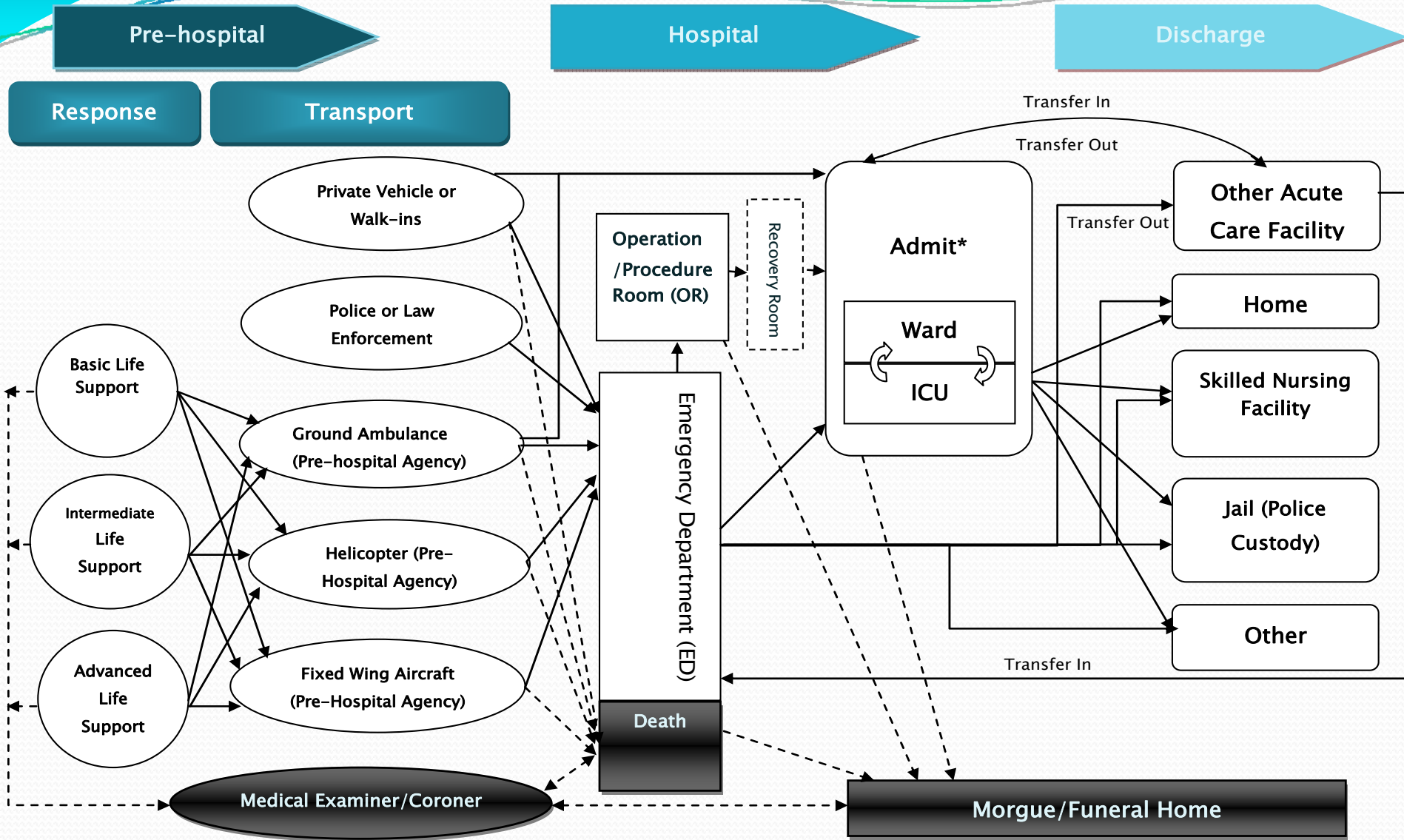


Patient Flow Through Washington's Trauma System

September, 2010

Washington State Trauma System

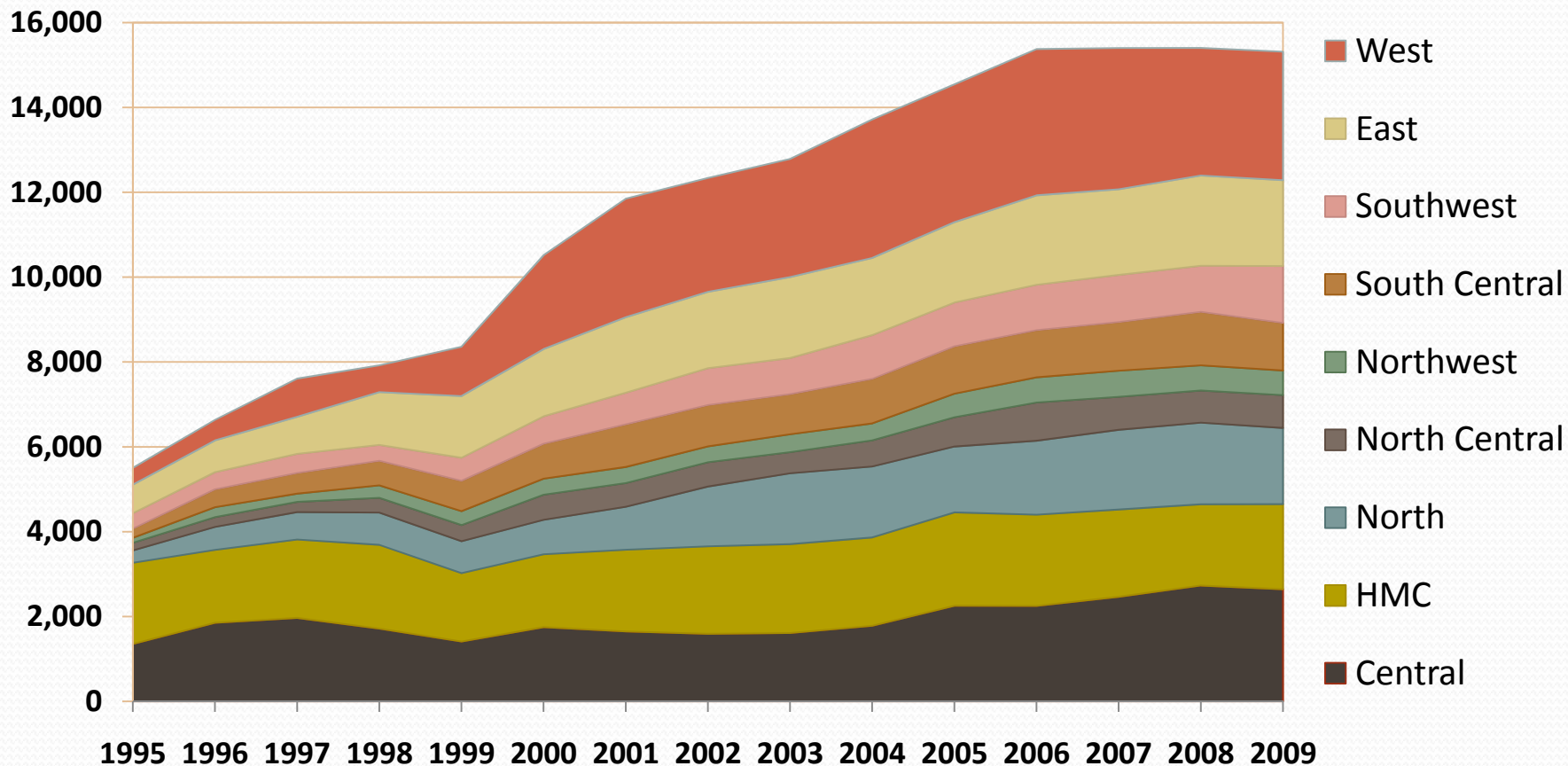


Trauma Patient Flow Chart

* Direct admissions to the OR, ICU or hospital ward from the field are recorded in the ED section of the Trauma Registry with zero ED duration.

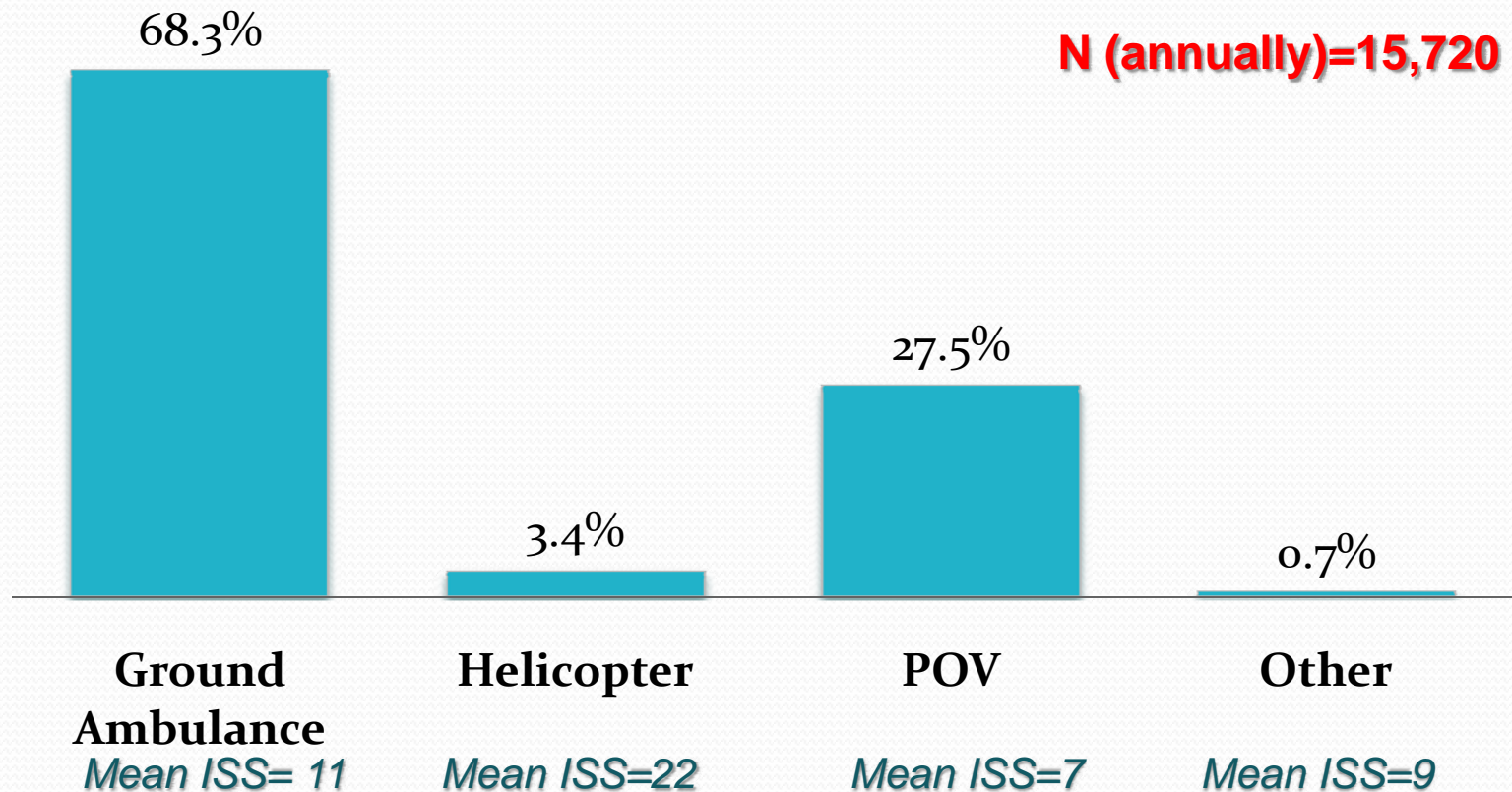
Trauma Volume Trends by Region

(DOH Criteria, Excluding Transfers-in)



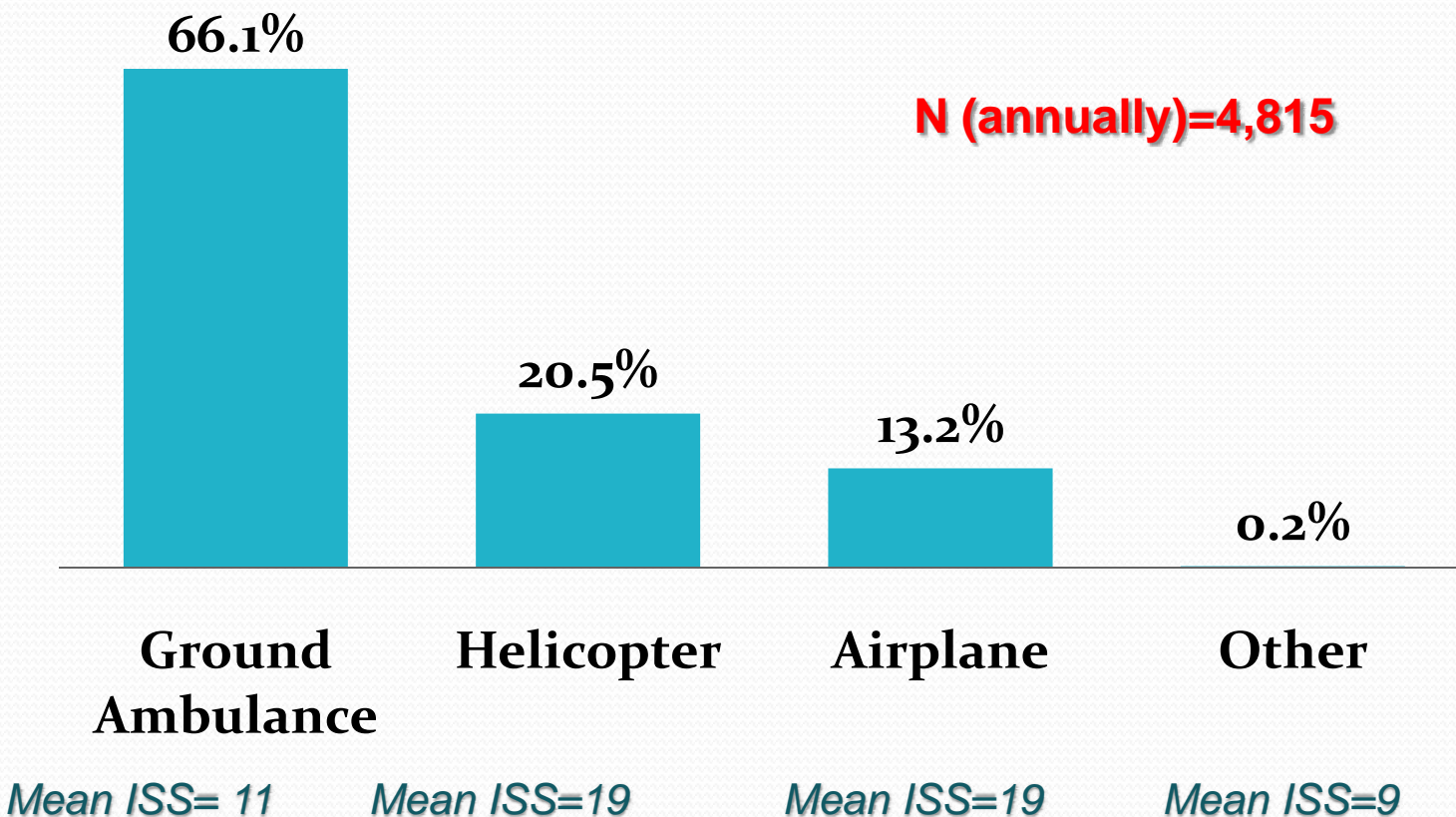
Transported from Scene

(2007 – 2009, DOH criteria, excluding transfers in)

