The HTA evidence on e-health/m-health: which challenges?

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The Aim of our work

• There is a lack of consensus in the scientific community on what constitutes appropriate methodology for evaluating e-health/m-health technologies before being introduced into practice and thereby HTA could serve to this scope.

• The aim of this study was to perform a systematic review of literature in order to search for HTA reports on e-health/m-health technologies and to describe their characteristics and methodological quality with the goal to detect fields for improvements.
The Methods

• A literature search was performed on PubMed, ISI Web of Science and NIHR databases in order to identify HTA reports that evaluated e-health/m-health technologies published until the 1st of April 2016, in English or Italian language.

• Data on the first author’s name, year of publication, country, HTA Agency, type of report, technology evaluated, were extracted.

• We used the INAHTA 14 items checklist to evaluate transparency and consistency of reports.

• We also assessed the thoroughness of HTA reports by checking the presence of the evaluation of the 10 HTA domains suggested by the EUnetHTA core model.
1. Appropriate contact details for further information?
2. Authors identified?
3. Statement regarding conflict of interest?
4. Statement on whether report externally reviewed?
5. Short summary in non-technical language?

### Why?
6. Reference to the policy question that is addressed?
7. Reference to the research question(s) that is/are addressed?
8. Scope of the assessment specified?
9. Description of the assessed health technology?

### How?
10. Details on sources of information and literature search strategies provided?
<table>
<thead>
<tr>
<th>Search strategy</th>
<th>Databases</th>
<th>Year range</th>
<th>Language restriction</th>
<th>Primary data</th>
<th>Other kind of information resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tbody>
</table>
11. Information on basis for the assessment and interpretation of selected data and information?
   | Method of data extraction described? | Method of data synthesis described? | Critical appraisal method (for quality assessment of the literature) described? | Inclusion criteria | Exclusion criteria |
   | Yes             | Yes       | Yes        | Yes                  | Yes          | Yes                                |

### Context? (may or may not apply to each HTA)
(Medico-) legal implications considered? | Economic analysis provided? | Ethical implications considered? | Social implications considered? | Other perspectives (stakeholders, patients, consumers) considered? |
| Yes | Yes | Yes | Yes | Yes |

### What then?
12. Findings of the assessment discussed?
13. Conclusions from assessment clearly stated?
14. Suggestions for further action?
HTA Core Model domains

- Health Problem and Current Use of the Technology (CUR)
- Description and technical characteristics of technology (TEC)
- Safety (SAF)
- Clinical Effectiveness (EFF)
- Accuracy (ACC)
- Costs and economic evaluation (ECO)
- Ethical analysis (ETH)
- Organisational aspects (ORG)
- Patients and Social aspects (SOC)
- Legal aspects (LEG)
Flowchart depicting literature search and study selection

2,012 of HTA reports identified through PubMed searching

99 of HTA reports identified through ISI Web of Science searching

138 of HTA reports identified through NIHR database searching

16 of HTA reports identified through PubMed searching, after reading the abstract and title

7 of HTA reports identified through ISI Web of Science searching, after reading the abstract and title

105 of HTA reports identified through NIHR database searching, after reading the abstract and title

43 full-text HTA reports assessed after removing the duplicates

28 eligible HTA reports finally included in the Review
The Results

- Twenty-eight reports published between 1999 and 2015 were included. The most of reports (71.4%) were delivered by non-European countries and only 35.7% were classified as full reports.
Results: HTA core model domains

- Legal
- Social
- Organizational
- Ethical
- Costs and economic evaluation
- Accuracy
- Clinical effectiveness
- Safety
- Description of technology
- Health problem

Legend:
- Yes
- Partly
- No
• E-health/m-health technologies are increasingly present in the field of HTA
• Our evaluation identified several elements not being included in the available HTA report
• Several reports missed to respond to relevant assessment elements especially ethical implications
• There is a need for strengthening and standardizing methods used for the evaluation of these technologies in order to adequately respond to the multidisciplinary nature of HTA
Thank you for attention!

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