

# Senior Falls

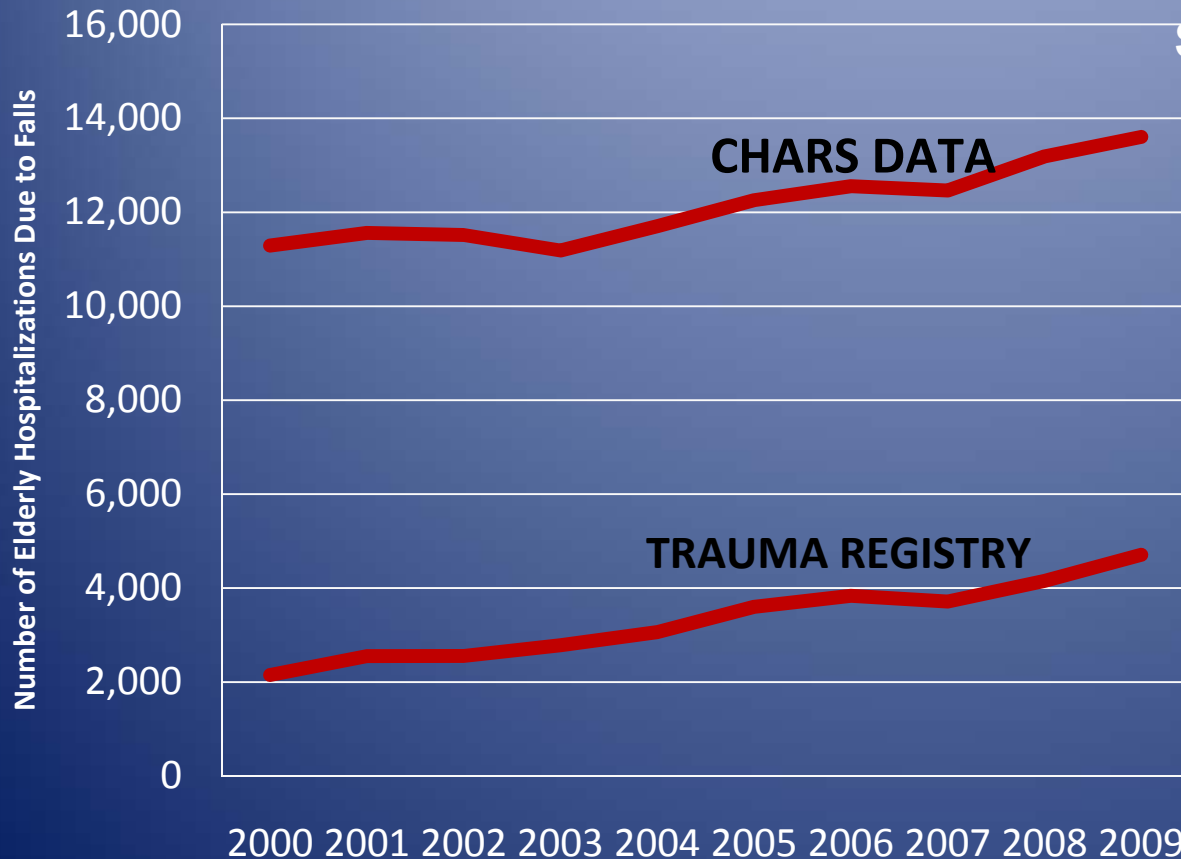
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# Hospitalizations Due to Elderly Falls Are on the Rise During 2000-2009

(Admitted Patients, Age 65+, and DOH Criteria for WATR)



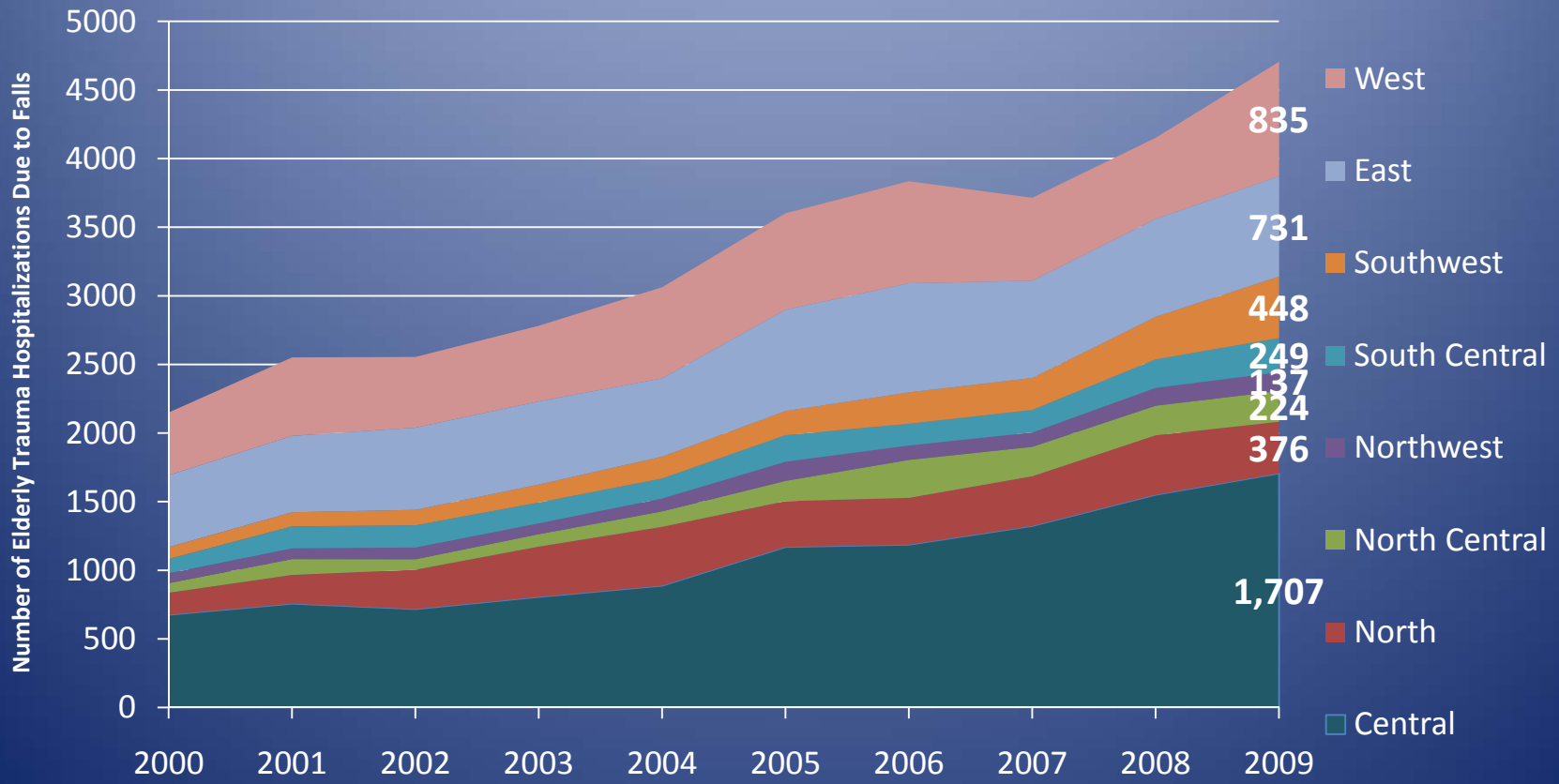
## Senior Falls (Age 65+):

Median Hospital Charge in the Trauma Registry is about \$20,700 per patient

Median hospital Days in Trauma Registry is about 3.9 days. In contrast, it is 0.6 days for Pediatric (age<15) trauma falls, and 3.0 days for adult (age 15-64) trauma falls.

