



Scandinavian Major Trauma Outcome Study (MTOS)

- An update

Kjetil Ringdal, MD

&

SCANTEM ad hoc working group on
Scandinavian MTOS and Trauma Registry



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SCANTEM



- Scandinavian Networking Group for Trauma and Emergency Management
 - Is the successor of Nordic Trauma Forum
- Founded in 2002
- Members from Denmark, Finland, Norway, and Sweden
- Multi-disciplinary network for providers of trauma and emergency care



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“...promote, initiate, and coordinate research on trauma, resuscitation and emergency care in Scandinavia.”

- » guidelines for trauma and emergency management
- » models for training and education
- » Registry on Major Trauma



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Scandinavian Trauma Registries



One comparative study has been initiated



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Feasibility of comparing core data from existing trauma registries in Scandinavia

Reaching for a Scandinavian Major Trauma Outcome Study

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Background



- No joint Scandinavian trauma outcome study has ever been conducted
- Data and results from the US MTOS are not fully applicable to a Scandinavian trauma population
- Why?



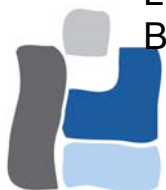
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- Different mechanisms of injury (blunt vs. penetrating)
- Higher amount of rural population and transferred patient
- Different rescue systems and treatment protocols
 - physician vs. paramedic
 - “load and go” vs. “stay and play”

Skaga NO, et al. J Trauma 2006

Lossius HM, et al. Resuscitation 2001

Bouillon B, et al. J Trauma 1997



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Aims



- Are we able to use data from trauma registries in Scandinavia for a minimal joint dataset in a prospective MTOS

- Describe:
 - inclusion & exclusion criteria
 - common data points

- data point definitions



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Methods

- We collected:
 - inclusion & exclusion criteria
 - core data set
 - data definition



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DENMARK Odense University Hospital (Odense)
Rigshospitalet University Hospital (Copenhagen)
Århus University Hospital (Århus)

FINLAND Töölö University Hospital (Helsinki)

NORWAY Norwegian National Trauma Registry (NNTR)
- Ullevål University Hospital, Oslo
- Stavanger University Hospital, Stavanger

SWEDEN KVIITRA (National trauma registry standard)



The description of a Data Point



Data point name

Name of data point; e.g. "Type of injury"

Exact definition of data point

Penetrating injury = injury by penetration of tissue, caused by knife, bullet, or broken glass.
Blunt injury =

Field format

Text, number, calculation, date, time etc.

Variable category

Categorical (penetrating/blunt), or continuous (exact number)

Source of information

From where the data point should be extracted
(e.g. EMS record, ICU record, hospital record etc.)



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Results

- Median number of data points: 147
- Range: 71-257
- Interquartile Range = 90-205



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Results



- 16 common data points:
 - Gender, Age, Date of trauma, Date of ED arrival
 - Type of Injury
 - Intubation at scene, In-hospital intubation
 - Transportation method
 - In-hospital RR, In-hospital SBP, In-hospital GCS, In-hospital RTS, AIS
 - X-ray
 - Total number of ICU days, Date of discharge



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Results



- ISS cut off for inclusion varied from 9 - 16
- 2 registries had not defined the ISS cut off
- The registries in Odense, Århus, and NNTR included all patients admitted with trauma team activation (TTA)
- No uniform approach to the inclusion/exclusion of patients dead at scene



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Results



4 data points had the same variable category

- Date of trauma
- Date of discharge
- Intubation at scene
- In-hospital intubation



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Results



- One trauma registry had data fields for registering comorbidity



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Results



- We did have the data points for calculating TRISS
- But the data points varied in definition



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- Develop a data dictionary of uniform data points, definitions, value codes, and coding instructions
- Collect fewer core data to reduce the potential for incomplete datasets
- Smaller corrections could be made
- ...Or better



Scandinavian Trauma Registry



- SCANTEM has initiated a consensus process for a multi centre Scandinavian Trauma registry and MTOS



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- A Scandinavian Trauma Registry will collect a minimal set of core data agreed upon
- Support local registries and hospitals to collect optional data of epidemiological interest



- SCANTEM has been included in a common trauma core data project (EU-project) together with the German trauma registry (DGU-TR) and the UK TARN



