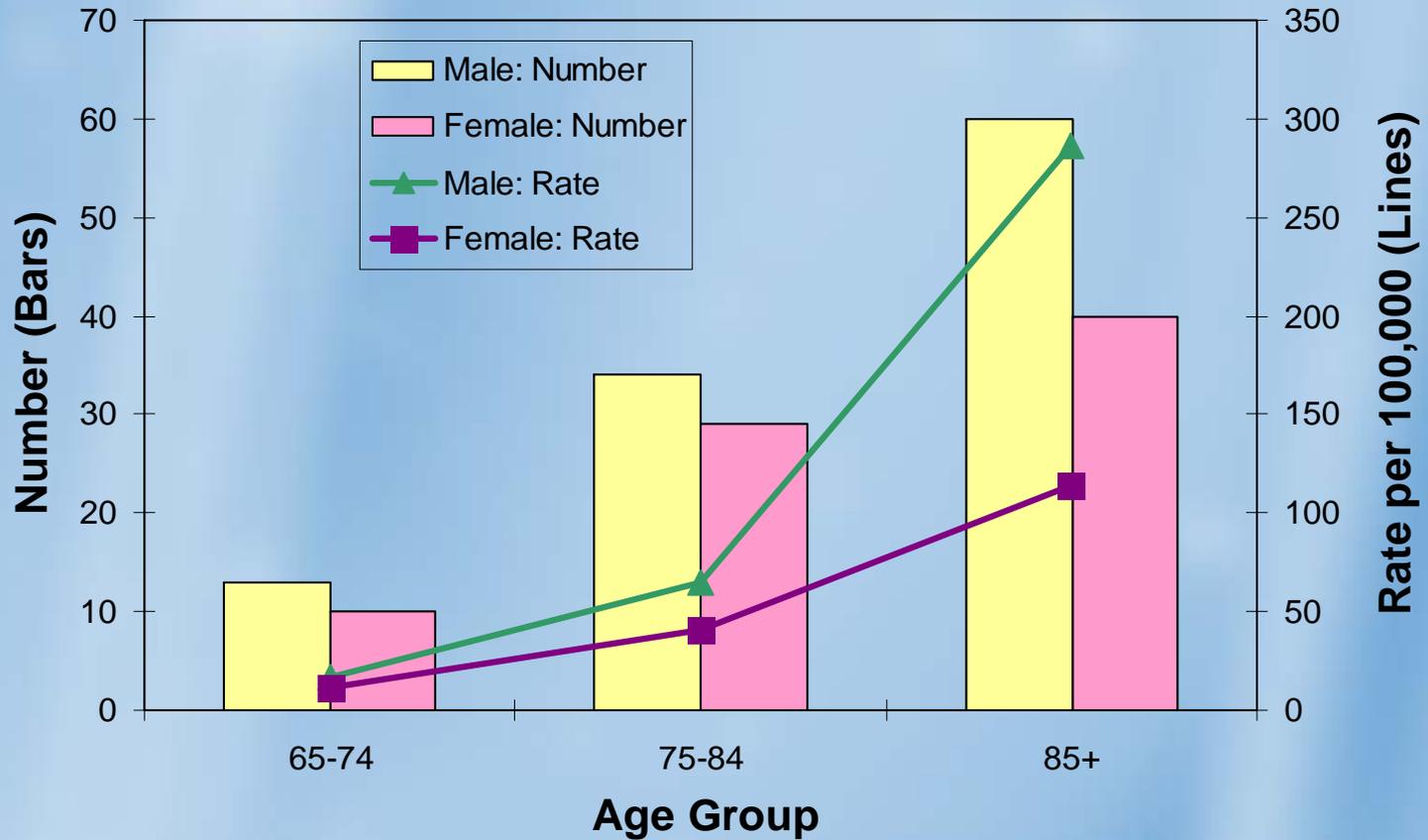


# Number and Rate of Major Trauma Patients With a Fall Injury by Age Group and Sex, San Diego County, FY 2004/05

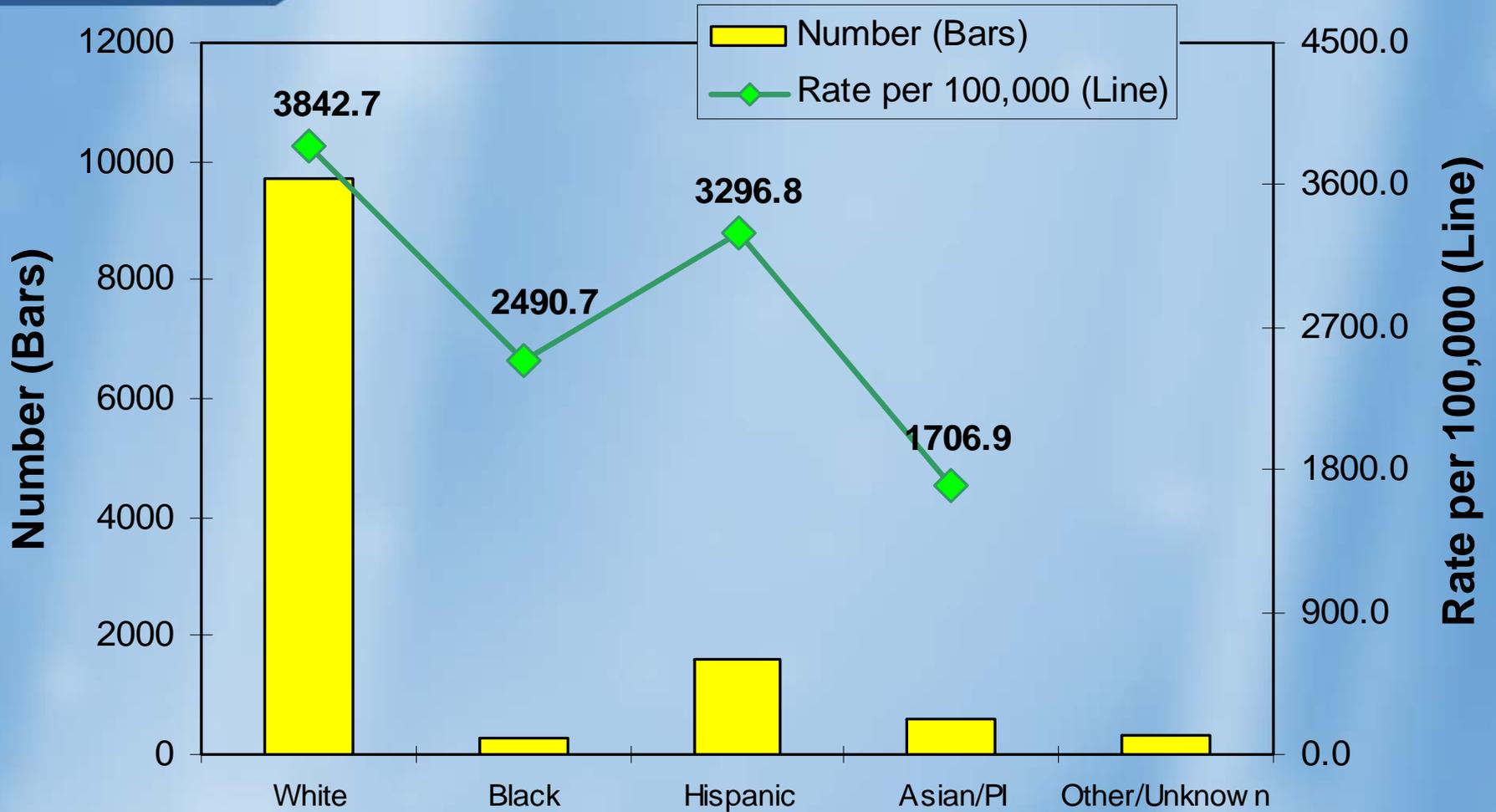


Source: County of San Diego Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry, FY 2004/2005.

