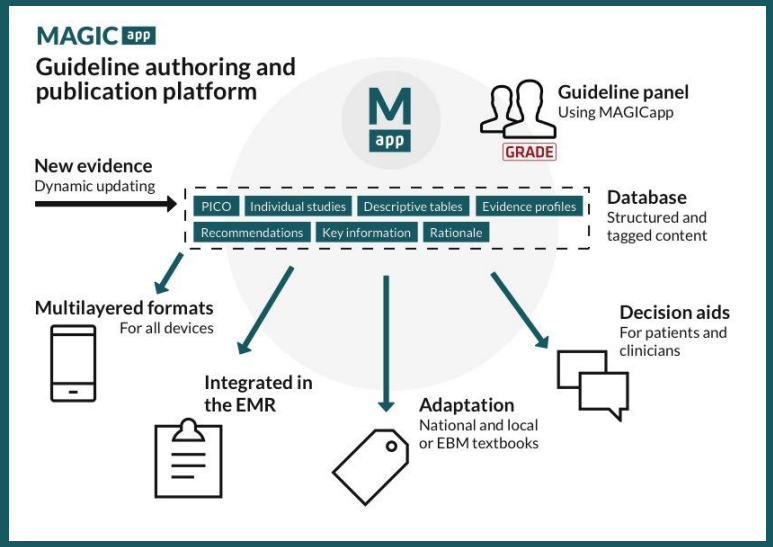
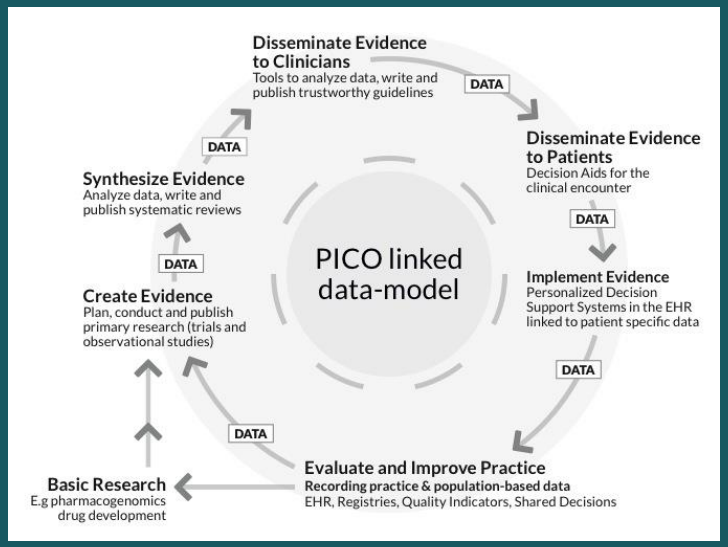
MAGIC making GRADE the irresistible choice

# MAGICapp for evidence synthesizers

## in an emerging Trustworthy and Digital Evidence Ecosystem




Cochrane Webinar August 23 2017

**Per Olav Vandvik**, associate professor MD, Ph.D

Disclosures: Head of MAGIC, a non-profit research and innovation program

folkehelseinstituttet Sykehuset Innlandet HF UiO : University of Oslo UNIVERSITÉ DE GENÈVE FACULTÉ DE MÉDECINE

# MAGICapp for evidence synthesizers?

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## Cochrane and MAGIC announce partnership

- News and Events
  - Featured Reviews
  - Jobs
  - Making a Difference

Print

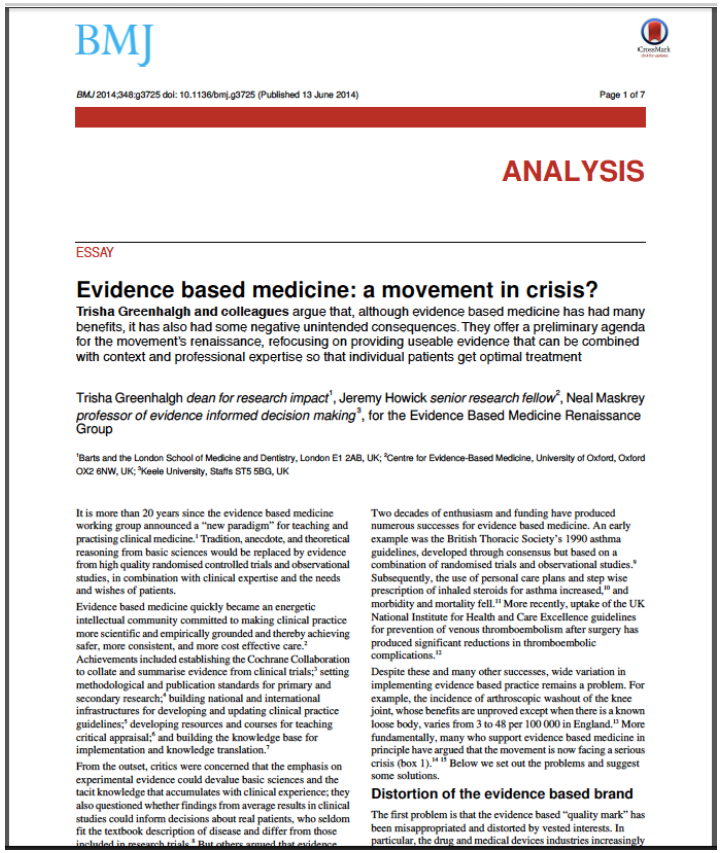
Cochrane and MAGIC are delighted to announce the launch of an official partnership, aimed at supporting and further strengthening the use of health evidence within the context of a digital and trustworthy evidence ecosystem for health care.

MAGIC (formally known as the MAking GRADE the Irresistible Choice (MAGIC) organization) is a non-profit research and innovation programme set up to make evidence summaries and recommendations that work for clinicians at the point of care and to facilitate shared decision-making with patients. Established in 2010, the MAGIC project has, among a number of other initiatives, developed the MAGICapp, a web-based platform for preparing guidelines using structured data systems and validated methods.

# 2016: Time for a post-guidelines era in health care?

Major limitations EBM and guidelines

- Developers
  - Not trustworthy, ignore other knowledge
  - Resource-demanding, extreme duplication
- Clinicians and patients
  - Available, useful, understandable ?
  - Allow shared, personalized decisions?
  - Up to date?
  - Integrated in the electronic health record?



BMJ

BMJ 2014;348:g3725 doi: 10.1136/bmj.g3725 (Published 13 June 2014) Page 1 of 7

ANALYSIS

ESSAY

**Evidence based medicine: a movement in crisis?**

**Trisha Greenhalgh and colleagues** argue that, although evidence based medicine has had many benefits, it has also had some negative unintended consequences. They offer a preliminary agenda for the movement's renaissance, refocusing on providing useable evidence that can be combined with context and professional expertise so that individual patients get optimal treatment

Trisha Greenhalgh *dean for research impact*[1], Jeremy Howick *senior research fellow*[2], Neal Maskrey *professor of evidence informed decision making*[3], for the Evidence Based Medicine Renaissance Group

[1]Barts and the London School of Medicine and Dentistry, London E1 2AB, UK; [2]Centre for Evidence-Based Medicine, University of Oxford, Oxford OX2 6NW, UK; [3]Keele University, Staffs ST5 5BG, UK

It is more than 20 years since the evidence based medicine working group announced a "new paradigm" for teaching and practising clinical medicine.[1] Tradition, anecdote, and theoretical reasoning from basic sciences would be replaced by evidence from high quality randomised controlled trials and observational studies, in combination with clinical expertise and the needs and wishes of patients.