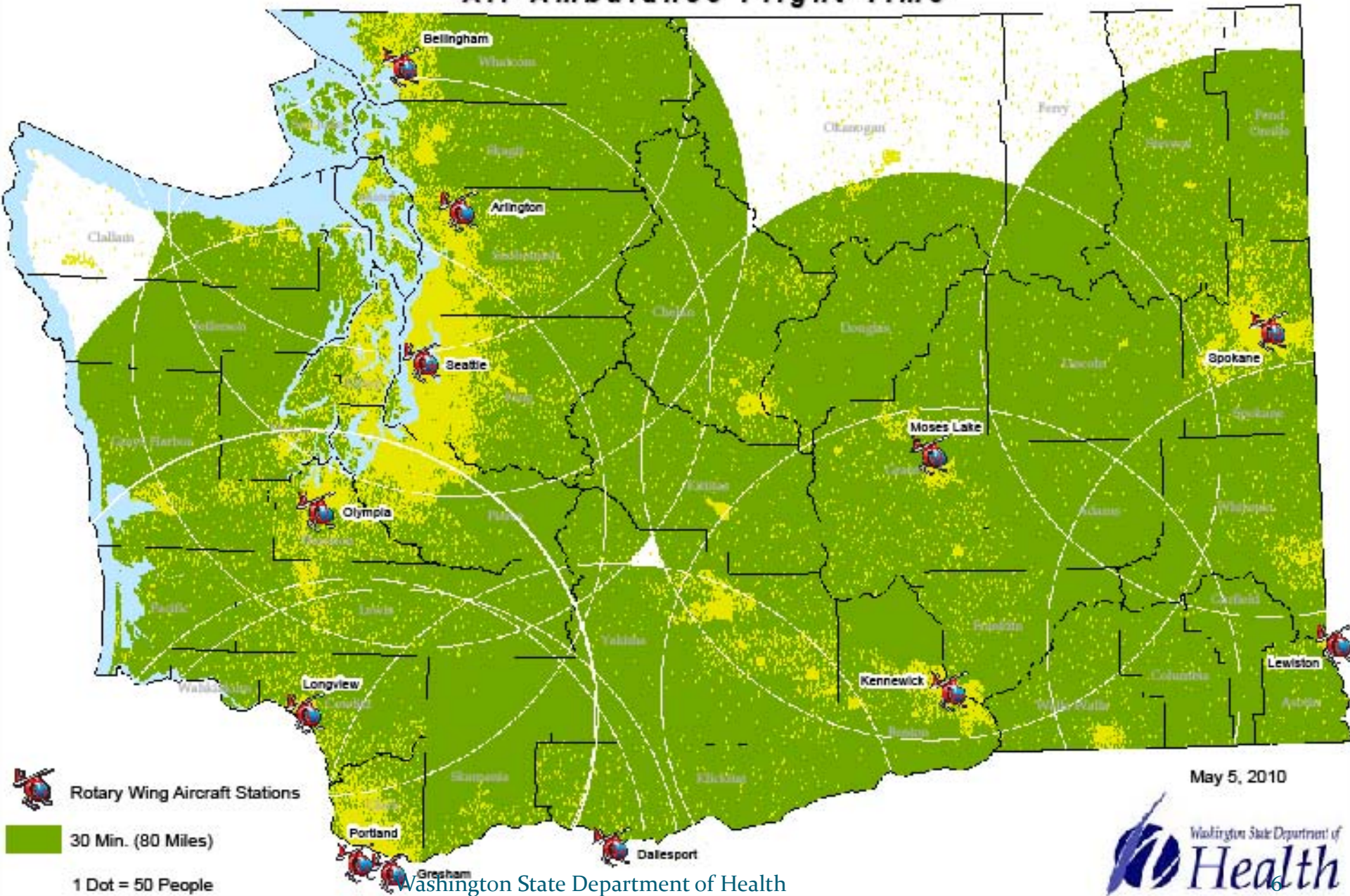


Transported from Referring Hospital

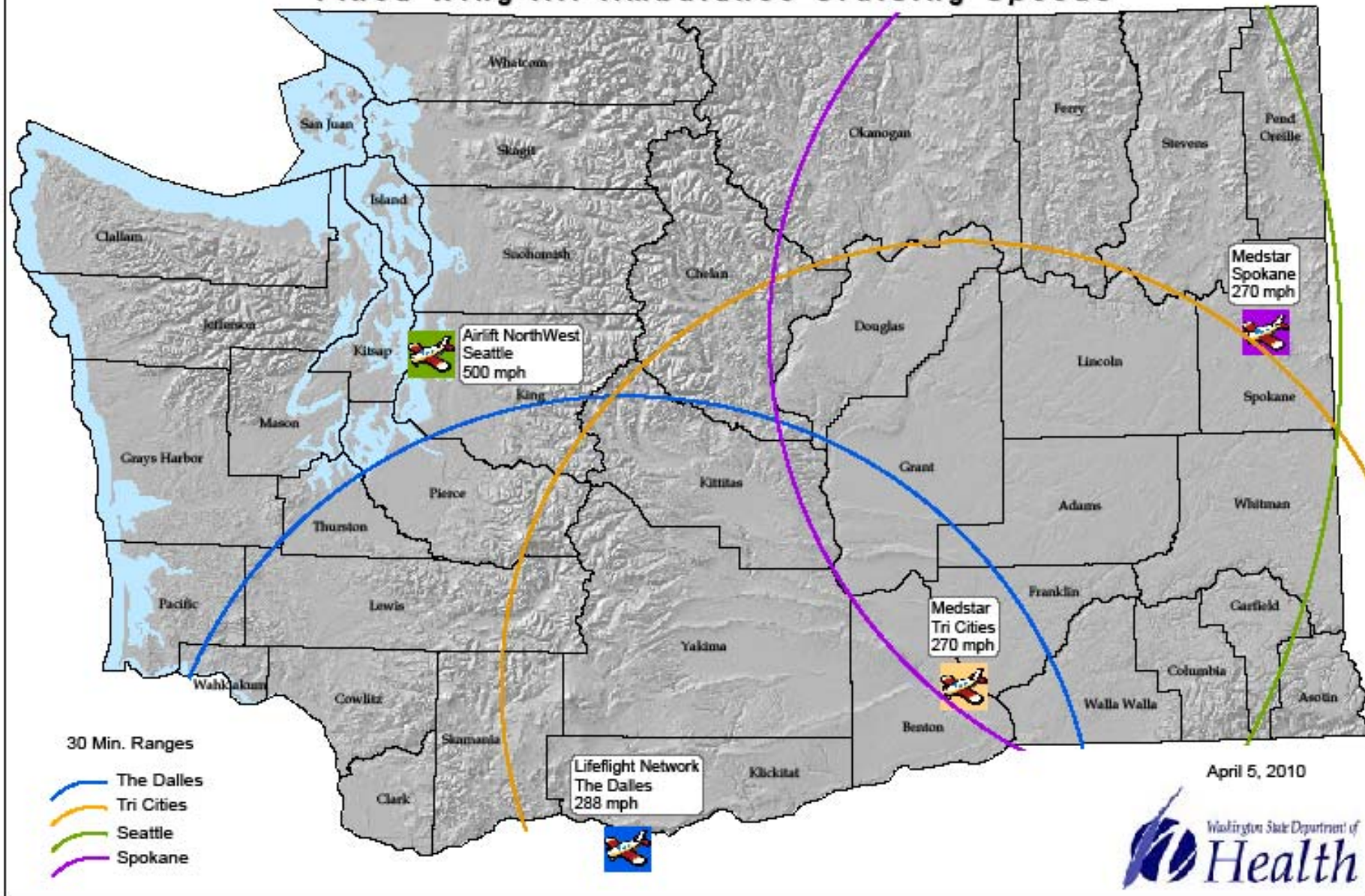
(2007 – 2009, DOH criteria, transfers only)



Air Ambulance Flight Time



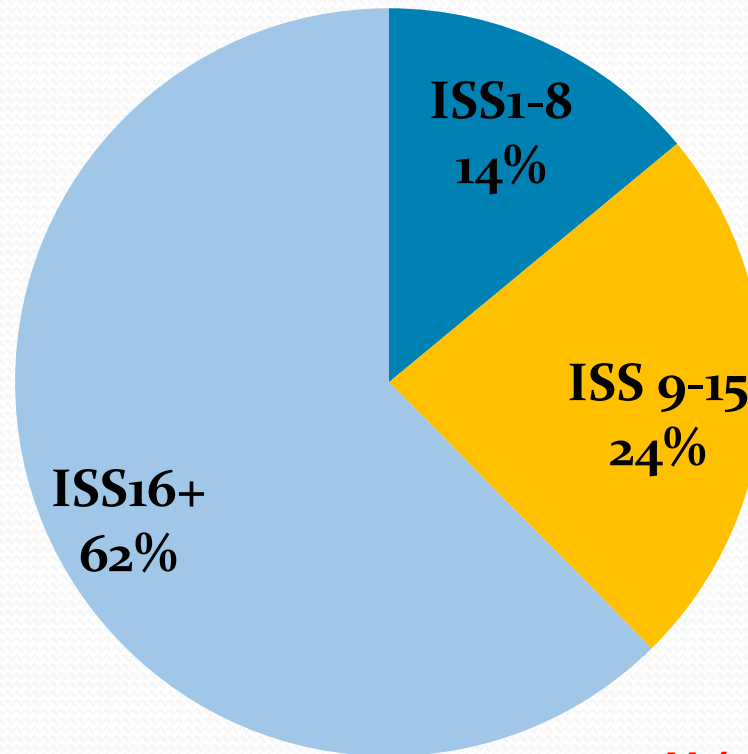
Fixed Wing Air Ambulance Cruising Speeds



April 5, 2010

Air Transports from Scene

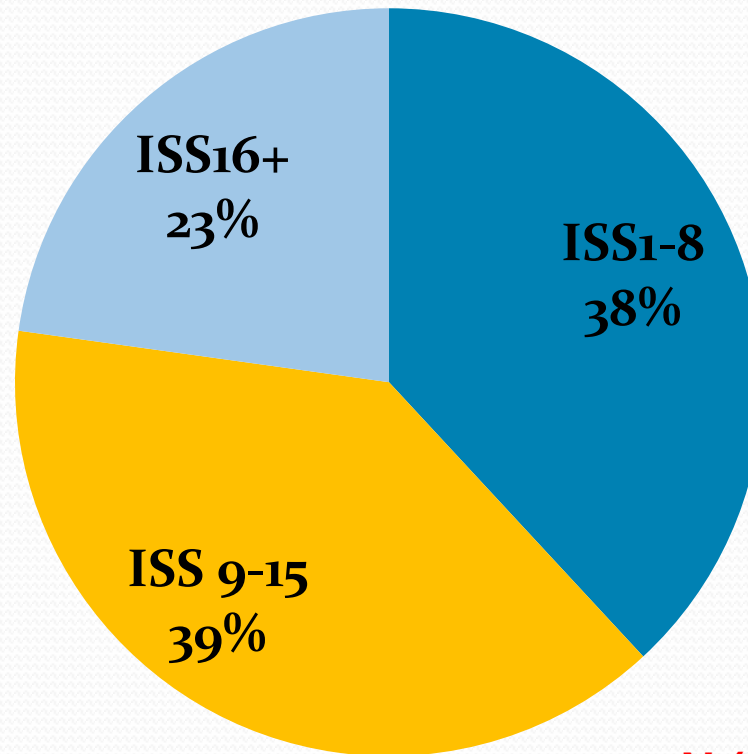
(2007 – 2009, DOH criteria, excluding transfers in)



