

The Model for ASsessment of Telemedicine (MAST) in Practice

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❑ The **Model of Assessment of Telemedicine (MAST)** is the Evaluation Framework used in the Renewing Health project

❑ Its assessment approach is:

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**.

❑ “Life cycle” of MAST:

Development

Validation in RH

Evolvement into MAST 2.0

□ In the frame of **MethoTelemed project**, financed by the EC (SMART 2008/0064)

□ Based on:

Scientific evidence

- Systematic literature review



Stakeholder & users' opinion

- Workshops with 30 participants



Overview of other models

- EUnetHTA Core Model
- Donabedian's model for quality of care
- Med Res Council on Complex interventions
- Wootton et al.
- Ohinmaa et al.
-

Two products were issued:

□ MAST Manual

- Introduces and describes the structure of the framework
- Provides key definitions
- Discusses relevant outcome measures and adequate study designs for their evaluation

□ Toolkit for outcome selection

- Comprehensive list of outcome measures reported in the literature and eligible for telemedicine studies

The framework suggests 3 stages of assessment:

I. Preceding considerations

II. Multidisciplinary Assessment

III. Transferability of results

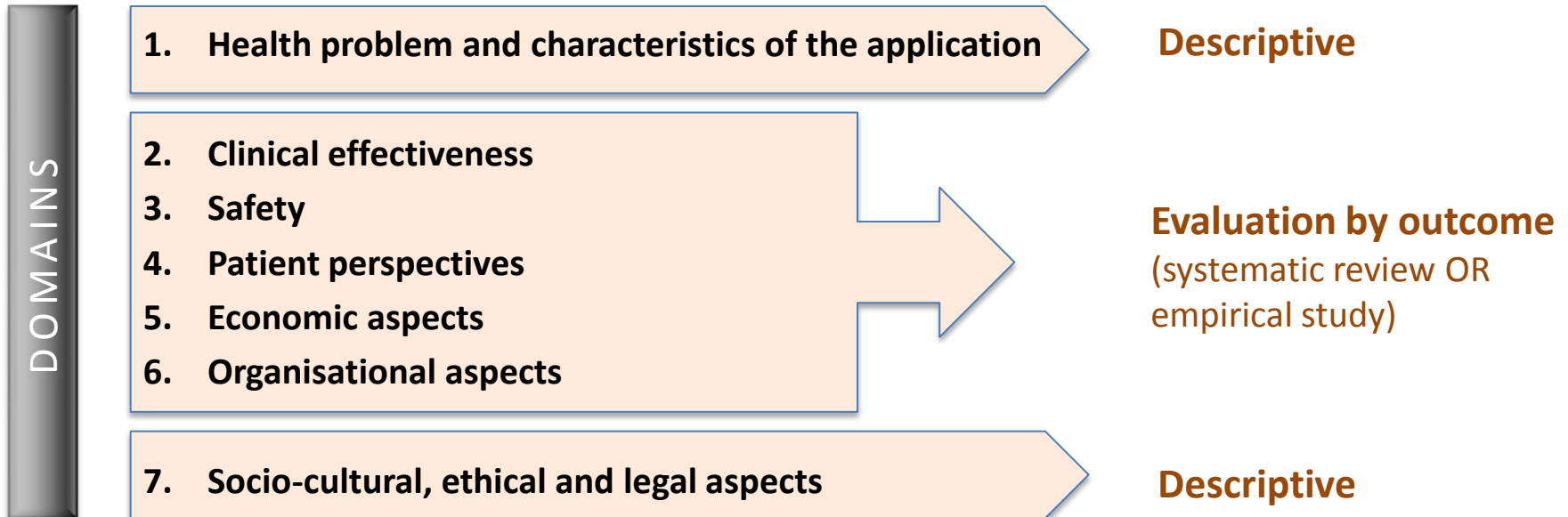
I. Preceding considerations

- ❑ **This stage is about “setting the context”**

- ❑ **Various aspects have to be taken into consideration, such as:**
 - Maturity of the technology used
 - Selection of appropriate comparator/s
 - Level, on which the assessment should be carried out – single hospital, region, state
 - Existing legislation on TM-based services
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II. Multidisciplinary assessment

WHAT should be assessed?



II. Multidisciplinary assessment

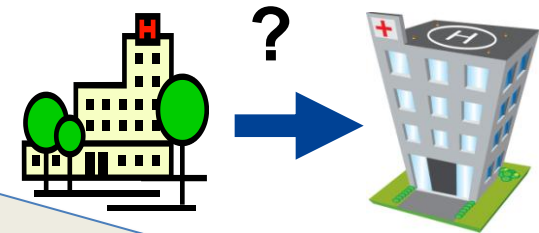
HOW it should be assessed?

- ❑ **Design** - Aim for highest possible level of evidence
 - Pragmatic RCT or cluster RCT
- ❑ **Outcome measures:** Use of validated instruments
- ❑ **Reporting:** Following international guidelines
 - CONSORT for pragmatic trials
 - Drummond et al. (2005) for economic evaluation

III. Transferability assessment

□ Answers the question:

Can results be generalized to other settings?



This consideration has to be made **within each of the domains!**

□ Examples of limitations for direct transferability of results:

- Country-specific reimbursement conditions
- Healthcare price/hour
- Values and culture influence user preferences and hence, satisfaction with the new service

- ❑ Need for **empirical test** of MAST methodology
- ❑ As a complex, large-scale project on real-life implementation of TM services, **Renewing Health** needs a comprehensive evaluation of its results and **was identified as a perfect candidate for the validation of MAST**

Is MAST comprehensive enough to give response to all evaluation needs of the pilots in RH?

- Application of **MAST in practice** stimulates its further development and improvement

- A number of **new tools** were developed to ensure the quality of the project:
 - Minimum dataset of common outcome measures for ALL pilots
 - Common template for Case Report Form (CRF)
 - Guidance on coding and monitoring of collected data
 - Guidance on data analysis and reporting of results within each domain (*in development*)



Use of MAST in other projects and initiatives



MAST as basis for studies of telemedicine in 8 countries

□ **L'URC Economie de la Santé – Research Unit for hospitals in Paris**

Considering to use MAST in a number of telemedicine projects

□ **Nottingham University Hospitals NHS Trust**

Nottingham University Hospitals 
NHS Trust

Evaluation based on MAST

□ **National Danish IT strategy**

Recommends the use of MAST for assessment of telemedicine

□ Strengths of MAST:

- Multidisciplinary and very comprehensive
- Based on scientific evidence, on criteria for quality and on stakeholders' needs
- Establishes a common standard for all stages of study development (design, data collection, analysis and reporting)

□ Weaknesses of MAST:

- Time consuming
- Only relevant in assessment of mature telemedicine applications
- Doesn't give indications for prioritization when resources are limited
- More operational criteria are needed

ON THE WAY TO

MAST 2.0

□ Training

- **MAST Open Seminar I** (Berlin, May 2010)
Introduction to the evaluation framework, 80 participants
Videos with presentations: www.mast-model.info
- **MAST Open Seminar II** (Treviso, Feb 2012) **forthcoming!!!**
Guidance on data analysis and reporting of results

□ Dissemination

Kidholm et al. A model for assessment of telemedicine applications – MAST. Int J Tech Ass Health Care, 28:1, Jan 2012 (in press)



RENEWING HeALTH

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Thank you!

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