

Health ICT and HTA: towards synergy

10.P. - Workshop: The cutting edge of Health Technology Assessment: Information and Communication Technologies

P. Doupi, MD, PhD.

European Public Health Conference 2017, Stockholm, Sweden
4 November 2017



NATIONAL INSTITUTE FOR HEALTH AND WELFARE, FINLAND



The challenge of Health IT

*“Information technologies (IT) are often put forward as important instruments to **improve quality and efficiency in health care.***

*However, the **evidence is lacking** of the specific contribution of these technologies to outcome and efficiency improvement. ... A major cause for lack of evidence of effectiveness is the **methodological difficulties** in establishing this evidence. ... What is needed in this area is **consensus on methods and criteria** to be applied in assessment, similar as in e.g. evaluation of drugs or diagnostic devices. This consensus is needed both for the industry, as well as for the IT users, at various levels”*

van Gennip, Talmon, Editors, Assessment and Evaluation of IT's in Medicine, Studies in Health Technology and Informatics 17 (**1995**), Amsterdam, IOS Press.

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journal homepage: www.ijmijournal.com

Guideline for good evaluation practice in health informatics (GEP-HI)

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ELSEVIER

journal homepage: www.intl.elsevierhealth.com/journals/ijmi

ARTICLE INFO

Article history:

Received 21 January 2011

Received in revised form

15 August 2011

Accepted 16 August 2011

Keywords:

Health informatics

Evaluation

Guideline

Research design

ABSTRACT

Objective: Development of evaluation studies in health informatics.
Methods: Issues to be addressed based on the evaluation literature. The guideline was discussed at conferences and by e-mail.

Results: Sixty issues were identified and execution of an evaluation cover all phases of an evaluation of methods, project planning, risk management and project results are also addressed.
Conclusion: A comprehensive practice in health informatics is discussed. Application of the guideline is a step towards building strong health informatics.

STARE-HI—Statement on reporting of evaluation studies in Health Informatics

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ARTICLE INFO

Article history:

Received 4 July 2008

Accepted 3 September 2008

Keywords:

ABSTRACT

Objective: Development of guidelines for publication of evaluation studies of Health Informatics applications.

Methods: An initial list of issues to be addressed in reports on evaluation studies was drafted based on experiences as editors and reviewers of journals in Health Informatics and as authors of systematic reviews of Health Informatics studies, taking into account guidelines for reporting of medical research. This list has been discussed in several rounds by an



Health IT & HTA: the change

- From a scientific exploration to a policy imperative
- From unilateral methodological adoption to synergy & mutual benefit

Why imperative?

Press release

Dismantling the NHS National Programme for IT

From: Department of Health
Published: 22 September 2011

This was published under the 2010 to 2015 Conservative and Liberal Democrat coalition government

The government today announced the dismantling of the National Programme for IT

£13 bn



Faktaa soteICT-investoinneista

- Sote-uudistuksen edellyttämät ICT-investoinnit 1,5-2 mrd euroa
- Maakunnan perustaminen edellyttää 400-500 milj. euron investointia tietojärjestelmiin ja tietohallintoon
- Toiminnan digitalisoinnin hyödyt toteutuvat 5-10 vuodessa
- Hallituksen kustannuskasvun hillinnän tavoite 3 mrd euroa vuoteen 2029 - digitalisaatiolla merkittävä rooli

€2bn

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The Outcome?

The Impact of eHealth on the Quality & Safety of Healthcare

Telemedicine versus face to face patient care: effects on professional practice and health care outcomes (Review)

Currell R, Urquhart C, Wainwright P, Lewis R

Original research

Information technology for patient safety

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ABSTRACT

Background Research on patient care has identified substantial variations in the quality and safety of healthcare and the considerable risks of iatrogenic harm as significant issues. These failings contribute to the high rates of potentially avoidable morbidity and mortality and to the rising levels of healthcare expenditure seen in many health systems. There have been substantial developments in information technology in recent decades and there is now real potential to apply these technological developments to improve the provision of healthcare universally. Of particular international interest is the use of eHealth applications. There is, however, a large gap between the theoretical and empirically demonstrated benefits of eHealth applications. While

of information on the experience in developing countries. The majority of published research has been carried out in high-income countries such as the UK and USA. This paper is therefore most applicable to economically developed countries; however, where possible, we have also drawn lessons for economically developing countries and illustrated the key points from the paper with a number of case studies.