Evidence based medicine quickly became an energetic intellectual community committed to making clinical practice more scientific and empirically grounded and thereby achieving safer, more consistent, and more cost effective care.[2] Achievements included establishing the Cochrane Collaboration to collate and summarise evidence from clinical trials;[3] setting methodological and publication standards for primary and secondary research;[4] building national and international infrastructures for developing and updating clinical practice guidelines;[5] developing resources and courses for teaching critical appraisal;[6] and building the knowledge base for implementation and knowledge translation.[7]

From the outset, critics were concerned that the emphasis on experimental evidence could devalue basic sciences and the tacit knowledge that accumulates with clinical experience; they also questioned whether findings from average results in clinical studies could inform decisions about real patients, who seldom fit the textbook description of disease and differ from those included in research trials.[8] But others argued that evidence

Two decades of enthusiasm and funding have produced numerous successes for evidence based medicine. An early example was the British Thoracic Society's 1990 asthma guidelines, developed through consensus but based on a combination of randomised trials and observational studies.[9] Subsequently, the use of personal care plans and step wise prescription of inhaled steroids for asthma increased,[10] and morbidity and mortality fell.[11] More recently, uptake of the UK National Institute for Health and Care Excellence guidelines for prevention of venous thromboembolism after surgery has produced significant reductions in thromboembolic complications.[12]

Despite these and many other successes, wide variation in implementing evidence based practice remains a problem. For example, the incidence of arthroscopic washout of the knee joint, whose benefits are unproved except when there is a known loose body, varies from 3 to 48 per 100 000 in England.[13] More fundamentally, many who support evidence based medicine in principle have argued that the movement is now facing a serious crisis (box 1).[14 15] Below we set out the problems and suggest some solutions.

**Distortion of the evidence based brand**

The first problem is that the evidence based "quality mark" has been misappropriated and distorted by vested interests. In particular, the drug and medical devices industries increasingly

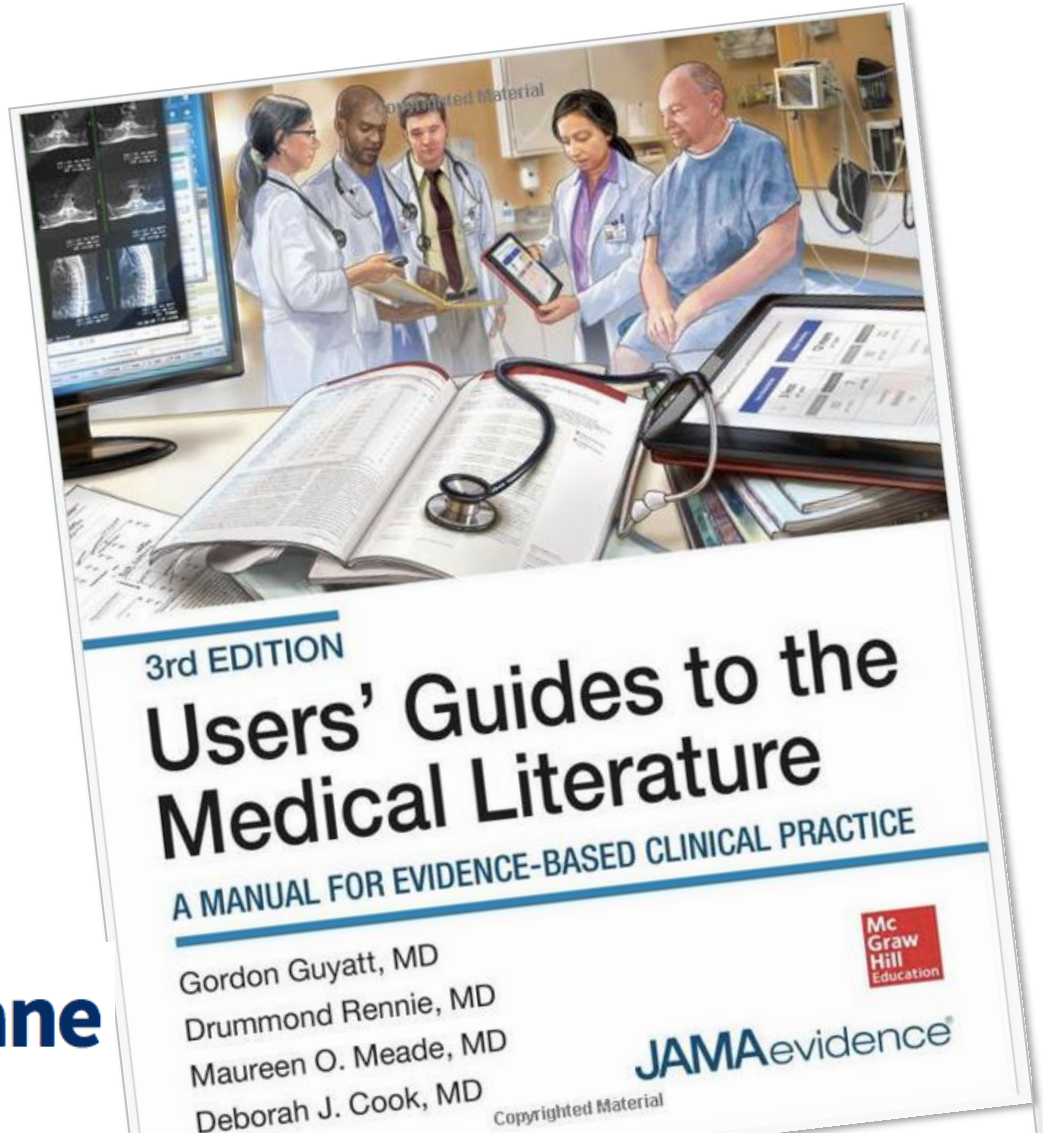
**Time to respond to calls from the opponents?**



