

Evaluation workshop



Faculty of Health, Medicine and Life Sciences



Universiteit Maastricht

Agenda

- Introduction
- GEP-HI
- STARE-HI
- Status of reporting in Health Informatics evaluations
- Roads to improvement
- Summary

Introduction

- Early 90-ies evaluation activities in EU funded projects
 - KAVAS, Eurodiabeta, ATIM, VATAM and many others
- ESF funded meeting in Innsbruck (2003) with evaluation experts to discuss the status of the field and roads to improvement.
 - Vision paper in IJMI including the “Declaration of Innsbruck” in 2004
- Starting point for two main activities: STARE-HI and GEP-HI

Declaration of Innsbruck

- Observations:
 - Evaluation generates information
 - Evaluation supports reflective practice
 - Evaluation is a challenging endeavour
 - Evaluation is not free

Declaration of Innsbruck

- Recommendations:
 - 1. Ethically imperative
 - 3. Free from pressure
 - 4. Grounded in theory and rigorous approaches
 - 5. Methods selected with open mind
 - 6. Encourage reporting
 - 7. guidelines for good evaluation practice
 - 8. terms, concepts and guidelines for reporting
 - 9. promoted by centers of excellence
 - 10. evaluation networks established
 - 11. open access repository evaluation studies

GEP-HI

- Guidelines for good evaluation practice.
- Presentation by Jytte Brender and Pirkko Nykänen

STARE-HI : Current status

- Next to final version
- A few small revisions are necessary
 - Update of background with some new sources
 - E.g. update of CONSORT for non-medication trials, Equator website
 - Check of overall tone of document to avoid bias towards quantitative studies
- The list of principles will remain as it is.

Endorsement

- EFMI council has endorsed an earlier version of STARE-HI in 2006
- AMIA's evaluation WG has endorsed the current version of STARE-HI

Ø We asked for adoption of STARE-HI as an official IMIA document

Ø After adoption of STARE-HI by IMIA it will be published in IJMI

Additional activities

- Documentation of current quality of reporting
 - Elaboration of pilot study presented at MEDINFO 2007 (JT, EA, TG: The quality of reporting of health informatics evaluation studies: A pilot study.)
 - Systematic study of quality of reporting in 2006 (as a baseline)
- More extensive document describing in more detail the principles and the reasons for including them in STARE-HI
 - This is similar to the developments around CONSORT, STARD etc.

Quality of reporting

- Summary of MEDINFO paper
 - Jan Talmon, Elske Ameenwerth, Thom Geven
 - The quality of reporting of health informatics evaluation studies: A pilot study

Background

- Study questions:
 - Can STARE-HI be used for the assessment of the quality of evaluation studies in HI
 - What is the current quality of reporting
 - What areas are open for improvement

Study Design

- Hand search of all issues of 2005 of three major MI journals – consensus (JT&EA)
 - IJMI, JAMIA, MIM
- Develop a scoring list from STARE-HI (TG)
- Test usability of scoring form
 - 3 papers assessed by 5 reviewers
- Apply revised form on all selected papers

Results – paper selection

- 282 papers reviewed on basis of title and abstract
- 55 selected by JT
- 37 selected by EA
- Initial agreement on 32
- Final selection 48 papers:
 - 21 IJMI, 23 JAMIA, 4 MIM