N (annually)=539

Ground Transports from Scene

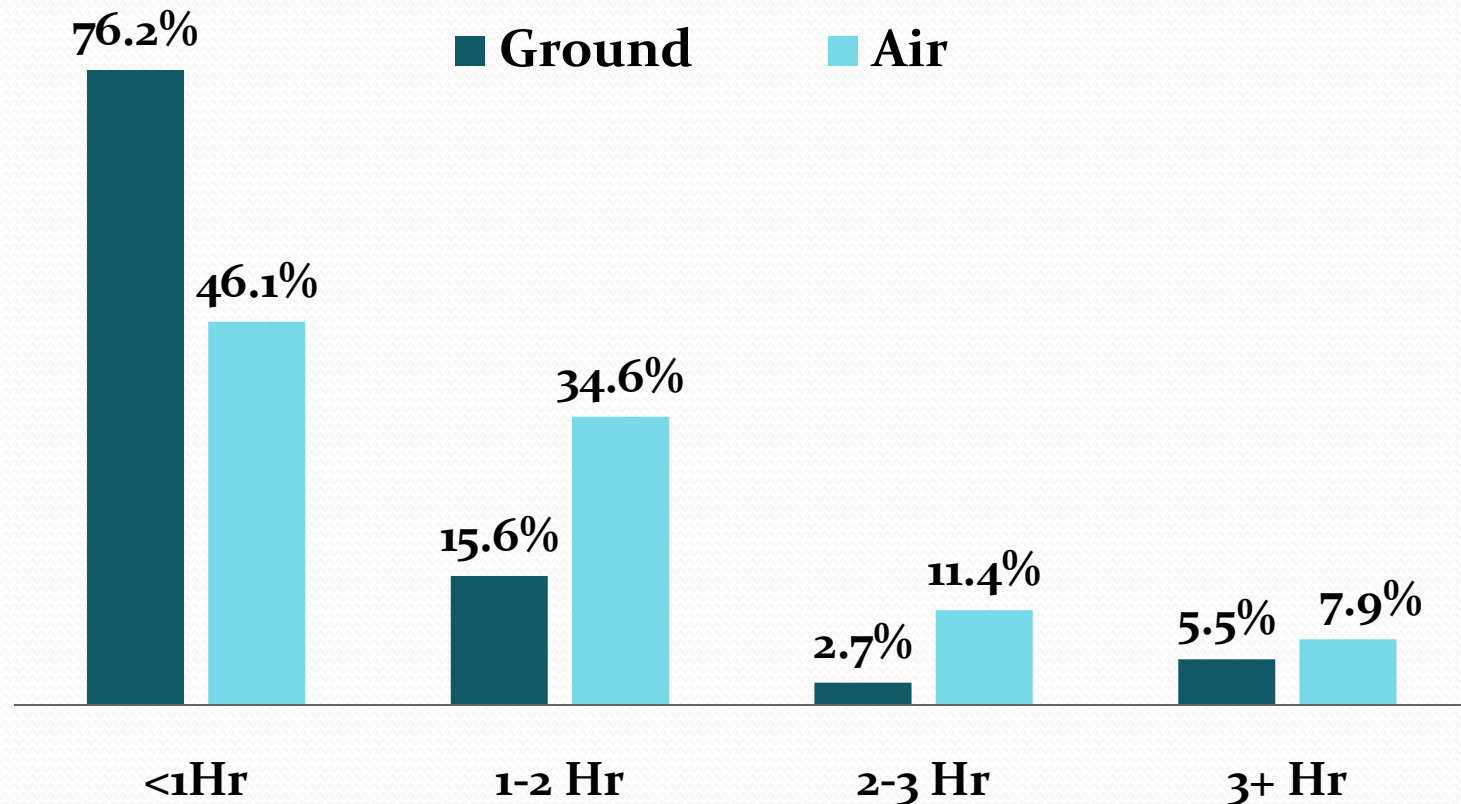
(2007 – 2009, DOH criteria, excluding transfers in)



N (annually)=11,014

Time from Injury to 1st Hospital

(2007 – 2009, DOH criteria, no transfers)



Air Transport from Scene: Outcomes

(2007 – 2009, DOH criteria, no transfers)

- 147 patients died (9.2%) (During FY 01-02, 13.6%)
(37 ED, 9 OR, 101 Floor)
- 291 (18%) to OR from ED (During FY 01-02, 31.7%)
- 774 (47.9%) to ICU (During FY 01-02, 35.9%)
- 93 (5.8%) transfer from ED to another ACF (During FY 01-02, 3.4%)
- 47 (3.2%) transferred after admission (During FY 2001-2002, 2.5%)
- 15 (0.9%) discharged from ED.

Ground Transport from Scene: Outcomes

(2007 – 2009, DOH criteria, no transfers)

- 1,473 patients died (4.5%) (During FY 01-02, 6.4%)
(60 DOA, 405 ED, 72 OR, 936 Floor)
- 2,929 (9.2%) to OR from ED
- 4,354(13.5%) to ICU
- 7,202(22.5%) transfer from ED to another ACF (During FY 01-02, 22.3%)
- 622 (2.7%) transferred after admission
- 1,204(3.8%) discharged home from ED.

Delayed Transfers: Transfers after Admission and ED Stays of 6+ Hrs.

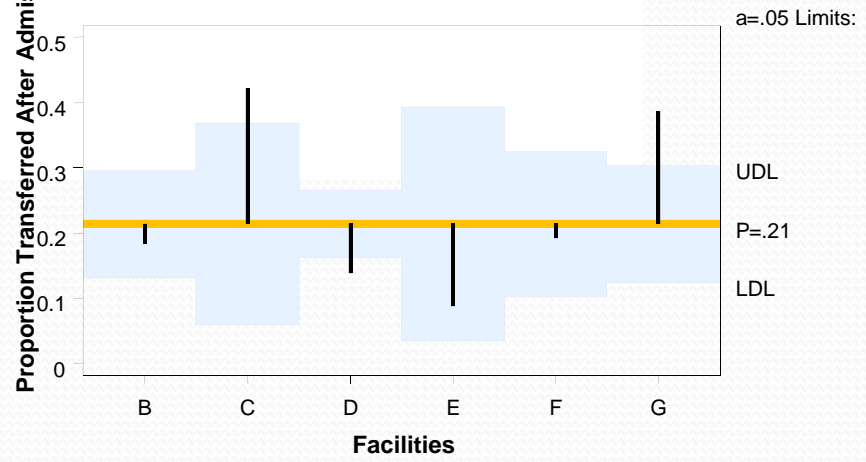
(2007 – 2009, DOH criteria, ED transfers)

846 patients were admitted and subsequently transferred (30% with ISS 16-75)

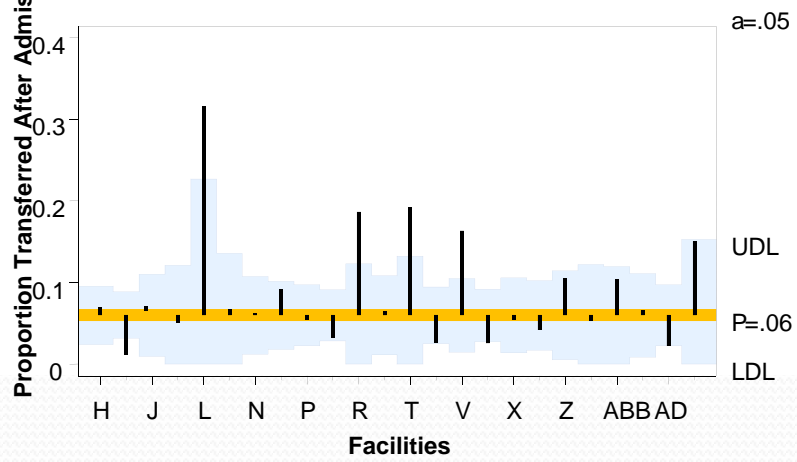
- 21% (n=173) had a surgery prior to the transfer
- 33% (n=270) had ICU stays without surgery

956 patients had ED stays longer than 6 hours before they were transferred out (16% with ISS 16-75)

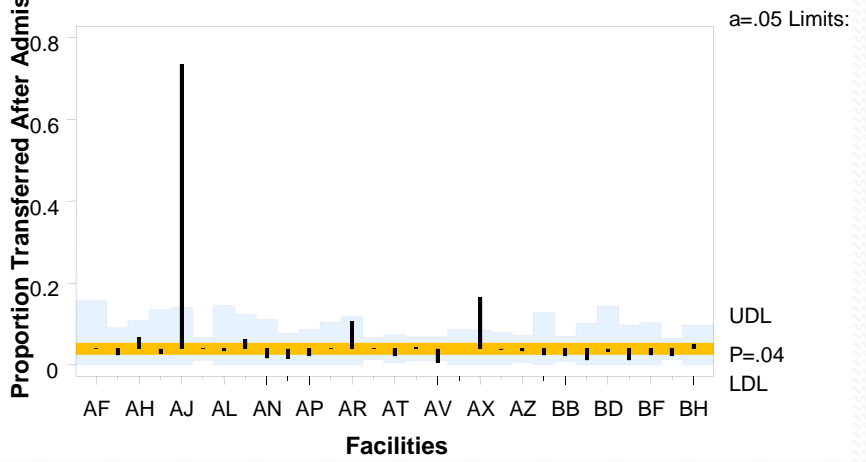
Level II Trauma Hospitals



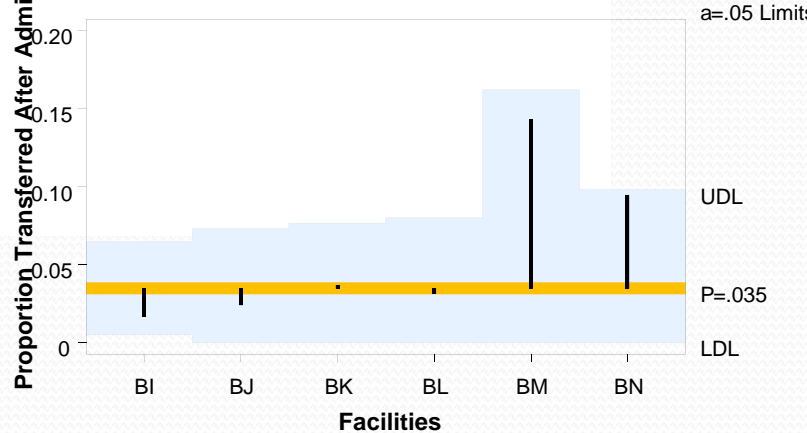
Level III Trauma Hospitals



Level IV Trauma Hospitals

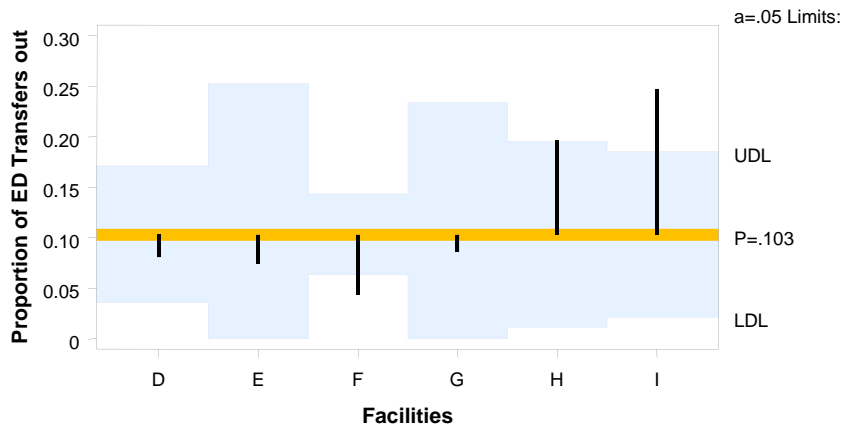


Level V Trauma Hospitals

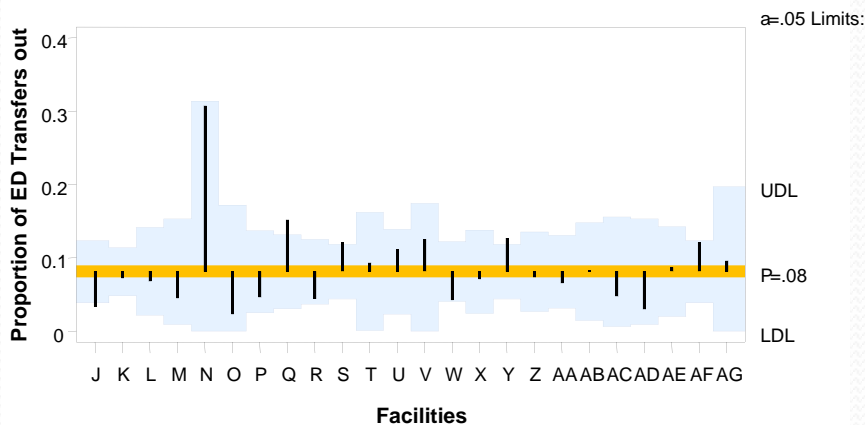


HOW TO INTERPRET THE CHARTS: Vertical bars represent individual hospitals. Horizontal orange line shows the average of facility percentages of run-form availability within each level of trauma care. Bars within the blue area show a performance similar to the average. Bars extending above the blue area are worse than the average. Bars extending below the blue area are doing better than the average.