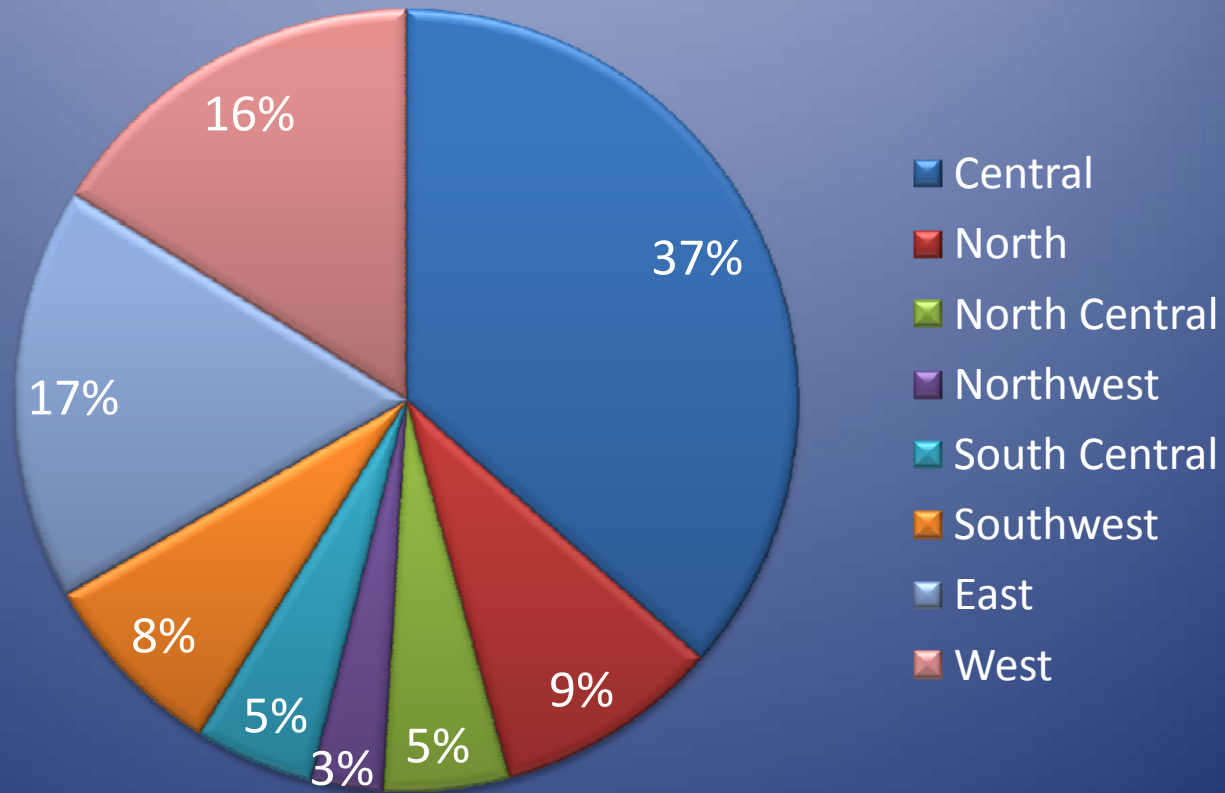
# Hospitalizations Due to Elderly Falls by Year and Trauma Region

(Admitted Patients, Age 65+, and DOH Criteria for WATR)



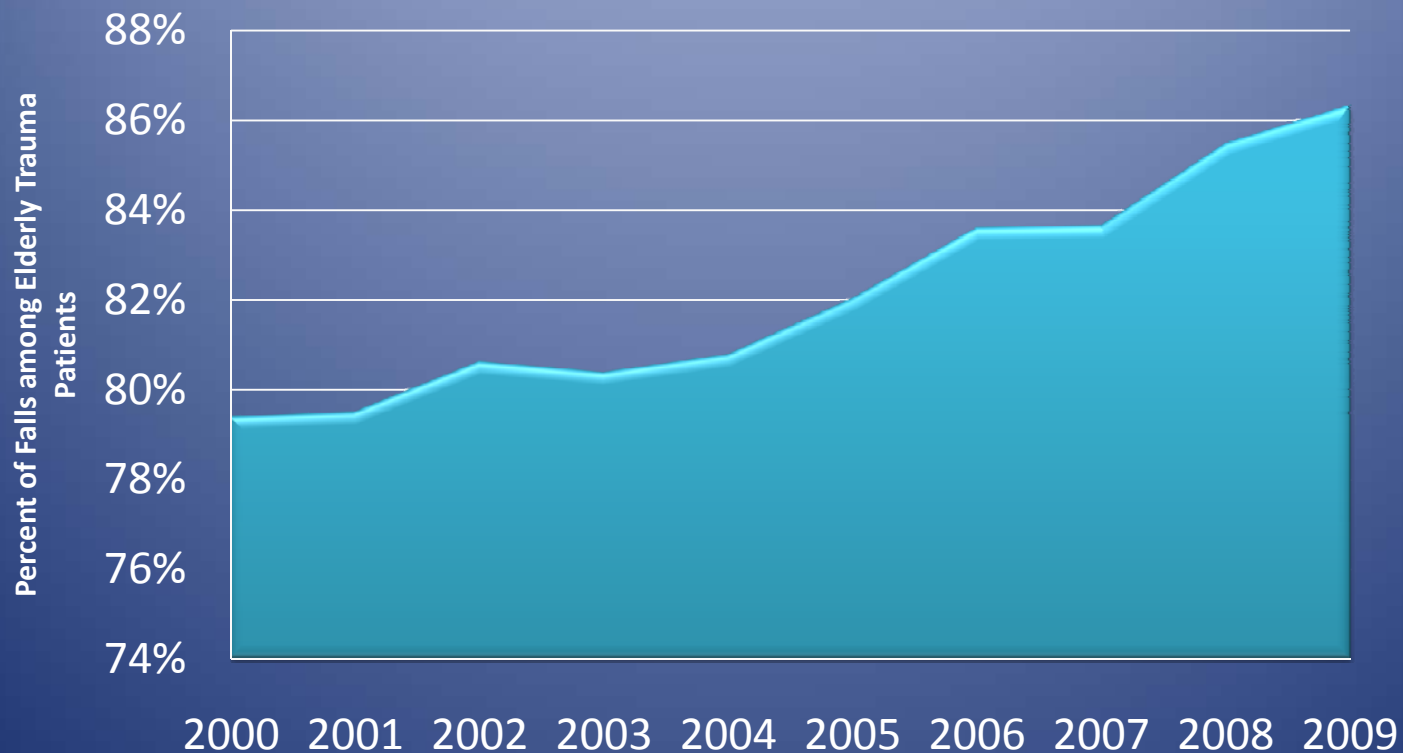
# Distribution of Senior Trauma Falls by EMS and Trauma Regions

(Admitted Patients, Age 65+, and DOH Criteria)



# In the Trauma Registry, Majority of Hospitalizations by Seniors are Falls with an Upward Trend

(Admitted Patients, Age 65+, and DOH Criteria)



## **Other Causes of Senior Trauma Hospitalizations**

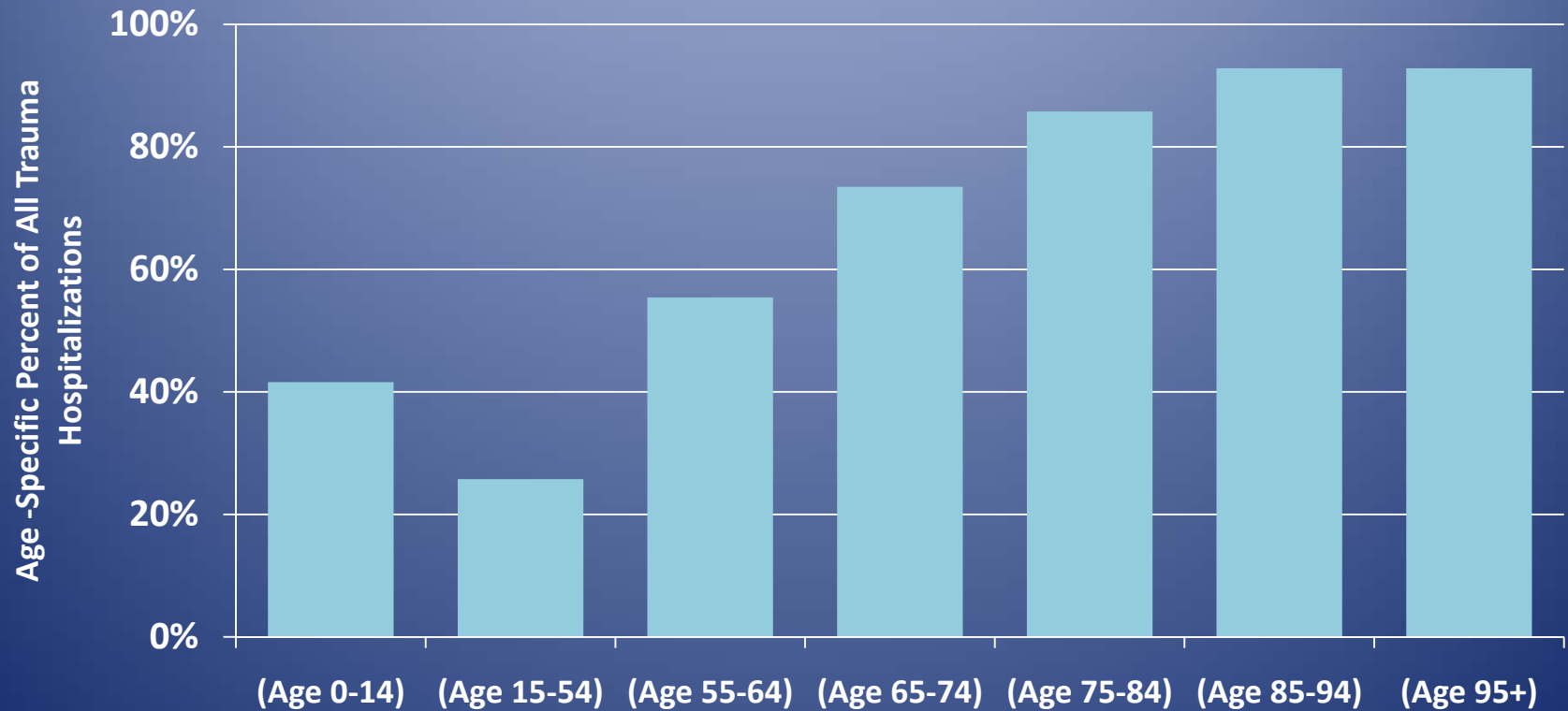
(During 2007-2009, Age 65+, DOH Criteria and Admitted Patients)

