



Neurotrauma and neurointensive care in the future - an overview

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About me



- MD - General Medicine, PhD-Oncology, univ.prof. Public Health;
- More then 10 years active in the research of quality of care in trauma, specifically in TBI;
- Consulting in quality of health care in countries of Central Europe and Balkan.

General Aim



- Consider trauma, neurotrauma and TBI from the perspective of public health, in terms of
 - Interventions;
 - Research; and
 - Education.
- Using an European Dimension with respect to regions and communities.

Objectives



- Review where are we now and where are we going to?
- What are the major challenges for future activities:
 - In practice;
 - In research;
 - In education;
- What is needed to improve the quality of care in neurotrauma.

Prof. Teasdale in 1991

G.M. Teasdale: The Treatment of CNS Trauma: Implications for the Future. J NEUROTRAUMA. Volume 8, Number 1, 1991



- More efficient and effective employment of established methods would reduce unavoidable death and disability.
- The expanding knowledge of mechanisms of traumatic damage raises hope for improved treatment, either through inhibiting or aborting the mechanisms' fundamental processes or through improved control of their secondary consequences

Teasdale cntd'



- The amount preventable by advanced prehospital care and how that care is best provided.
- Need for dynamic, short-term indices which reliably predict an improvement in outcome and for measurements of outcome derived from direct investigation of the nervous system rather than clinical assessment.

Teasdale cont'



- The work needed to advance fundamental knowledge of traumatic damage through observing the effect of specific treatments may necessitate novel approaches to funding, with partnerships between commercial organizations, government agencies, and charitable sources.



And 18 years after?

- Teasdale: More efficient and effective employment of established methods would reduce unavoidable death and disability
 - This is the basic of CQI
 - No simple solution, but a combination of approaches, such as accreditation, guidelines, protocols, indicators, leadership, management

Outcome Research = the basis



The expanding knowledge of mechanisms of traumatic damage raises hope for improved treatment, either through inhibiting or aborting the mechanisms' fundamental processes or through improved control of their secondary consequences

- Unfortunately no really effective approaches were confirmed - next presentation



The amount preventable by advanced prehospital care and how that care is best provided.

- Too many prehospital systems in Europe and the lack of knowledge on how effective individual settings are
- Lack of standards
- Lack of indicators

A need for dynamic, short-term indices which reliably predict an improvement in outcome and for measurements of outcome derived from direct investigation of the nervous system rather than clinical assessment



- Maas AI, Marmarou A, Murray GD, Teasdale SG, Steyerberg EW. Prognosis and clinical trial design in traumatic brain injury: **the IMPACT study**. J Neurotrauma. 2007 Feb;24(2):232-8.

The work needed to advance fundamental knowledge of traumatic damage through observing the effect of specific treatments may necessitate novel approaches to funding, with partnerships between commercial organizations, government agencies, and charitable sources.



- Funding chances are limited: EU does not fund clinical research, national sources are restricted, private are questionable.

Next Steps



- We at INRO, we are convinced, that only continuous research will provide answers and will promote Continuous Quality Improvement (CQI) in TBI;
- Our major tool is Outcome Research within the Clinical Epidemiology approaches applied to issues of TBI.

Outcome Research and the Quality of Care



Health Decision-Making & Communication

Improved patient/physician communication increases patient enablement and leads to higher quality health care decisions.

Clinical Epidemiology & Outcomes

Epidemiologic-based clinical evidence provides the framework for organizational and system policies, and the design of effective collaborative care.