3

**Major challenges with EBM, systematic reviews and guidelines** but also advances in standards, methods and tools..

CLINICAL PRACTICE GUIDELINES WE CAN TRUST




Guidelines International Network

Cochrane

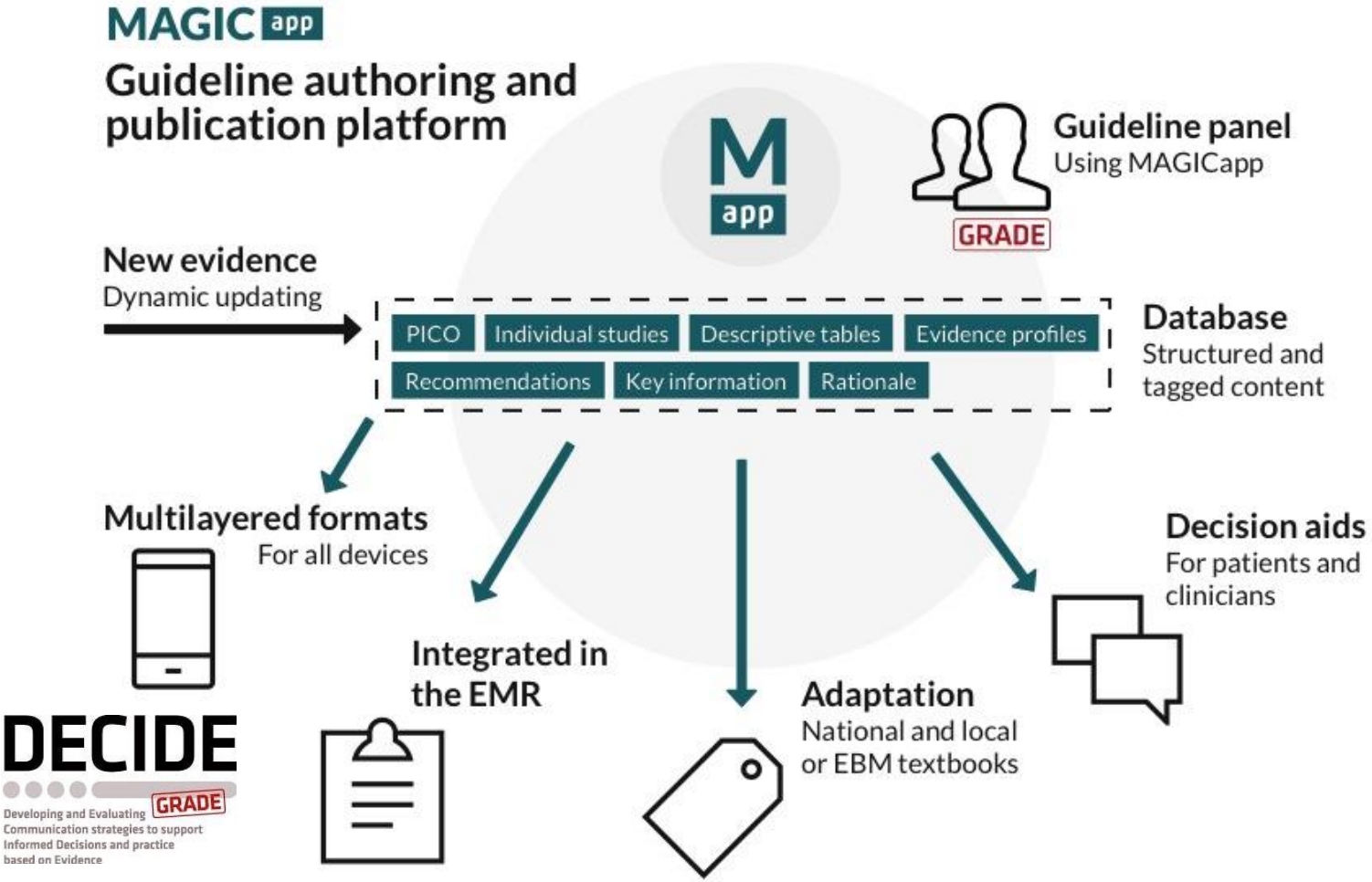
GRADE



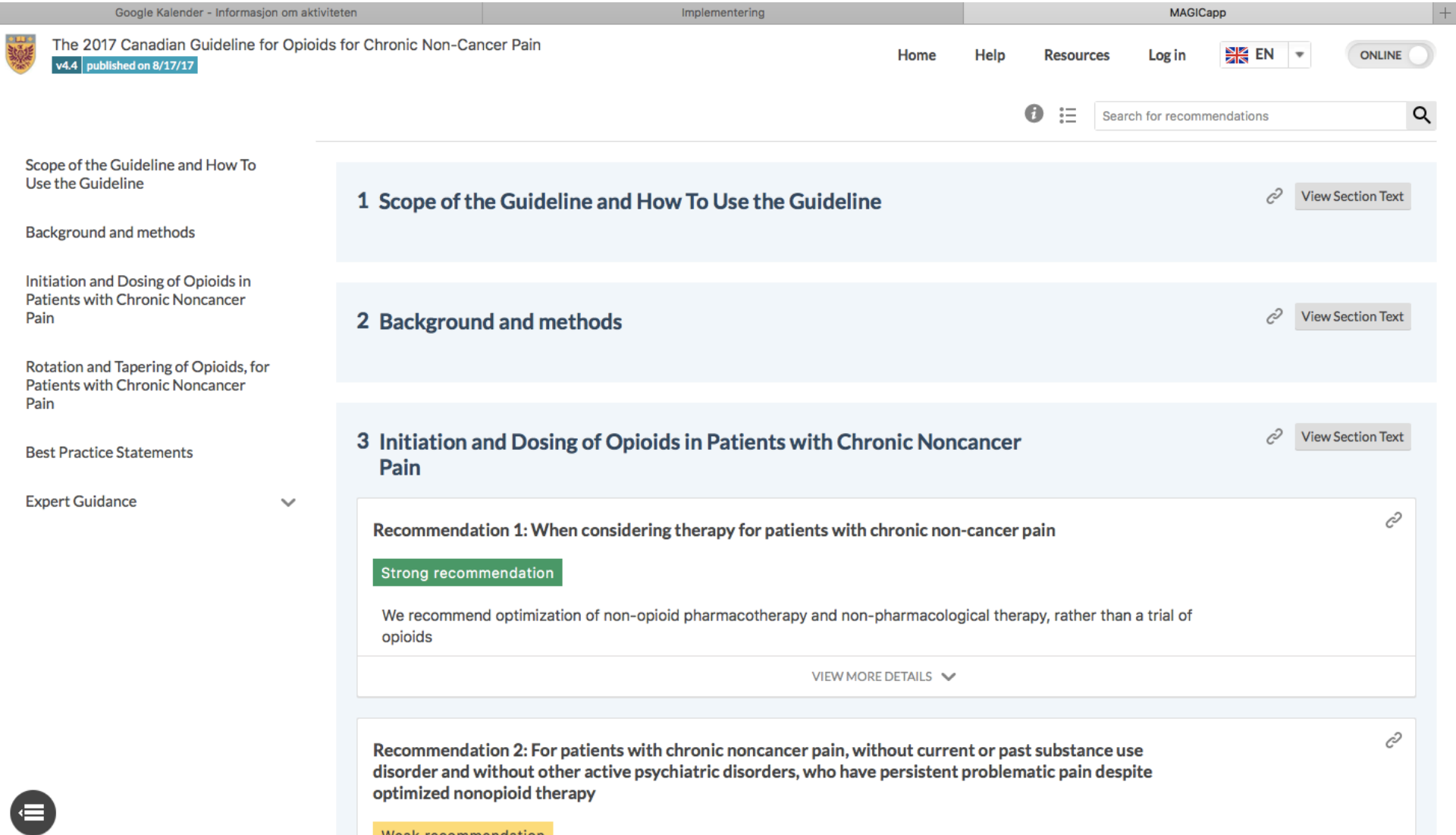
4

## Can technology help? Platforms and tools ready for use

(e.g., www.magicapp.org)



# A peek into MAGICapp, for end-users and authors



# Challenges beyond guidelines, for patients and society

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Guidelines International Network