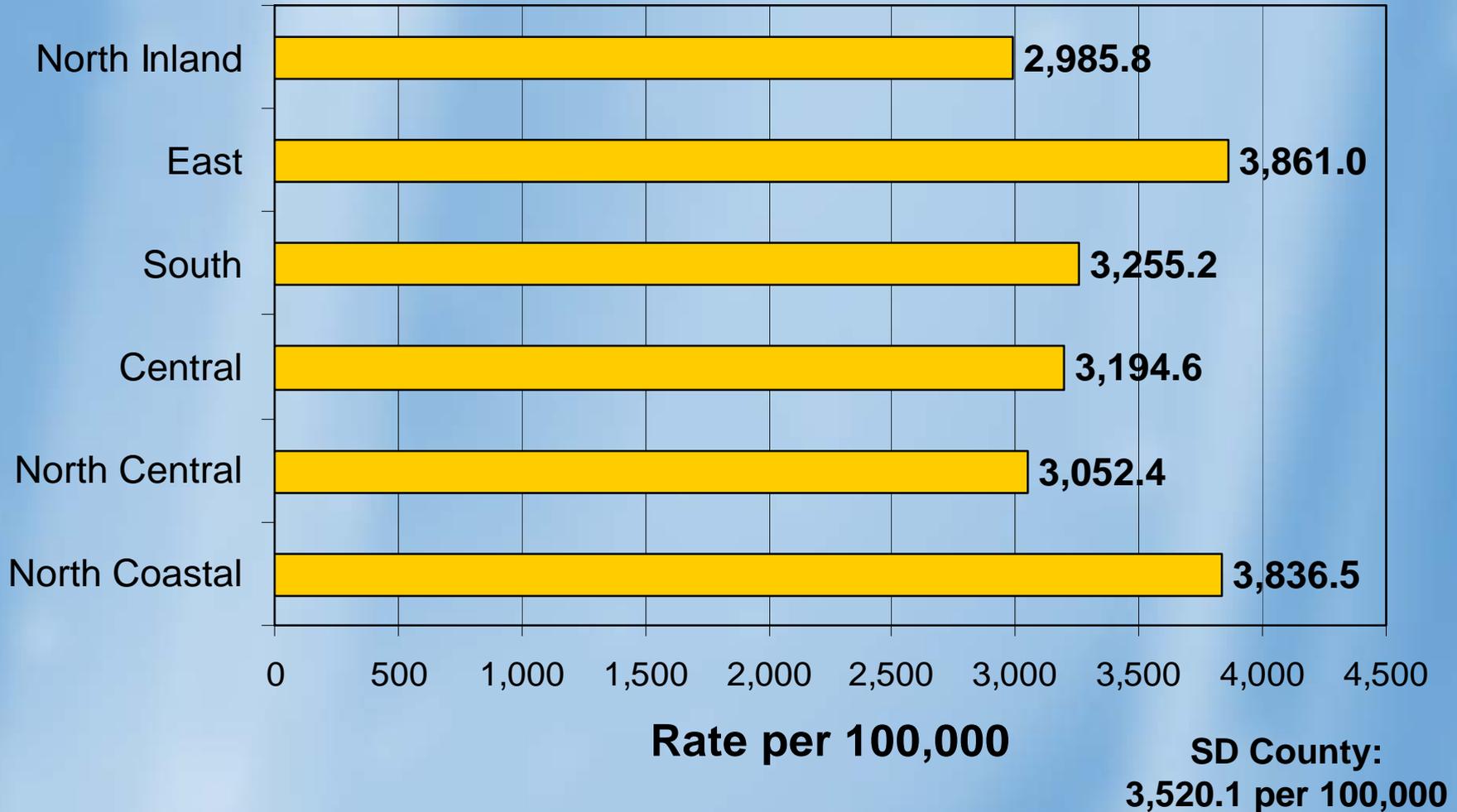
# Number and Rate of Fall Related Death by Age Group and Sex, San Diego County, 2007



# Number and Rate of ED Discharge with a Fall Injury by Race/Ethnicity, 65+ Years San Diego County, 2008, (N=12,535)



# Rate of ED Discharge With a Fall Injury by Region of Residence, 65+ Years, San Diego County, 2008, (N=12,535)



# Rate of ED Discharge With a Fall Injury by Community of Residence, 65+ Years, San Diego County, 2008, (N=12,535)

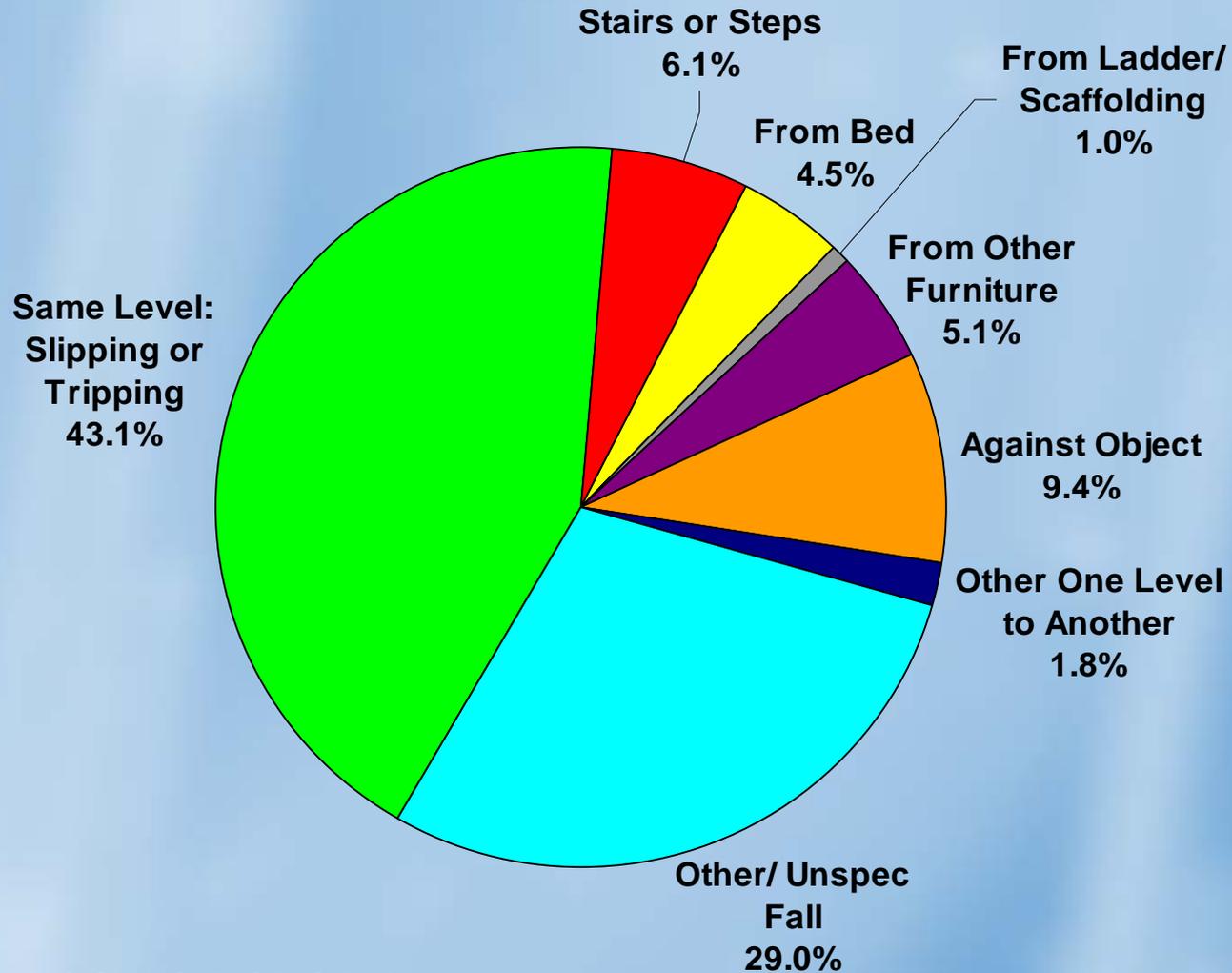
Lemon Grove	5310.0
La Mesa	4661.9
El Cajon	4607.2
Oceanside	4442.1
Chula Vista	4358.2
National City	4217.5
San Dieguito	3998.6
Carlsbad	3870.2
Mid-City	3651.6
Coastal	3609.4
Escondido	3565.1
Santee	3550.0
San Marcos	3494.7
North San Diego	3488.7
Harbison Crest	3474.1
University	3401.8
Mountain Empire	3360.6
Peninsula	3209.9
Vista	3205.3
Elliott-Navajo	3156.3

