



An open source MCDA-based framework adaptable to the continuum of healthcare decisionmaking

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Healthcare decisionmaking continuum



Addressing health needs



→ Common road map: Which interventions contribute the most to patient health and to an equitable, efficient and sustainable healthcare system?

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→ Structure the natural thinking process (criteria, relative importance)

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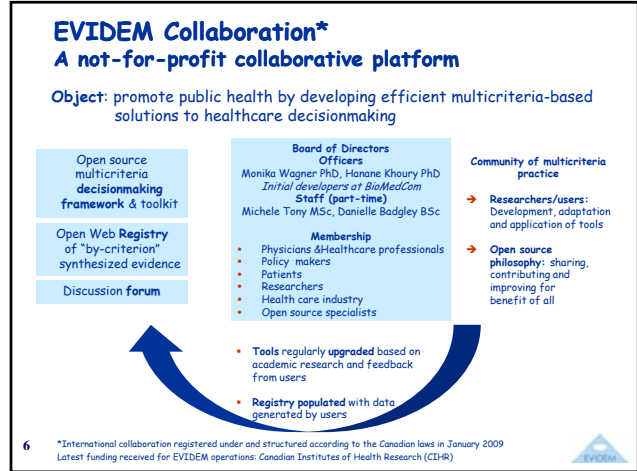
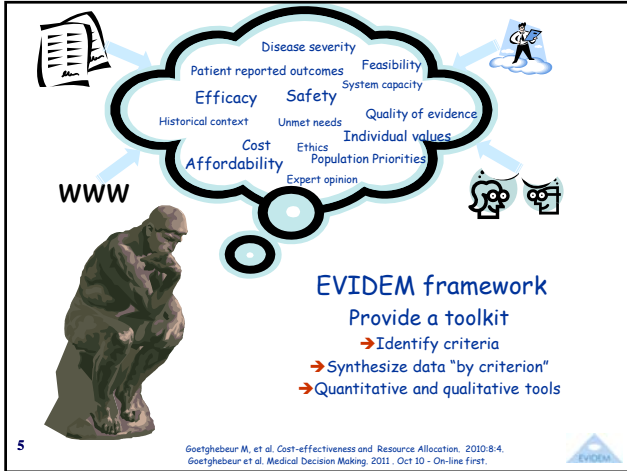
Baltussen & Niessen. Cost Eff Resour Alloc. 2006;4:14



→ Find the evidence (scientific and colloquial)

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Battista RN. IJTAHC 2006; 22(3): 275.



EVIDEM conceptual approach

Generic framework to facilitate reflection on all aspects of healthcare decision across all stakeholders to assess interventions

- ❖ **MCDAs principles**
 - ❖ Criteria should be complete
 - ❖ With minimum overlap
 - ❖ Mutually independent
 - ❖ Operationalizable
- ❖ **Includes an adaptable set of criteria***
 - ❖ MCDAs Core Model
 - ❖ Contextualization Tool

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*Criteria identified from extensive analysis of literature and decisionmaking processes, feedback from users and selected to fulfill MCDAs principles; categorized based on WHO normative and feasibility principles

EVIDEM MCDA Core Model
What should we do? Which interventions contribute the most to health and equitable sustainable systems?

Includes 15 universal normative criteria and assumes that:

→ Interventions that contribute the most are:

- ❖ For severe disease (D1)
- ❖ For common disease (D2)
- ❖ For disease with many unmet needs (C2)
- ❖ Recommended by expert consensus (C1)
- ❖ Conferring major improvement in efficacy/effectiveness over standard of care (I1)
- ❖ Conferring major improvement in safety & tolerability over standard of care (I2)
- ❖ Conferring major improvement of patient perceived health over standard of care (I3)
- ❖ Either conferring major risk reduction (T1) or major alleviation of suffering (T2)
- ❖ That results in savings in healthcare intervention expenditures (E1) as well as other medical and non medical expenditures (E3); *cost-effective (E2)**
- ❖ For which there is sufficient data (Q1), that is fully reported (Q2) and valid and relevant (Q3)

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*Cost-effectiveness is a composite of some elements of other criteria and does not comply with the non-redundancy design requirement of MCDA. It may be included in the framework since many decisionmaking processes currently rely on this composite measure.

EVIDEM Contextualization Tool

What is our context and what can be done?