- **10% Traffic and Road Accidents**
  - MV Occupant
  - MV Motorcyclist
  - MV Bicyclist
  - MV Pedestrian
- **1% Burns**
- **1% Struck by/against Some Object**
- **2% Other**

# DEMOGRAPHICS

# The Older Trauma Patients, The Higher the Risk of Falls

(During 2007-2009, DOH Criteria and Admitted Patients Only)

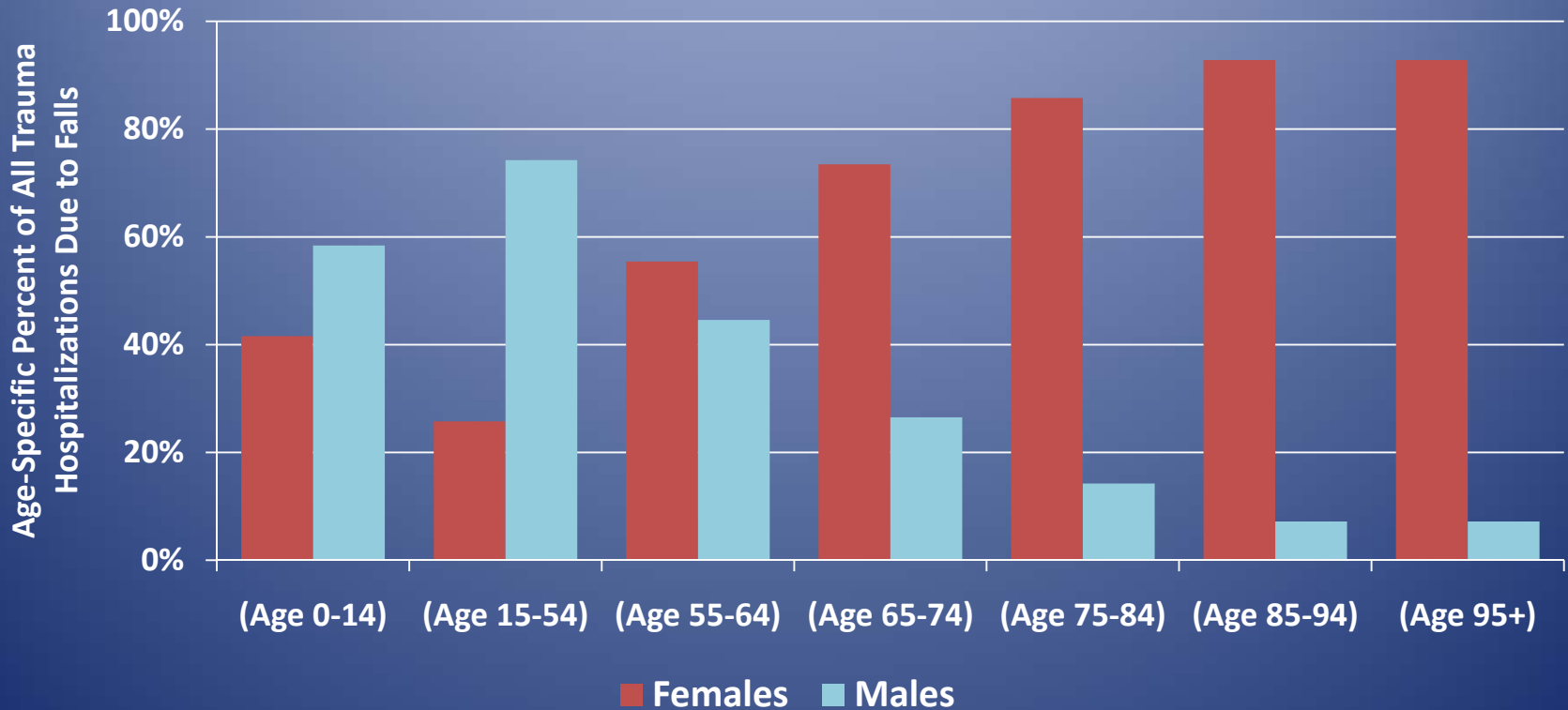


All Fall Cases (Annually): 7,608



# Females Are More At Risk For Senior Falls

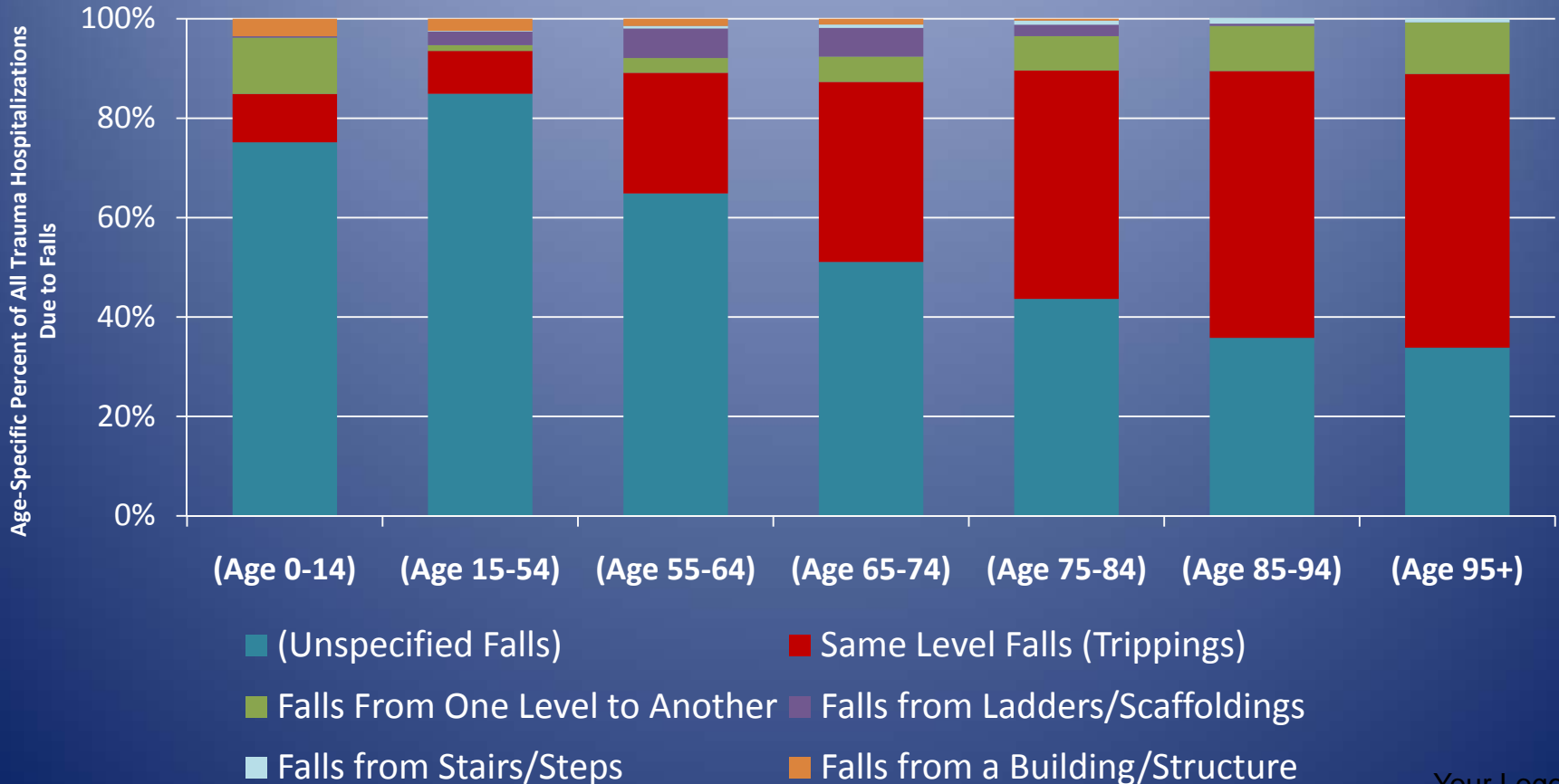
(During 2007-2009, DOH Criteria, and Admitted Patients Only)