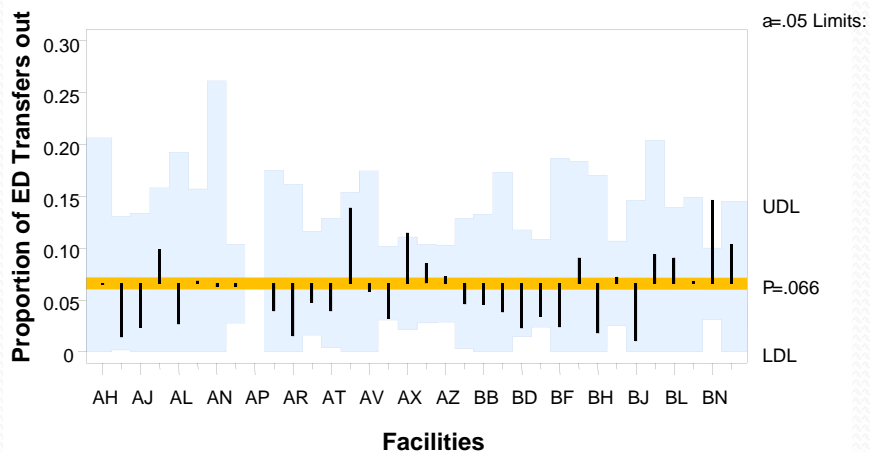
Level II



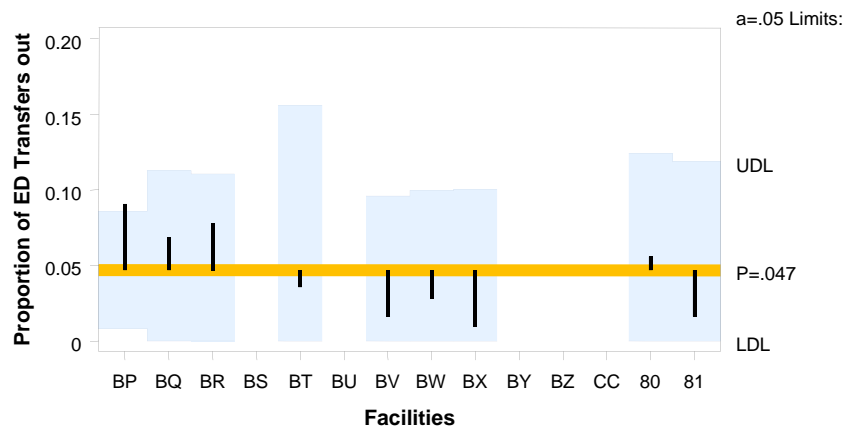
Level III



Level IV



Level V

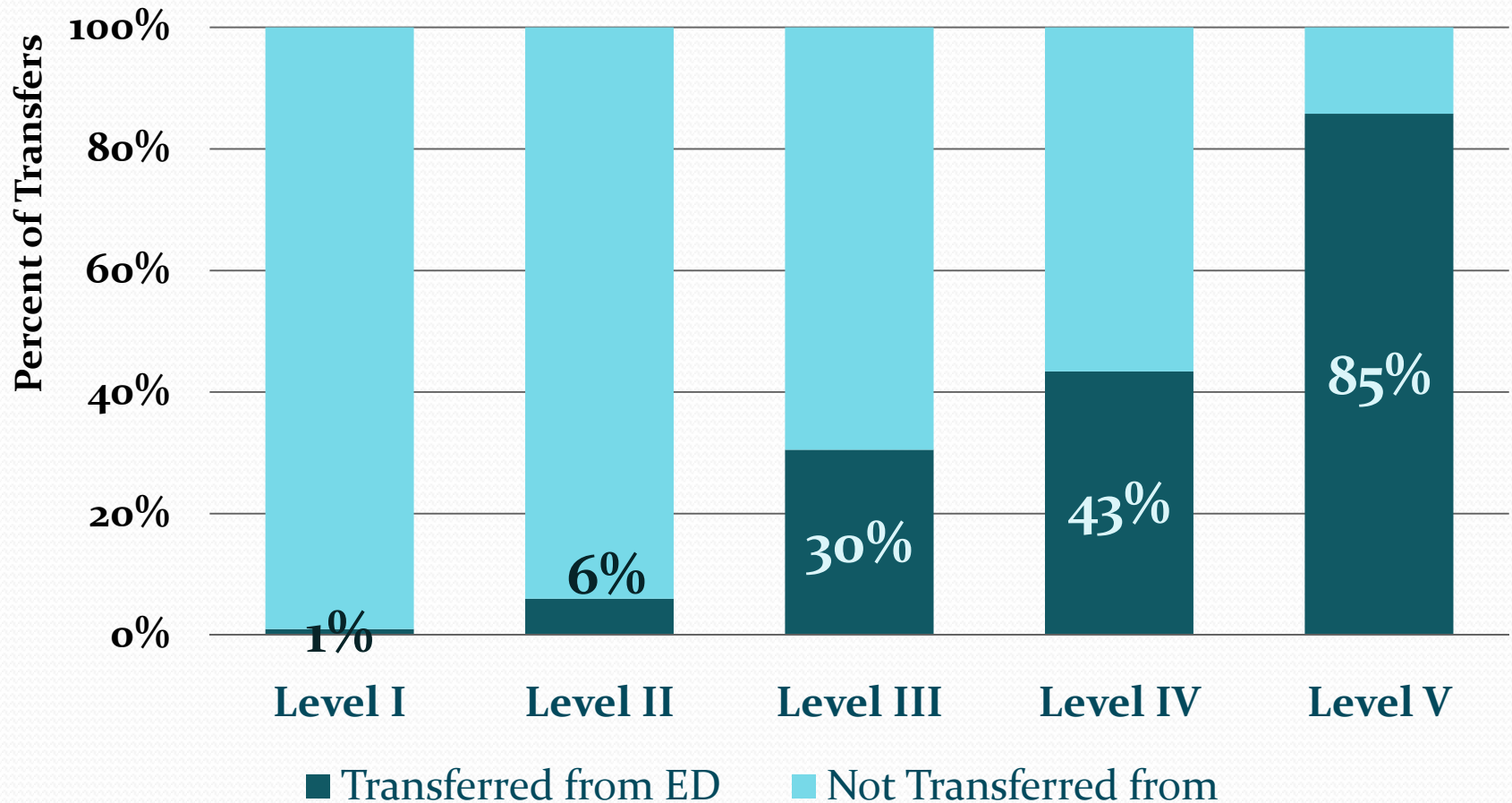


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Washington State Department of Health

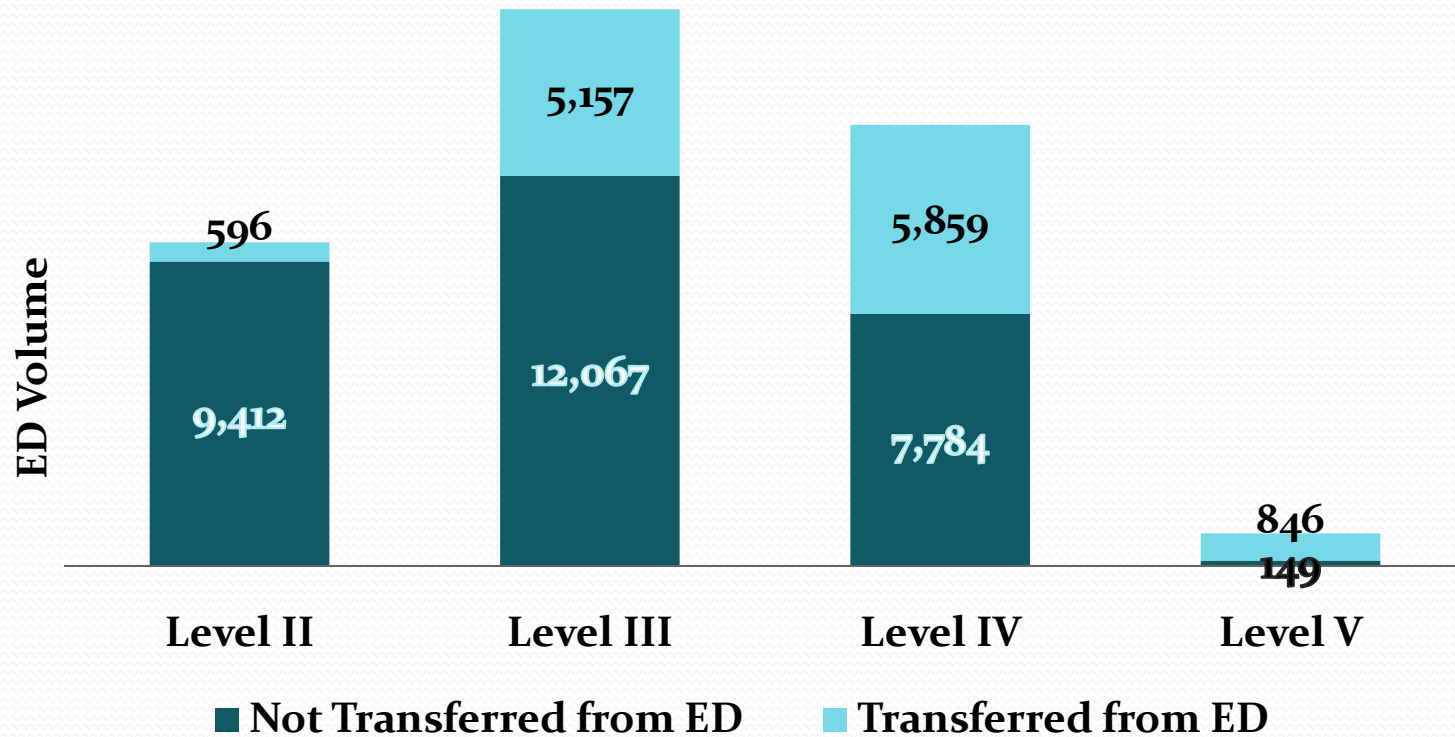
Hospital Transfers from ED

(2007 – 2009, DOH criteria, ED transfers)



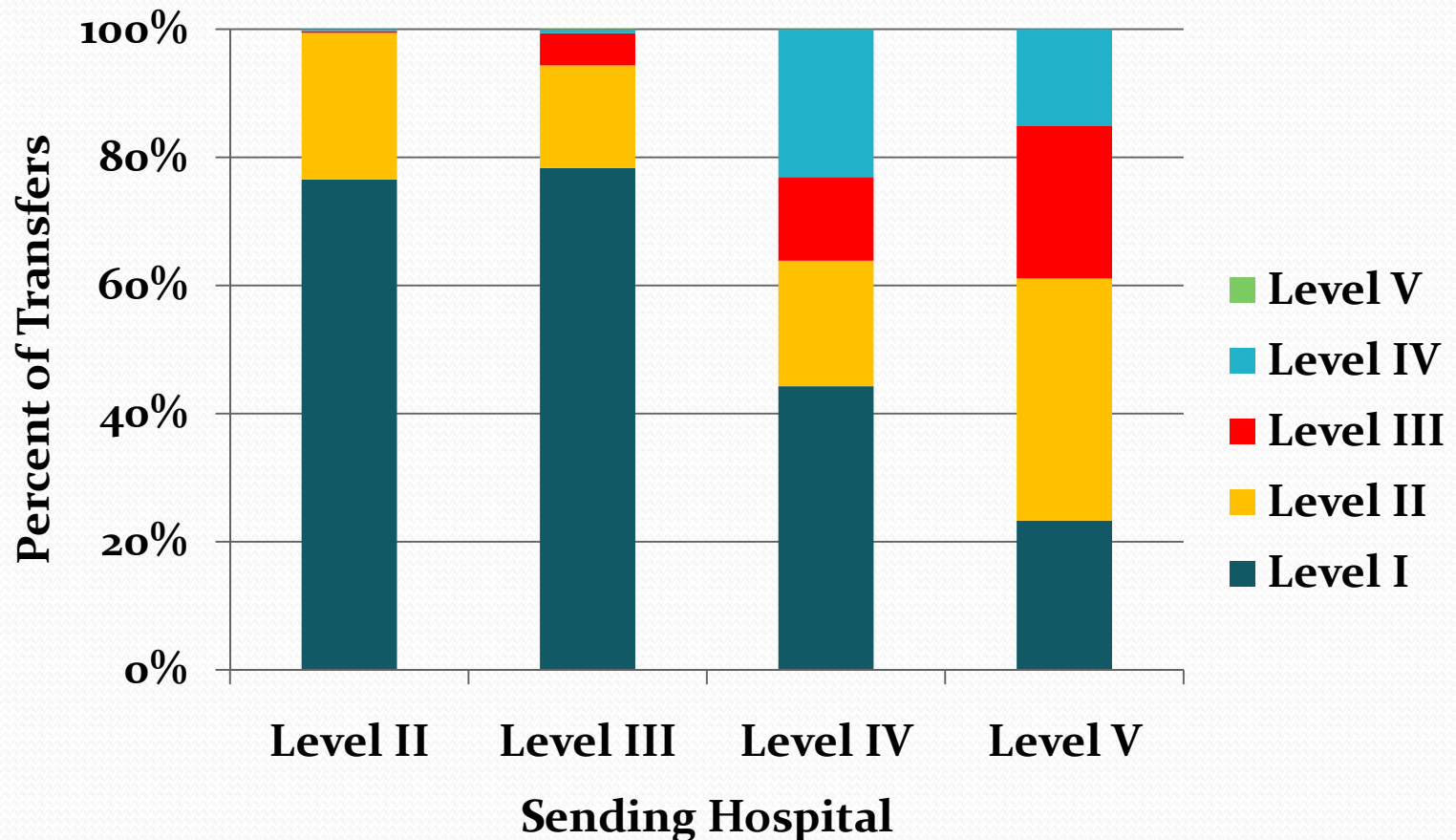
Hospital Transfers from ED

(2007 – 2009, DOH criteria, ED transfers)



Transfers from ED to What Level?