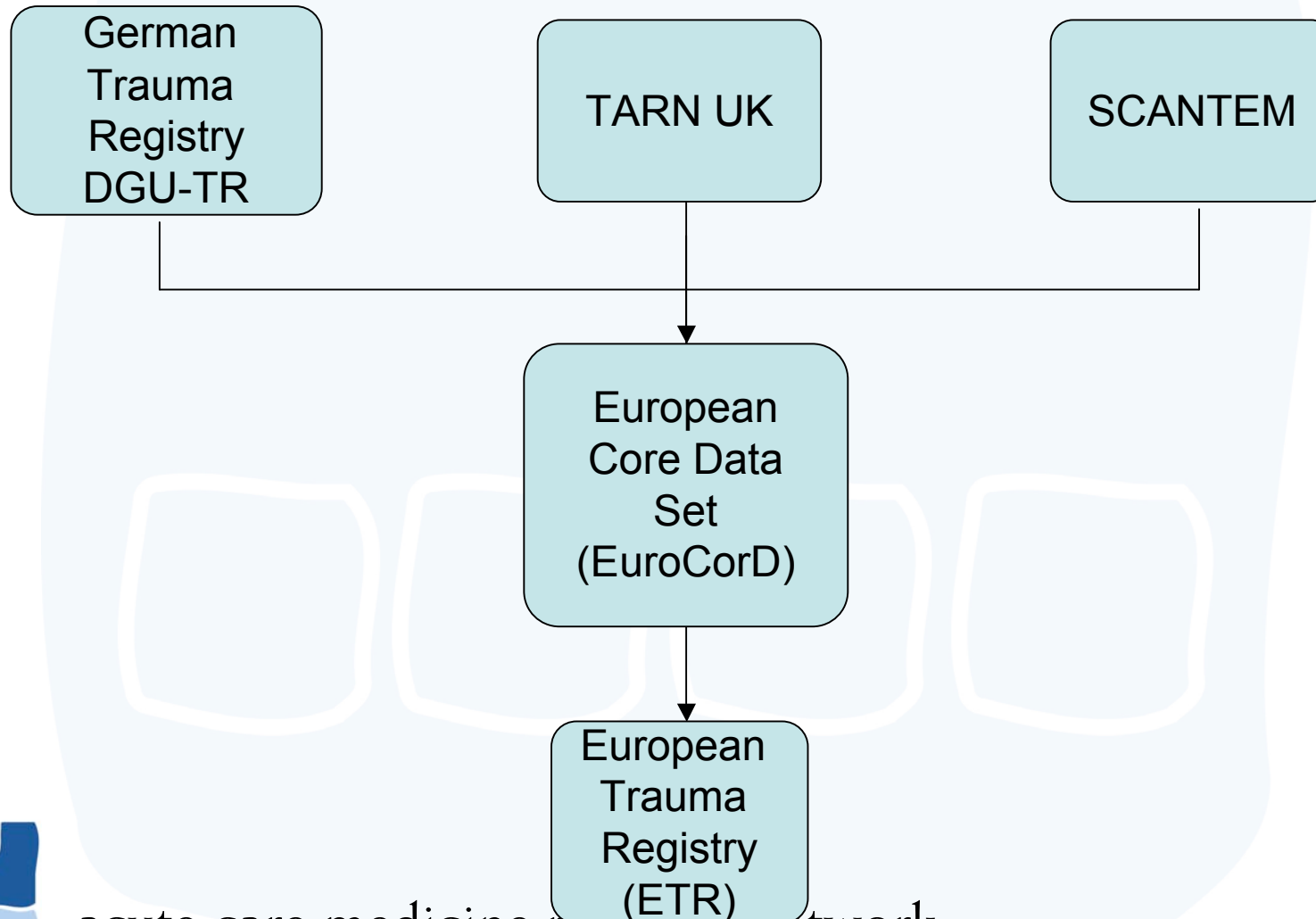
Aim

- To develop a European Core Dataset (EuroCorD)



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Common trauma core data project (EU-project)



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- SCANTEM will participate in the process of defining a uniform core data set for the EuroCorD and the ETR
- Per Örtenwall, Sweden – main representative of SCANTEM in this process



- The EuroCorD set will be implemented in a Scandinavian Trauma Registry (TR) & MTOS
- An apply for EU funding on the EuroCorD has been initiated



Utstein Consensus Meeting on trauma core data



- Pre-conference symposium has been held at the Utstein Abbey at Scandinavian Update 2007



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Aim of the Utstein consensus meeting



- Define and reach consensus on
 - inclusion/exclusion criteria
 - approx. 30 precisely defined core data points



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Modified Nominal Group Technique (NGT)



- Qualitative research method
- Gather a defined panel of experts in the field of trauma registration and management
- Three round NGT process



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Round 1



- Each individual expert was asked to define:
 - the 30 most important trauma core data
 - inclusion and exclusion criteria
- Proposals must be based on clinical and scientific material
- Proposals were gathered and presented to the panel for adjustment



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Round 2

- Reconsidering own proposals



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Round 3



- Further discussion and readjustment to define the common core data set and inclusion/exclusion criteria



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Why do we need a Scandinavian TR?

- Structure of the Health Care System is quite similar
- Homogenous population
- All Scandinavian countries have National Population Registries
 - easier to do long term follow up studies on trauma patients



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- Conduct local and regional studies
- Identify Scandinavian conditions
- Support the local and national trauma registries



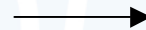
Scandinavian Core
Dataset

European Core Dataset
(EuroCorD)



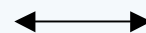
Scandinavian
Trauma Registry

European Trauma
Registry



Regional
comparison

International
comparison



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NORSK LUFTAMBULANS
Norwegian Air Ambulance



University of
Stavanger

Thank you!



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