

Appendix E1. Technical Summary Appendix

Study	Severity-Adjusted Mortality in Trauma Patients Transported by Police
IRB approved?	Yes, exempt
Description of research question	The city of Philadelphia currently allows the transport of injured patient in police vehicles without ALS or BLS care. Previous single-center studies have suggested that this practice is safe. Using a multicenter registry, we examined the relation between out-of-hospital mode of transport (PD vs ambulance [EMS]) and survival in patients with proximal penetrating trauma across the city of Philadelphia.
Data set	<p>PTSF, January 1, 2003–December 31, 2007</p> <p>PTOS: All 32 trauma centers in Pennsylvania are coordinated by the PTSF and are required to prospectively collect and maintain trauma registries. The PTOS represents the state's centrally combined registry of all patients treated within the state's trauma system who meet eligibility criteria, including the following:</p> <ul style="list-style-type: none"> ● a diagnosis of injury (<i>International Classification of Diseases, Ninth Revision, Clinical Modification</i> codes 800-995) ● admission to an ICU or step-down unit ● death after arrival, injury-related death in the hospital, transfer, OR ● hospital stay longer than 48 h <p>Data are prospectively collected by dedicated trauma registrars within each hospital who are trained in the PTOS data collection process. Collected clinical data include TRISS, Glasgow Coma Scale score, comorbidities, procedures performed, and patient outcomes.</p>
Outcome	Inhospital mortality (0=survived to discharge; 1=died during hospital stay)
Inclusion criteria	<p>Inclusion criteria were defined in 2 waves:</p> <p>Inclusion Into PTOS Data Set</p> <p>All patients admitted for treatment of a diagnosis of trauma (<i>ICD-9-CM</i> injury codes 800-995) and who meet any of the following criteria:</p> <ul style="list-style-type: none"> ● all ICU admissions (2:1 ratio) ● all step-down unit admissions (4:1 ratio) ● all DOAs, pronounced dead after arrival ● all trauma deaths ● all trauma admissions during 48 h, beginning from the time of arrival to the ED ● all admitted transfers in ● all transfers out to an accredited trauma center or burn center ● cases meeting any of the above criteria but have no documented injuries ● burn cases that meet one of the above criteria plus one of the following: <ul style="list-style-type: none"> - burned area 2 and 3 degrees (age <10 or >50 y): 10% - burned area 2 and 3 degrees (age >10 or <50 y): 20% - area 3 degrees: >5% at any age - chemical burn - electrical injury - burn of face, hands, feet or perineum - airway or inhalation injury - burn accompanied by: <ul style="list-style-type: none"> - significant associated injury or preexisting disease - suspected child abuse <p>Optional: Elective admissions (patients not admitted through the ED and not transferred from another facility) with an injury date >72 h before admission and an ISS >13 may be submitted to PTOS. Elective admissions with injury >72 h before admission and ISS <13 need not be submitted.</p>
Size of cohort	N=4,122
Primary predictor	Mode of transport: EMS (value=0) vs 4.7% missing from initial sample
Baseline characteristics	<p>Variable definitions</p> <p>Age:</p> <ul style="list-style-type: none"> - Origin: PTSF data set - Continuous variable (range 2–106) - Missing frequency: n=30 (0.73%) <p>Sex:</p> <ul style="list-style-type: none"> - Origin: PTSF data set - Binary variable (0=male; 1=female) - Missing frequency: n=3 (0.07%)

Appendix E1. Continued.

Study	Severity-Adjusted Mortality in Trauma Patients Transported by Police
	ISS: - Origin: PTSF data set - Continuous variable (range 1–75) - Missing frequency: n=1 (0.02%) Mechanism of Injury: - Origin: PTSF data set - Binary variable (0=SW; 1=GSW) - Missing frequency: n=0 (0%) Signs of Life: - Origin: Generated (definition=pulse on ED arrival) - Binary variable (0=D0A; 1=alive on arrival) - Missing frequency: n=0 (0%) LoS: - Origin: Generated (definition=discharge date–arrival date) - Continuous variable (range 0–286) - Missing frequency: n=0 (0%)
Covariates	TRISS: - Origin: PTSF data set - Continuous variable (range 0%–99.7%) - Missing frequency: n=614 (14.9%) Charlson Index (Modified): - Origin: Generated (additive scale) - Included comorbidities: <ul style="list-style-type: none"> • myocardial infarction • congestive heart failure • cardiovascular disease • dementia • chronic obstructive pulmonary disease • connective tissue disease • peptic ulcer disease • mild liver disease • diabetes • hemiplegia • moderate to severe renal disease • diabetes with organ damage • moderate to severe liver disease • metastatic solid tumor • AIDS - Continuous variable (range 0–9) - Missing frequency: n=0 (0%)

Outline of analysis**Table 1**

- Characteristics of injured patients transported to trauma centers in the city of Philadelphia
- All data presented as frequencies and valid percentages

Table 2

- Stratified, unadjusted odds of death among injured patients by mode of transportation to trauma center

Modeling (Table 2 only):

Method: Clustered logistic regression using logistic command and cl() option.

Dependent variable: Inhospital mortality

Primary independent variable: Mode of transport (PD vs EMS)

Table 3

- Stratified, adjusted odds of death among injured patients by mode of transportation to trauma center

Modeling (Table 3 only):

Method: Clustered logistic regression using logistic command and cl() option. Listwise deletion was used to handle missing variables.

Dependent variable: Inhospital mortality

Primary independent variable: Mode of transport (PD vs EMS)

Additional independent variables:

- Age
- Sex
- TRISS
- Charlson Index

Appendix E1. Continued.**Regression Characteristics**

	Wald χ^2 (P Value)	AUC	Pseudo R^2	Collinearity
Overall	444.7 (<.001)	0.9737	0.7058	N/A
ISS >15	444.6 (<.001)	0.9500	0.6170	N/A
ISS ≤15	536.2 (<.001)	0.9719	0.7688	N/A
GSW	194.7 (<.001)	0.9693	0.7111	N/A
ISS >15	956.4 (<.001)	0.9609	0.6456	N/A
SW	197.6 (<.001)	0.9448	0.6401	N/A
ISS >15	51.6 (<.001)	0.9512	0.6243	N/A

PTSF, Pennsylvania Trauma System Foundation; DOA, dead on arrival.