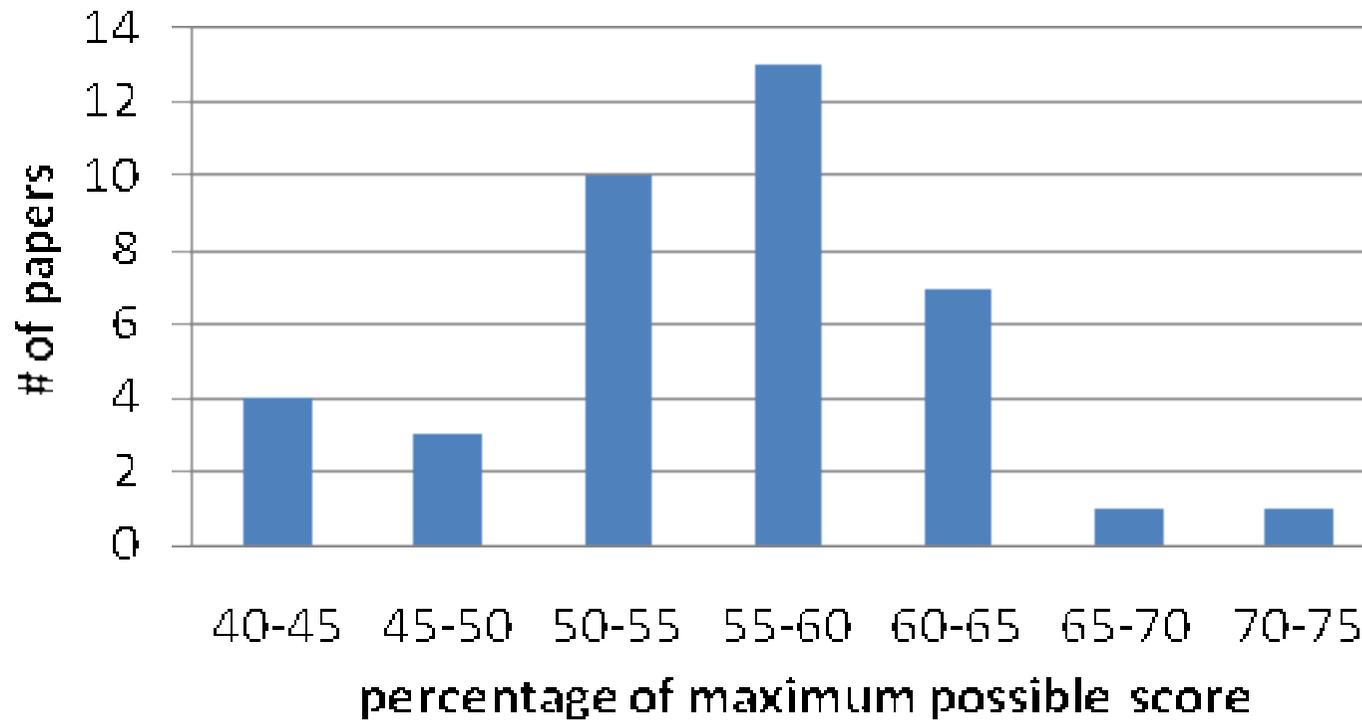
Results – usability of form

- Feedback by scorers revealed some problems
 - Three items of STARE-HI were not clearly described
 - Twice it was unclear how extensive a description should be
 - Six issues could appear at any place in the article – affects reliability of scoring

Results – quality of reporting

- Not all 48 papers could be properly assessed:
 - Some papers were more descriptions rather than evaluation studies
 - Secondary analyses
 - Evaluation of an algorithm or a general application (like email)
- Final analysis on 39 papers
 - 19 IJMI, 20 JAMIA