Kearny Mesa	3120.7
Spring Valley	3073.0
South Bay	3025.5
Central San Diego	3022.6
Lakeside	3020.5
Poway	2980.7
Southeast San Diego	2976.3
Jamul	2870.8
Pauma	2857.1
Ramona	2574.9
Alpine	2358.1
Valley Center	2203.6
Del Mar-Mira Mesa	1966.3
Sweetwater	1930.3
Laguna-Pine Valley	1612.9
Palomar-Julian	1520.3
Coronado	615.1
Fallbrook	612.9
Anza-Borrego Spring	367.1

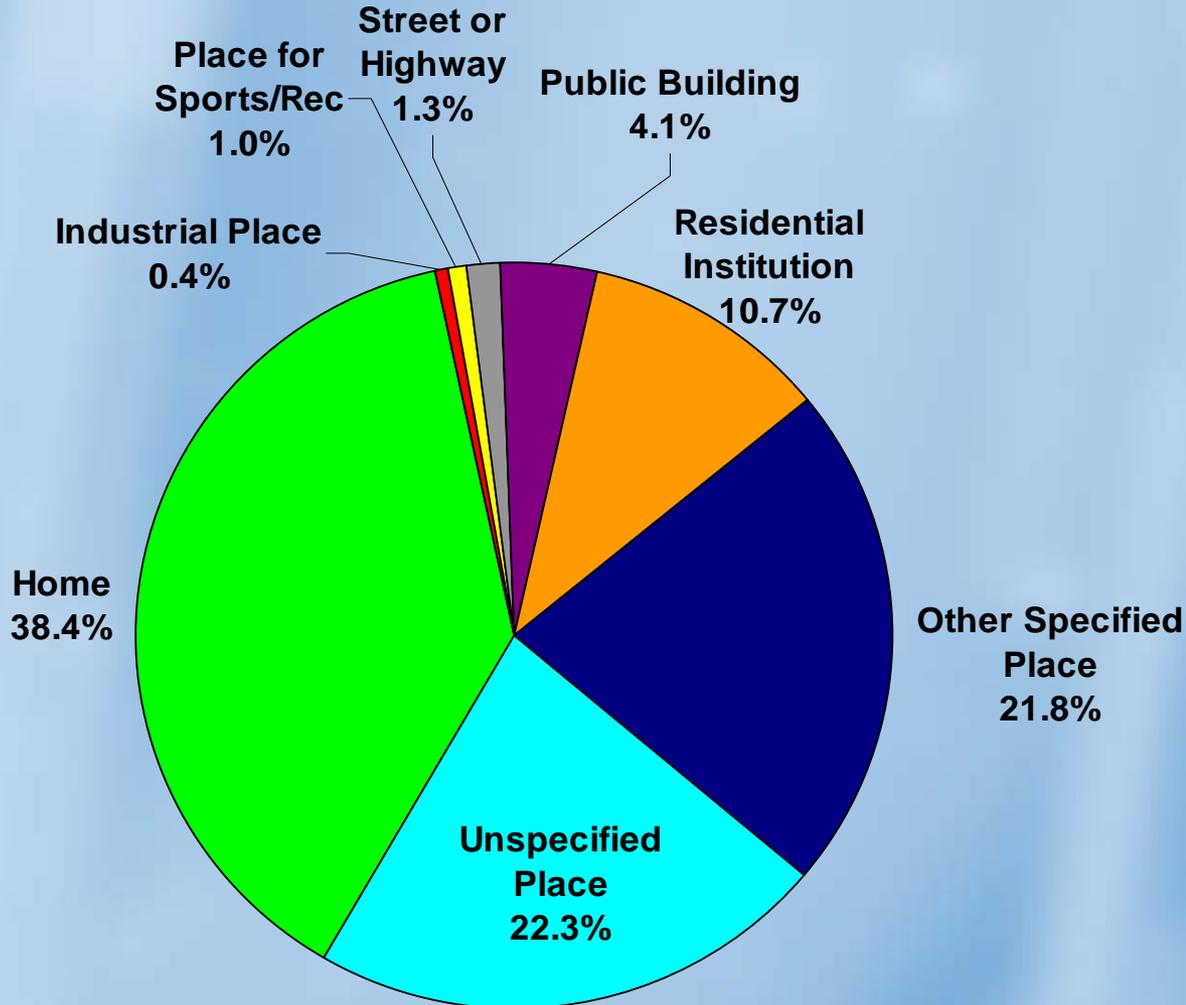
# How do older adults fall?

Two-thirds of all senior  
falls occur in or around  
the home.

