Formalization of Clinical Practice Guidelines

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Clinical practice guidelines

Clinical experience + scientific evidence

Text-based Clinical practice guidelines

Formalized model

Practical use in Medical applications
GLIF model – brief introduction

- Developed by Harvard Medical School, Stanford University School of Medicine, Columbia University, and the American College of Physicians-American Society of Internal Medicine
- Structured representation of guidelines
- Object oriented
- Universal and widely respected

- action step, decision step, branch and synchronization steps, and a patient state step
It is important to find:

- a logical and process structure of guidelines
- all fundamental parameters and their interrelationships
- the specialist should use some user-friendly application
The graphic model of guidelines is coded into XML (eXtensible Markup Language).

A list of basic and derived parameters is created too.

GLIF model implementation stage
Foregoing projects

• Single purpose web-based applications for decision support
  – only one clinical topic

• „Handmade“ XML code for GLIF models of several guidelines of The Czech Society of Cardiology
Developed applications - overview

- text-based CPG
- GlifEditor
- Glifview
- Processing GLIF browser
- Medical Knowledge Representation System
- XML
- module of HIS/CIS + EHR
- web-based application
- XML
- XML
- web-based application + patients data
- XML
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- GLIF construction
- GLIF implementation

- Effective tool for
  - guideline author
  - domain specialist
  - informatic specialist

Tested on guidelines of The Czech Society of Cardiology


Miroslav Zvolský
Formalization of Clinical Practice Guidelines

MIE 2008  Göteborg, Sweden May 25-28, 2008  Miroslav Zvolský
GlifEditor

- Simple use
- Automatic XML output
- Parameter editor
- Education
- GLIF model creation
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• Educational version of CPG presentation system was designed to possibility of combination of HTML text, GLIF model graphs and specialized presentation modules where standard GLIF model presentation would be too complex.

• Guidelines are shown in any Java enabled Internet browser.
There is a list of all the variables used the values of which are to be filled in by a physician.

Compared to the educational system the browser goes automatically through the GLIF model graph evaluating conditions of decision steps.
MEKRES

Medical Knowledge REpresentation System

• The system will automatically offer to participants (patient, general practitioner, operator, …) relevant formalized medical knowledge and guidelines on the basis of acquired patient data

Formalized clinical practice guidelines needed

• We have tools and knowledge
Conclusion

• Set of applications and components (GlifEditor, Gliview, Processing GLIF browser, HIS module)

• Tested in EuroMISE Center

• Motivation for cooperation with scientific societies

• MEKRES
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Thank you for your attention!

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