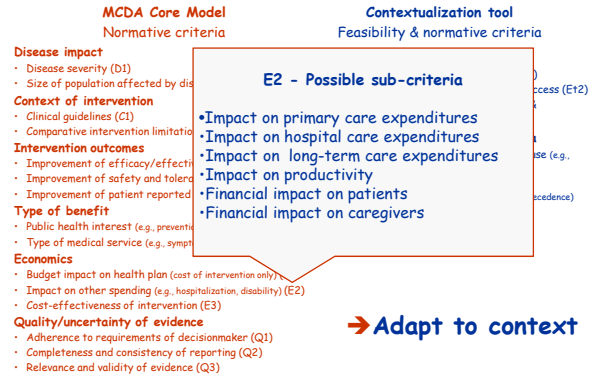
Includes 6 criteria

- ➔ Define objectives of healthcare system & population priorities - **2 contextual normative criteria**
- ❖ Alignment with scope and mission of health care system/plan (Et1)
- ❖ Defining country/jurisdictional priorities for populations & access (Et2)
- ➔ **4 Feasibility criteria**
- ❖ Exploring opportunity costs (forgone interventions) and affordability (Et3) (financial/budgeting exercise)
- ❖ Verifying system capacity (e.g., infrastructure, skills) and appropriate use of intervention (O1)
- ❖ Assessing political/historical context (e.g. cultural acceptability, precedence) (O2)
- ❖ Realizing pressures/barriers from healthcare stakeholders (O3)

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EVIDEM framework



10 *Includes an ethical framework based on WHO ethical principles of resource allocation

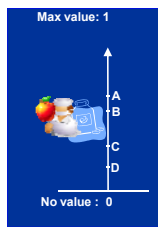


Appraise & rank interventions

Based on the criteria included in your model which defines what contributes the most to health and health systems

Adapted MCDCA Core Model

$\sum NW \text{Weights} \times \text{Scores} = \text{Value}$



What should we do?
Normative criteria

Recommendation

Adapted Contextualization Tool

Qualitative impact of context

A

B

C

D

Financial Exercise

B=\$0.01M

A=\$1M

C=\$0.01M

D=\$1M

Invest

AND

Disinvest

What can we do?
Feasibility criteria

Decision

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Users & applications

Users	Applications
❖ Decisionmakers	
Policy (macro/meso)	➤ Priority setting ➤ Regulatory ➤ Reimbursement
Physicians & healthcare professionals	➤ Clinical practice guidelines (CPGs) ➤ Seamless access to evidence
Patients	➤ Access to digested & validated information
❖ HTA developers	➤ By-criterion HTA report ➤ Web-based multilevel evidence
❖ Research	➤ Identify research questions/data needs ➤ Research planning ➤ Explore the decisionmaking process
❖ Developers of new healthcare interventions/ programs	➤ Development ➤ Positioning ➤ Data gap analysis
❖ All	➤ Communication (evidence and values) ➤ Knowledge translation

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Strengths and challenges

Strengths	Challenges
Utility to decisionmakers <ul style="list-style-type: none"> Adaptable to context Systematize decision process Quantitative and qualitative aspects combined Identify criteria and perspectives at play Evaluations based on wide range of criteria Transparency 	<ul style="list-style-type: none"> Perception of complexity Integration into existing processes Degree of quantification Risk of using MCDA as a formula rather than as a support to decisionmaking
Methodology <ul style="list-style-type: none"> Pragmatic, user-oriented and modular Open source development (benefit from others' experience) 	<ul style="list-style-type: none"> Criteria selection Weighting process Scoring scales
Data requirements <ul style="list-style-type: none"> Comprehensive but modular Open web registry (benefit from others' work) 	<ul style="list-style-type: none"> Data synthesis "by-criterion"
Capacity/training requirements <ul style="list-style-type: none"> Community of users and developers building up 	<ul style="list-style-type: none"> Limited MCDA expertise in healthcare

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On the agenda

- ❖ Methodological development (e.g., sub-criteria, weighting elicitation techniques, data synthesis)
- ❖ Field adaptation and implementation
- ❖ Discussion forum - community of multicriteria practice
 - ➔ Collaboratively optimize open source framework & toolkit
- ➔ Optimize resources, decisions, priority-setting and patient health

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- ❖ Active members of the EVIDEM Collaboration

Thank you

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