THE LANCET

A new Lancet Series

increasing value
reducing waste
in research

International Forum on
QUALITY & SAFETY
in HEALTHCARE
Paris 2014

## Do not despair, we are not lost;-)

Visionary “techy, fun and nice to work with” people in our community linking data in platforms through G-I-N/ Cochrane/ GRADE Tech

covidence

Epistemonikos

GRADEpro GDT

Cochrane

MAGIC app

EBMeDS® Clinical Decision Support

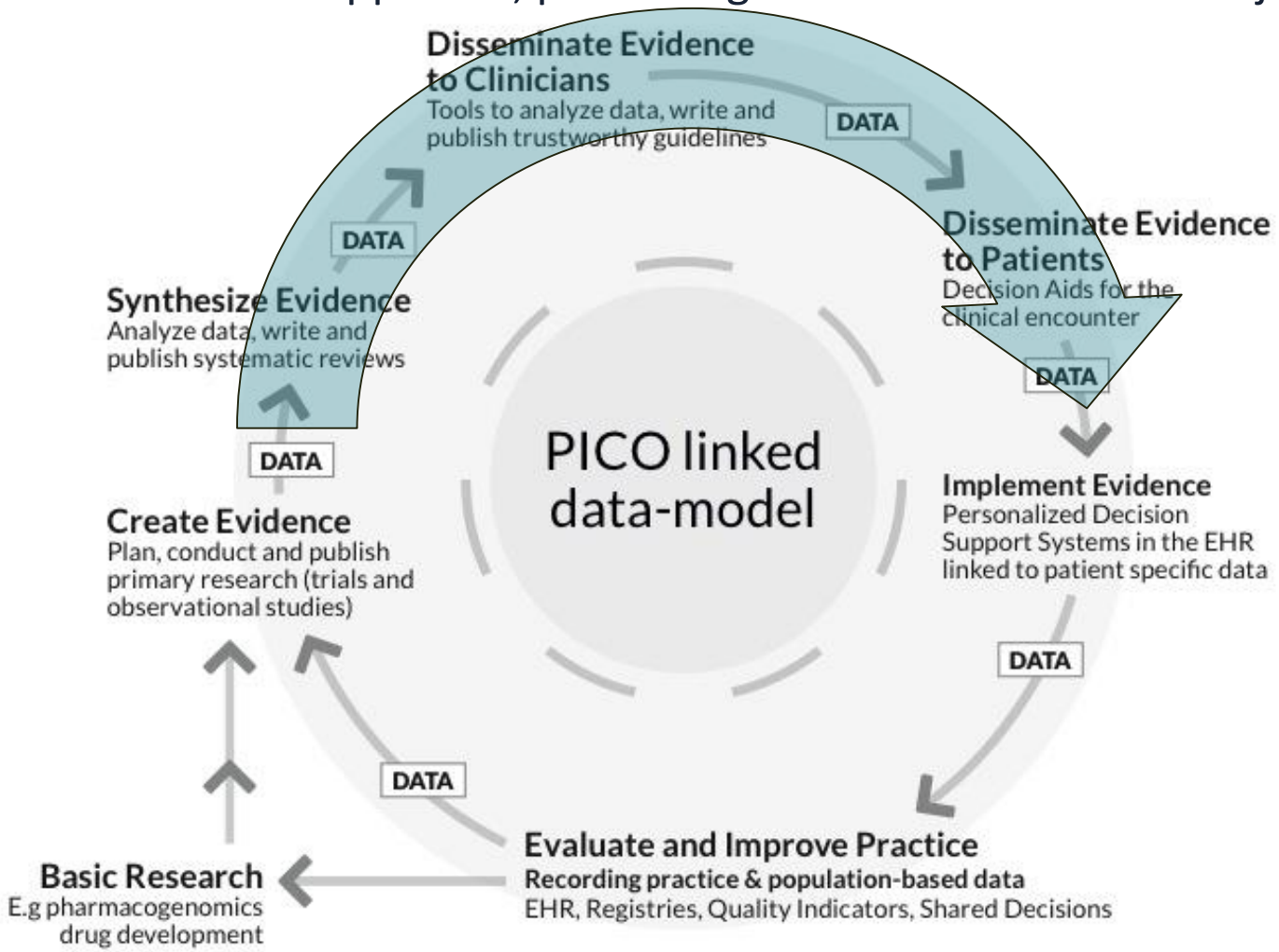
DynaMed Plus

# Our vision:
# A Digital and Trustworthy Evidence Ecosystem

# Some hurdles to overcome: Organizations fit for purpose?

How can we rapidly get potentially practice-changing evidence into practice?

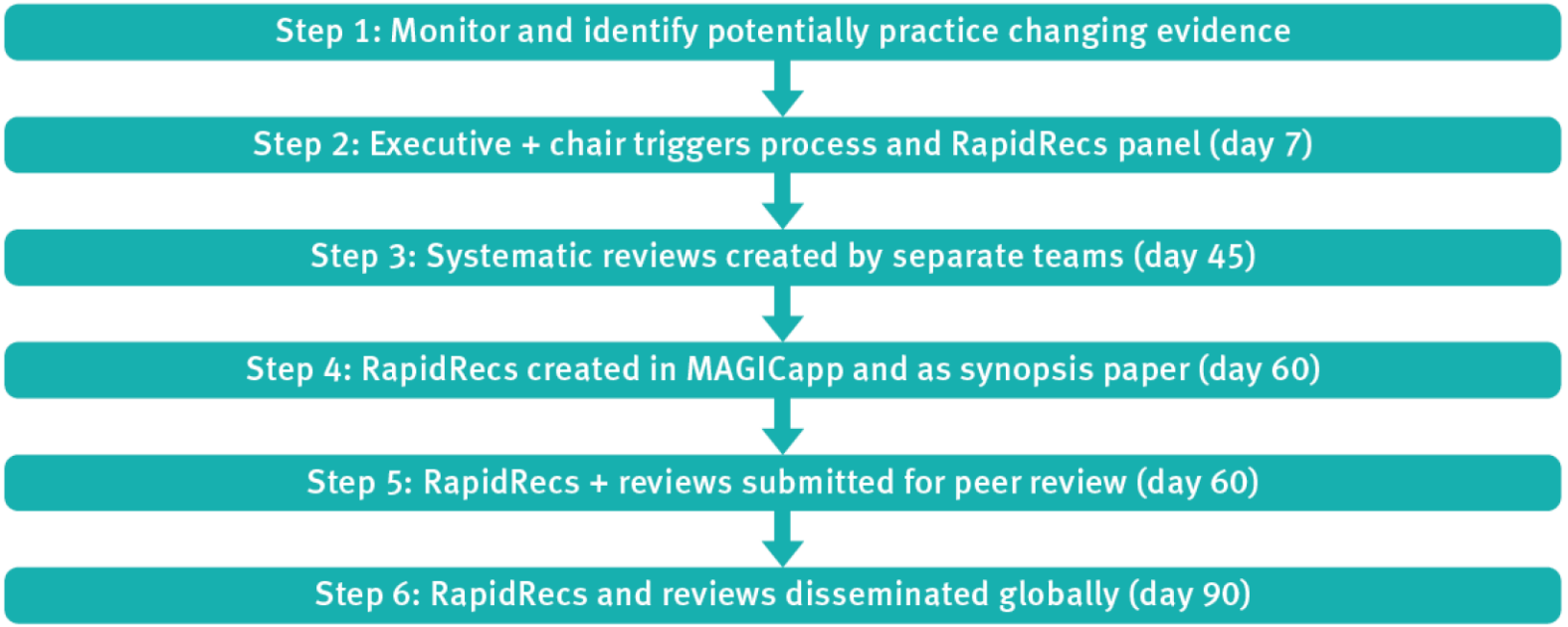
Collaborative network approach, partnering with innovative medical journal?