INFORMATION TECHNOLOGY IN HEALTHCARE

The US government has defined IT as ‘...any equipment or interconnected system or subsystem of equipment that is used in the creation, conversion or duplication of data or information.’¹ This



AN
TION®

Collaboration and published in The Cochrane Library

“The major finding from reviewing the empirical evidence – which is of variable quality - ...is that there is **very limited rigorous evidence demonstrating that these technologies actually improve either the quality or safety of healthcare**”

INTRODUCTION

healthcare delivery rather than considering each component separately.

The rationale for this review approach reflects



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HTA definition & core work in Europe

“The systematic evaluation of the properties and effects of a health technology, addressing the direct and intended effects of this technology, as well as its indirect and unintended consequences, and aimed mainly at informing decision making regarding health technologies.”

- **2016-2020: EUnetHTA Joint Action3**
- Enhanced cooperation with a focus on joint HTA work (e.g. joint assessments and uptake)



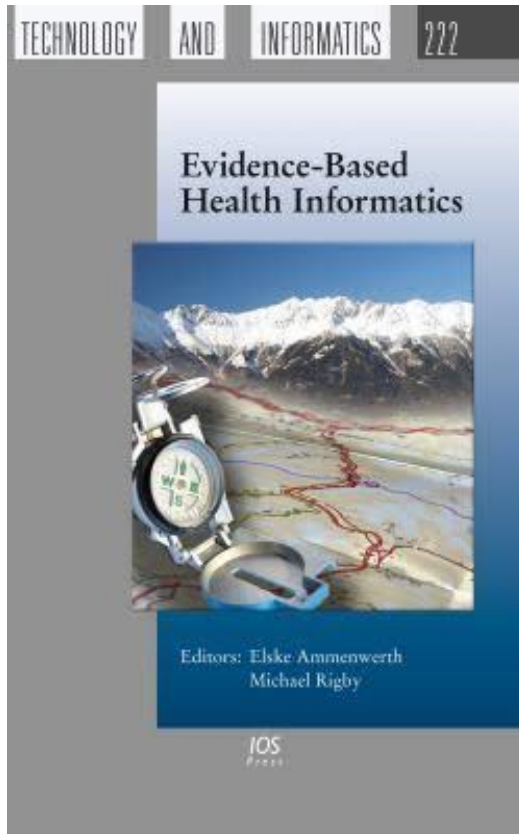
The MAST model: bringing the HTA approach to telemedicine evaluation

MAST = Model for ASsessment of Telemedicine

International Journal of Technology Assessment in Health Care, 28:1 (2012), 44–51

- Product of the **MethoTelemed project** (EC-funded, 2008)
- Based on workshops and using the EUnetHTA Core HTA Model® as a starting point
- A multidisciplinary process that summarizes and evaluates information about the clinical, economic, organizational and socio-ethical issues related to the use of telemedicine, in a systematic, unbiased and robust manner.
- **Testing in large scale EU-projects: Renewing Health, United4Health, SmartCare , MasterMind etc.** on real-life implementation of telemedicine services uses

More details on background analysis:



**Ebook: Evidence-Based
Health Informatics**
IOS press, 2016

<http://ebooks.iospress.nl/volume/evidence-based-health-informatics-promoting-safety-and-efficiency-through-scientific-methods-and-ethical-policy>

GOODNESS OF FIT: Socio-technical paradigm



NIH Public Access

Author Manuscript

Qual Saf Health Care. Author manuscript; available in PMC 2011 October 1.

