

ON THE USE OF THE MAST MODEL IN ASSESSMENT OF TELEMEDICINE: A COMMENT ON EKELAND AND GRØTTLAND

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In their article “Assessment of MAST in European Patient-Centered Telemedicine Pilots” published in this journal (1), Anne Granstrøm Ekeland and Astrid Grøttland describe the results from a questionnaire study of how MAST (Model for Assessment of Telemedicine) (2) was used and perceived by the project managers in twenty-one studies of telemedicine in the European project RENEWING HEALTH.

The article includes valuable suggestions for improvement of MAST and development of new guidelines on how to use MAST in practice, for example, on assessment of the perspective of family caregivers, on assessment of transferability, and on the interdependencies between the MAST domains and how to handle the speed of the technological development. These are important inputs for further development of MAST, and are needed, because MAST is currently the most widely used framework for assessment of telemedicine in Europe.

The article contains a few minor misunderstandings. First, the article states that “MAST resembles a mini-health technology assessment (HTA), defined as a ‘form of checklist with several questions about the prerequisites for and consequences of using health technology’ [3]” (1, p. 304). This is incorrect because MAST is not a checklist with questions, but a framework with several domains to consider in assessment of new health technologies in the same way as the EUnetHTA Core model.

Second, the article proposes adding new domains and topics to MAST, and among these are technological usability, behavior change, and professionals’ attitudes toward technology (1, pp. 308 and 309). However, MAST does include assessment of tech-

nical reliability (domain 2 on safety) and patient acceptability (domain 4 on patient perceptions), which are important aspects of the term usability. Similarly, MAST also includes assessment of behavioral outcomes (domain 3 on clinical effectiveness) and the culture of the health care professionals (domain 6 on organizational aspects).

Third, the article states that “One respondent also pointed to the need for assessing technological usability and interoperability issues as part of the prepilot phase” (1, p. 307). This is a good point, but it is also exactly why the prepilot phase in MAST (called preceding consideration) includes assessment of the maturity of the telemedicine application.

One topic is central in the article: The ability of MAST to take into account the local circumstances, the cultural and economic conditions, and their impact on the estimated outcomes of the telemedicine application being studied. The authors claim that “A basic assumption embedded in MAST is that telemedicine interventions cause or produce outcomes in different domains” (1, pp. 306 and 307). Later it is stated that “In MAST, the underlying assumptions seem to be that technologies at micro and macro levels cause outcomes. Technological determinism is prominent” (1, p. 309). An important basis for this claim is a response from one of the respondents saying that “the framework did not consider local circumstances” (1, p. 307).

This would be a fair comment if MAST was recommending for telemedicine studies to be carried out and reported strictly as clinical trials with measurement of clinical outcomes only. But MAST does emphasize that an assessment of telemedicine should also include assessment of the local economic, organizational, and cultural conditions. This is why MAST has an economic domain which includes a business case (in which reimbursement is key), an organizational domain including description of work processes and the perception of the telemedicine service by the staff, and an assessment of the perception of the intervention by the patients as part of the domain on patient perception. By inclusion of these domains, an

assessment based on MAST will provide possible explanations for why a telemedicine service did or did not have impact on the clinical and economic outcomes. Published examples of this use of MAST by inclusion of qualitative organizational studies can be found (4;5), of which the latter was part of Renewing Health.

In relation to the above, it should also be noted that MAST is defined as “a multidisciplinary process which summarizes and evaluates information about the medical, social, economic, and ethical issues related to the use of telemedicine in a systematic, unbiased, robust manner” (2). The key words here are “issues related to,” which means that MAST is not just an assessment of the impact on primary and secondary outcomes but also a multidisciplinary assessment of the local preconditions in accordance with the principles of HTA.

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