# Percent of ED Discharges With a Fall Injury by Mechanism, 65+ Years, San Diego County, 2008, (N=12,535)

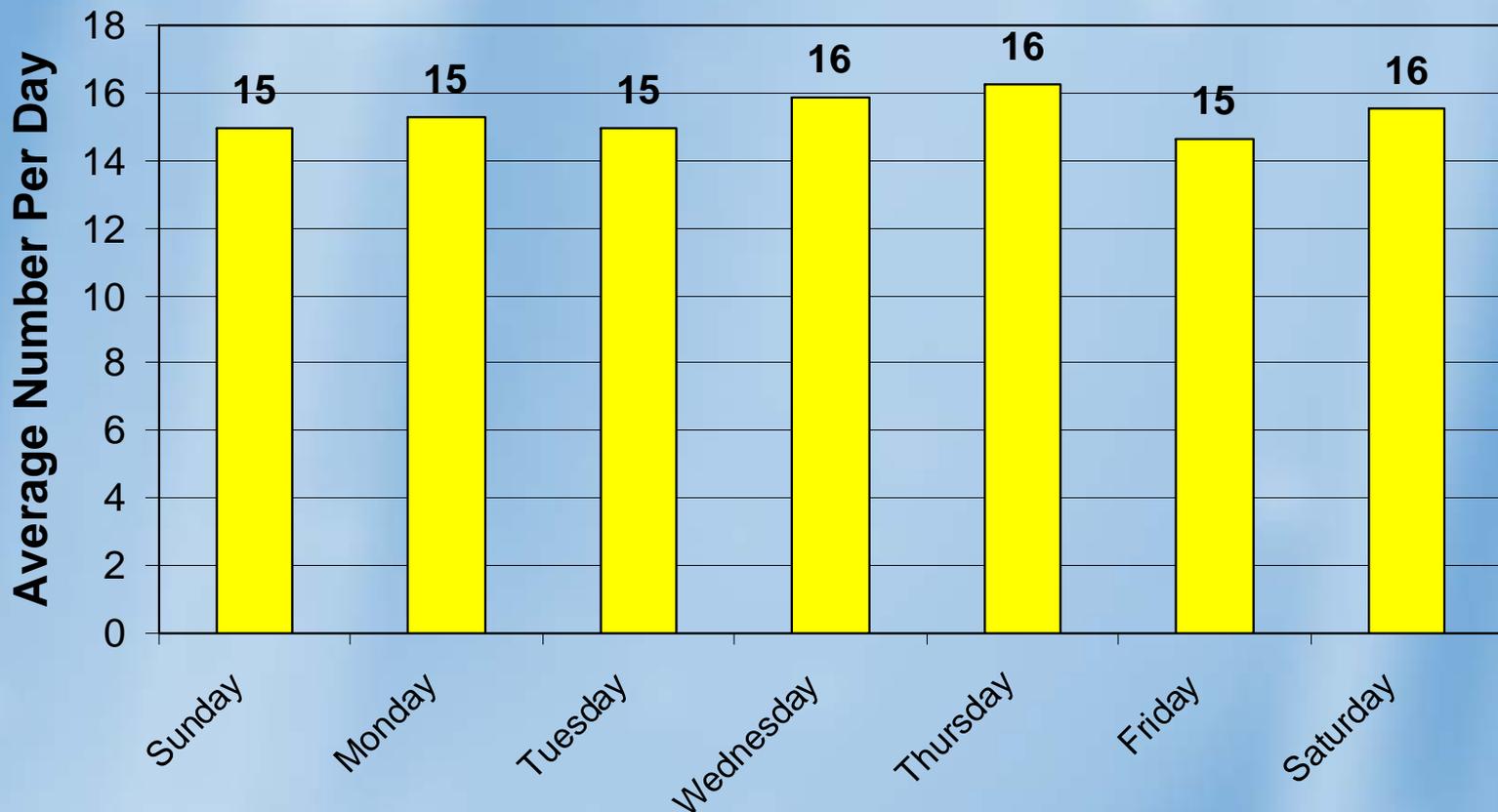


# Percent of ED Discharges With a Fall Injury by Location, 65+ Years, San Diego County, 2008, (N=12,535)

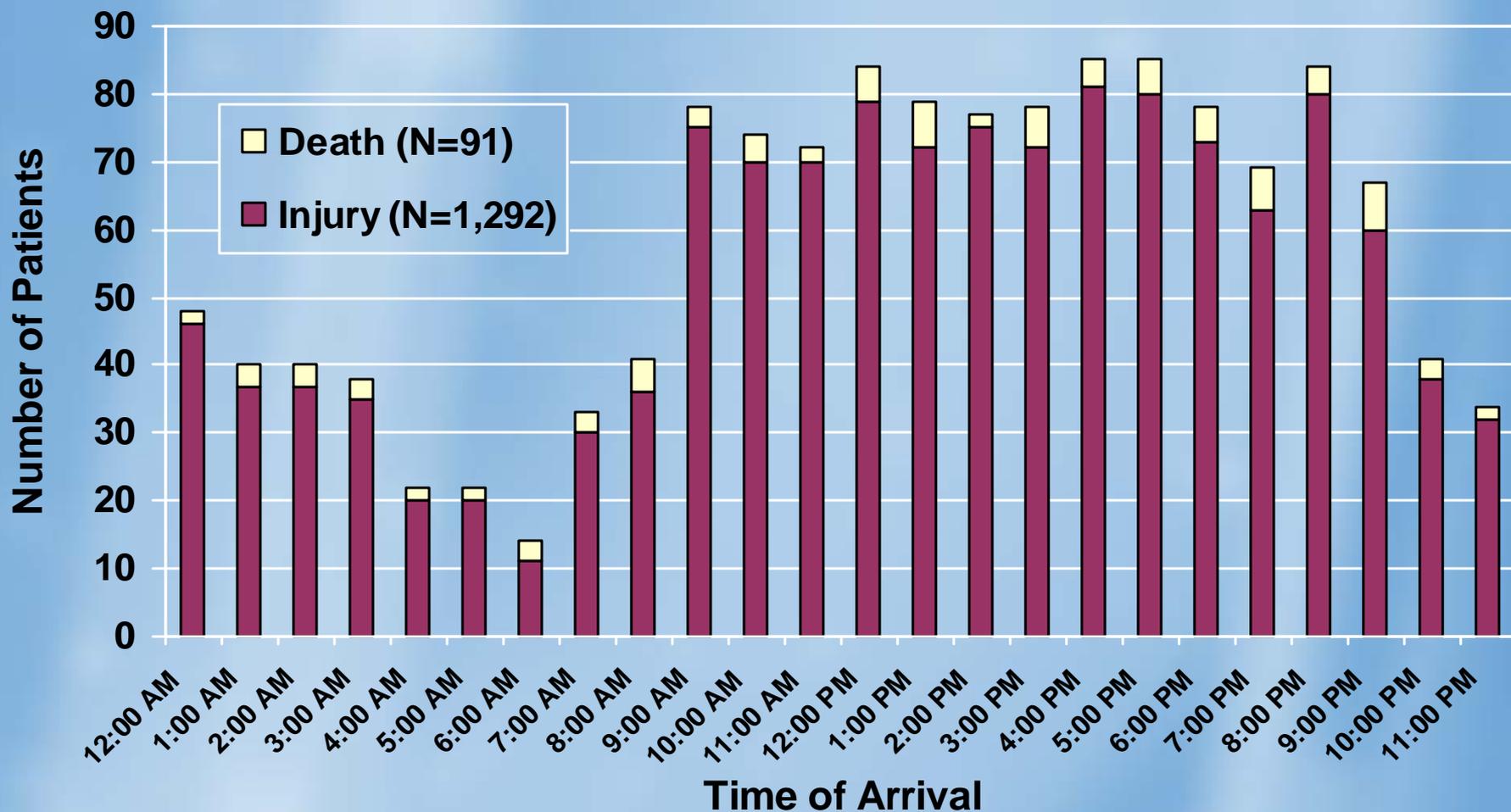


# When do older adults fall?

# Average Number of Fall Related Prehospital Calls per Day, 65+ Years, San Diego County, 2008, (N=5,606)



## Fall Related Major Trauma Injuries and Deaths by Hour of Arrival at Trauma Facility, FY 2004/05



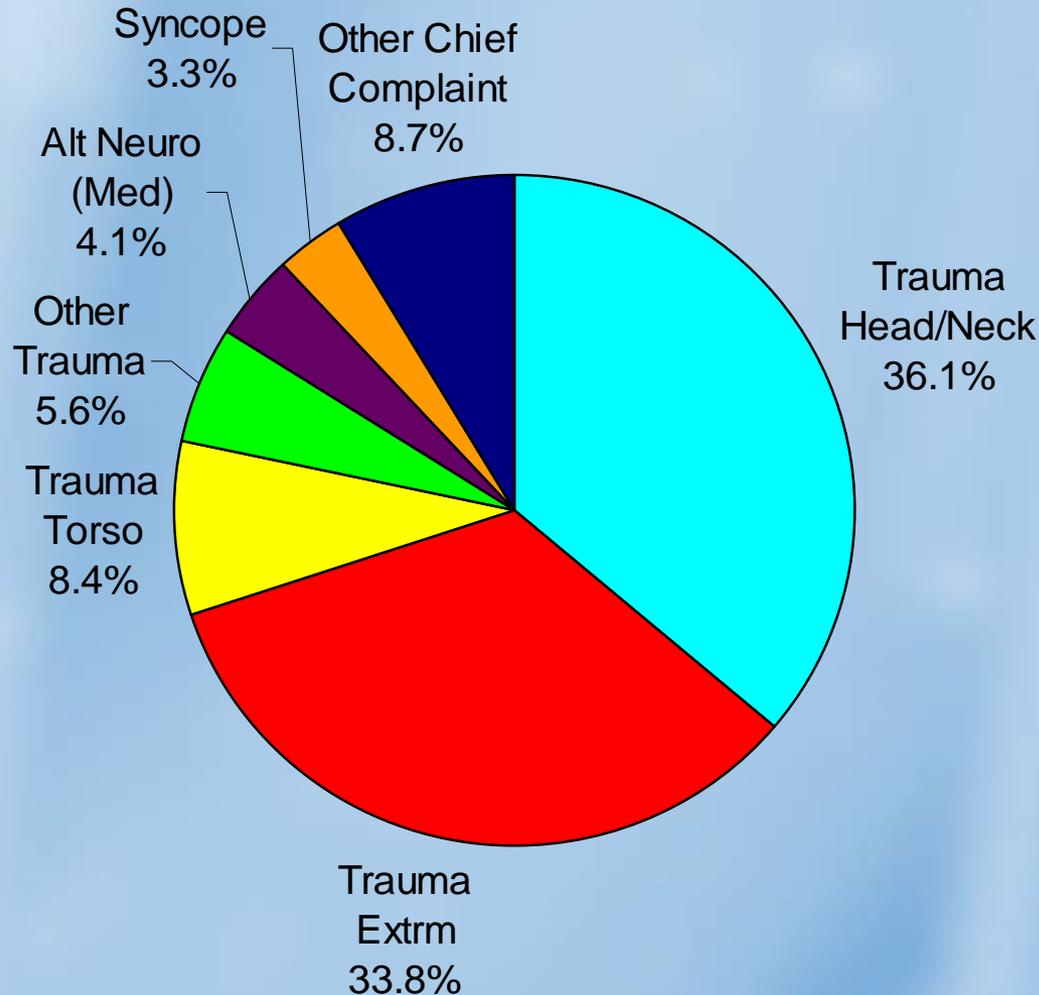
All times are in one hour increments, for example, 6:00 - 6:59 = 6:00