All Fall Cases (Annually): 7,609

# The Older Patients Are, The More Likely They Sustain Same-Level Falls

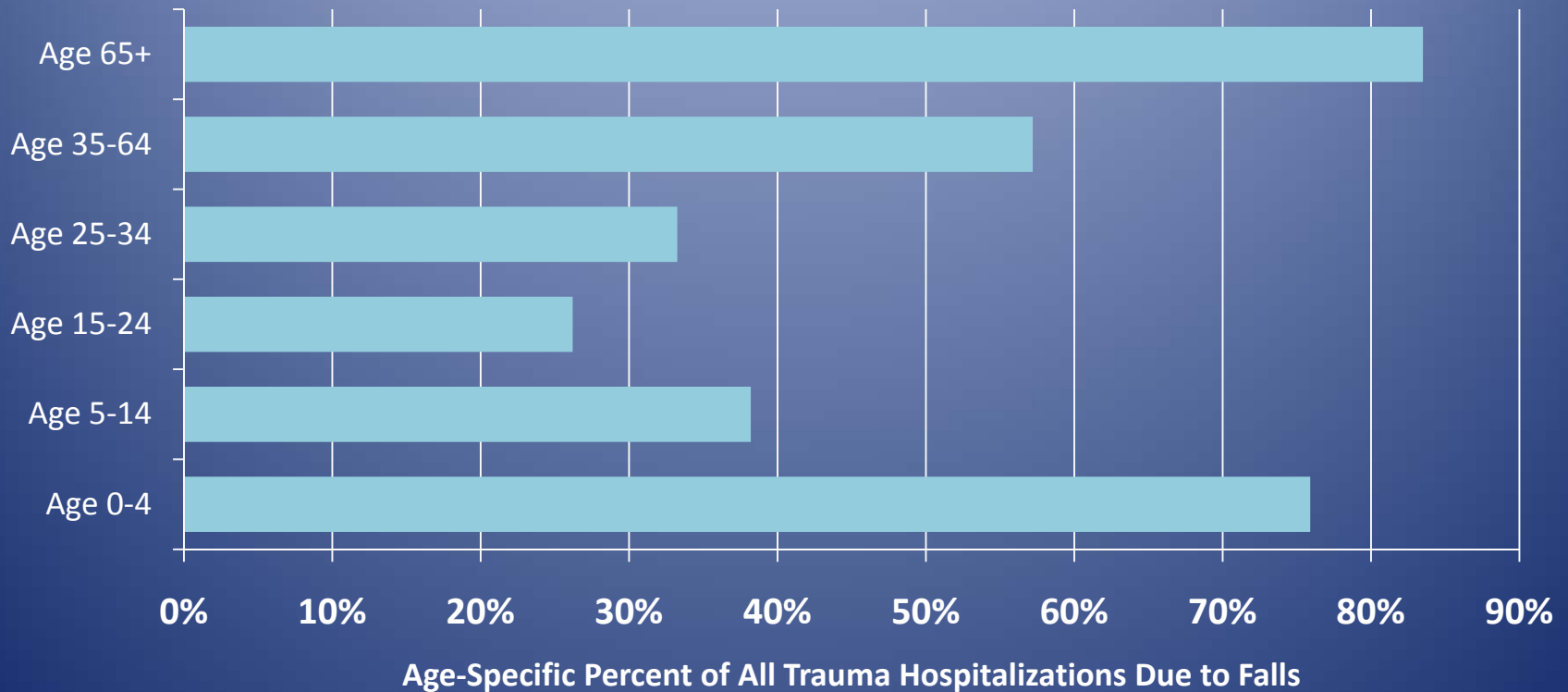
(During 2007-2009, DOH Criteria and Admitted Patients Only)



Your Logo

# The Percentage of Falls Occurring in Homes and Residential Institutions by Age

(During 2007-2009, DOH Criteria and Admitted Patients Only)



# DIAGNOSIS, CARE, AND OUTCOMES

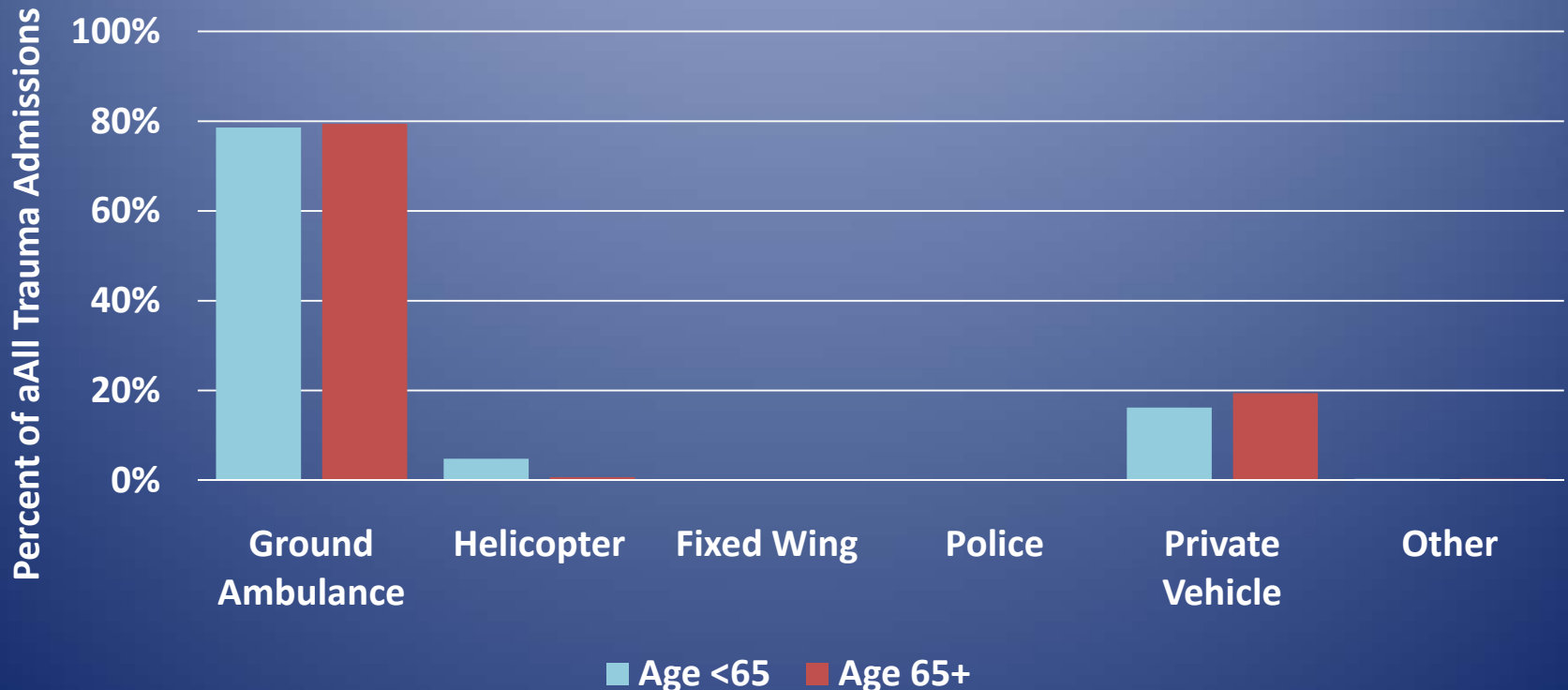


# Similar to Younger Fall Patients, Senior Fall Patients Arrive at the Hospital Mostly by Ground Ambulance

(During 2007-2009, DOH criteria, and transports from the scene)