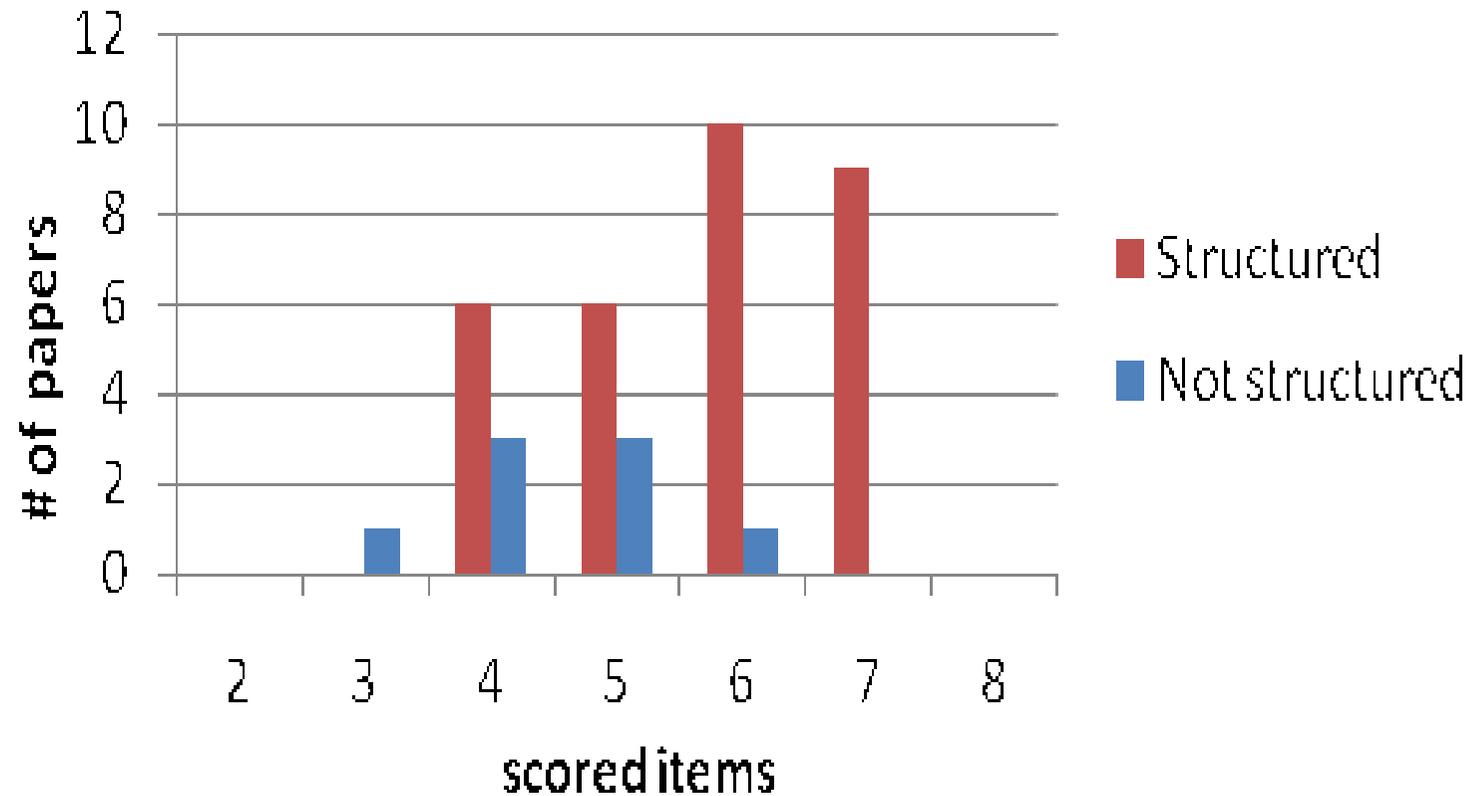
Results – quality of reporting



Results – quality of reporting

Title	67%
Abstract	69%
Keywords	42%
Introduction	63%
Study Context	54%
Methods	50%
Results	41%
Discussion	65%
Conclusion	39%
Conflict of interest	24%
Acknowledgement	

Results – some observations



Results – some observations

- Keywords
 - Study design and “evaluation” often missing
- Methods
 - Arguments for study design/case selection are often lacking. Description of intervention, study flow , outcome measures all reported <70%

Results – some observations

- Results
 - Major findings reported, seldom unexpected findings or unexpected events influencing study
- Conclusions
 - Sometimes lacking – even no summary statement, impact of findings, recommendations for future research
- Conflict of interest/acknowledgment
 - Often missing. Relation authors-system

Quality of reporting

- Expand the MEDINFO paper into a full paper with all results
- Analysis of one year of evaluation papers (identified in MEDLINE)

STARE-HI Explanation and Elaboration

Jytte Brender, Aalborg University

Approach

- We follow the 'standard' of CONSORT and others:
- exactly the same structure as STARE-HI
- exactly the same issues as STARE-HI

- We follow the same procedure as for STARE-HI:
- interchangeable plenum and editorial team reviews

Topic ('title' with an ultra short summary of the essence)

- Examples
 - In plural
 - Mostly examples of good practice
 - Most are anonymous
- Elaboration explaining why

Example

Title

The title should give a clear indication of the type of evaluated system and the study question as well as the study design.

Examples

"Assessment of effects and costs of information systems; a before-and-after, controlled study". This title does not clearly describe the type of information system evaluated e.g. anesthesia or PACS or telemedicine system...

"CPOE: Its effect on medication errors, a field study".

...

Elaboration

"The title provides key information that enables readers to identify the subject of the study before reading the paper and to a level that enables him/her to judge whether the paper is relevant for him/her to read in detail.

When to use the one or the other example as the preferred model depends on the type of contribution as regards the scientific focus – that is, the information-carrying terms in prioritised order."

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Status:

About ready for a plenum review

Summary of workshop

Roads to improvement

Nicolette de Keizer, AMC, The Netherlands