\*Note: limited to patients arriving at trauma facilities (deaths on scene or at non-trauma facilities not applicable)

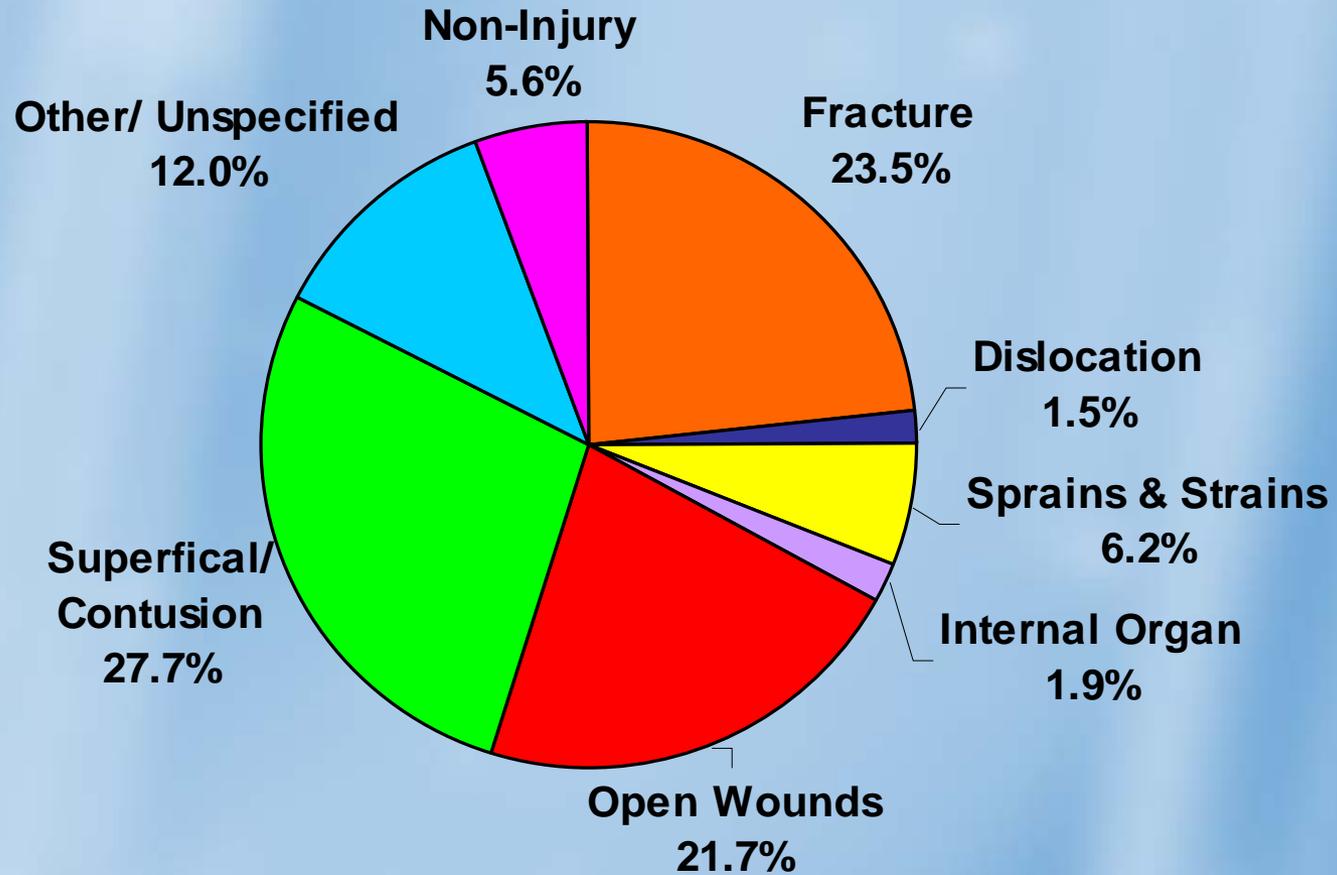
Source: County of San Diego, Health and Human Services Agency, Emergency Medical Services, San Diego County Trauma Registry and Medical Examiner's Data, FY 2004/05

What type of injury do  
older adults who have  
fallen sustain?

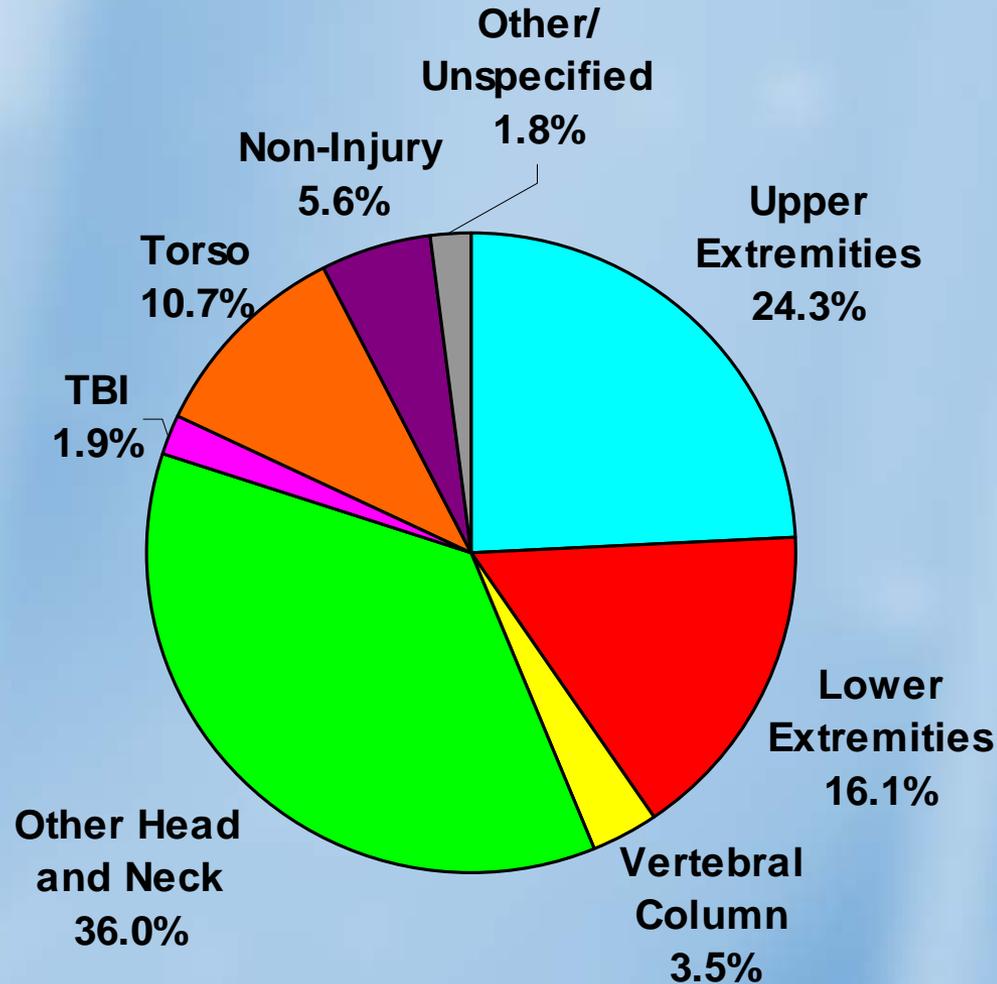
# Percent of Fall-Related Prehospital Calls by Chief Complaint, 65+ Years, San Diego County, 2009, (N=5,606)