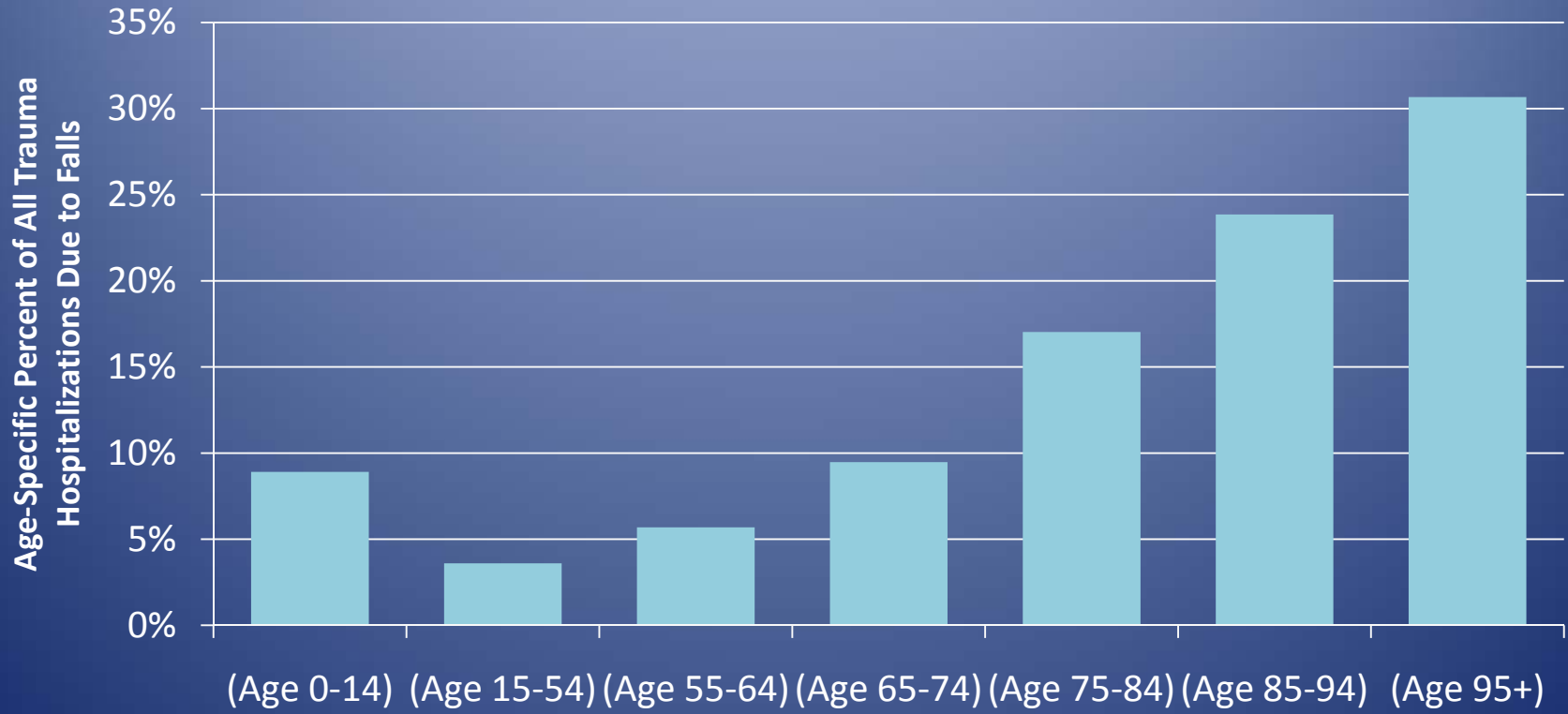


### Patient Transports from the Scene by Age



# GCS at Discharge is Less Than 15

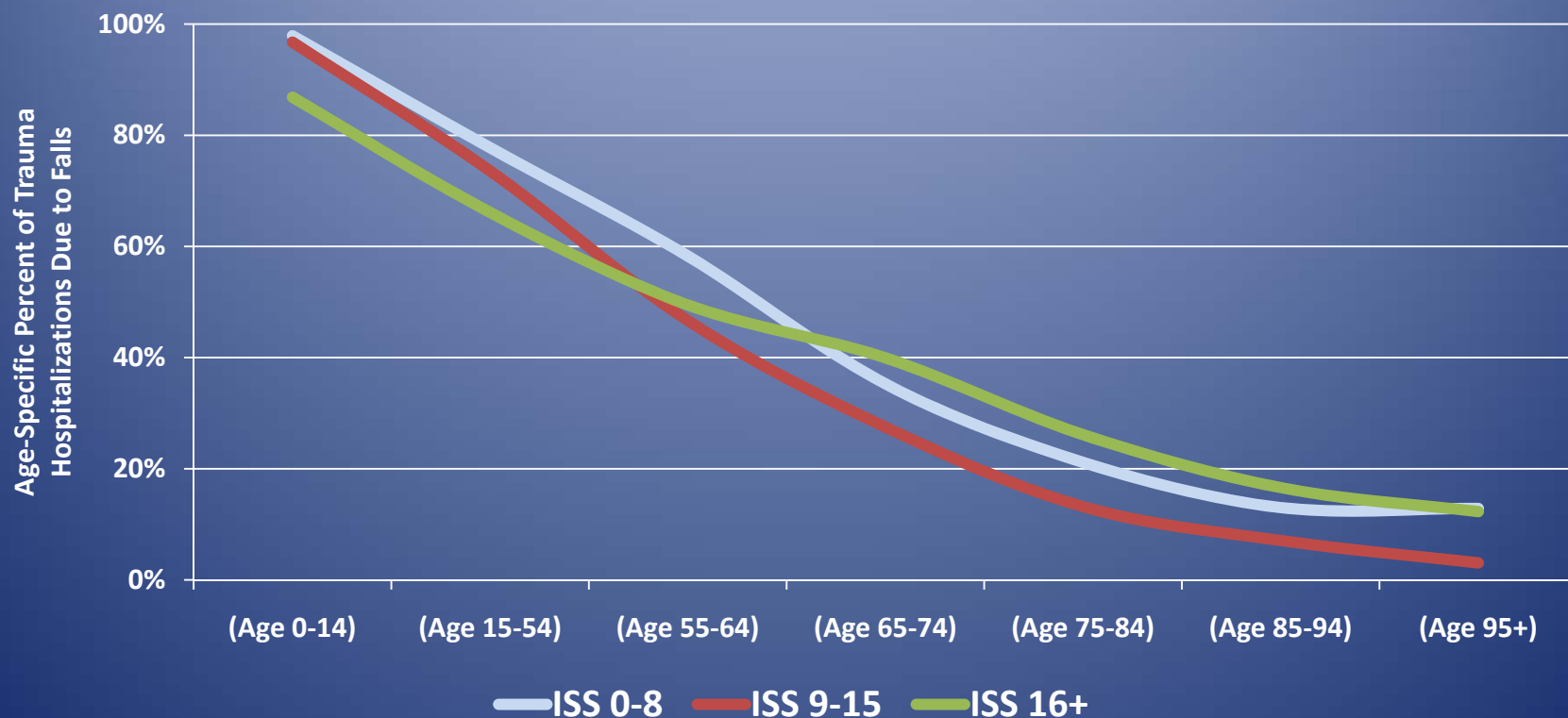
(During 2007-2009, DOH Criteria, excluding deaths, and Admitted Patients Only)



GCS Missing values=25%

# Percent of Surviving Patients Discharged to Home by Age and ISS

(During 2007-2009, DOH Criteria, Admitted Patients )



# Fall Patients in All Ages May Suffer from TBIs, Bone Fractures, Muscle Sprains, and Joint Dislocations

(2007-2009 Average, DOH Criteria and Admitted Patients Only)



## Distribution of Fall Patients by Age and Diagnosis

	No TBI		TBI		All Fall Patients
	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations	
Age 0-14	66 (8%)	459 (57%)	272 (34%)	11 (1%)	809
Age 15-54	150 (9%)	1061 (64%)	414 (25%)	44 (3%)	1669
Age 55-64	53 (6%)	673 (72%)	185 (20%)	27 (3%)	939
Age 65-74	59 (6%)	665 (69%)	213 (22%)	29 (3%)	966
Age 75-84	106 (7%)	1046 (68%)	342 (22%)	43 (3%)	1537
Age 85-94	101 (7%)	1079 (71%)	287 (19%)	43 (3%)	1510
Age 95+	14 (8%)	127 (71%)	31 (17%)	6 (3%)	178
<b>Column Total</b>	<b>550 (7%)</b>	<b>5111 (67%)</b>	<b>1745 (23%)</b>	<b>203 (3%)</b>	<b>7609</b>



# Fall Patients Sustaining TBIs Have Higher Median ISS than Fall Patients with No TBIs

(2007-2009 , DOH Criteria and Admitted Patients Only)



	Median ISS			
	No TBI		TBI	
	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations
Age 0-14	4	9	10	9
Age 15-54	9	9	17	14
Age 55-64	9	9	17	14
Age 65-74	4	9	17	14
Age 75-84	1	9	17	14
Age 85-94	1	9	17	14
Age 95+	1	9	16	12

**With Age the Incidence of Fall Deaths Increases. The Risk of Death is the Highest in Seniors Sustaining Only TBIs.**

(2007-2009 , DOH Criteria and Admitted Patients Only)



**Percent Died by Age**

**No TBI**

**TBI**

	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations	No Fracture, Sprain, Dislocation	Fractures, Sprains, Dislocations
Age 0-14	0.0%	0.0%	0.5%	0.0%
Age 15-54	1.1%	0.3%	5.5%	2.3%
Age 55-64	1.9%	0.6%	10.5%	1.2%
Age 65-74	4.5%	1.4%	13.0%	3.5%
Age 75-84	3.5%	2.6%	15.8%	7.8%
Age 85-94	5.3%	4.7%	17.6%	6.2%
Age 95+	7.1%	8.6%	9.7%	5.6%