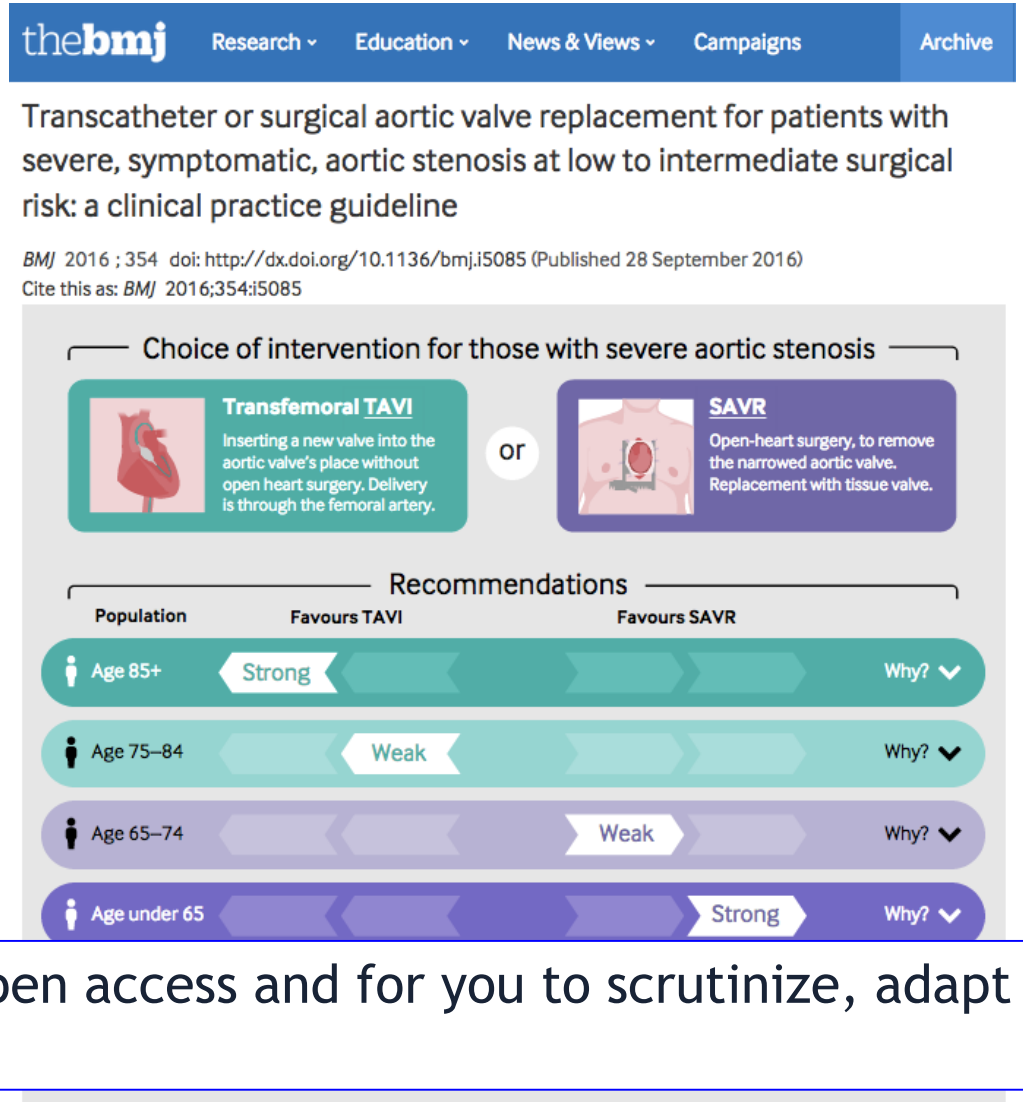
# The BMJ-RapidRecs project: methods and process

- Guideline panel, network of the right people
  - ✓ Trustworthy guideline standards, GRADE
  - ✓ Focus on conflict of interest, patient involvement….
- Linked high quality systematic reviews
  - ✓ effects, prognosis, values and preferences
  - ✓ Separate teams, closely interacting with guideline panel

Rapid Recommendations process step by step (with target times)



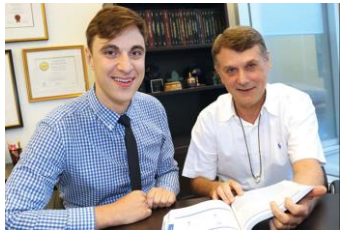
# BMJ Rapid Recommendations, check it out…*




* All papers open access and for you to scrutinize, adapt and use for your purposes

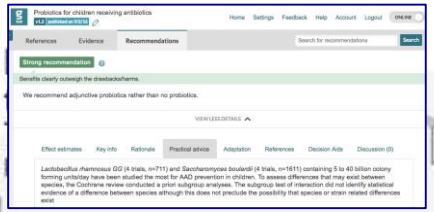
# Digital and Trustworthy Evidence Ecosystem

From RapidRecs pilot to closing the loop in Finland and Belgium



NNT=10

23 trials
n=4000

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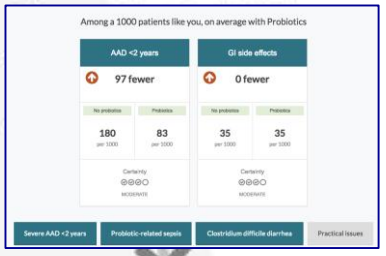


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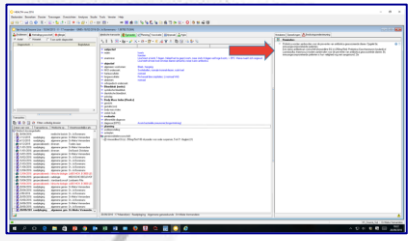
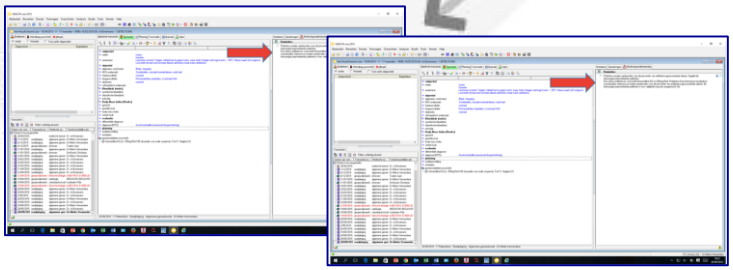