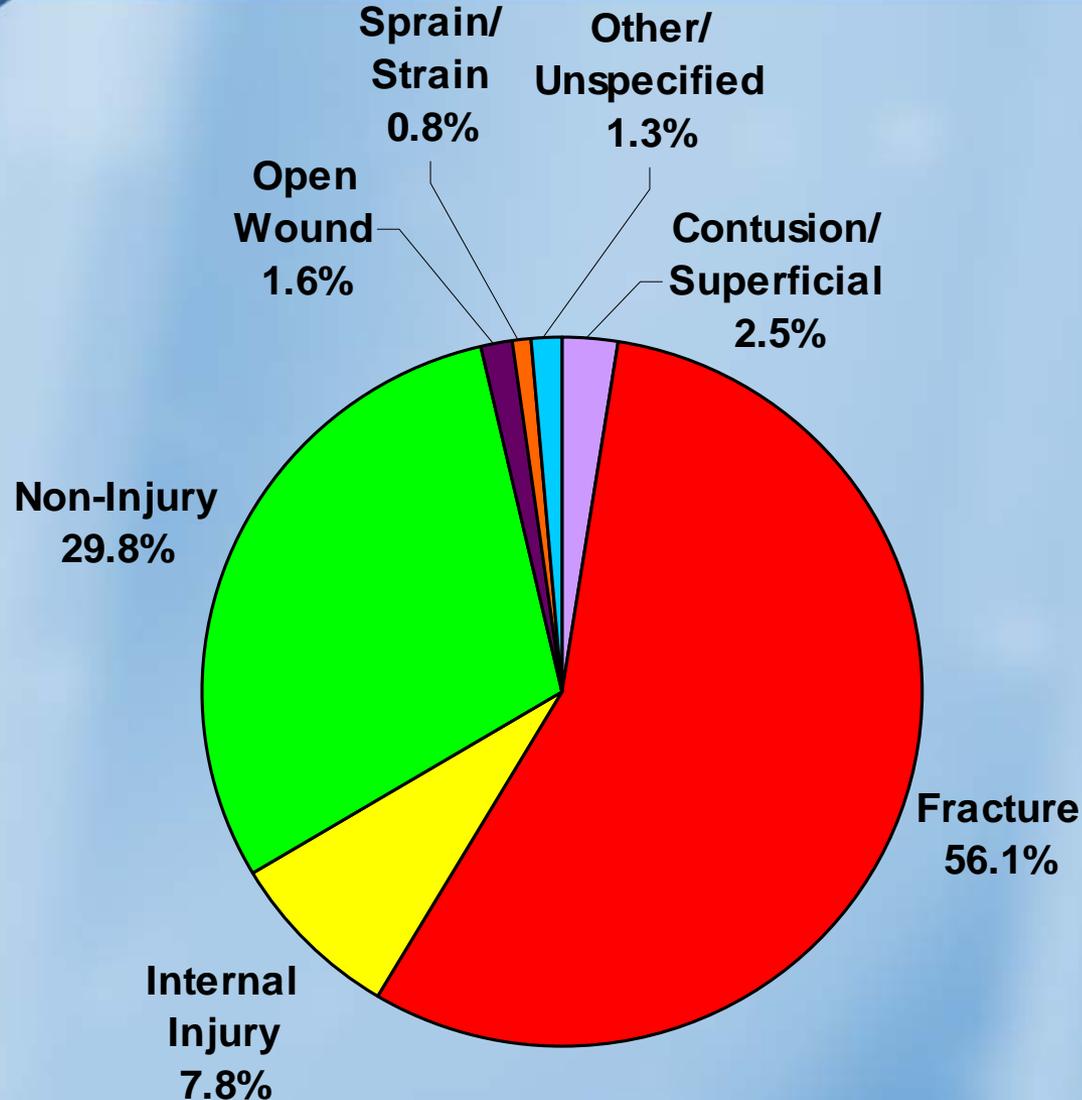
# Percent of ED Discharges With a Fall Injury by Nature of Injury, 65+ Years, San Diego County, 2008, (N=12,535)



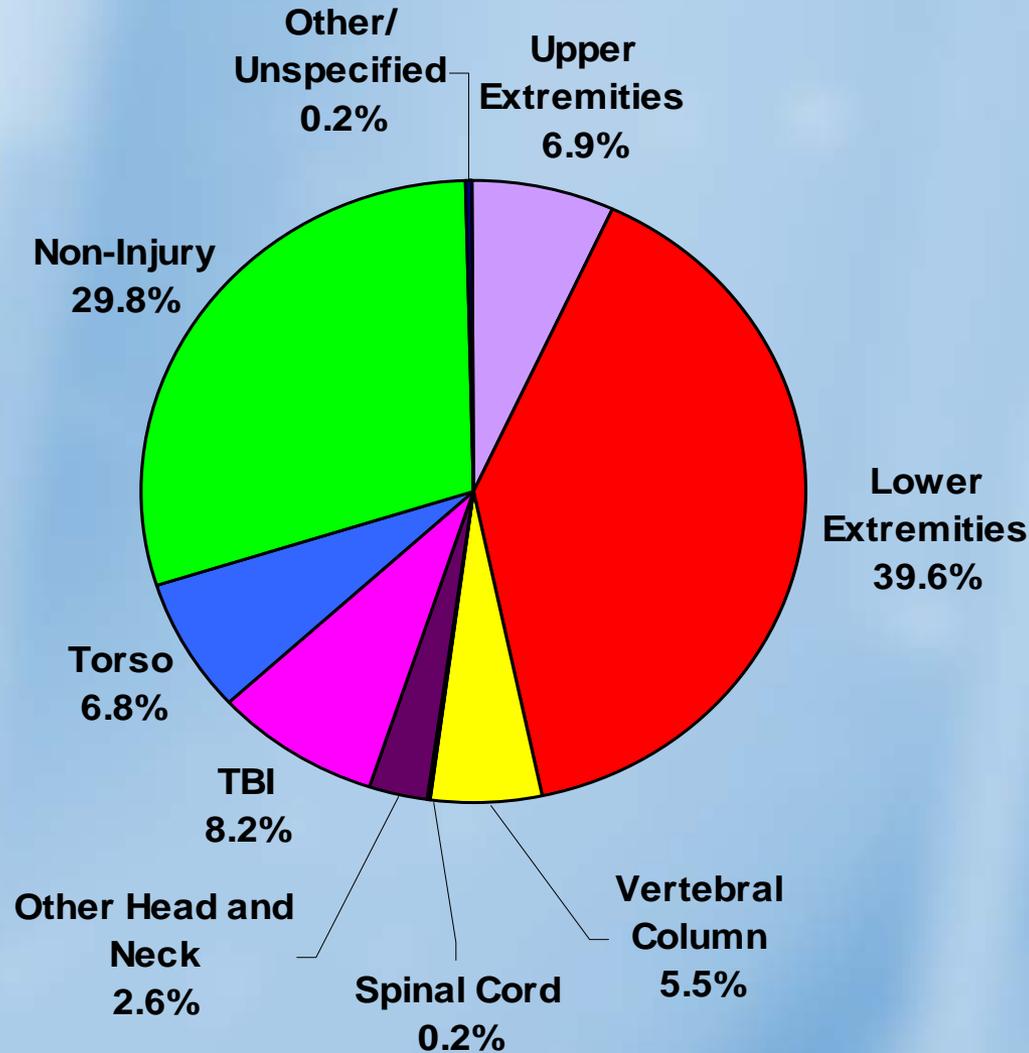
# Percent of ED Discharges With a Fall Injury by Body Part Injured, 65+ Years, San Diego County, 2008, (N=12,535)