Published in final edited form as:

Qual Saf Health Care. 2010 October ; 19(Suppl 3): i68–i74. doi:10.1136/qshc.2010.042085.

A New Socio-technical Model for Studying Health Information Technology in Complex Adaptive Healthcare Systems

Dean F. Sittig, PhD¹ and Hardeep Singh, MD, MPH²

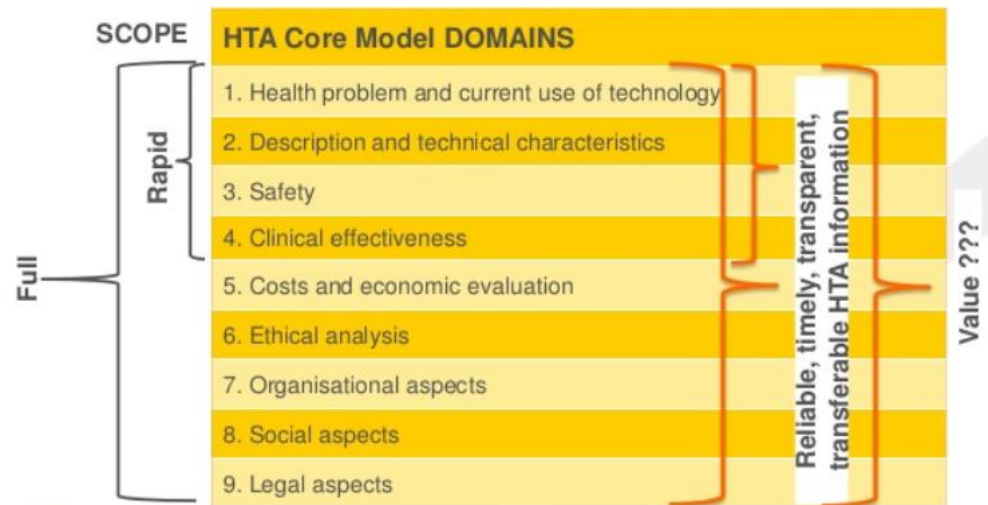
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Abstract

Conceptual models have been developed to address challenges inherent in information technology (HIT). This manuscript introduces an 8-dimensional model designed to address the socio-technical challenges involved in design, implementation, use, and evaluation of HIT within complex adaptive systems. The dimensions are not independent, sequential, or hierarchical, but rather interrelated concepts similar to compositions of other complex adaptive systems.

The Domains of the HTA Core Model®



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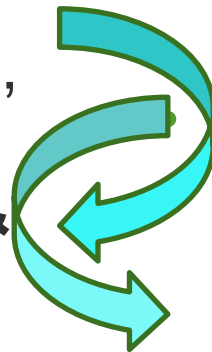
TIME-CRITICAL PERFORMANCE

Health IT

- Rapid assessment methodology for clinical information systems (McMullen et al.)
- Implementation science approaches (Glasgow et. al.)
- Mini-HTA for telemedicine
- Representation, collection, analysis of **health** (social care) **data, information & knowledge**

HTA

- Rapid effectiveness assessment - 'Model for Rapid REA' (pharmaceuticals primarily)
- Mini-HTA methodology & template
 - Hospital based HTA (AdhopHTA)