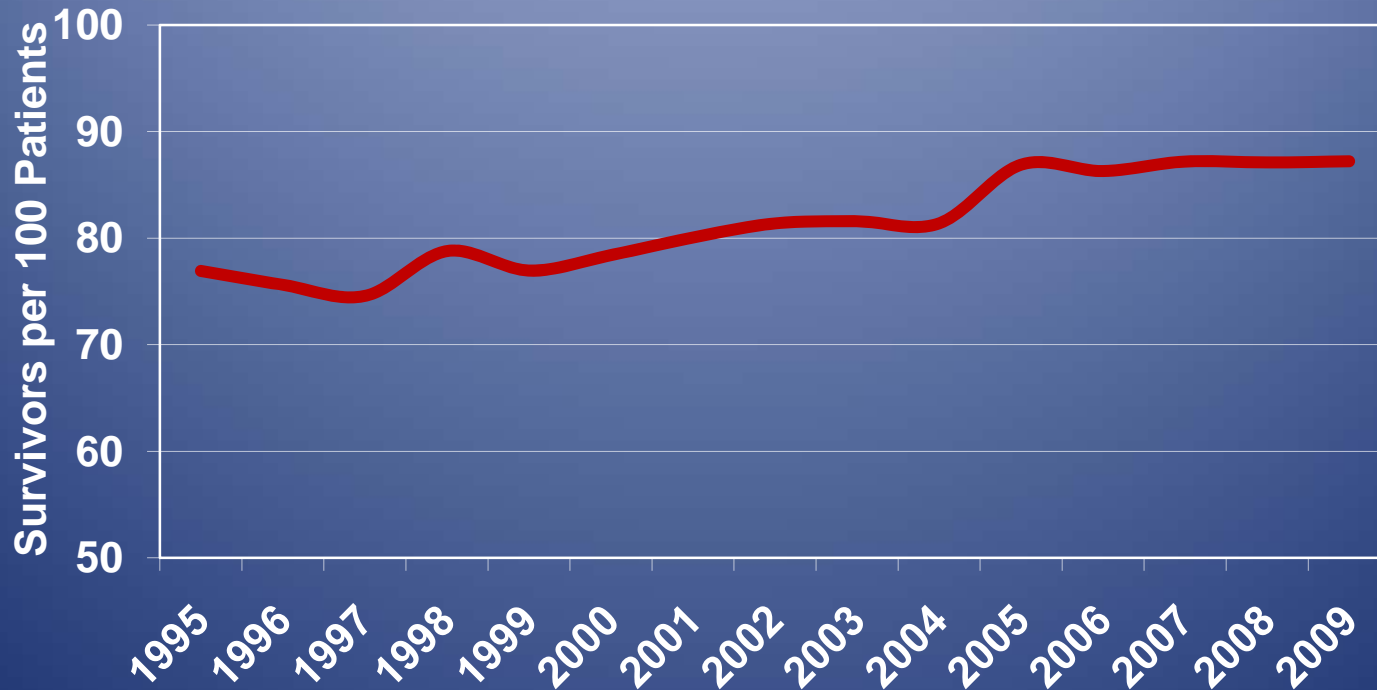


The case survival rate for critically injured trauma patients steadily increased since inception, and leveled out during 2006-2009.

(DOH Criteria , ISS 16+, and Admitted Patients Only)



### Survival of Major Trauma (ISS 16+)

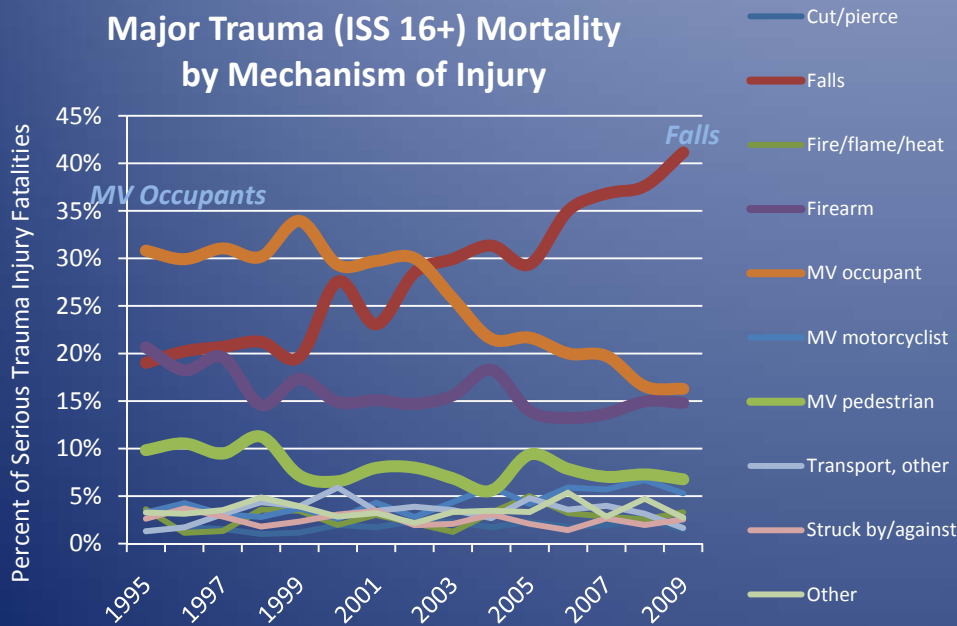


# Geriatric Trauma Patients (Age 55+) Sustaining Falls Have Become the Largest Portion of Serious Trauma (ISS16+) Mortalities

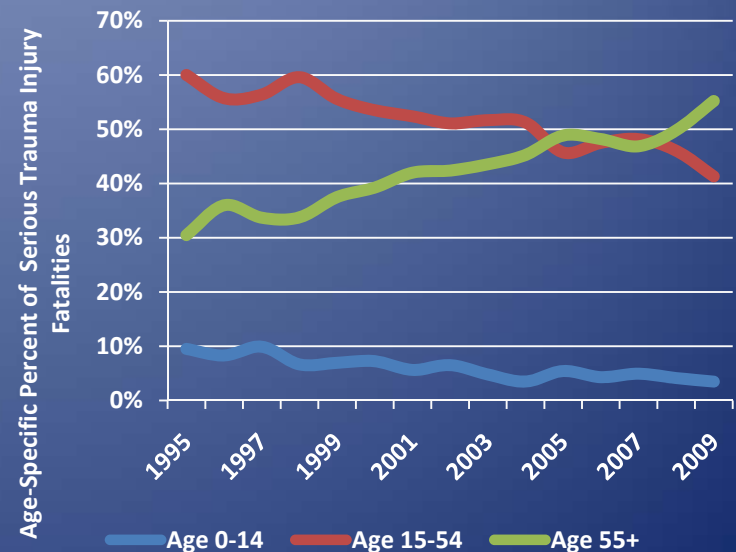
(DOH Criteria , ISS 16+, and Admitted Patients Only)