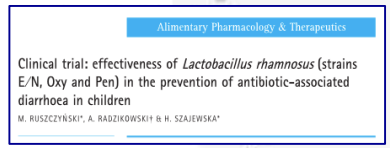
Offer probiotics

DATA



Baseline:
3 of 100 offered probiotics

DATA

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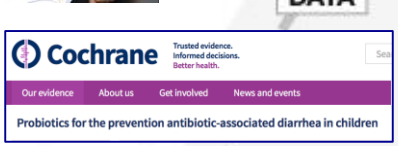
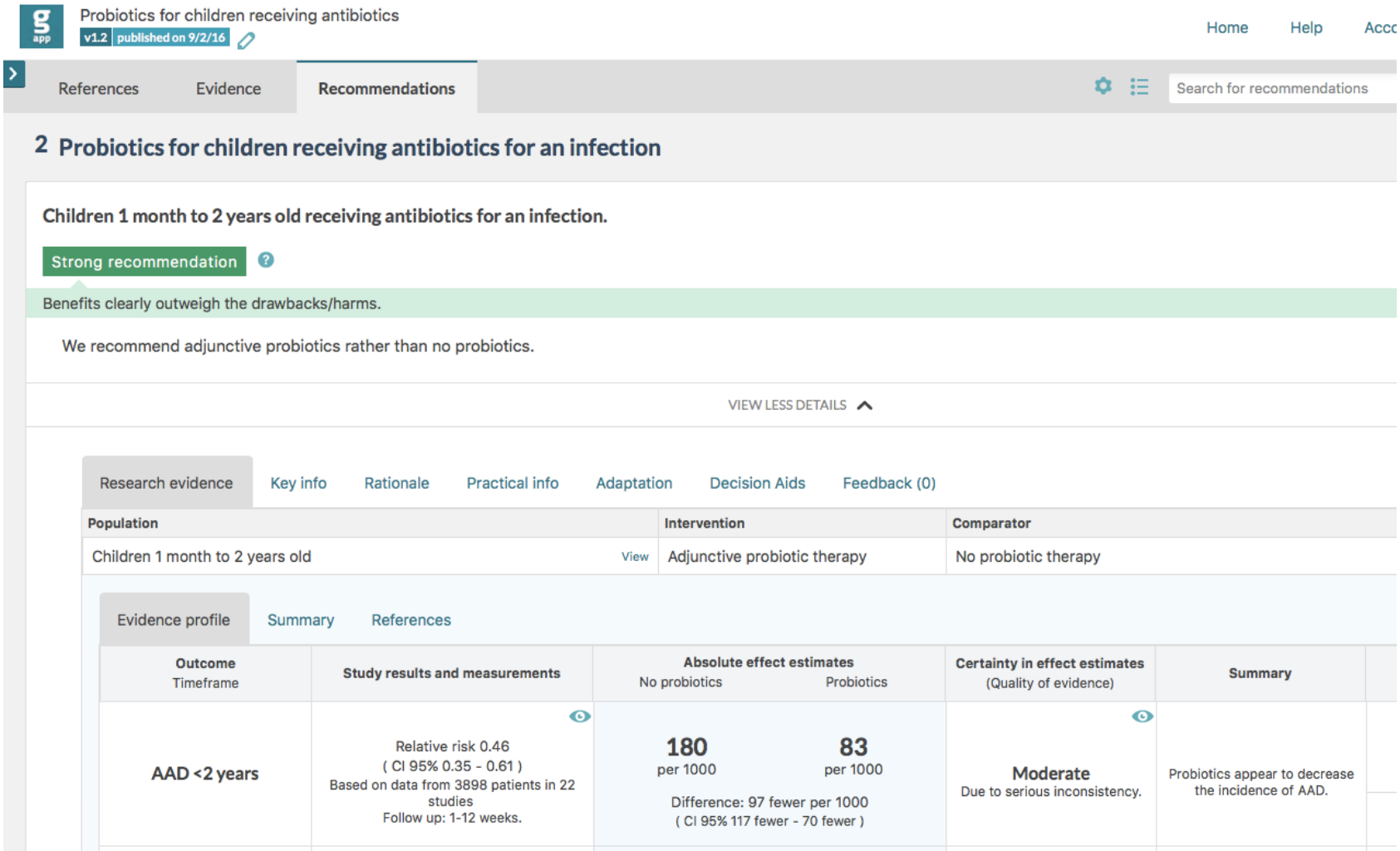