(2007 – 2009, DOH criteria, ED transfers)



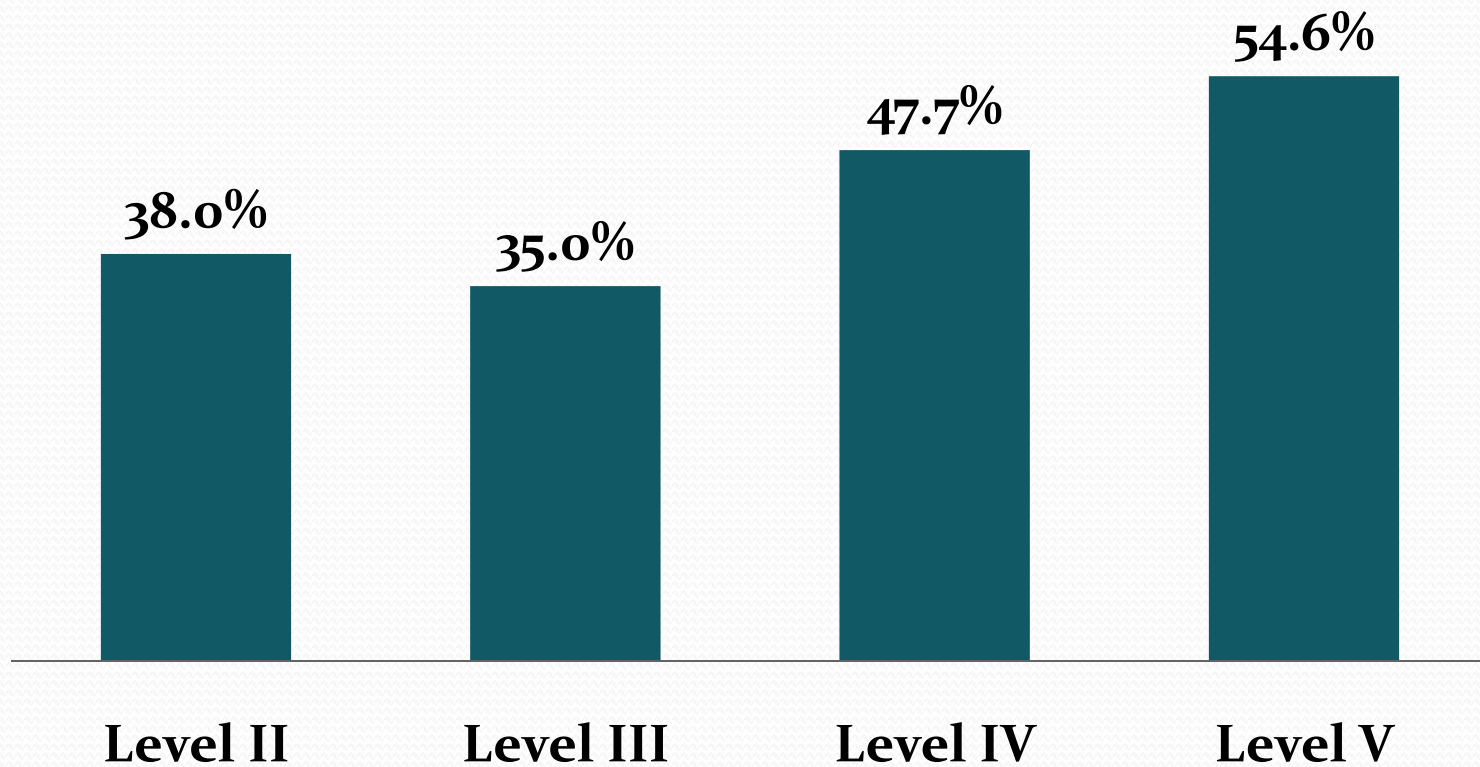
Transfers to Lower Level?

(2007 – 2009, DOH criteria, ED transfers)

- From Level II: N=2
- From Level III: N=27
- From Level IV: N=1

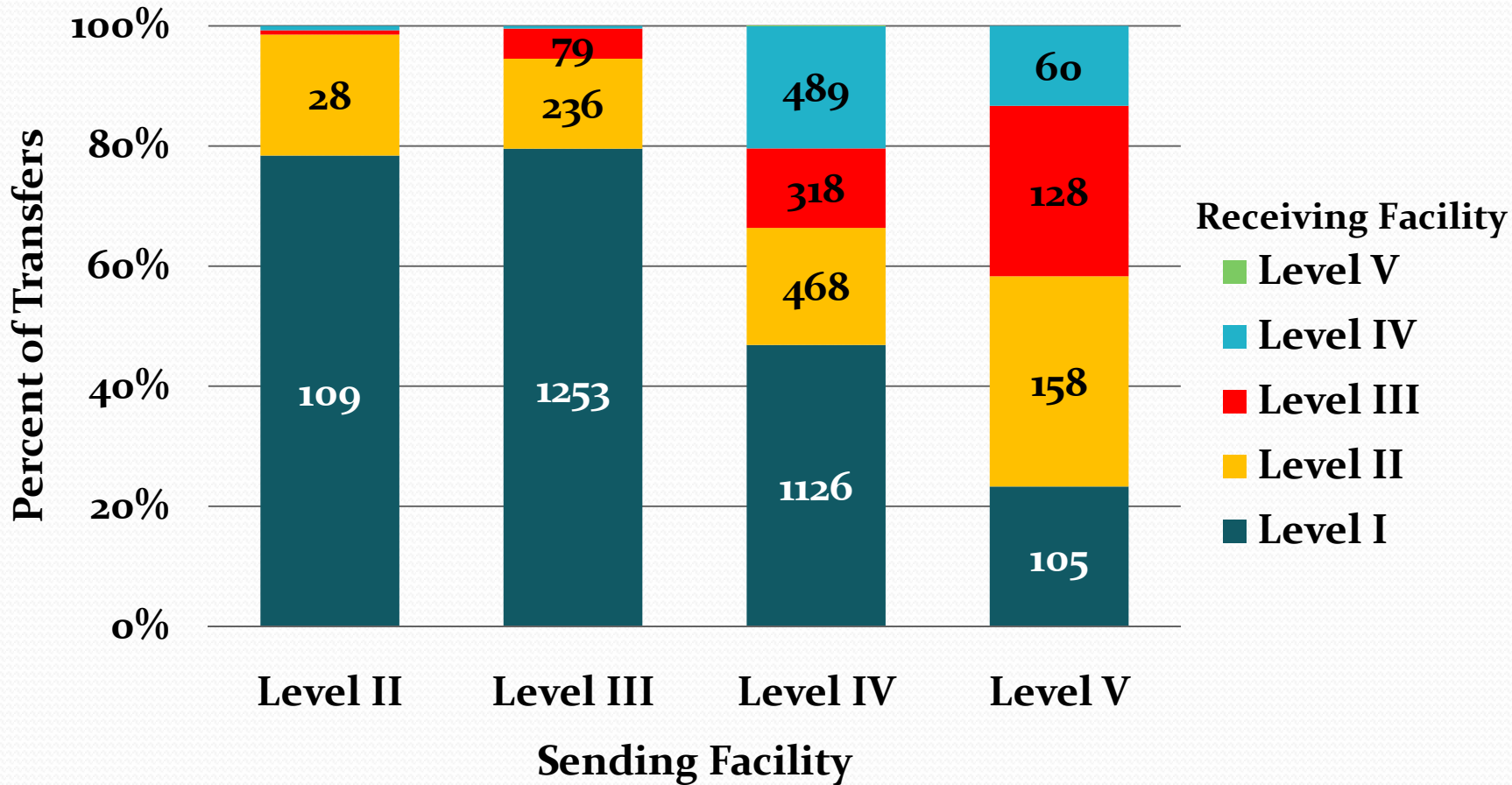
ISS<9 Transfers from ED

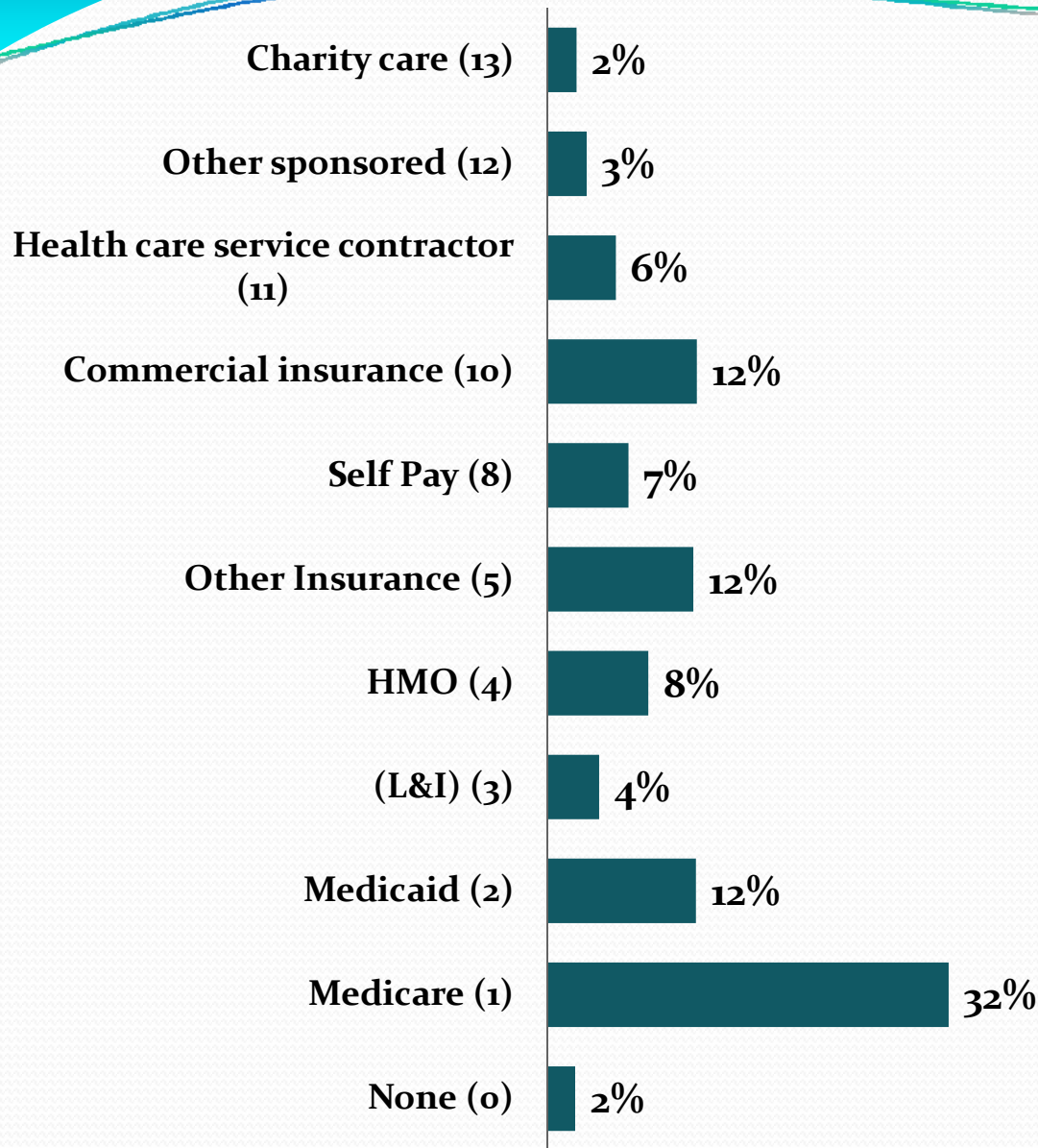
(2007 – 2009, DOH criteria, ED transfers)



ISS<9 Transfers from ED

(2007 – 2009, DOH criteria, ED transfers)



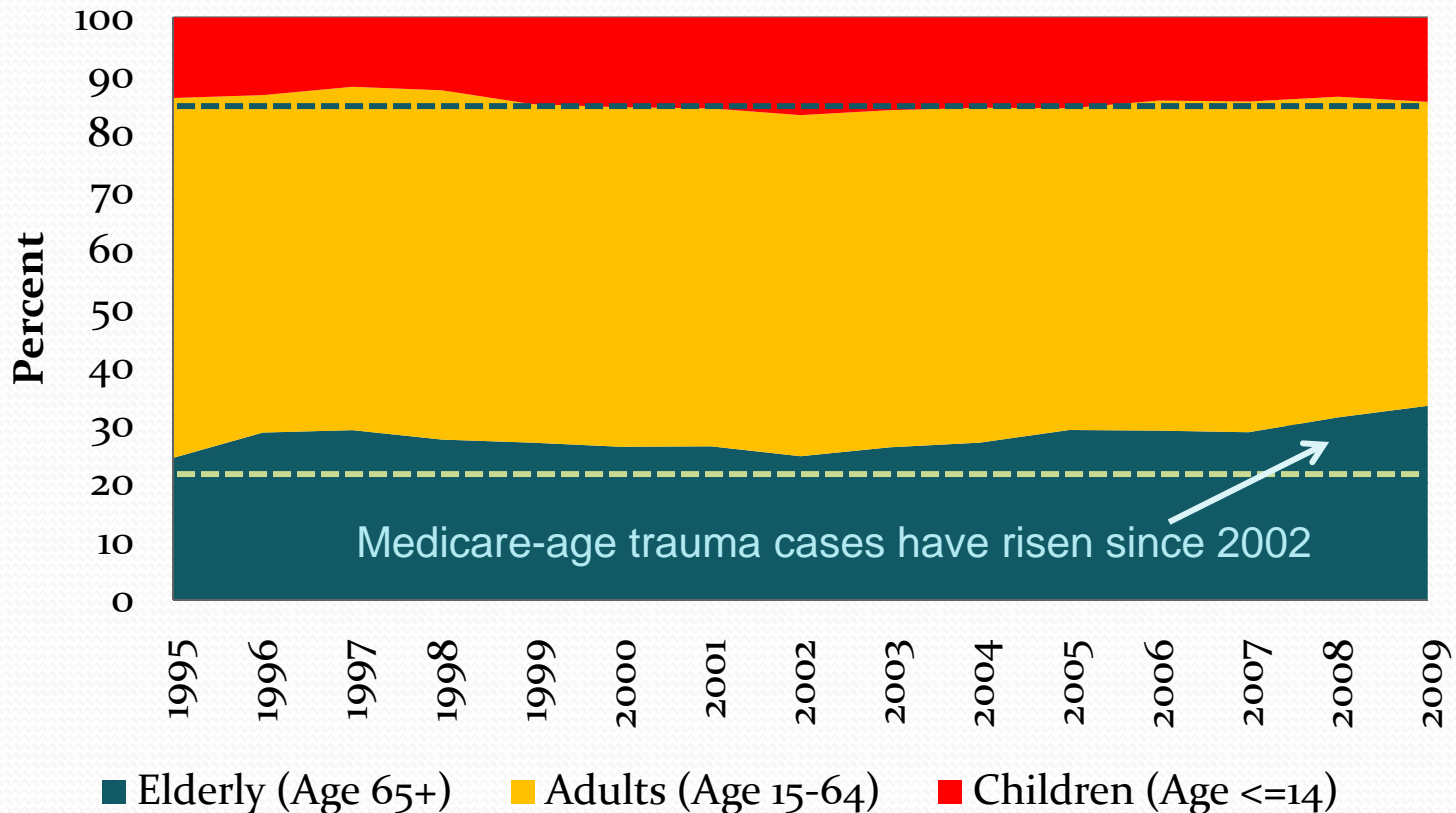


ED Transfers by Payer Status

(2007 – 2009, DOH criteria, ED transfers, Primary Payer)

