



OPTIMISING DATA COLLECTION IN PAEDIATRIC TRAUMA

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BACKGROUND

Injury is the leading cause of death in children over the age of 1 year. High quality data collection is essential for assessing outcomes, audit, governance and service planning. Data collection and analysis takes time, resources, effort and skill.

Aim: to evaluate the databases for injured children treated at our centre.

METHODS

Identification of all databases used for collecting data on trauma patients (age <16 years) at the Royal London Hospital (North East London & Essex Trauma Network).

Information collected included: team collecting data, time period covered, number of patients captured, number of data fields and completeness of data.

RESULTS

5 different databases (12 year period)

Data was collected by 3 different groups

(including: Trauma service, PICU, TARN submissions)

Data for 4163 patients collected

>100,000 data cells filled

Data completeness ranged from <10% to 91%

Table 1. Characteristics of each database

	DATABASES				
	Trauma (Main)	TARN	PICU	Trauma (Paeds)	Collector
Team collecting data	Trauma Service	TARN	PICU	Trauma Service	Trauma Service
Dates active	Apr 2004 – Jan 2012	Jan 2008 – present (Nov 2016)	May 2008 – Apr 2014	Oct 2010 – Jan 2012	Feb 2012 – present (Nov 2016)
Time period	7y 9m	8y 11m	4y	1y 3m	4y 10m
Number of patients	124	587	1,991	292	1,169
Number of fields per patient	139	61	104	104	*330
Maximum number of cells	17,236	35,807	207,064	30,368	*385,770
Actual number of fields completed	6,642	32,729	59,130	14,021	N/A
Data completeness	39%	91%	29%	46%	*<10%

*estimated values

Figure 1. Paediatric trauma patients captured by 5 different databases over time

Large variability in the number of paediatric trauma patients captured by the different databases

