Trauma Registry Literature Updates 2015

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Trauma Registry Reengineered
Wargo, C. et al, 2014, JTN

Aim	Benchmarking trauma registries
Where	Geisinger Medical Center (5 Reg for 2200) vs Pennsylvania State Programs (29 of 31 centers) 85% must be closed within 6 weeks of death/discharge
Outcome Measures	Time study over 30 days

Timeliness

Accuracy

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Activities	Pennsylvania Avg Time Mins	Geisinger Avg Time Mins	Change in Mins	Percentage Change
Conference/training	135.9	390	254.1	187%
Patient identification	94.9	113.3	18.4	19.4%
Report submission	48.9	0	-48.9	na
Meetings	48.4	46	-2.4	-5%
Other	39.4	39.8	0.4	1%
Informatics Issue	34.5	15	-19.5	-56.5%
Record requests	25.6	16.25	-9.35	-36.5%
Interrater reliability (2-5% per mo)	20.9	152	131.1	627.3%
Autopsy request	20.0	0	-20	na
Follow up letters	19.4	0	-19.4	na
Data submission	17.9	100	82.1	458.7

Trauma Registry Reengineered
Wargo, C. et al, 2014, JTN

Evaluate Your Registry	Why is This Important?
Work as team	Buy in from all members
Initiate communication forums	Timely (real time) communication is critical to success
Brainstorming improvement	Look for even the smallest opportunity to improve
Implement a time study design	Identify categories to measure
Evaluate time study design	Average the time commitment by category
Plan prioritize opportunities	Opportunities can be quick change or lengthy process change
Share all responsibilities	Sharing responsibilities increases peer to peer understanding
Interrater reliability maintained for abstraction accuracy	All changes should promote abstraction accuracy.
Update policies to reflecting current workflow	Policies outlining work process need to reflect change, should remain current and be updated annually
Remain vigilant to protect time saved	Systems are interdependent, one change can impact many departments

MTQIP Resource Benchmarking

- Aim: To quantify how many people work outside their job description to assist the registrars to help keep the registry afloat?

MTQIP Resource Benchmarking

- **Registry work assisted by other non registry positions**:
  - 2.50 FTE Admin Assistant
  - 0.50 FTE Injury Prevention
  - 4.75 FTE TPM/Coordinator
  - 0.75 FTE Volunteer
  - 0.04 FTE Research Nurse
  - 0.25 FTE PA/NP

  Total: 8.79 FTE's

- **PI work assisted by other non registry positions:**
  - 0.55 FTE PA/NP
  - 0.75 FTE Clinical Nurse
  - 0.125 FTE Case Man

  Total: 1.43 FTE's

Total: 10 FTE's
Among 27 centers
16 (59%) use alternate resources

Missing patients in a regional trauma registry. Olthof, et al 2014 Injury

Aim: to assess the number of missing patients in a regional trauma registry

Method: Random sampling over 4 weeks of all consecutive presentations to the ED

Results: Of 338 patients, 50 (15%) were identified as missing.

Conclusions: Overall 15% were missed and often were transfers to a higher level care (3 of 10 hospitals were high outliers).

Trauma Registry of the German Trauma Society (TR-DGU)

- Editorial Injury 2014 by Ernest Moore (Denver)
  - Registry only as good as its data (data validity)
  - *Lesson slowly learned in US*
  - Magnitude of data collected
    - Risk adjustment methodology requires precise data
    - Systematic documentation of comorbidities
    - The precise timing and quantity of blood components and coagulation status
    - Tempered by eliminating meaningless data?
    - International effort to define a minimal data set for trauma?

Trauma Registry of the German Trauma Society (TR-DGU)

- Editorial Injury 2014 by Peter Cameron (Australia)
- AIS:
  - AIS has changed over the past 20 years
  - The codes have changed with each new AIS version
  - But not converted the codes between versions
  - No consistency of coding over time or between centers
  - Need an international consensus to manage AIS

Trauma Registry of the German Trauma Society (TR-DGU)

- Missing data:
  - Common problem among registries
  - Dealt with differently across regions
  - Standardize imputation techniques to improve comparability between registries
- Varying inclusion criteria (selective reporting)
  - Standardized and audited registries needed
  - Getting all hospitals to participate
  - Transfers, die in prehospital period, etc.

International Comparison of Trauma Registries. Tohira et al, 2012, Injury

Region	Country	Start	Funding	Submission	AIS	Data Items
Asia	Japan	2004	Participfee	Web	AIS 98	92
	Malayasia	2006	Gov	Paper, Web	Unk	36
	UAE	2003	Unk	Web	Unk	100
	Israel	1995	Unk	Web	Unk	300
North America	US	1993	Gov, ACS	On-line	AIS 05	107
	Canada	1997	Gov	On-line	AIS 90	46
Europe	UK	1989	Participfee	Web	AIS 05	250
	Germany	1993	Grants	Web	AIS 98	287
	Greece	2005	Tra Society	Unk	Unk	150
	France	1995	Unk	Paper	AIS 90	23
	Italy	2004	Gov	Web	AIS 08	110-130
	Euro Tarn	2002		On-line	Unk	237
Oceania	Victoria	2001	Gov	Web	AIS 98	36
	New South Wales	2002	Gov	Web	AIS 08	25
	Queensland	1998	Gov	Web	AIS 98	97
	South Australia	1994	Gov	Paper	AIS 05	95

International Comparison of Trauma Registries. Tohira et al, 2012, Injury

Region	Country	Inclusion Criteria	Exclusion Criteria
Asia	Japan	AIS ≥ 3	None
	Malaysia	Deaths, ISS>15, ICU, Ventilation, Urgent surgery	None
	UAE	Deaths	None
	Israel	Deaths	Death at scene, DOA
North Am	US	ICD-9 800-959.9, Deaths	None
	Canada	ISS>12, Hospital, ED, DIE	None
Europe	UK	>3days, transfers, ICU, Death	Femur, pubic rami, >65
	Germany	Adm to ICU, emergency surg	None
	Greece	Hospitalized, DOA, Transfers	Injuries due to comorb
	France	Victims of RTA	None
	Italy	ISS>15, ICU	None
	Euro Tarn	ISS>15	None
Oceania	Victoria	Deaths, ICU, Mech Vent,	Isolated femur
	New South Wales	ISS>15,	Isolated femur
	Queensland	LOS >24, transferred pts	None
	South Australia	Varies	Varies

International Comparison of Trauma Registries. Tohira et al, 2012, Injury

Country	# Hospitals	ISS > 15	Cause	Mortality
Japan	147	39%	Fall (40%)	10.9%
Malaysia	8	79%	RTA (44.9%, ISS>15)	31.2%
UAE	3	Unk	RTA (74.4%)	Unk
Israel	19	10%	Unk	1.7%
US	682	26%	Fall (37%), RTA (30%)	2.9%
Canada	107	86%	RTA (41%)	11%
UK	110	36%	Fall (44%)	Unk
Germany	218	65%	RTA (53.8%)	12.7%
Greece	32	11%	RTA (44%)	Unk
France	160	Unk	NA	1.0%
Italy	3	72%	RTA (64%)	17.5%
Euro Tarn	14	NA	RTA (55%)	Unk
Victoria	138	85%	RTA (23.6%), Fall (20.7%)	11.5%
N. S. Wales	14	NA	RTA (38.5%), Fall (38.4%)	13.1%
Queensland	20	9%	Fall (44%), RTA ISS≥13(48%)	2.4%
S. Australia	6	18%	RTA (48%)	Unk

RTA=road traffic accident