Age Trends of Trauma Patients

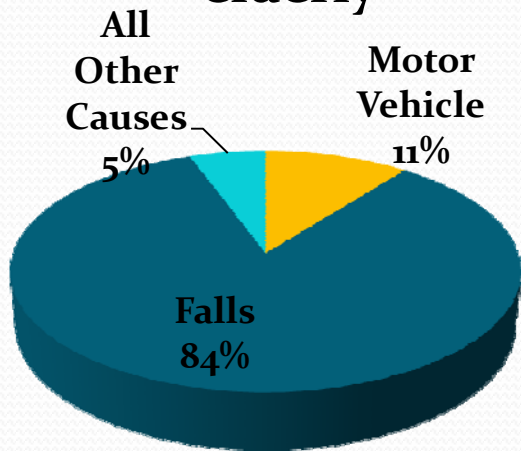
(2007 – 2009, DOH criteria, Excluding Transfers)



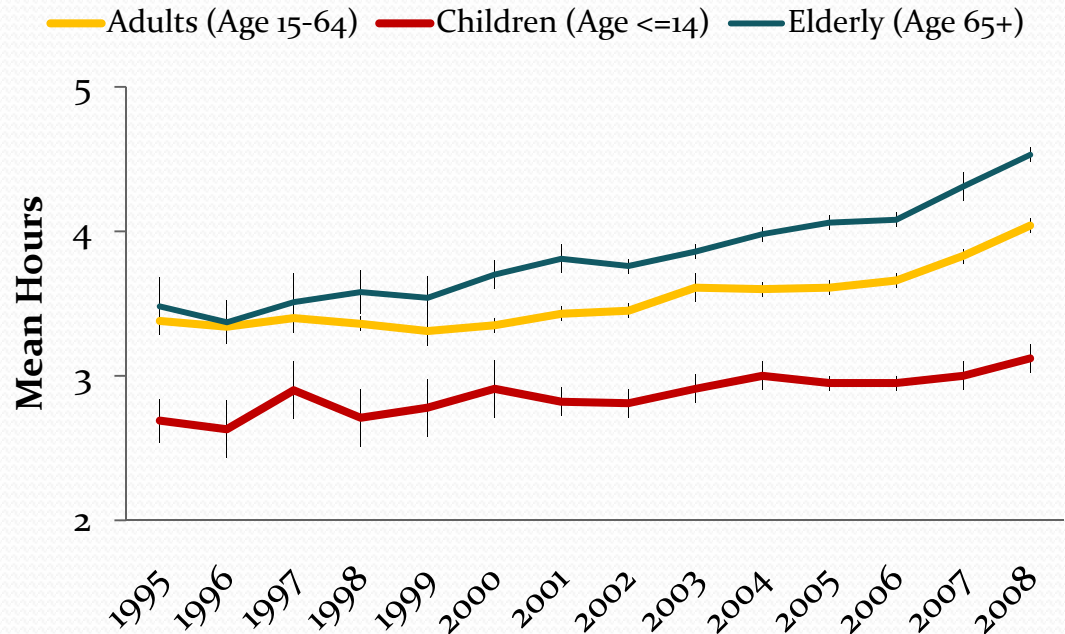
Trauma among Medicare-Age Population

(2006 – 2008, DOH criteria, Excluding Transfers)

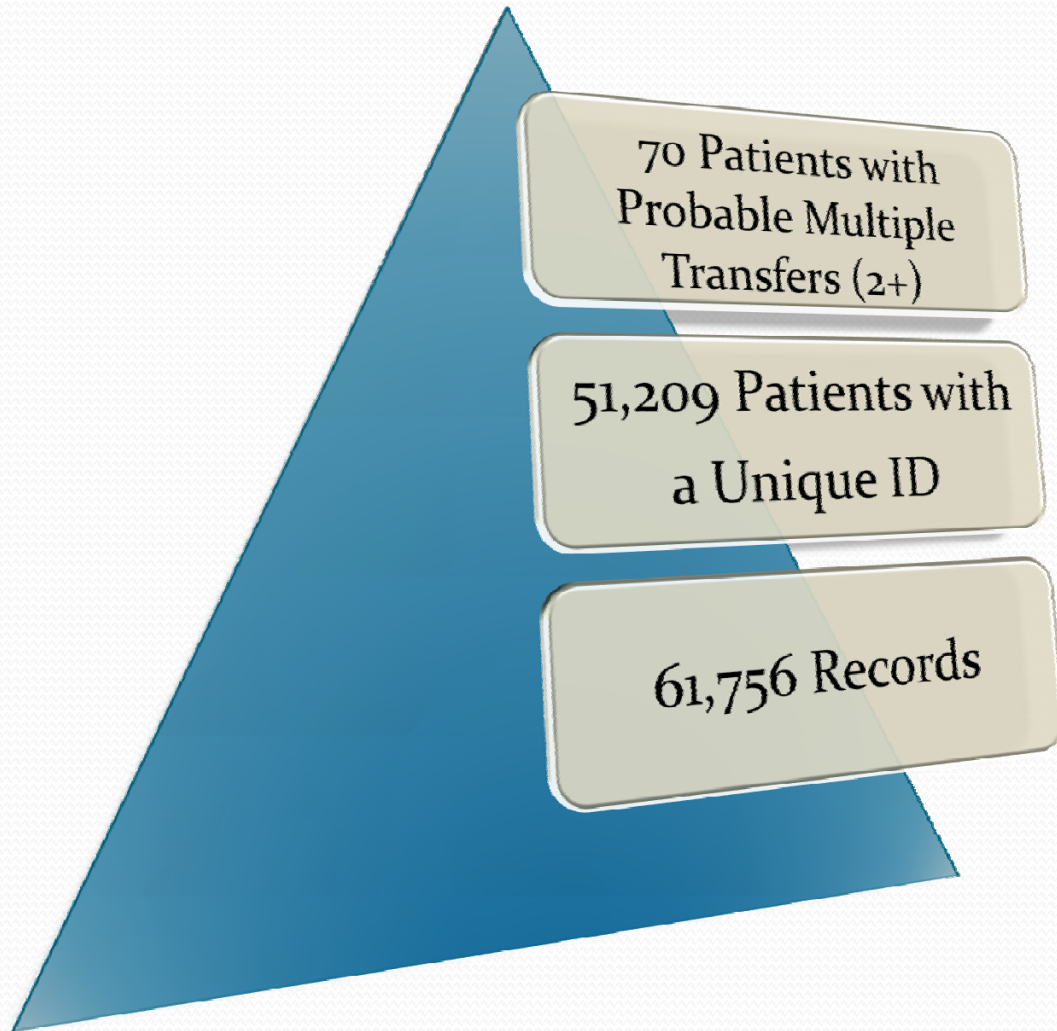
Falls are the major cause of trauma among the elderly



Starting with year 2000, elderly trauma patients have had longer ED stays than adult patients



Multiple Patient Transfers, 2006-2008

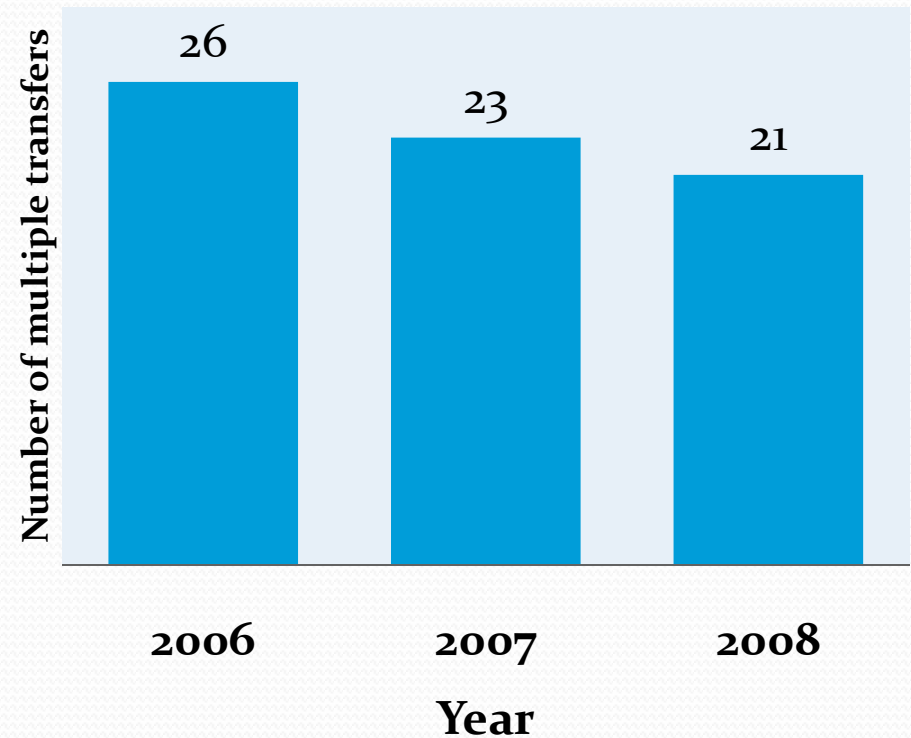


Multiple Transfers: Patient Characteristics

Total N = 70 during 2006-2008

- 6 Deaths
- All blunt injuries
- Min. Age=3 Years
- Max Age=91 Years
- Median Age= 43

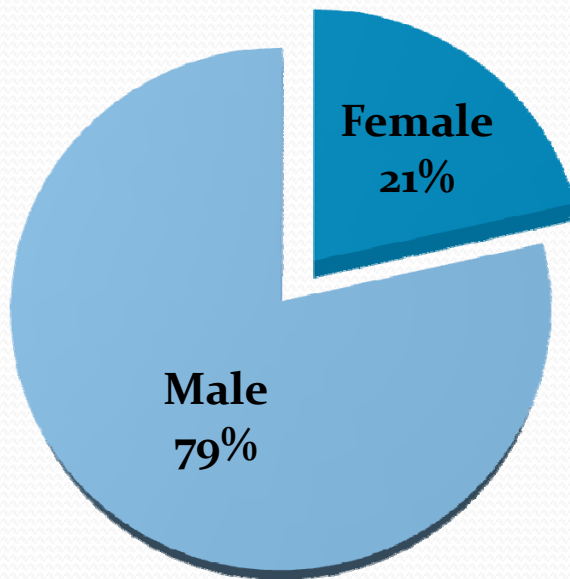
Yearly Distribution



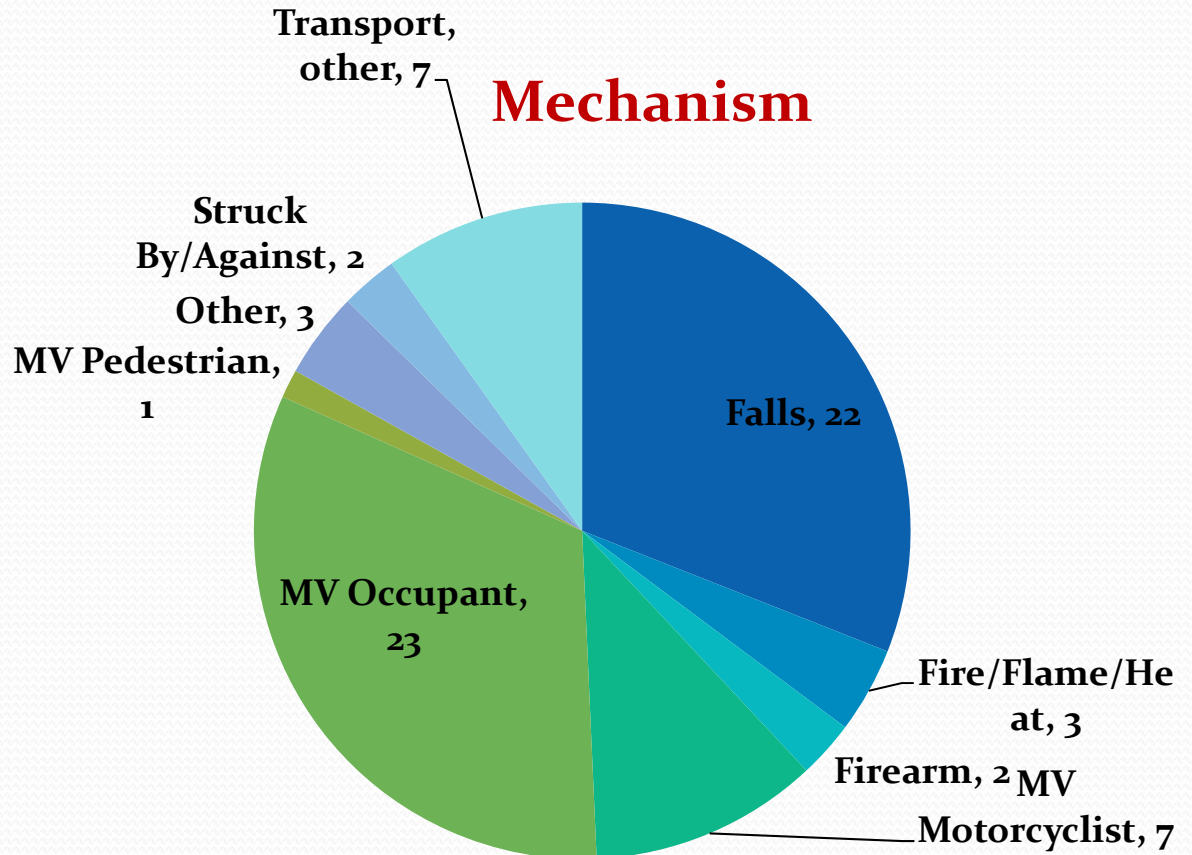
Multiple Transfers: Patient Characteristics