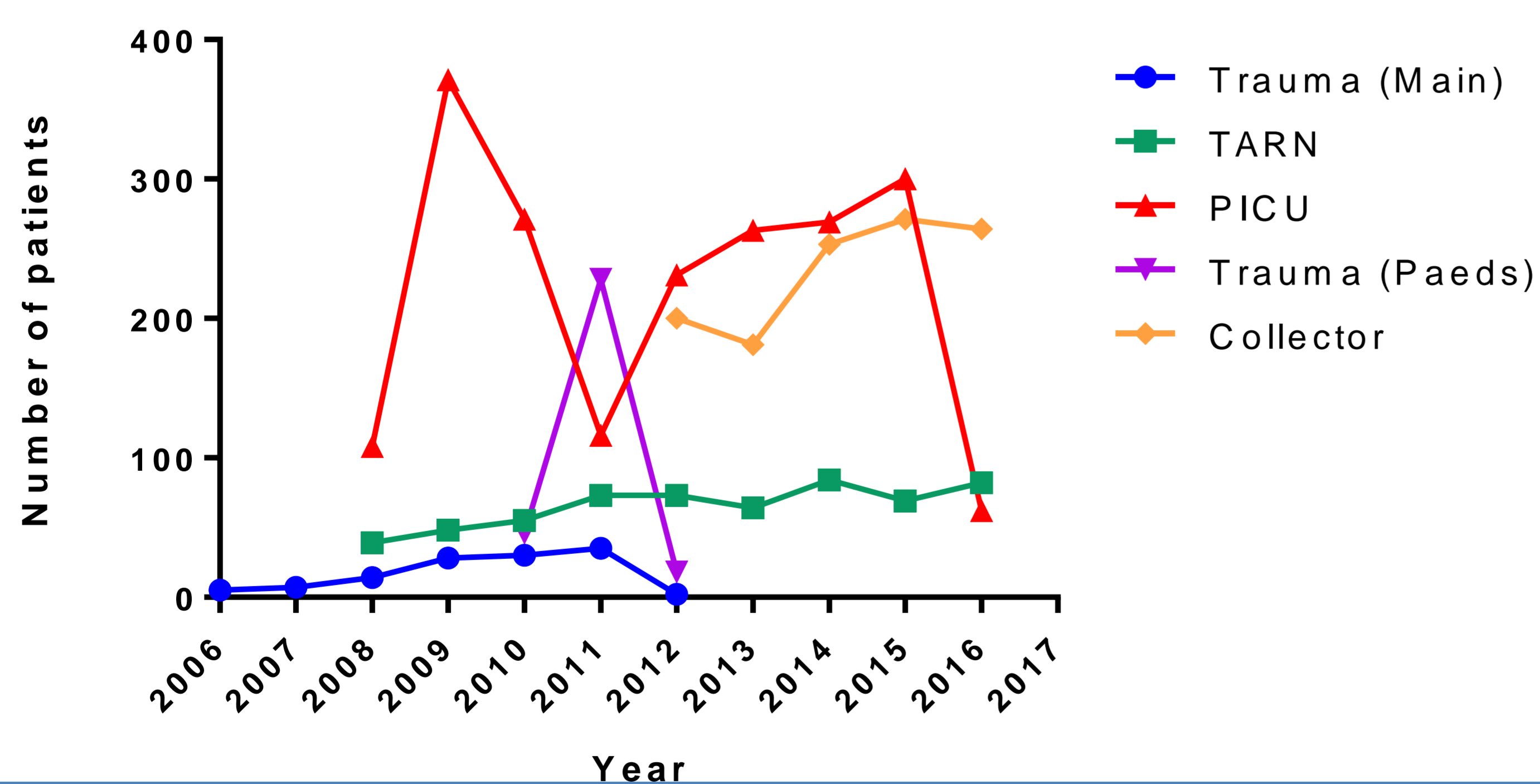
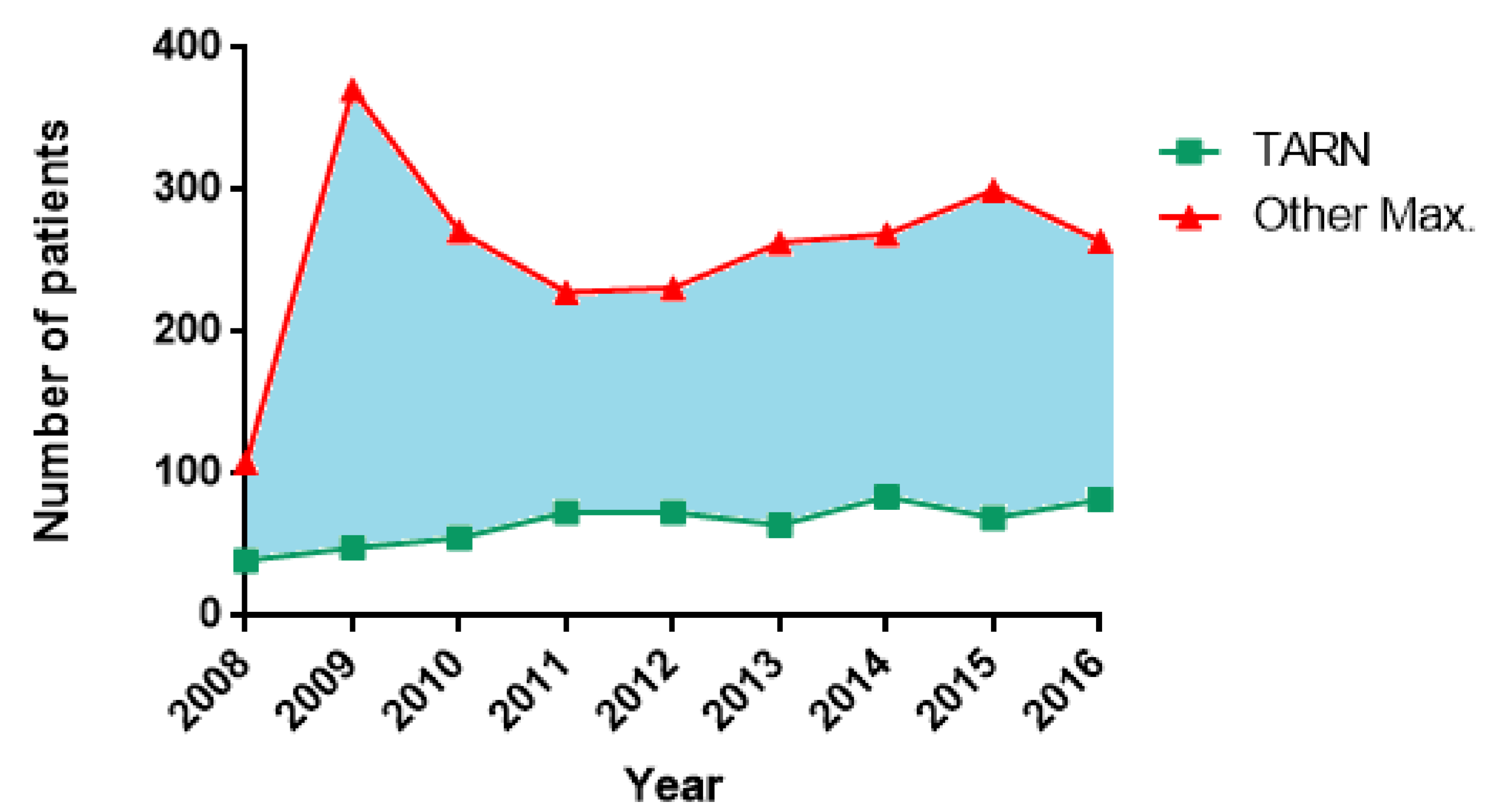


Figure 2. The data gap for injured children: TARN vs. Other TARN database has a relatively stable number of entries (median 66.5, range 39-84). However, a significant data gap exists when compared to the other available databases (median 264, range 108-371) which aimed to capture all trauma activations in children.



CONCLUSIONS

Huge variation exists in data collection for paediatric trauma at a Major Trauma Centre.

The TARN database alone cannot fully assess the service demands for injured children, which is required for accurate service planning and advancements.

We recognise the value in maintaining a database which balances the time, effort, cost and usefulness.