### Major Trauma (ISS 16+) Mortality by Mechanism of Injury



### Major Trauma (ISS 16+) Mortality by Age Groups

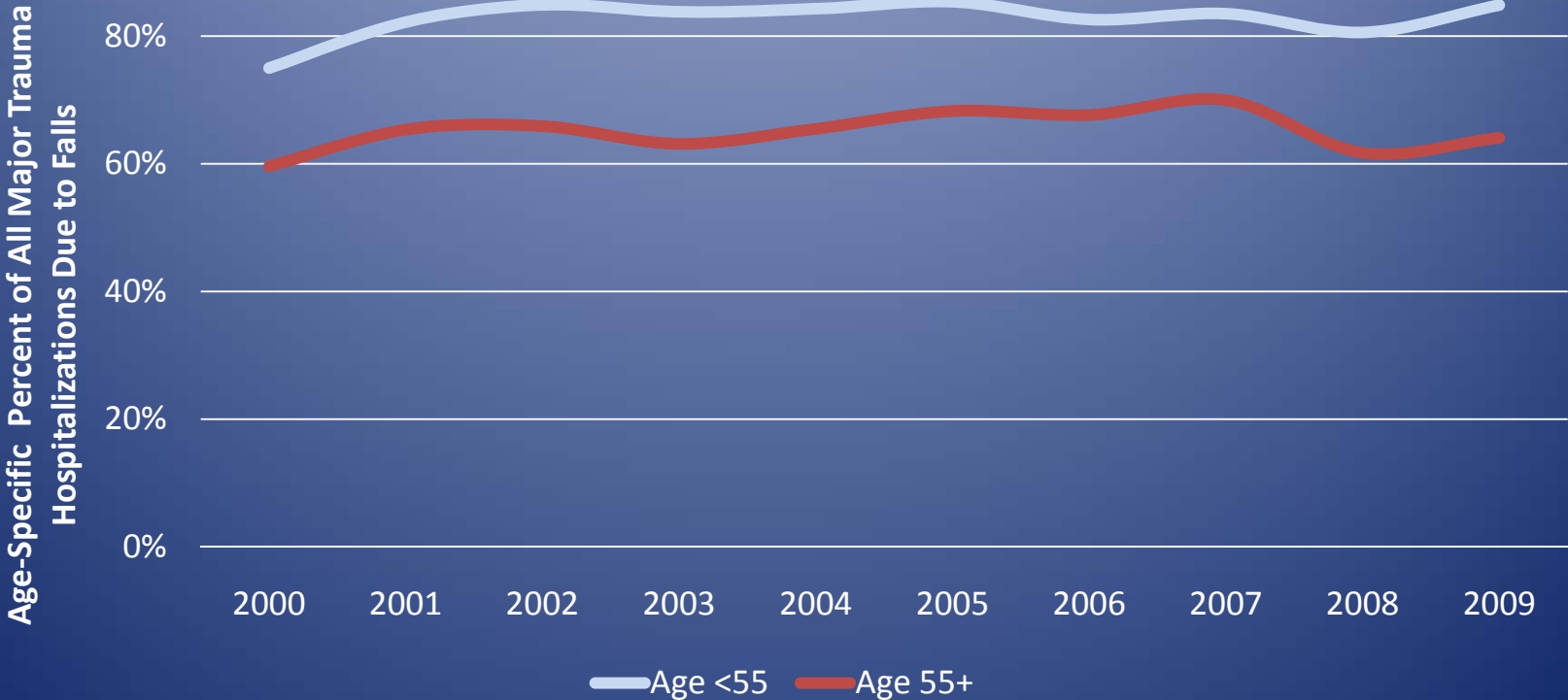


# Geriatric (age 55+) fall patients are less likely to be cared for at a level I or II trauma services when they have major trauma (ISS 16+)

(DOH Criteria , ISS 16+, and Admitted Patients Only)

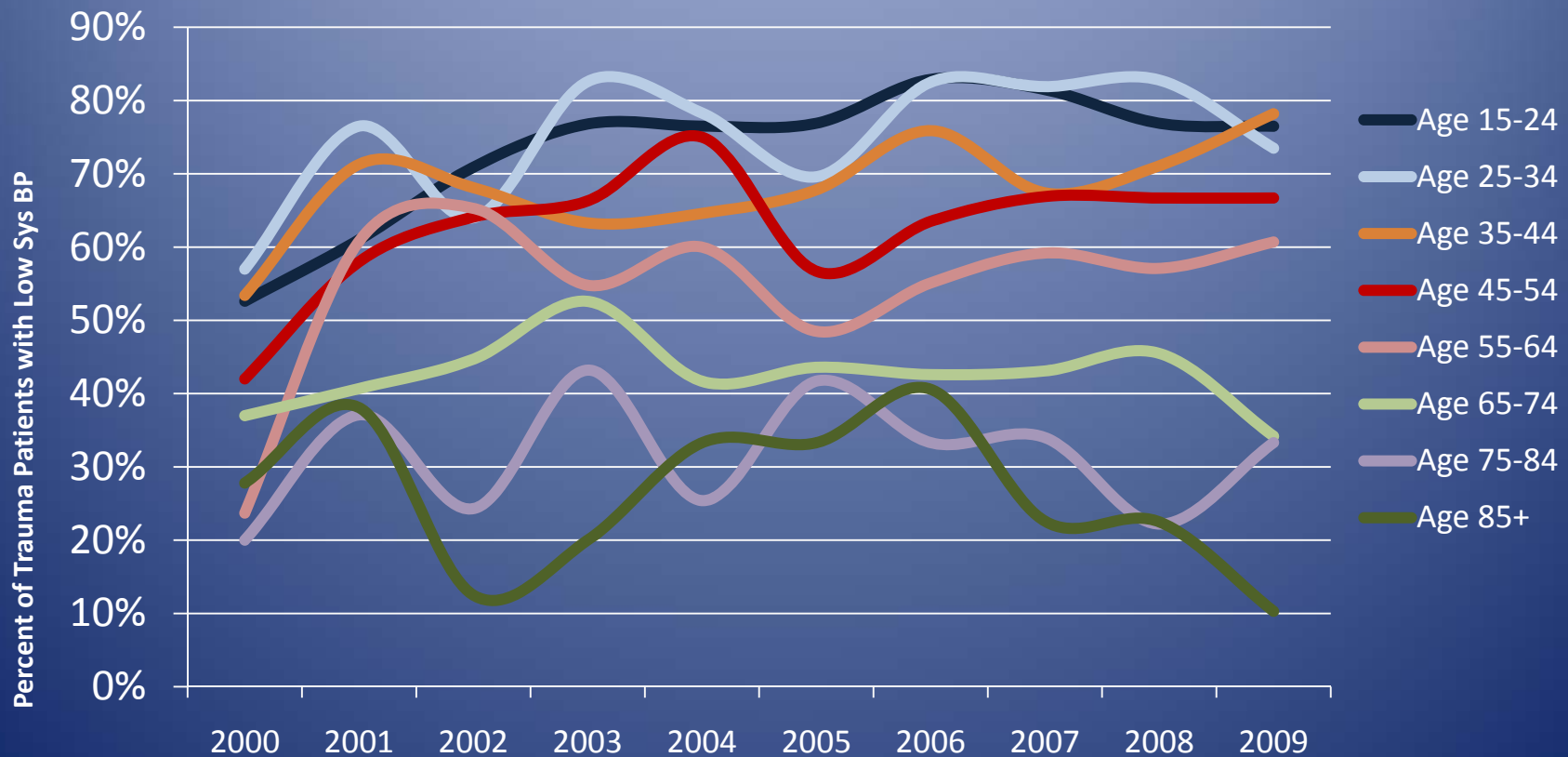


### Definitive Care for Major Fall Trauma at a Level I or II Hospital by Age



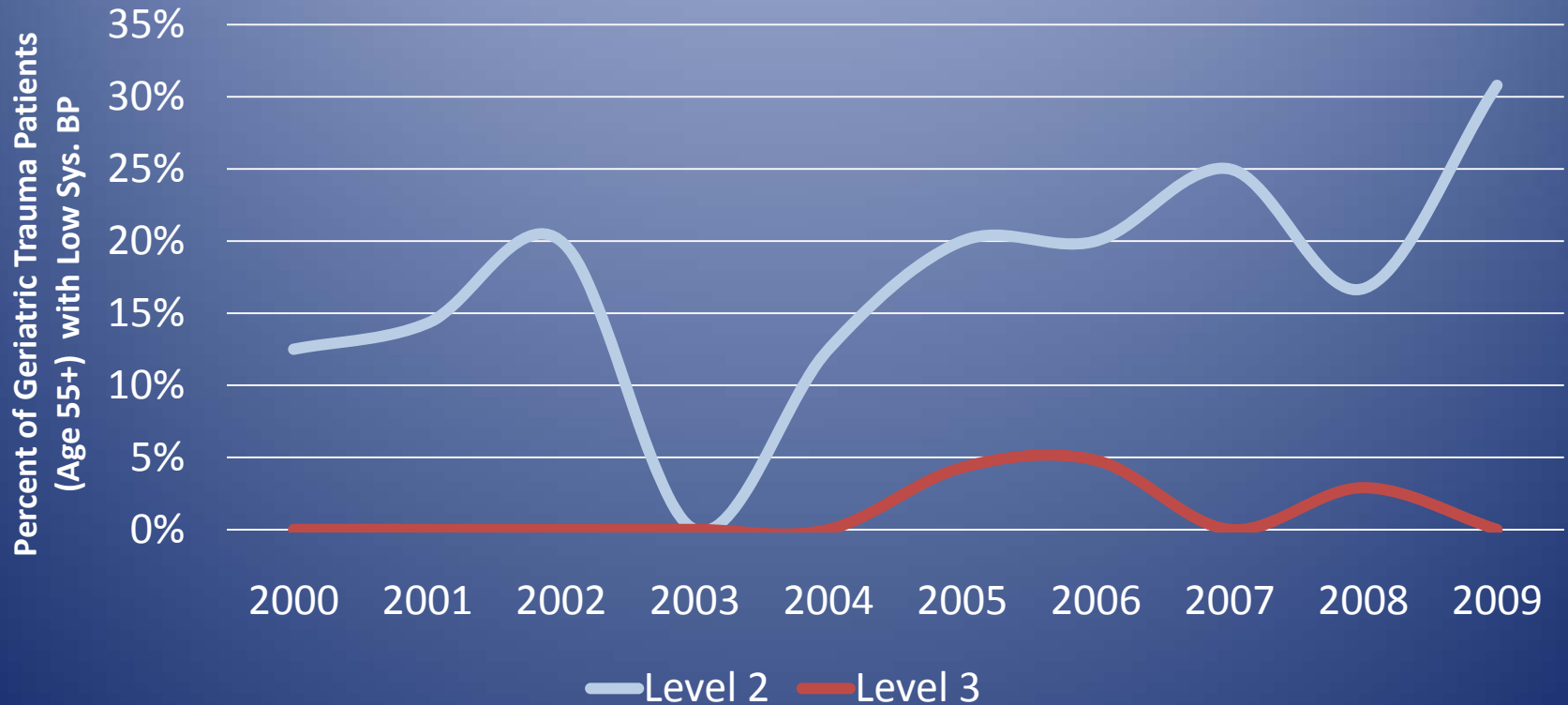
# Full Trauma Team Activations (FTTA) for Hypotensive Adult Trauma Patients Decrease with Age.