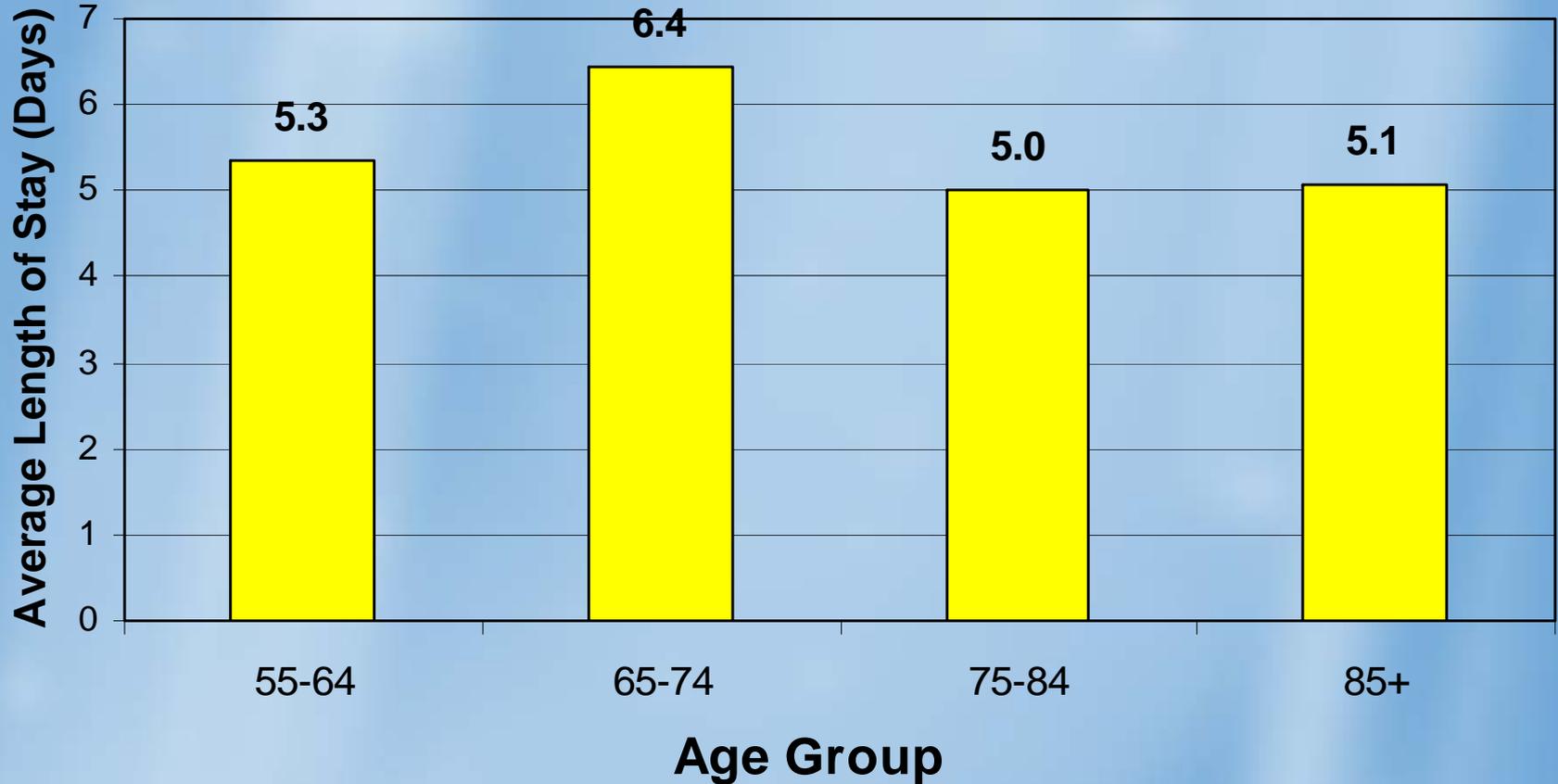
# Percent of Fall Hospitalizations by Nature of Injury, 65+ Years, San Diego County, 2006, (N=6,056)



# Percent of Fall Hospitalizations by Body Part Injured, 65+ Years, San Diego County, 2006, (N=6,056)



# Average Length of Stay for Fall Hospitalizations by Age Group, 55+ Years, San Diego County, 2006, (N=6,056)

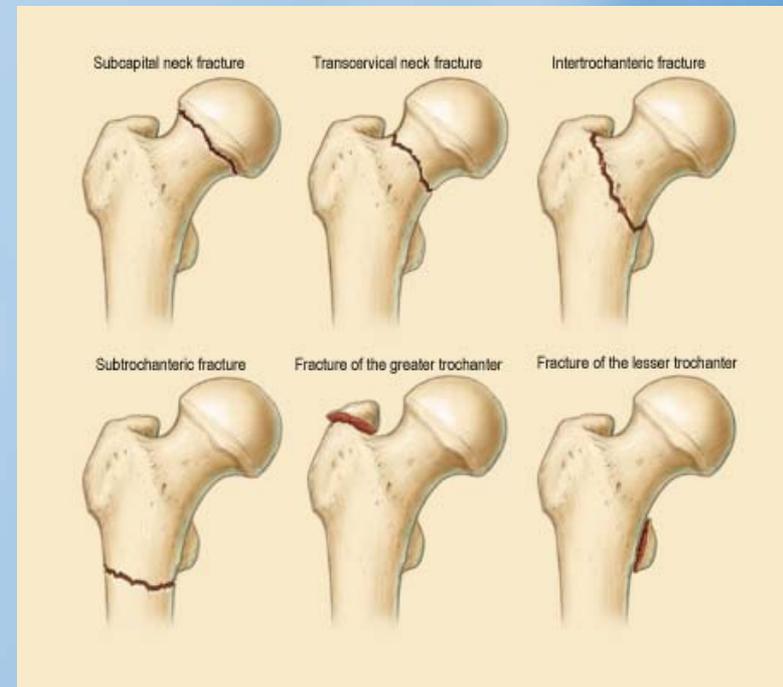


20% to 30% of those  
who fall suffer  
**moderate to severe**  
injuries such as hip  
fractures or head  
traumas.

