Do protocols & guidelines improve care?

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Content

• Is there a problem?
• Definitions
• When do we need guidelines & protocols?
• Advantages & disadvantages
• Evaluation of Care?
• Examples to answer the question
• Conclusions
Is there a problem?

• Introduction EBM
  – Knowledge – education – performance gap
  – EBM & EM?

• “Translation” in guidelines & protocols
  – Is EBM translated in guidelines?
EVIDENCE-BASED PREHOSPITAL MANAGEMENT OF SEVERE TRAUMATIC BRAIN INJURY: A COMPARATIVE ANALYSIS OF CURRENT CLINICAL PRACTICE GUIDELINES

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Total amount of recommendations (\(\ldots\)/21):

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Is there a problem?

- Limited adherence to guidelines in EM

_Ebben et al: Adherence to guidelines and protocols in the prehospital and emergency care setting: a systematic review_.
Definition: Medical guideline

• Systematically developed statements with the aim of
  • guiding decisions & criteria regarding diagnosis, management & treatment
  • in specific areas of healthcare

– **Based on:**
  • Evidence based medicine - Consensus statements
  • Risk/benefit, cost-effectiveness & outcomes

– **Identifying:**
  • Decision points + Courses of actions

– **Goals:**
  • Standardisation
  • Improve quality & (cost) effectiveness
Definitions

• Ideal **properties** of guidelines
  
  – *Validity* = reaching the goals
  – *Reproducibility*
  – Clinically *applicable & flexibility*
    • Expected exceptions
    • How to individualise them
  
  – *Clarity*

  – Uniform documentation for evaluation,…
Definitions

• Clinical protocol

  = stricter than a guideline and a memorandum formulated and signed as a basis of agreement on a diagnostic and/or therapeutic approach

  – More weight with the law
Definitions

Guideline
- 1 person
- imposed
- basic care
- education value
- potentially outdated

protocol
- team oriented
- agreed on
- basic + specialised care
- oriented on skills and tasks
- flexible: needs & new knowledge
• Area ‘s for guidelines & protocols
  – No time to think *(CPR)*
  – Large variations in approach *(syncope, mild TBI,...)*
  – Large variations in outcome *(trauma, sepsis,...)*
  – Large variations in cost
• Advantages of guidelines

– Assisting to practice EBM to individual patients
– Providing uniform standard of care
– Used as education or training tool
– Helping patients to make informed decisions by improving communications
• **Disadvantages**

  – **Cooking book Medicine <-> individualised care**
    - McDonalds vs 3 star restaurant

  – **Authonomy of the professional**
    - Imposed actions by *authorities - insurance companies*
    - Cost-cutting exercises
    - Interfere with clinical freedom

  – Used in court and induce defensive medicine

  – Fast evolution of science & outdated guidelines
Guideline opportunities in EM

“Early Goal-Directed therapy”

- Translation of guidelines vs time & functionality
  - “early” diagnosis = urgency or emergency
  - Time-sensitive therapies
  - Operational algorithms

- AMI, trauma, stroke, sepsis,...
Evaluation of Care?

• Research or audit?

*Research is concerned with discovering the right thing to do; audit with ensuring that it is done right*

= mixture of both

  – Research = medical aspects
  – Audit = organisational aspects
## Evaluation

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<td>Creating new knowledge</td>
<td>Tests care against knowledge</td>
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<tr>
<td>Based on hypothesis</td>
<td>Measures performance vs criteria</td>
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<td>Needs ethical approval</td>
<td>Never randomisation</td>
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<td>Randomisation</td>
<td>Small number - short time span</td>
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<td>Large scale – long time</td>
<td>Less published (local)</td>
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Evaluation process

- Assessment of prevalence & mortality/morbidity
- Identification of high-risk patients
- Mobilisation of resources
- Performance of consensus-derived protocol
- Appraisal of quality indicators to assess compliance
- Quantification of health-care resource consumption
- Assessment of outcomes
Evaluation process

• Performance of protocol
  – Defining procedural parameters
    • Time - Success rate
  – Procedural parameter “time” = outcome parameter?

• Quality indicators = ??
  – What is optimal care in a specific health care system?

• Outcome
  – ROSC vs 6 month survival/Cerebral performance

• Biases
  – Not randomised
  – Hawtorn effects
Evaluation: sepsis

• Mortality reduction \( (n = 1298) \)
  – Before implementation: 44.8 % (29.3 – 55 %)
  – After implementation: 24.5 % (18.2 – 33 %)
  – Average reduction of 20.3 %

• Cost-Effectiveness
  – Cost of training & implementation
  – Extra resources,…
  – 23.4 % reduction in costs

A Randomized Trial of Protocol-Based Care for Early Septic Shock

The ProCESS Investigators

• 31 ED in US
• 3 groups
  – 439 EGDT
  – 446 protocol-based standard-therapy
  – 456 usual-care therapy
• Difference between EGDT – protocol-based?
• Differences in acute renal failure
  – Protocol > usual care > EGDT
A Randomized Trial of Protocol-Based Care for Early Septic Shock

The ProCESS Investigators

A Cumulative In-Hospital Mortality to 60 Days

No. at Risk
Protocol-based EGDT  439  373  356  348  347  347  347
Protocol-based standard therapy  446  389  376  368  366  366  365
Usual care  456  396  376  371  371  371  370
Evaluation: CPR

- Observational cohort study
- Utstein style recording
- Before & after implementation new guidelines
- End points: ROSC, ICU admission rate, discharge from hospital
- No improvement

Conclusions

• Good Guidelines = summary of EBM
  – Explicitation of implicit knowledge

• Guidelines = basis for good protocols

• Teaching tools

• Basis for bench marking

• Do we always need a prove of better care?
  – Existing quality of care, limited improvement in outcome, complexity of cofounders,…
Conclusions

Plan for what is likely

Develop guidelines – protocols for Planned improvisation

Each patient remains unique
EuSEM 2014

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