(DOH Criteria, Systolic Blood Pressure < 90, and Excluding Transfers in)



# FTTAs for Geriatric (Age 55+) Hypotensive Trauma Patients Having Ground Level Falls by Facility Level

(DOH Criteria and Transfers in)

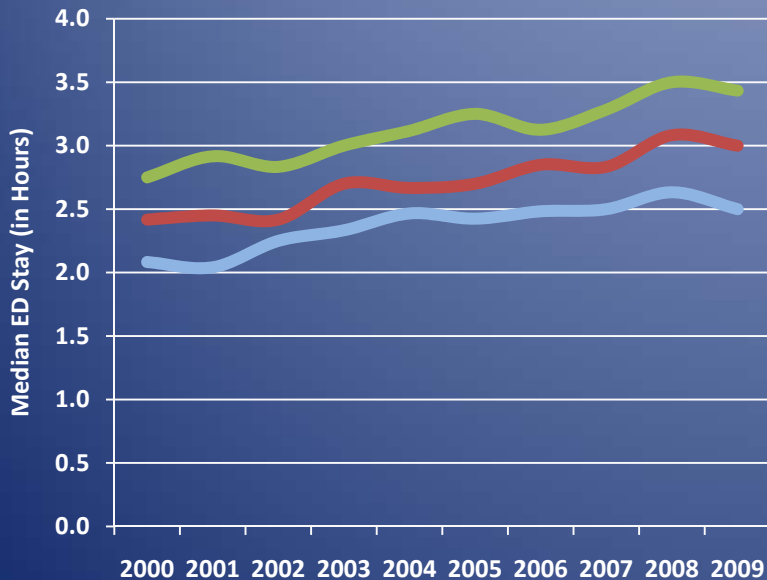


# Median ED Length of Stay

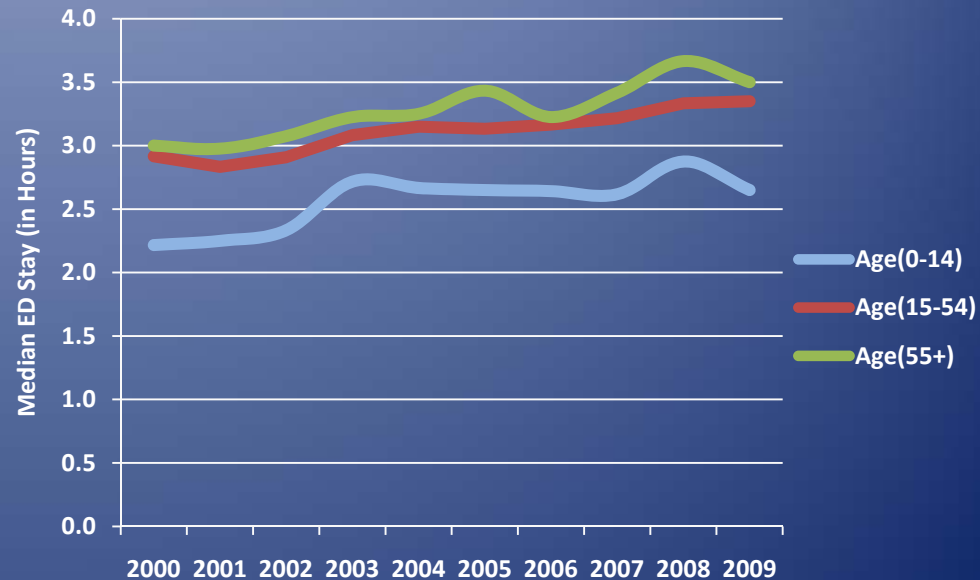
(DOH Criteria and Admitted Patients Only)



### ED Length of Stay of All Trauma Patients by Age



### ED Length of Stay of Trauma Patients Sustaining Falls by Age



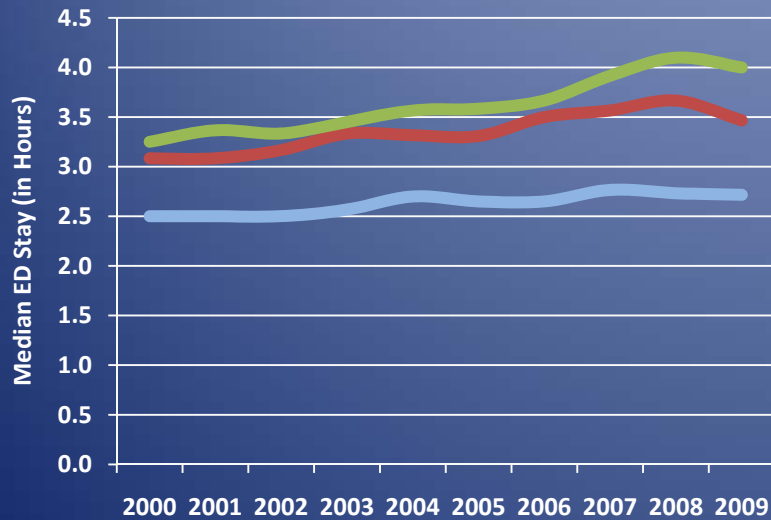


# Median ED Times of Transfer Patients

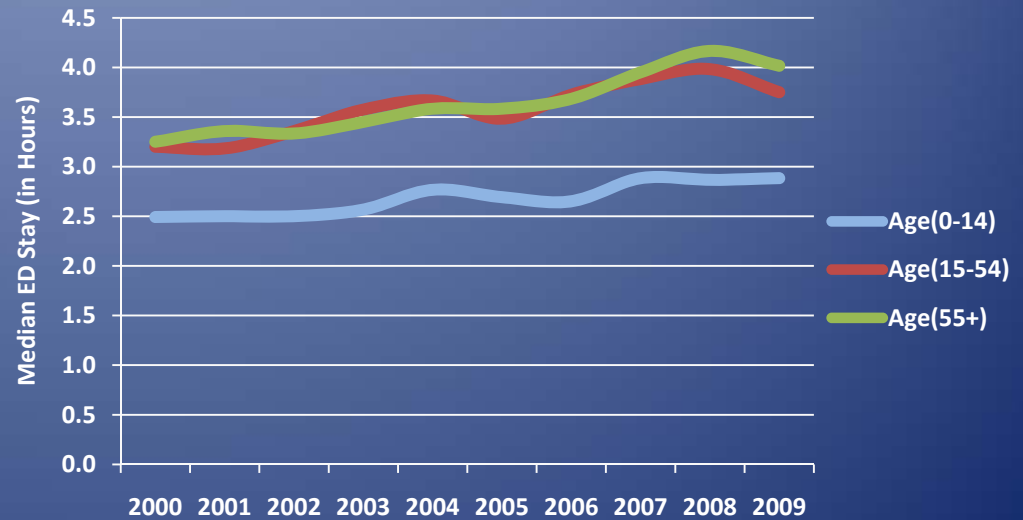
(DOH Criteria and Admitted Patients Only)



## ED Length of Stay of All Transfer-out Patients by Age



## ED Length of Stay of Transfer-out Patients Sustaining Falls by Age



# In Sum:

1. The Trauma Registry captures only about 1/4th of fall hospitalizations of seniors (Age 65+).
2. The percentage of senior falls is rising steadily in the TR.
3. Senior falls affect mostly elderly women, and occur mostly at home due to same-level tripping, slipping, and stumbling.
4. Falls are the leading cause of major trauma in senior patients.
5. In comparison to adult patients below age 55, geriatric fall trauma patients (age 55+):
  - Are at increased risk of death.
  - Are less likely to receive FTTAs when they are hypotensive (BP<90).
  - Are less likely to be cared for at a level I or II trauma service when they have major trauma (ISS 16+).
6. Fall trauma patients, whether they are geriatric or adult, have similar median ED durations of stay.

# Thank You!

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