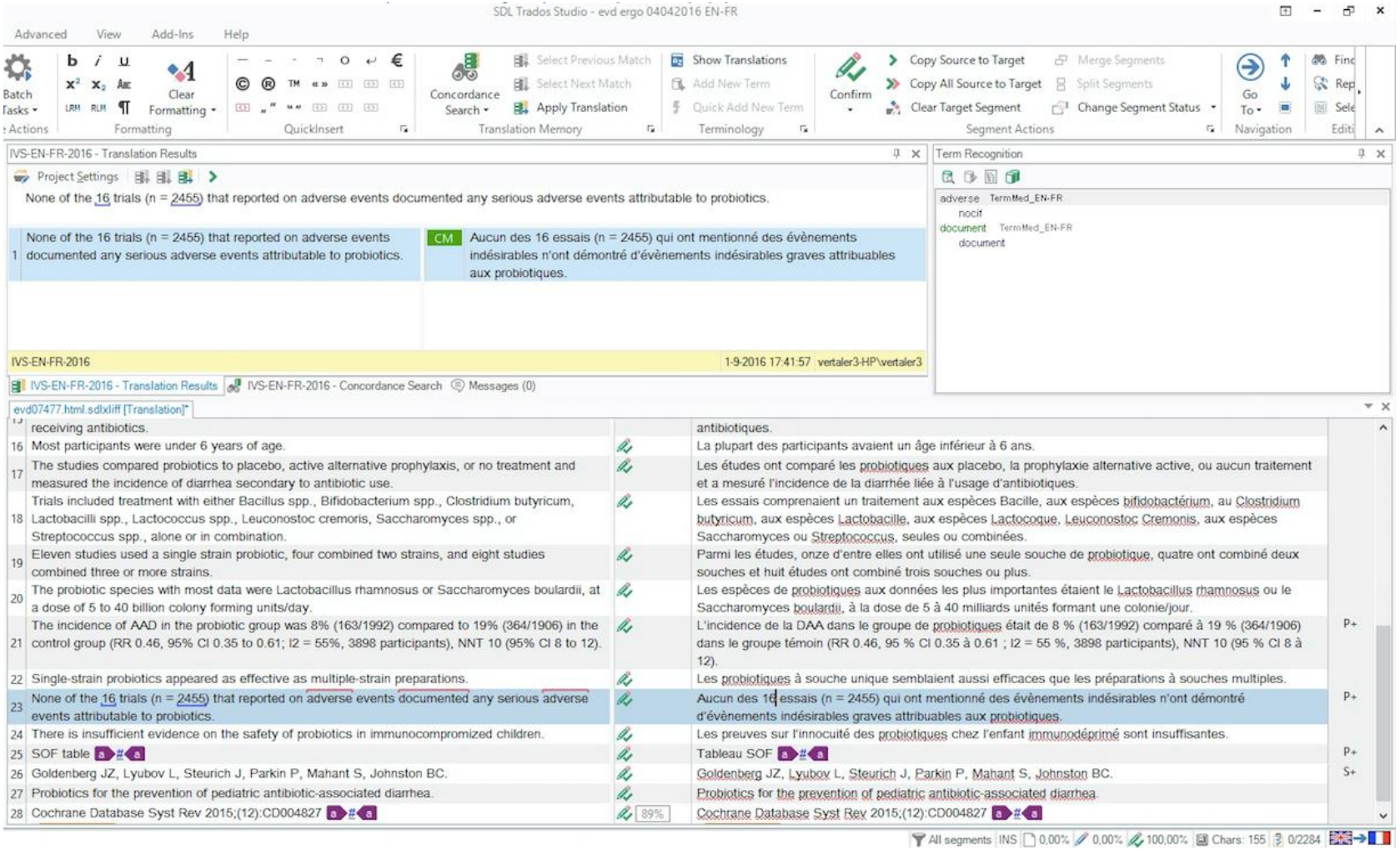

PICO linked data-model

**Basic Research**
E.g pharmacogenomics drug development

# WikiRecs for probiotics in MAGICapp: https://www.magicapp.org/app#/guideline/1170

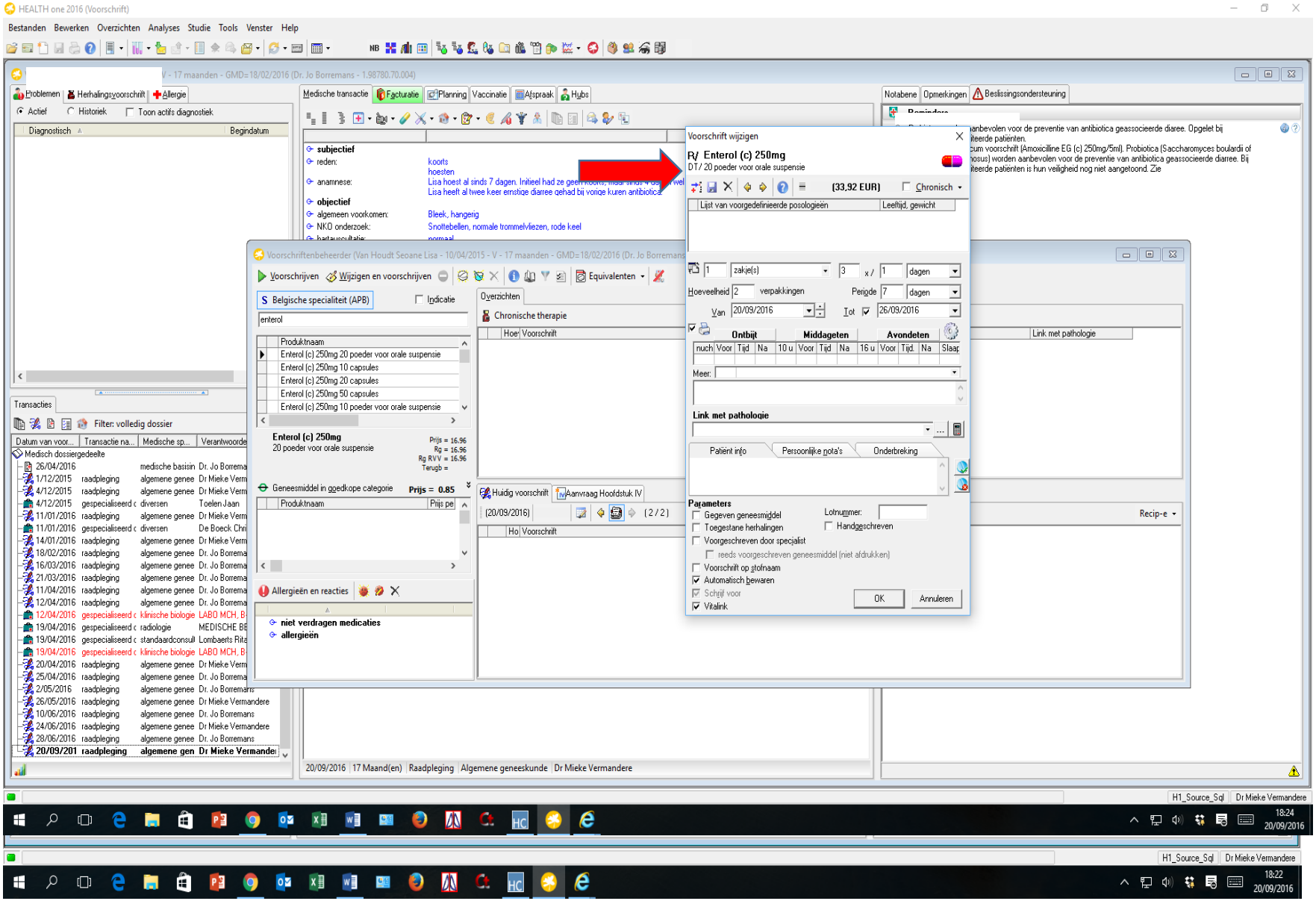


# WikiRecs - EBM guidelines - Translation, adaptation - CDSS in EHR



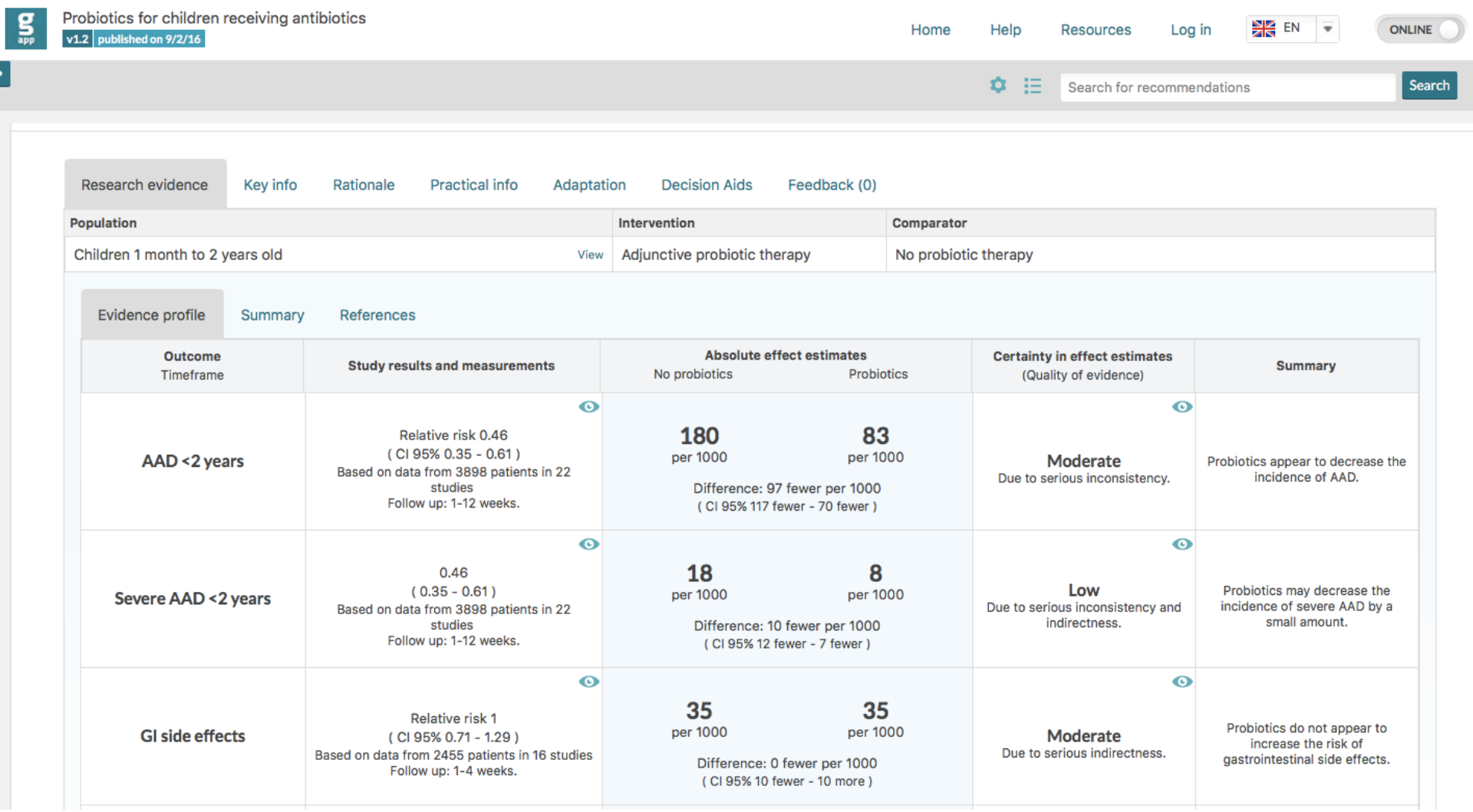
# To practice: Meet “Stella Artois” 17 months old,with pneumonia prescribed with antibiotics in Belgian primary care