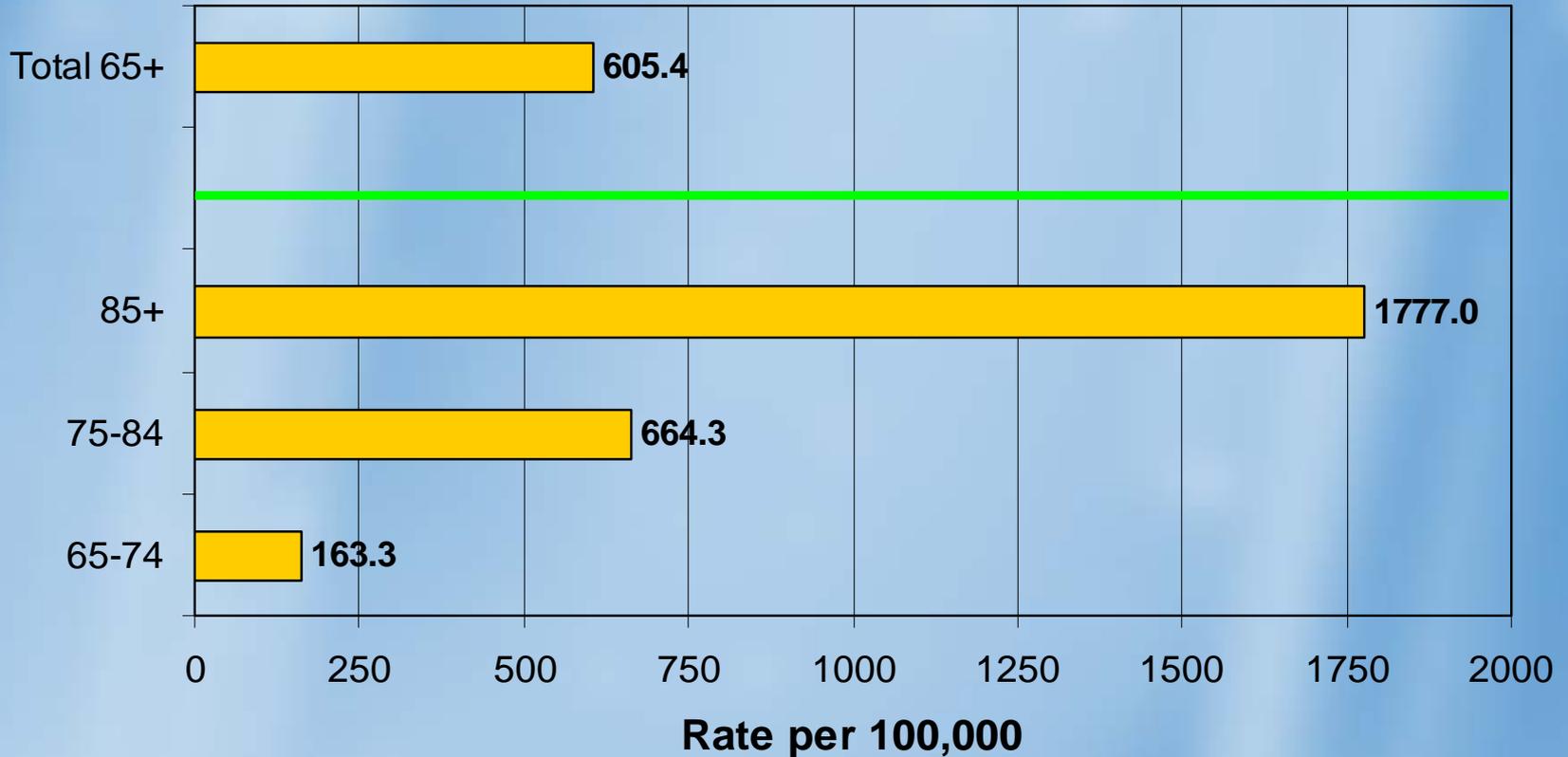
One out of every five  
hip fracture patients  
**dies within one year**  
of their injury.

# 90% of hip fractures are due to low energy falls\*

“a hip fracture is  
a fragility fracture due to  
a fall or minor trauma  
in someone with weakened  
osteoporotic bone”



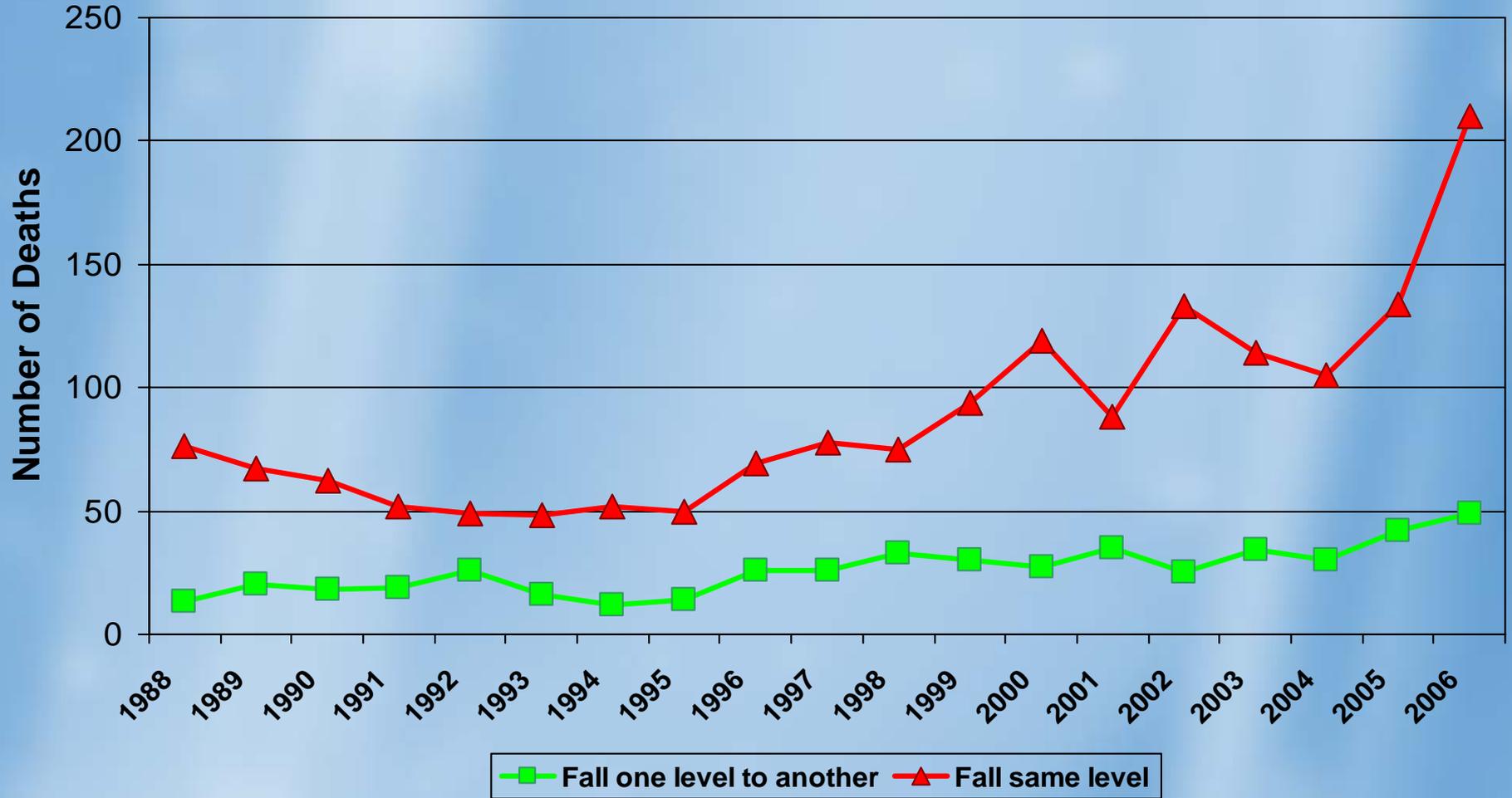
# Rate of Hip Fracture Hospitalizations by Age Group, 65+ Years, San Diego County, 2008, (N=2,156)



Source: Hospital Discharge Data (CA OSHPD), County of San Diego, Health and Human Services Agency, Community Epidemiology; Hip Fracture includes hospitalizations with a principal ICD-9-CM code of 820; Current Population Estimates, SANDAG 10/2009 update.

Only half of older adults hospitalized for a broken hip can return home or live on their own after the injury.

# Fall Related Deaths, San Diego County 1988 – 2006



# Risk Factors

- Older age, white, female
- Homebound or living alone
- Home hazards
- Fear
- Poor nutrition
- Acute illness, chronic conditions, poor balance, vision problems, multiple medications
- Lack of activity, decreased muscle mass and flexibility, foot problems

# Contributing Medical Conditions

- Osteoporosis
- Dementia
- Diabetes
- Arthritis
- High or low blood pressure
- Stroke
- Parkinson's disease
- Urinary incontinence
- Insomnia
- Syncope

**For more information, contact:**

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[www.SanDiegoFallPrevention.org](http://www.SanDiegoFallPrevention.org)