Total Number = 70 during 2006-2008

Gender



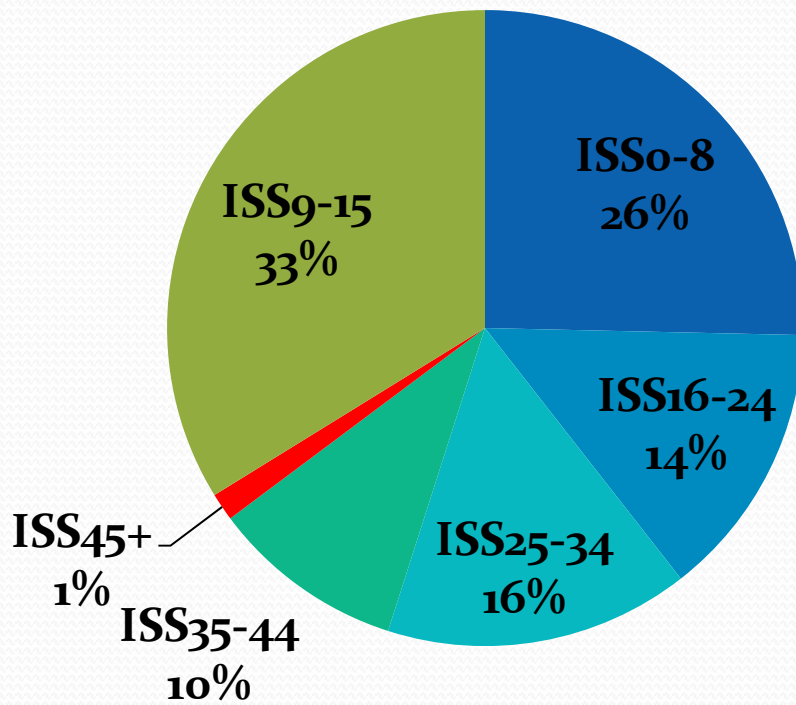
Mechanism



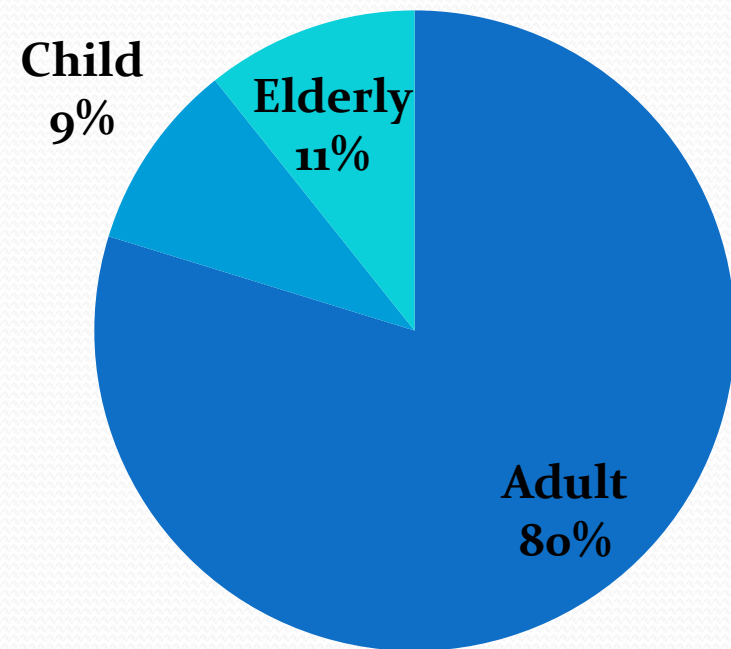
Multiple Transfers: Patient Characteristics

Total Number = 70 during 2006-2008

Injury Severity Score



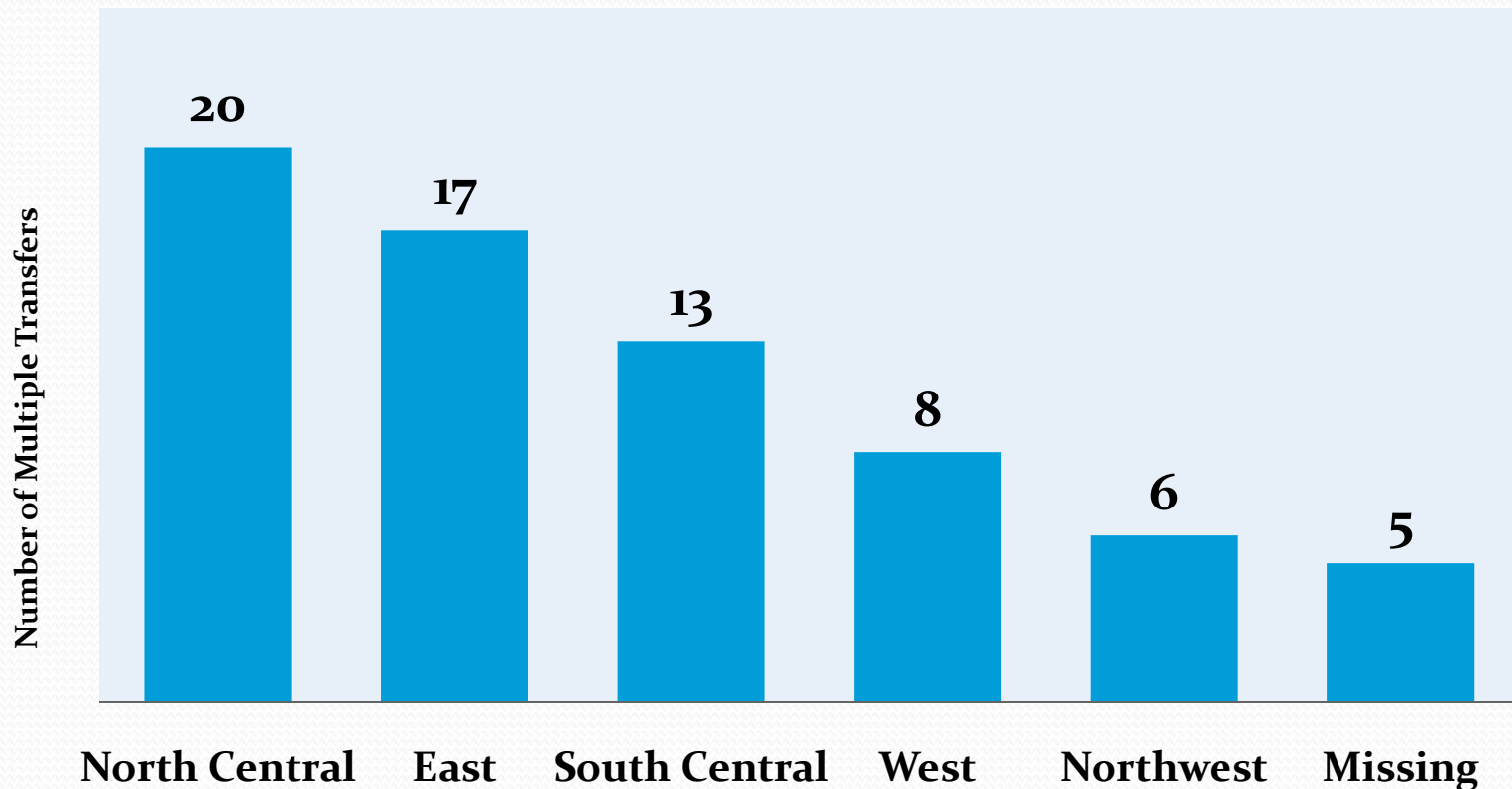
Age Groups



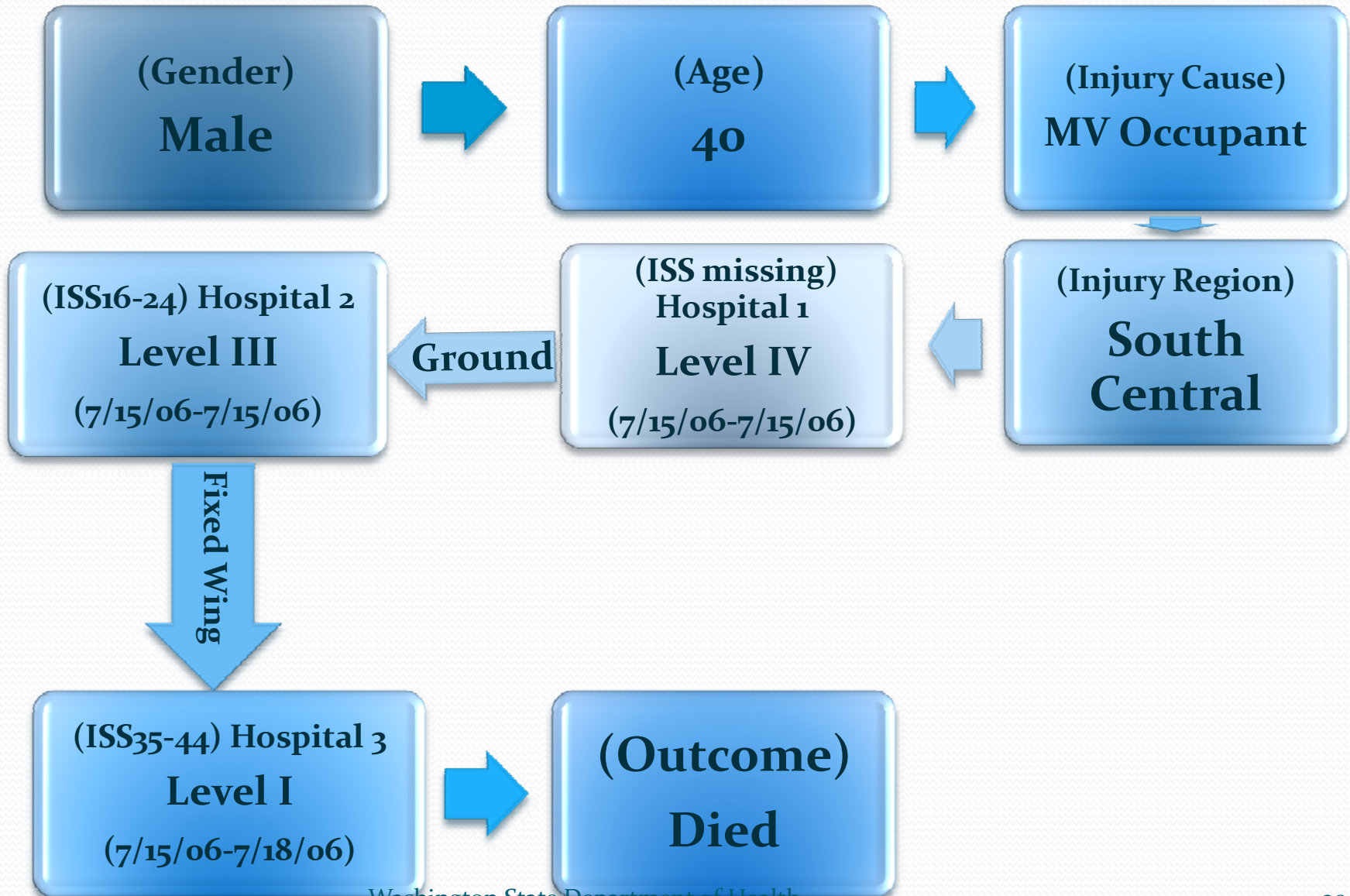
Multiple Transfers: Patient Characteristics

