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The Impact of Age on Outcomes and Mode of Transport in Trauma

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The Impact of Age on Outcomes and Mode of Transport in Trauma

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— School of Medicine —

150 YEARS
IN THE HEART OF DETROIT



Background

- Patient outcomes better with Private Vehicle Transport (PVT) vs Emergency Medical Services (EMS)
- Age impacts trauma outcomes
- Hypothesis:
 - Older patients would be more likely to utilize EMS transportation over PVT
 - Improved outcomes with PVT would be demonstrated across all age groups



Methods

- Academic, Regional, Level 1 Trauma center in Detroit between 2013-2017
 - N=4997
- Retrospective study utilizing data from the following sources:
 - Trauma registry
 - Patient chart reviews
- Inclusion criteria
 - Trauma patients arriving via PVT or EMS with any of the three dispositions
 - Admitted
 - Deceased in ED
 - Transferred out of Hospital



Methods (cont.)

- Exclusion criteria; anyone transferred from outside hospital
- Age classification:
 - Pediatric (age 0-14)
 - Adult (age 15-64)
 - Geriatrics (age 65+)
- Chi square tests for nominal data and independent sample t-tests for continuous data
 - Significance defined as $p < 0.01$



Chart 1: Percentage of Patients Using PVT vs. EMS by Age Classification

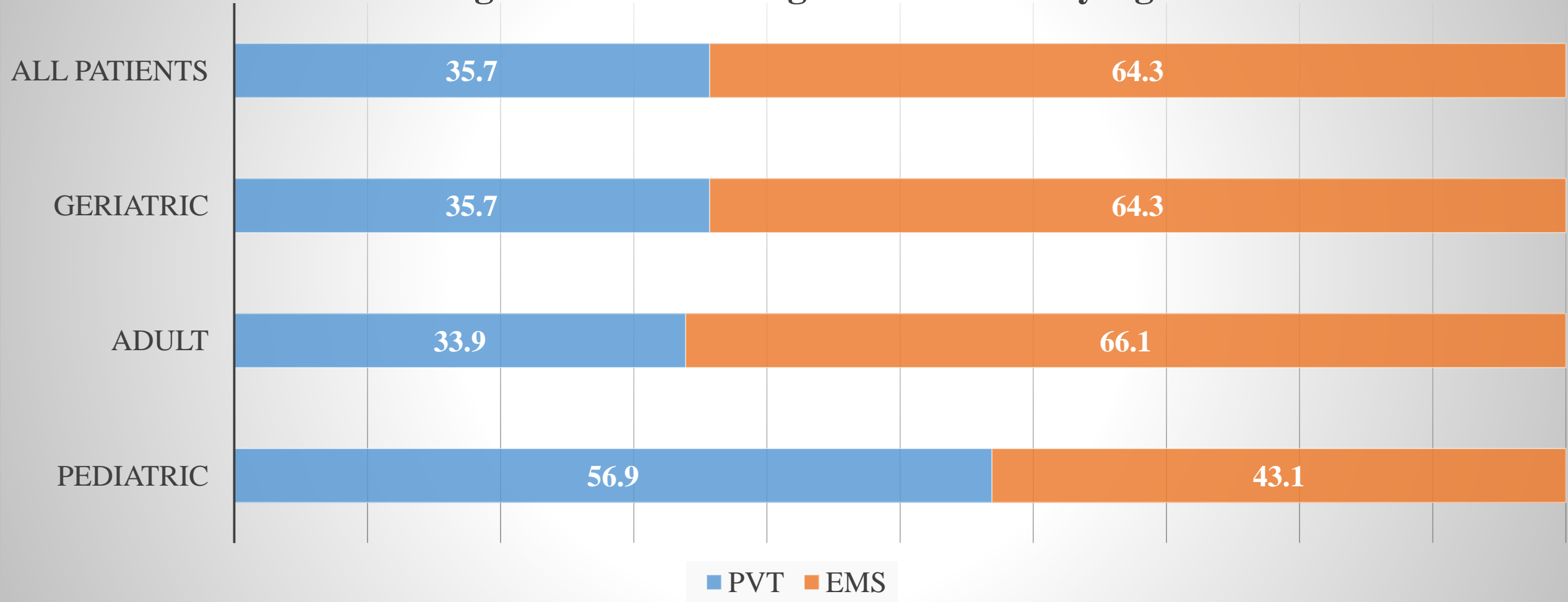


Chart 2: Average Glasgow Coma Scale Score by Age and Mode of Transport

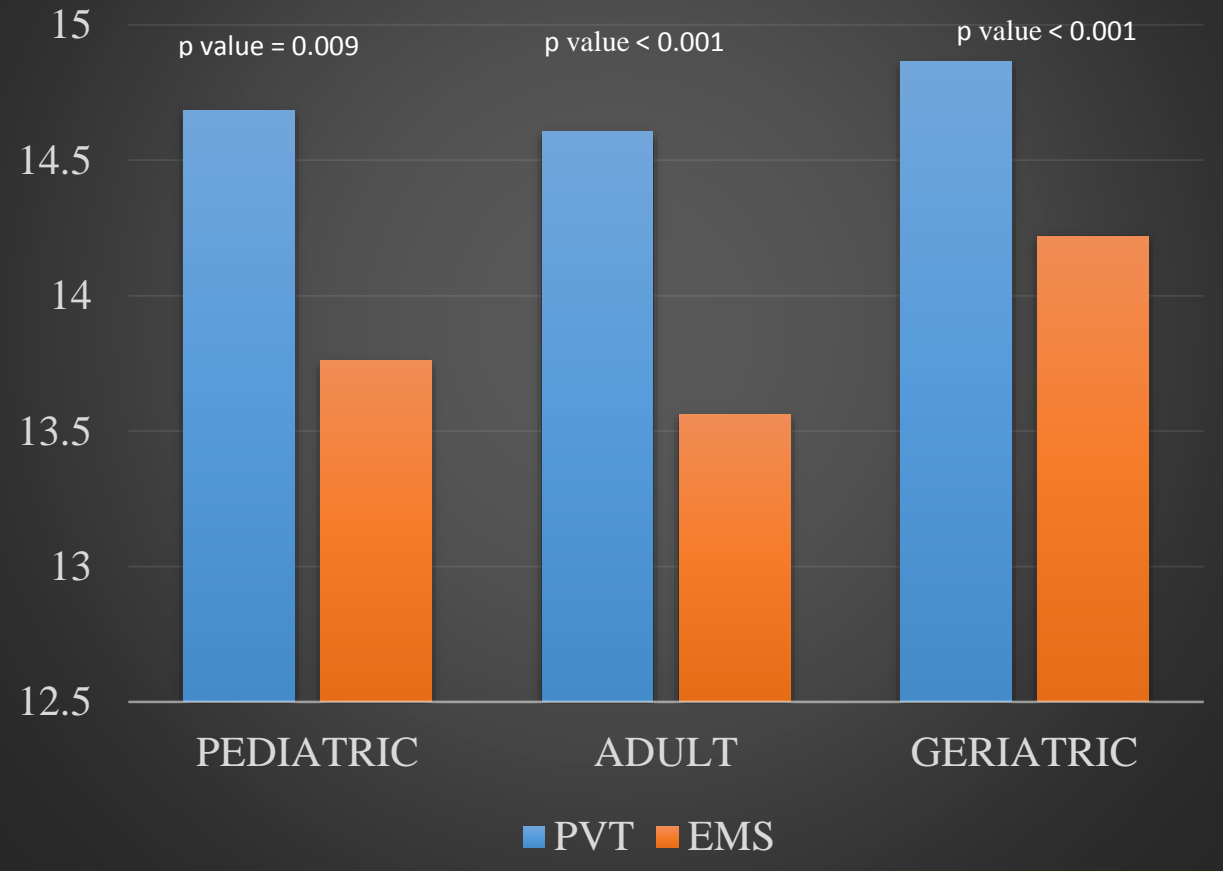


Chart 3: Average Heart Rate by Age and Mode of Transport

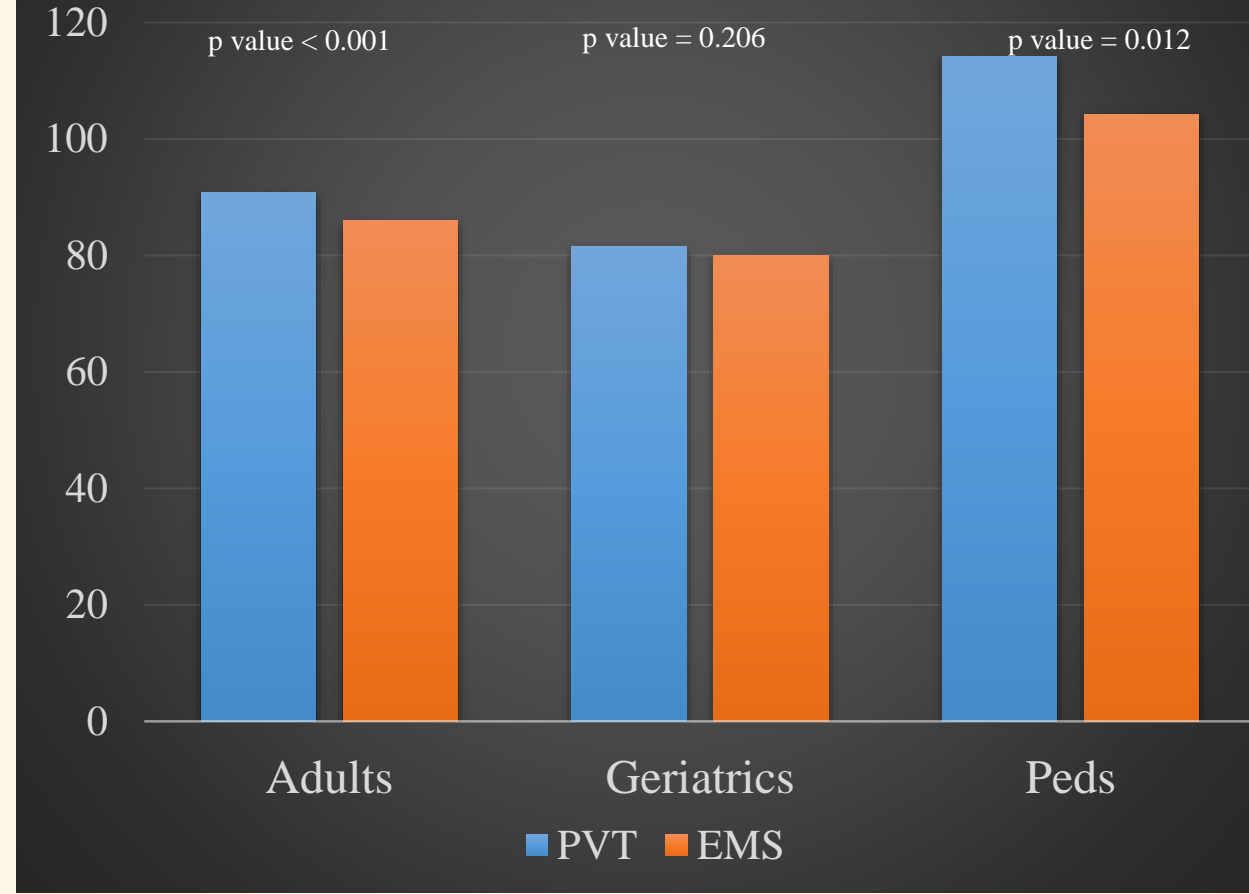


Chart 4: Mechanism of Injury By Age In PVT vs. EMS

P value <0.001

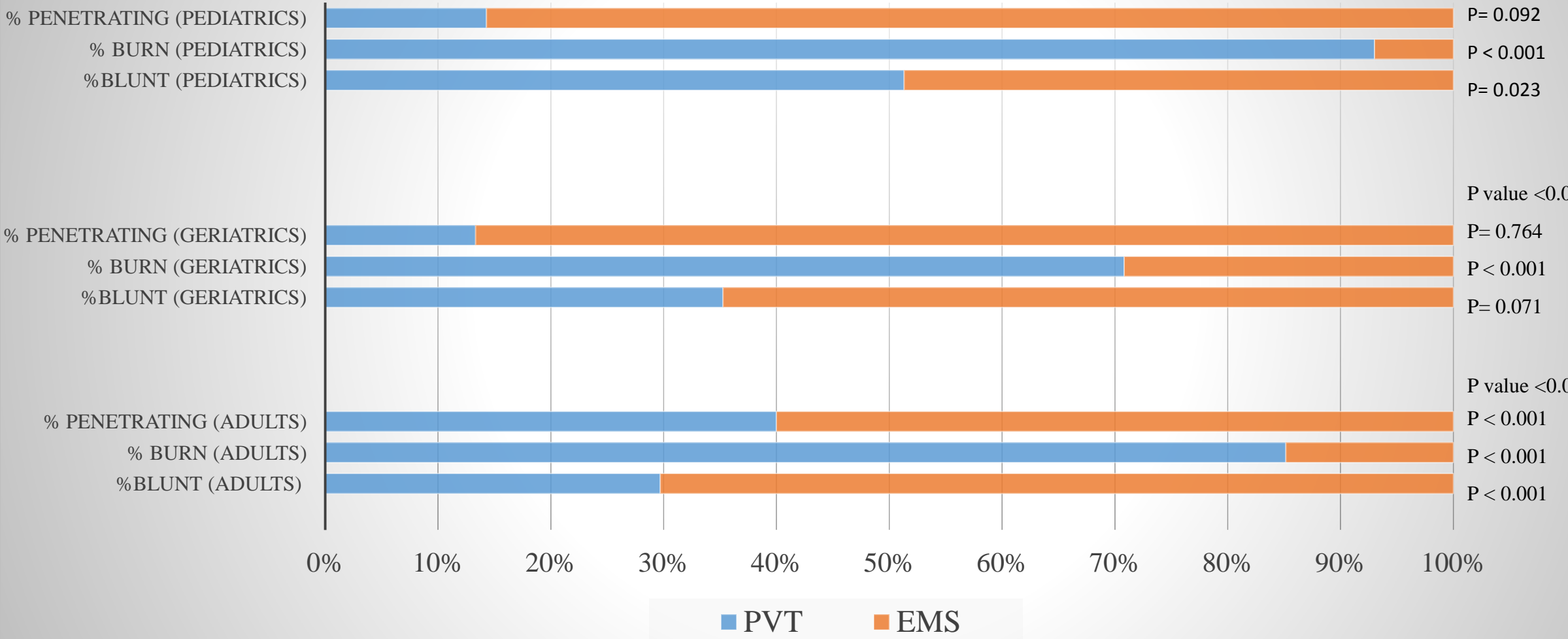


Chart 5: Average Intensive Care Unit (ICU) Stay and Average Length of Stay (LOS) In Days

