Good evaluation practice guidelines for health informatics - A shared European networked initiative for guidelines development GEP-HI

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Workshop today

- Presentation of the ideas and work on evaluation guidelines development & presentation of Delphi study results
- **Enable the workshop participants to discuss and work further on selected items to provide input for guidelines development**
- **Workshop input for guidelines**
- **Network the volunteer workshop participants for further guidelines development**

Workshop timetable

4.-4.30 Introduction - topics, aims, earlier work, expected results, group work P Nykänen

4.30 - 5 Success and failure factors in health information systems J Brender

5-5.45 Group work 2-3 groups

5.45 - 6 Summaries of group work

Expected results

- **Input for the the guidelines development -- GROUP WORK themes:**
- **1) How to relate success and failure factors to guidelines ?**
- **2) What are the practical requirements for good evaluation guidelines ?**
- **3) Representation of guidelines ?**
- **Networking the participants - add your name on the list!**

Motivation

- Need to have good practice guidance
- No single, global methodology exists
  - variety of approaches, methodologies, mindsets
- Good practice guidelines should serve as:
  - **Framework** to design evaluation studies, to select methodologies, to conduct studies
  - **Support** for health professionals and users to understand evaluation and contribute to evaluation studies

Objectives

- **Generic practical guidelines** that provide evaluators, users, health professionals with **structured, scientifically justified and grounded, comprehensive and understandable set of rules** for good practice
- To design and carry out evaluation studies in health informatics domain

Objectives – practically

- Guidelines:
  - Criteria and aspects, both in quantitative and qualitative terms, to consider at each evaluation stage
  - Carry out evaluation of the specific aspect, criteria at specific stage
  - Design and manage the evaluation study
- Guidelines from all stakeholders viewpoints: third party evaluators, users, health professionals, managers, decision makers, health economists,…

Steps for developing a guideline

- Identify and refine the subject area
- Convene and run guideline development groups
- The group assesses the evidence about the question or condition using systematic reviews
- This evidence is translated into a recommendation within a good practice guideline
- External review of the guideline

(Shekelle PG et al. BMJ,1999;318:593-596)

Issues in guidelines development AGREE-criteria

(http://www.agreecollaboration.org/1/agreeguide)

– **Scope and purpose**
  - 1. The overall objective(s) of the guideline should be specifically described
  - 2. The question(s) covered by the guideline should be specifically described
  - 3. The users to whom the guideline is meant to apply should be specifically described.

– **Stakeholder involvement**
  - 4. The guideline development group should include individuals from all the relevant professional groups
  - 5. The users' views and preferences should be sought
  - 6. The target users of the guideline should be clearly defined
  - 7. The guideline should be piloted among end users

– **Rigour of development**
  - 8. Systematic methods should be used to search for evidence
  - 9. The criteria for selecting the evidence should be clearly described
  - 10. The methods used for formulating the recommendations should be clearly described
  - 11. The benefits, side effects and risks should be considered in formulating the recommendations
  - 12. There should be an explicit link between the recommendations and the supporting evidence
  - 13. The guideline should be externally reviewed by experts prior to publication
  - 14. A procedure for updating the guideline should be provided

– **Clarity and presentation**
  - 15. The recommendations should be specific and unambiguous
  - 16. The different options for choices in various situations should be clearly presented
  - 17. Key recommendations should be easily identifiable
  - 18. The guideline should be supported with tools for application

– **Applicability**
  - 19. The potential organisational barriers in applying the recommendations should be discussed
  - 20. The potential cost implications of applying the recommendations should be considered
  - 21. The guideline should present key review criteria for monitoring and audit purposes

– **Editorial Independence**
  - 22. The guideline should be editorially independent from the funding body
  - 23. Conflicts of interest of guideline development members should be recorded

Guidelines development is a serious activity, requires a lot of effort, knowledge, systematic reviews and collaboration

- **Guidelines should be:**
  - **structured**
  - **scientifically justified and grounded**
  - **comprehensive**
  - **understandable (representation, use)**
  - **agreed, validated by external experts**
  - **set of rules for good evaluation practice**

How to develop GEP_HI guidelines

- Follow guidelines development principles
- Network of experts, email, meetings, Delphi technique
- Existing literature and material on evaluation studies, methodologies, reported evaluation experiences, guidelines for good clinical practice, codes of ethics, good implementation practices ⇨ critical study and assessment, review
- **External review!**

GEP_HI guidelines

- Development by multidisciplinary representative group, subgroups
- Systematic review to identify and critically appraise the evidence
- Recommendations have to be linked to the supporting evidence
- **Applicability aspects:** Application, use monitored, guidelines representation formats

Guidelines in computer-interpretable format (Wang et al. 2002)

Representation primitives for actions, decisions, patient states

Guideline model	Actions	Decisions	Data
ARDEN Syntax	Action slot	Logic slot	No
DILEMMA / PRESTIGE	Protocol	State Transit	N/A
EON/DHARMA	Action, activity	Decision	Scenario, act state
PROforma	Action, enquiry	Decision	N/A
Siegfrid	Recommendation	Logic	No
GLIF	Action step	Decision step	State step
Asbru	Plan	Condition, pref	Temporal pattern
GUIDE/PatMan	Task, wait, monitor	Decision	Implicit in Petri net
PRODIGY	Action, activity	Decision	Scenario
GASTON	Action	Decision	N/A
Torino	Work action, query action	Decision action	Conclusion

Scheduling constraints on representation primitives, nesting of guidelines and modelling (Wang et al 2002)

Guideline model	Scheduling constraints	Nesting of guidelines	Modelling
ARDEN Syntax	Module invocation	no	no
DILEMMA/PRESTIGE	protocol comp, st diagram	protocol	PR model
EON/DHARMA	flowchart	subgl	EMR ontology
PROforma	constraint satisf graph	plan	PD definition
Siegfrid	undirect graph	N/A	relations
GLIF	flowchart	subgl	domain ontology
Asbru	plan-body	plan	N/A
GUIDE/PatMan	flowchart	task	relations
PRODIGY	ST diagram	subgl	EMR ontology
GASTON	flowchart	subgl	domain ontology
Torino	flowchart	composite action	PD schema

Actions to be taken GEP-HI

- A GEP_HI workplan (prepared and circulated, agreed)
- Background material collection (ongoing)
- Based on the existing material, guidelines development principles, available expertise and experience the first GEP_HI guidelines draft will be prepared (in progress)
- Input from this workshop incorporated
- **WHITE PAPER prepared for comments!**
- Comments, revised version produced
- Presentation and discussion of the draft guidelines in workshops and conferences - revision - publication

- **External review by experts in HI community**
- Guidelines published in a form of a publication, disseminated via HISEVAL-website, through the European network, EFMI, IMIA organisations
- Supporting material produced, feedback collected, application monitored, updating procedures