Total Number = 70 during 2006-2008

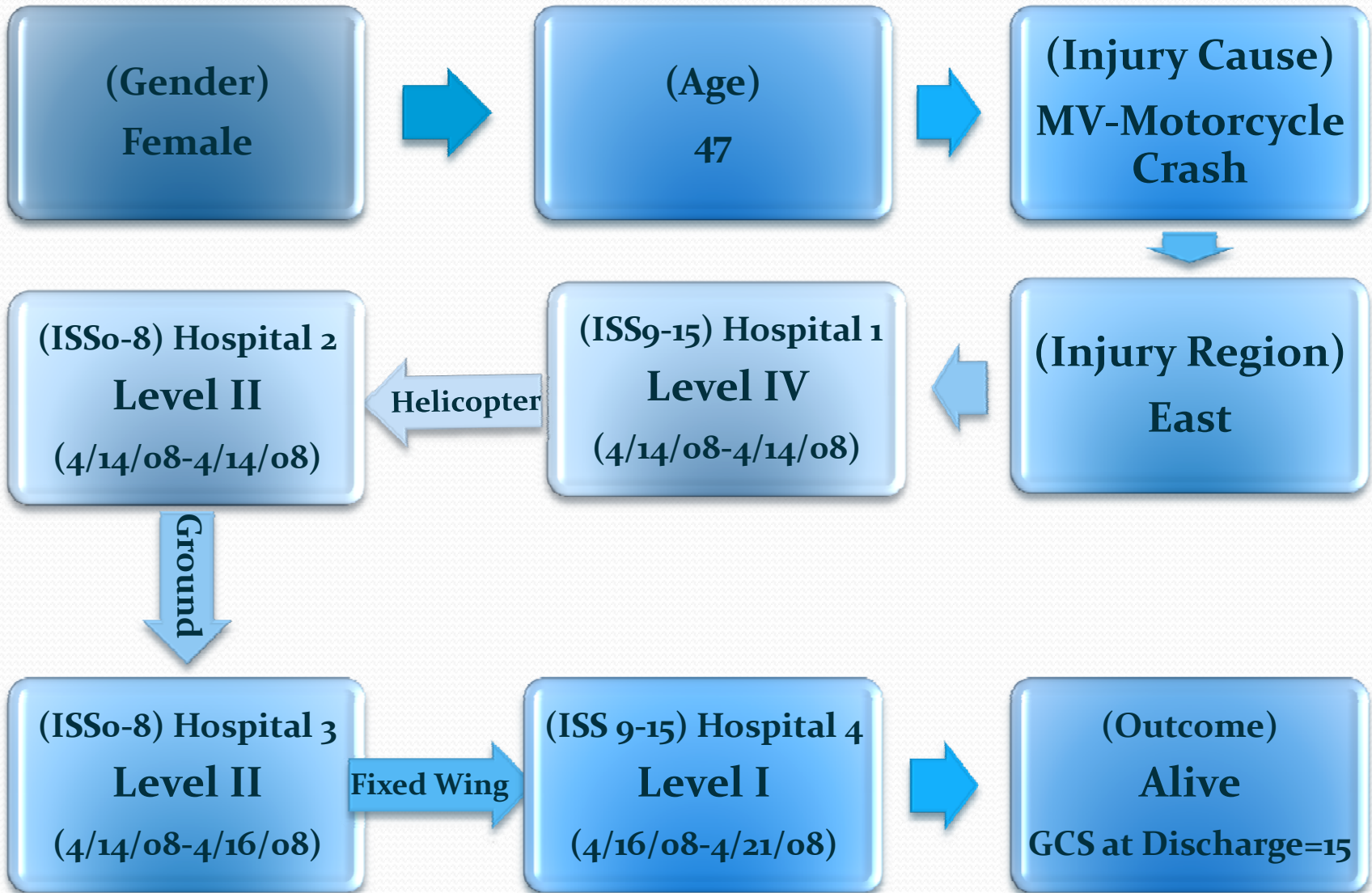
Injury Region



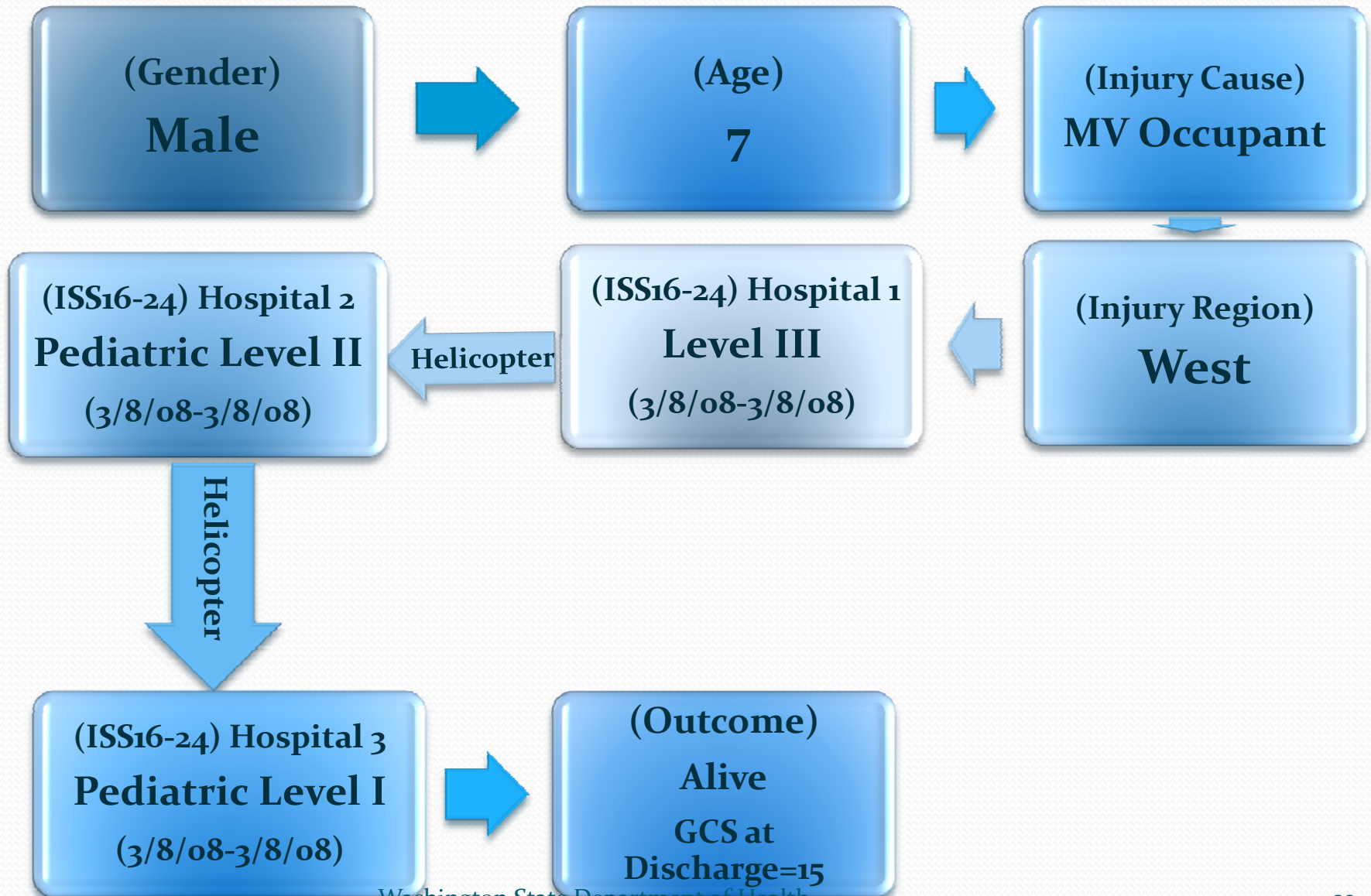
Multiple Transfer Case Studies: South Central



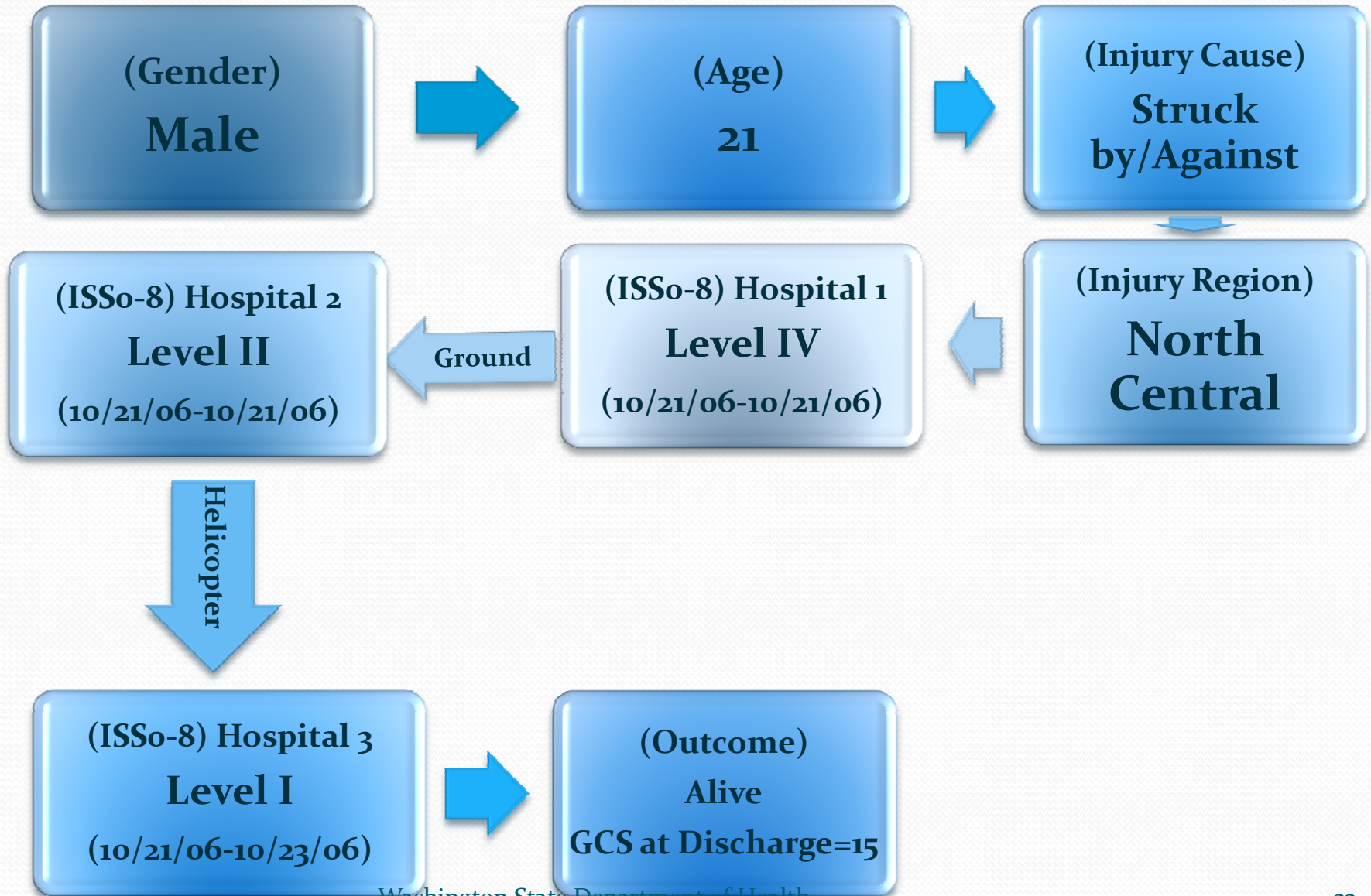
Multiple Transfer Case Studies: East Region



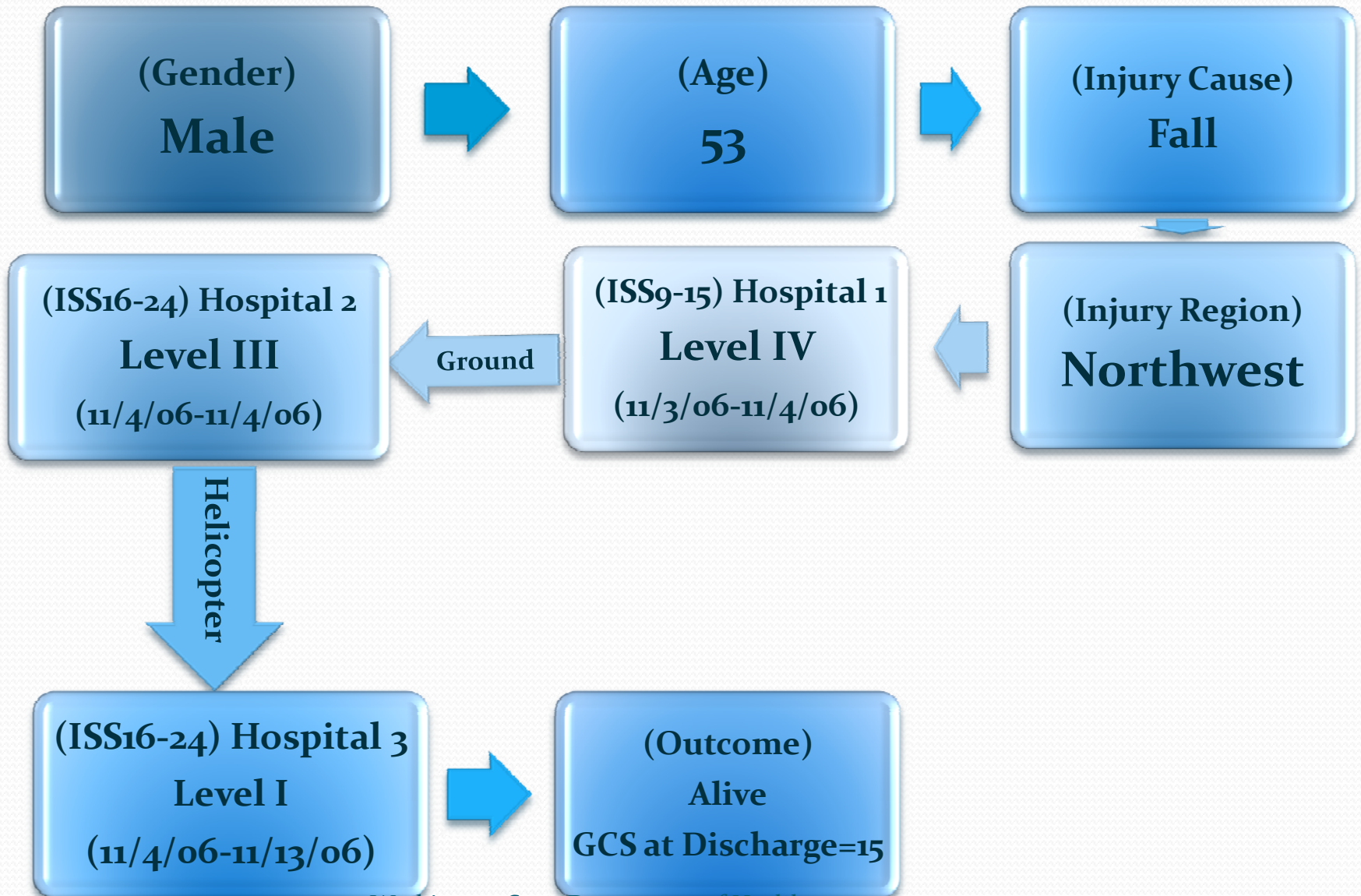
Multiple Transfer Case Studies: West Region



Multiple Transfer Case Studies: North Central



Multiple Transfer Case Studies: Northwest Region



Thanks so Much !

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