# Doctor prescribes antibiotics in the EHR….



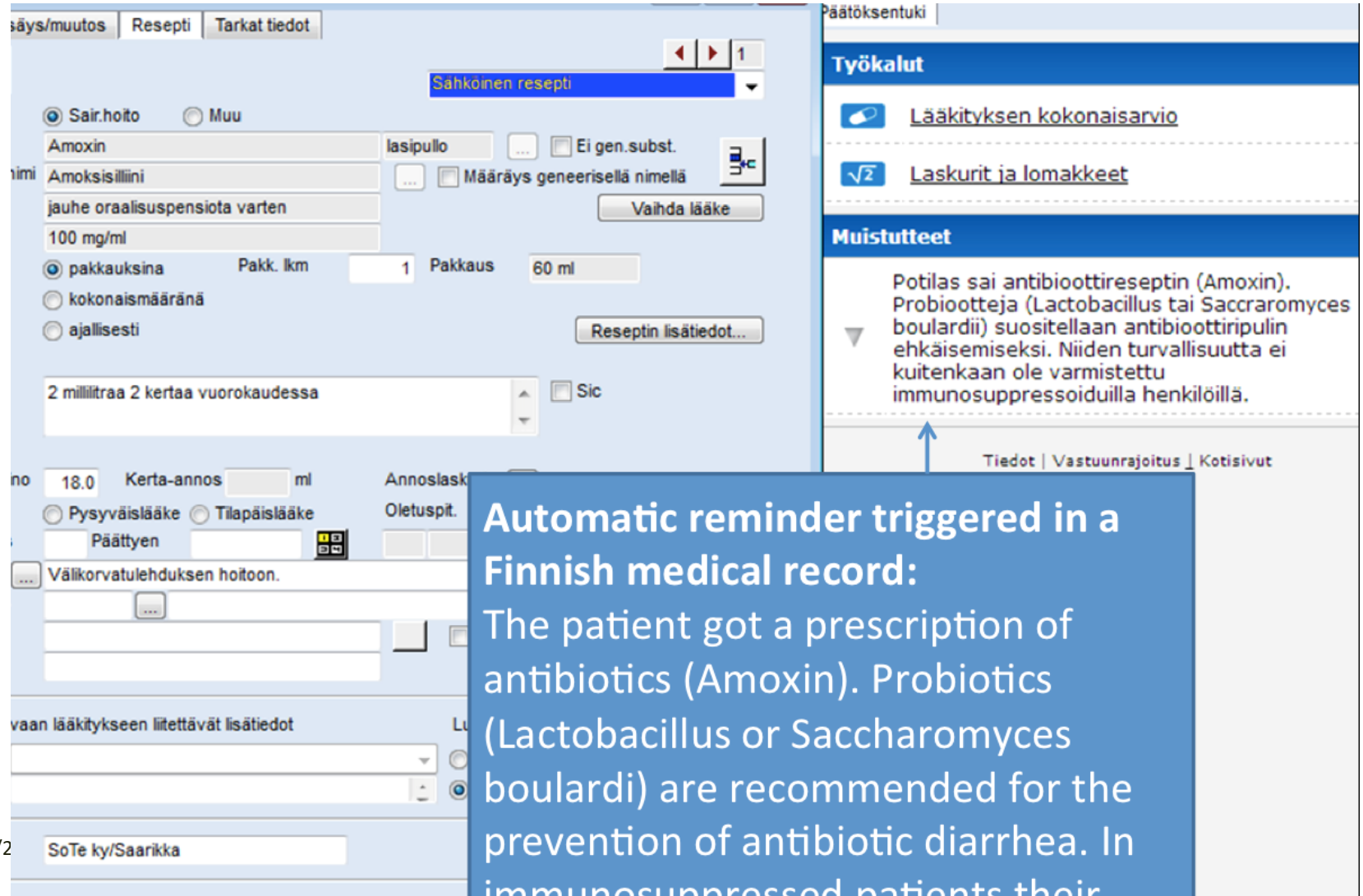
# Drilling back to the Evidence if needed

## EBM guidelines – MAGICapp - all the way to the meta-analysis?



# Acting on – and implementing - the evidence, together

# And same goes for Finland




**Automatic reminder triggered in a Finnish medical record:**

The patient got a prescription of antibiotics (Amoxin). Probiotics (Lactobacillus or Saccharomyces boulardi) are recommended for the prevention of antibiotic diarrhea. In immunosuppressed patients their

## In summary

- Better methods, tools and systems available across an emerging evidence ecosystem in health care

- **People:** culture for sharing work, evidence and common understanding of research methods, including different sources of knowledge

- **Technology:**
  - Rapidly evolving platforms with digitally structured data. G-I-N, Cochrane and others joining forces
  - MAGICapp a useful  tool for evidence synthesizers (?)

- BMJ-RapidRecs as a model: Will organizations get the work done or do we need a disruptive innovation, in health care like elsewhere?

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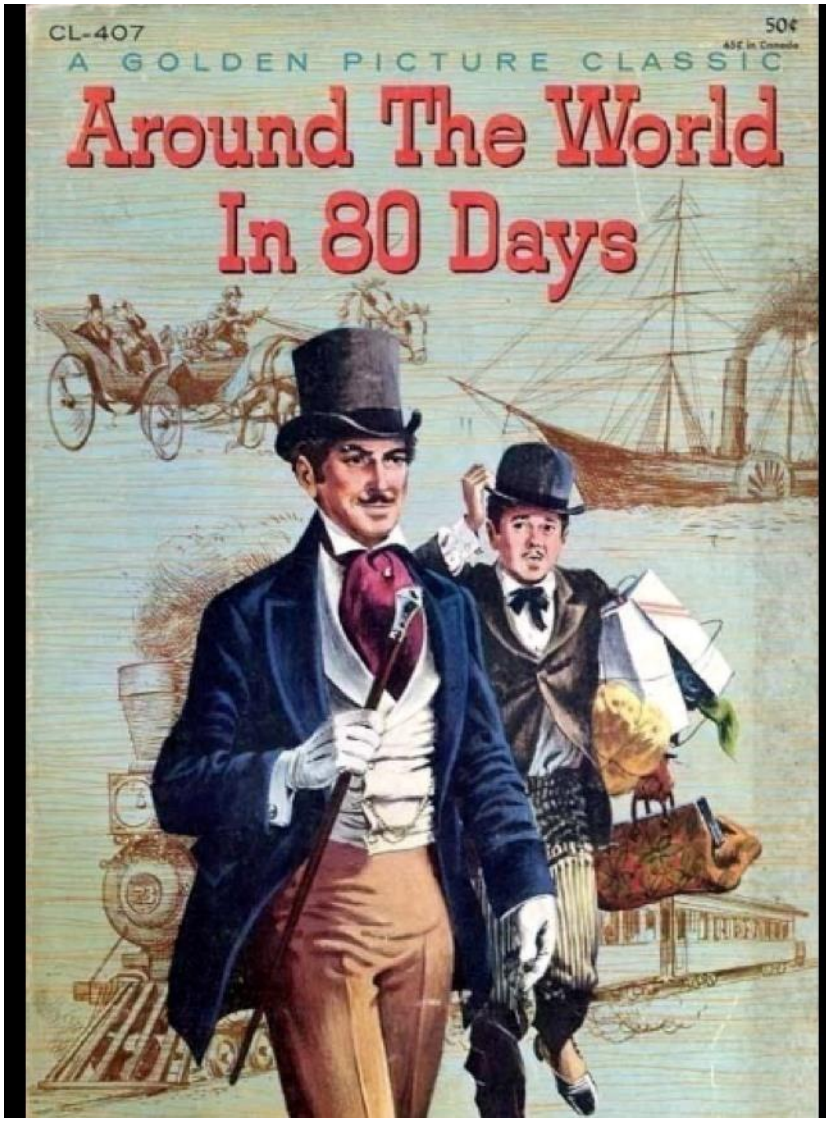
## Ilkka Kunnamo 2016:




Jules Verne imagined that you could travel around the world in 80 days

The Evidence Ecosystem summarized, circulated and implemented the evidence in 85 days

One day evidence can be circulated as quickly as you travel today

Want to join the journey?

# Remaining challenges and unmet needs in the Ecosystem-