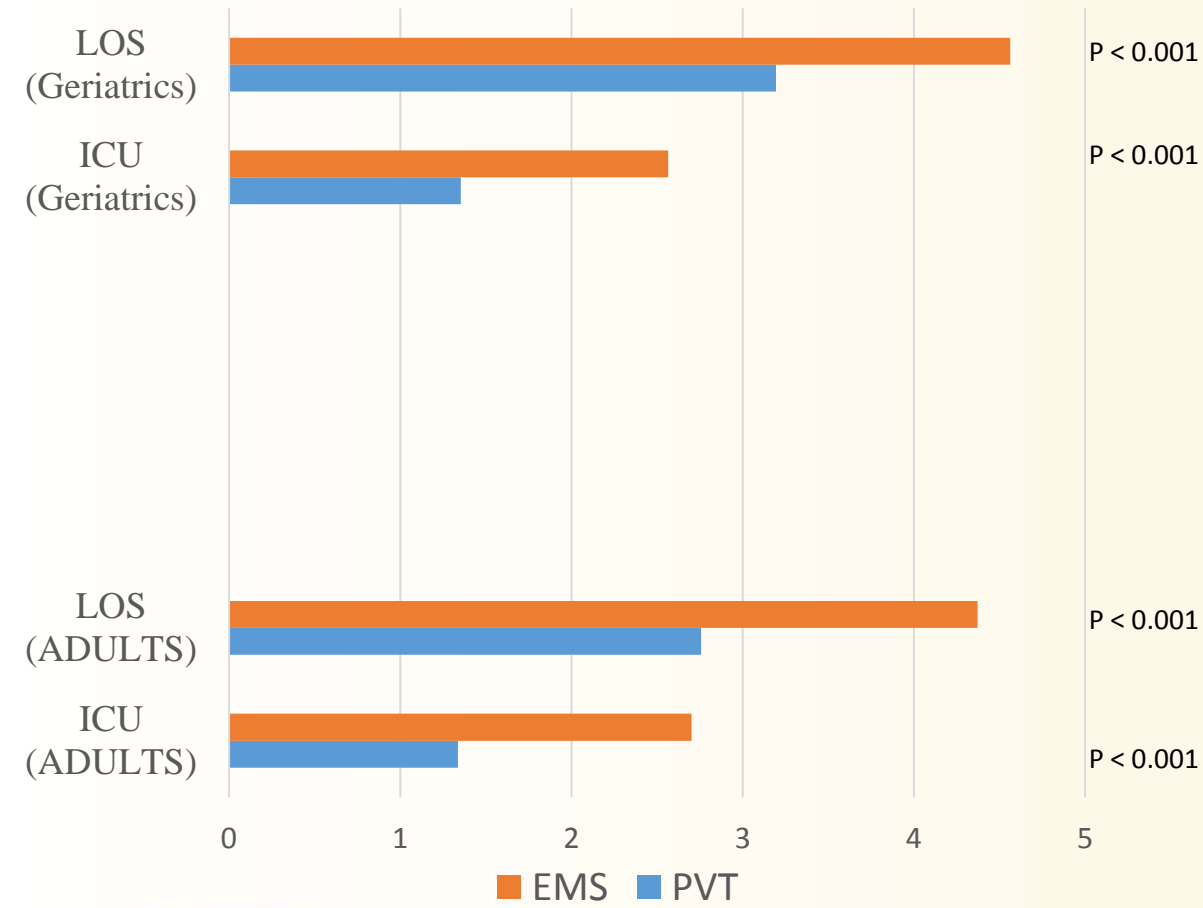
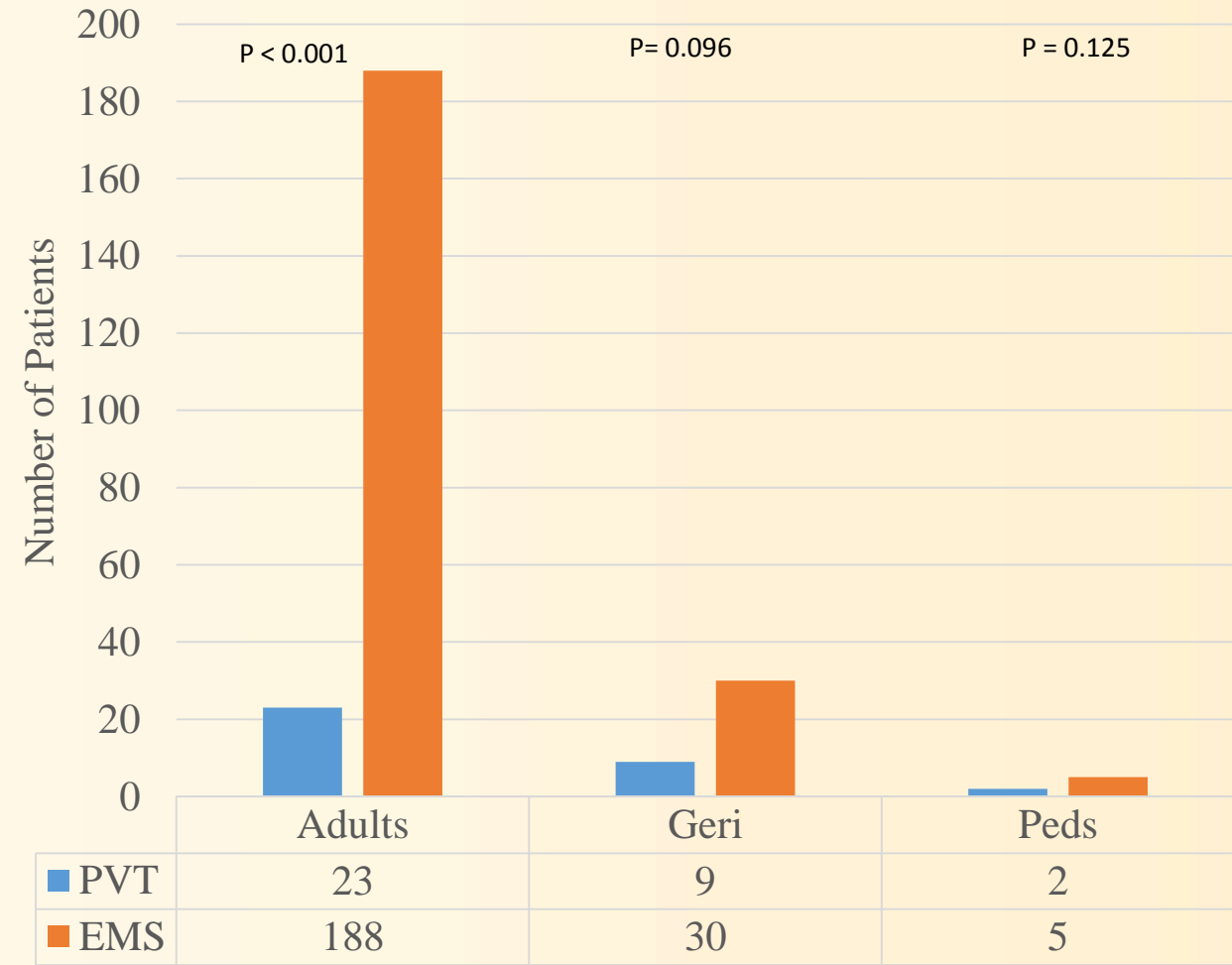


Chart 6: Mortality Within Age Groups Between PVT and EMS



Conclusions

- Pediatrics had higher PVT use
 - EMS more likely to take patients to children's trauma center
- Increased age correlates with a greater likelihood of utilizing EMS
- PVT utilization correlates with decreased mortality in adults
- Other outcome measures were improved in patients arriving via PVT (when excluding pediatric sample)