High quality data – essential to reliable HTA results

ROLE OF PATIENTS

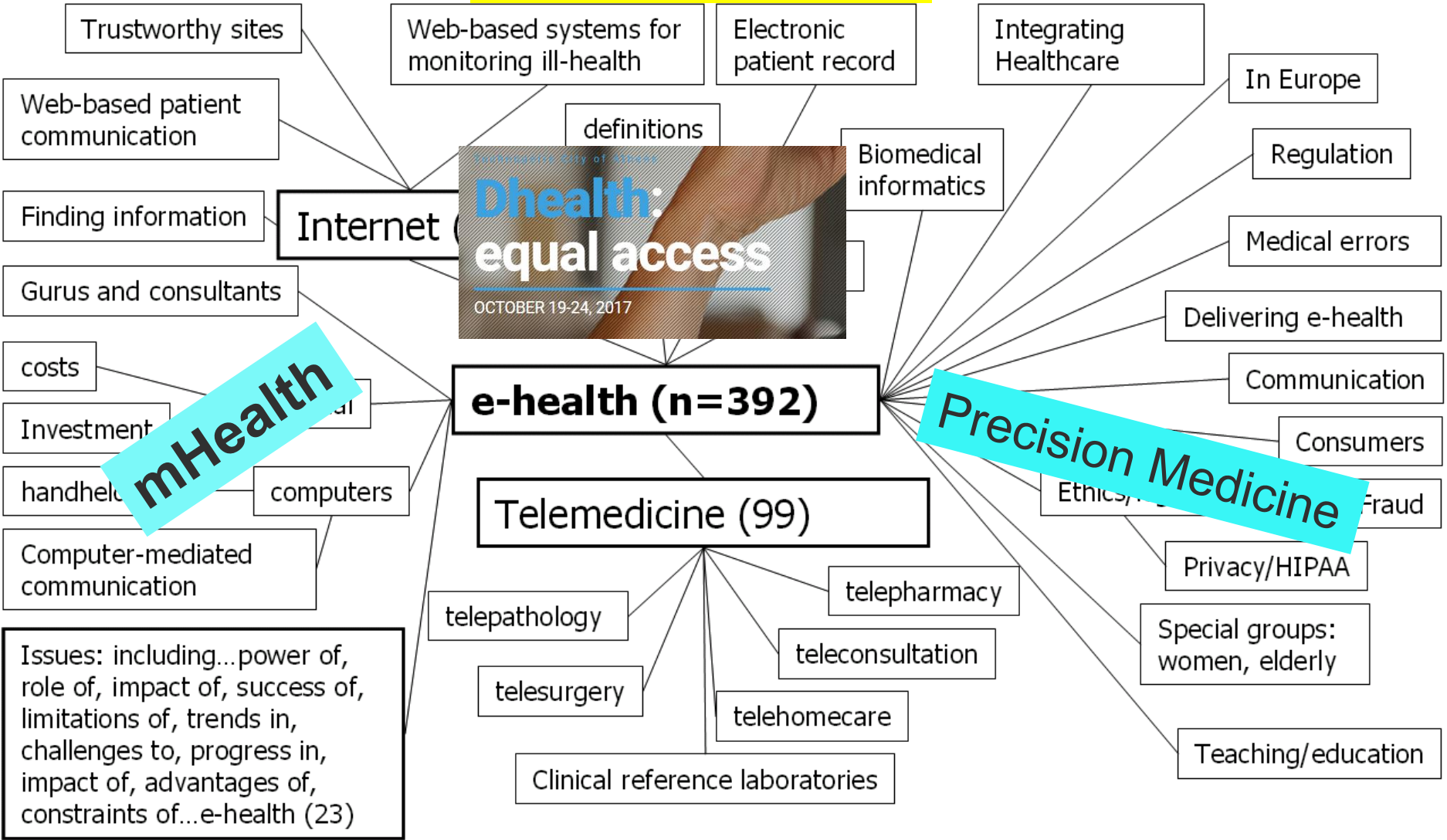
- eHealth developers and scientists, as well as the HTA community have each in their own ways approached the subject of the patient taking up a different, more defining and determining role in modern healthcare delivery.

Is there a shared view and vision of the role of the patient between the two communities?

Meeting points

- **Safety**
- **Patient reported/patient relevant outcomes**

eHealth - scope



Issues: including...power of, role of, impact of, success of, limitations of, trends in, challenges to, progress in, impact of, advantages of, constraints of...e-health (23)

What Is eHealth (4): A Scoping Exercise to Map the Field
Pagliari C et al. J Med Internet Res 2005;7(1):e9
doi:10.2196/jmir.7.1.e9



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Building bridges!



Thank you!

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