Session 1: Facilitating review and data reuse across the research ecosystem

Enhancing the evidence ecosystem for more flexible and efficient data reuse: guideline perspective

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Enhancing the evidence ecosystem for more flexible and efficient data reuse; guideline perspective

For Cochrane Methods Symposium, Session 1

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Declaration of interest: CEO and co-founder MAGIC
Meet John, hospitalized with a new stroke, ready for discharge
65 yrs old, DM2, CVD (on insulin, metformin, clopidogrel and statins), BMI 33
What about SGLT2-I or GLP-RA to reduce cardiorenal outcomes?

How make sure John gets the right treatment, at the right time in 2023?
How can we enhance the evidence ecosystem
to more efficiently create, re-use and share trustworthy health data?
Agenda

• Clinical practice guideline perspective
  – Progress in EBM standards and methods
  – Why bother with Evidence Ecosystems
  – Experiences from MAGIC
  – Adding multiple comparisons and living evidence to existing challenges with sharing, reusing data

• Wishes from guideline developers and key challenges for systematic reviewers

• A brighter future moving forward together?
Health care professionals (and their patients) need guidelines to be trustworthy, timely and accessible.

Organisations need to apply best current standards, methods, platforms and processes.

Great advances in EBM and digitalization can enhance the evidence ecosystem now.
Why bother with Evidence Ecosystems?
How can we let data flow seamlessly from production to impact on care?
Here is one model with key requirements, what about the people?
Standards for trustworthy clinical practice guidelines put high quality systematic reviews and evidence summaries at the core.

*Table 1. Summary of the Institute of Medicine’s Proposed Standards for a Trustworthy Guideline*

- Has an explicit description of development and funding processes that is publicly accessible.
- Follows a transparent process that minimizes bias, distortion, and conflicts of interest.
- Is developed by a multidisciplinary panel comprising clinicians, methodological experts, and representatives, including a patient or consumer, of populations expected to be affected by the guideline.
- Uses rigorous systematic evidence review and considers quality, quantity, and consistency of the aggregate of available evidence.
- Summarizes evidence (and evidentiary gaps) about potential benefits and harms relevant to each recommendation.
- Explains the parts that values, opinion, theory, and clinical experience play in deriving recommendations.
- Provides a rating of the level of confidence in the evidence underpinning each recommendation and a rating of the strength of each recommendation.
- Undergoes extensive external review that includes an open period for public comment.
- Has a mechanism for revision when new evidence becomes available.
Advanced methods for appraising and presenting evidence
Using common method (e.g., GRADE) is key, but how can we optimally share and re-use such evidence summaries in user-friendly formats (interactive SoFs)

So, what is the right treatment for John? Hold on, there is more to it....
Example of adding technology to advances in EBM
Digitally structured, computable and multilayered guideline content

**PICOs, evidence summaries (including individual outcomes) and recommendations can be exported/ imported and updated one at a time, with full version control**

For patients with non-severe COVID-19 at **high** risk of hospitalization

**Conditional recommendation for**

We suggest treatment with remdesivir (**conditional recommendation for**).
Enhance processes for efficiency and reduced waste
Our MAGIC lab to innovate the evidence ecosystem, why did we end up doing almost all systematic reviews ourselves, across 22 guidelines?
A guideline answering John, beware multiple options
NMA-update with 10 000 effect estimates, straight from R to MATCH-IT tool

John chose a GLP1-RA through shared decision-making
How share, re-use and dynamically update such complex evidence?
Machine versus human readable (visualizing data)?
COVID-19 breakthrough for living guidelines

Living evidence is here to stay: a call for action while adding challenges

Decision makers need ‘living’ evidence synthesis

Julian H. Elliott, Rebecca Lawrence, Jan C. Minx, Olufemi T. Oladapo, Philippe Ravaud, Britta Tendal Jeppesen, James Thomas, Tari Turner, Per Olav Vandrivik & Jeremy M. Grimshaw
Living guidelines enhancing the evidence ecosystem now
Powered by living systematic reviews and NMA for COVID-19 clinical management
Wishes and key challenges, within the evidence ecosystem
Premise: Guidelines useful end-products to get health data and evidence right
In summary: Moving forward together for trusted evidence
Need to close the loop and show we can truly share data, evidence and work globally

Word of caution: Warrants explicit agreement on and use of best current