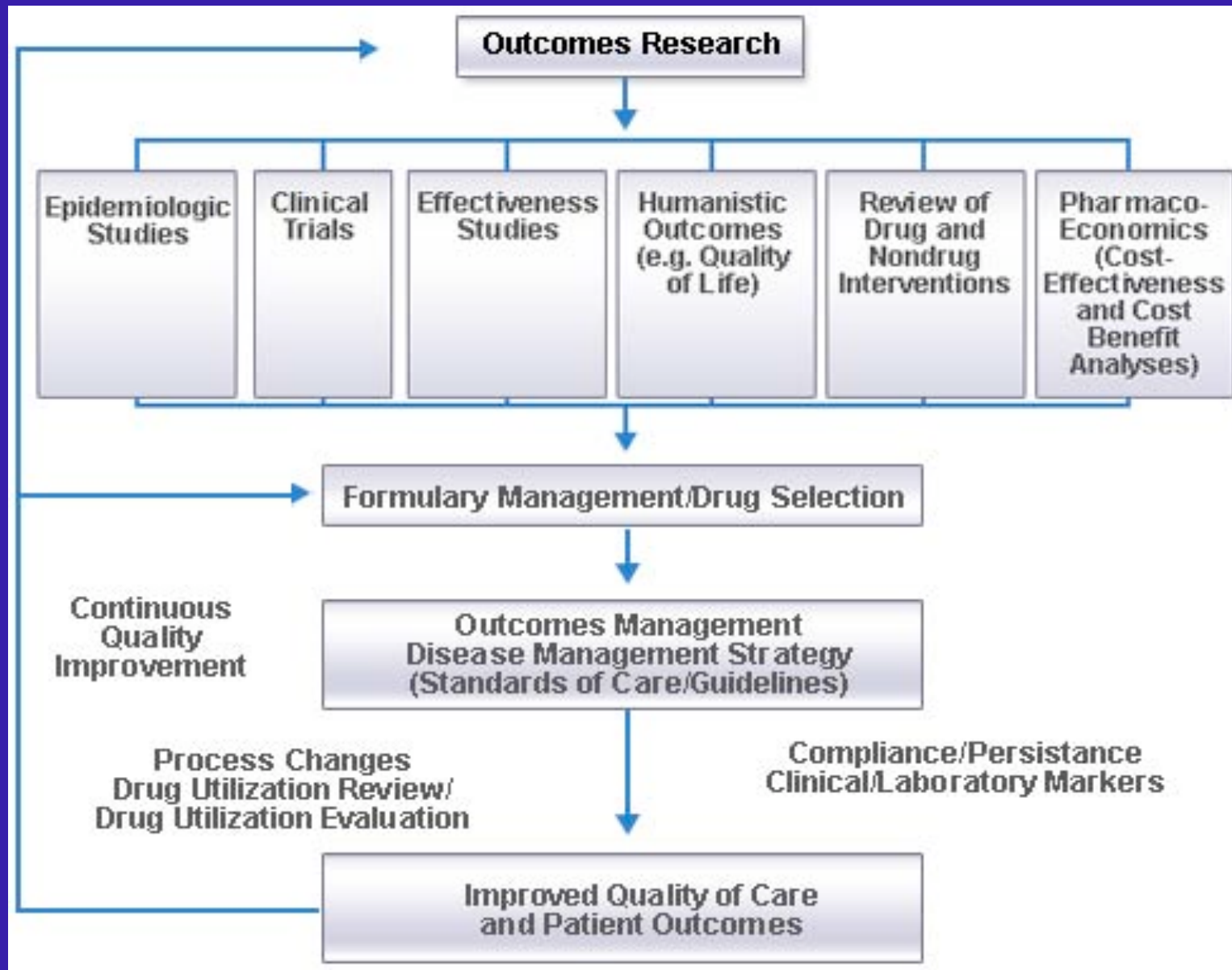
Health Policy & Quality

Design of organization and system policies facilitates patient-centered care and improves patient/physician decision-making.

Health Services Delivery & Organization

Care is a collaborative process between patients and physicians with common definition of problems, joint development of care plans, and multi-modal follow-up.

Outcome Research and the CQI



Research needed



- Comparative analysis of EMS systems in Europe focusing on outcome from TBI;
- Expansion of ICD-10 covering TBI in more details;
- Indicators of prehospital and hospital care for TBI patients;
- Studies of long-term outcomes (more than a year) from TBI;
- Randomized controlled trials to cover white spaces existed in TBI guidelines.

Directions in Education



- Strengthen public awareness about TBI all over Europe;
- Develop specific curricula for Clinical Epidemiology and Outcome Research for TBI;
- Develop international courses in TBI outcome research;
- Develop a PhD course in TBI research.

Interventions



- Support for CQI in TBI care - all levels;
- Implement accreditation processes in TBI care;
- Special focused programmes in TBI on local, regional, national and international levels.



What INRO offers

- Cooperation on research, education and intervention projects and programs;
- Database ITCP and prehospital;
- Statistical support and data analysis;
- International and multidisciplinary team;
- Close links to university in Vienna and Trnava;
- **Good will.**



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the Quality of Care in
TBI!**

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