



THE ECOSYSTEM OF EVIDENCE

Global challenges for the future

9th International Conference for EBHC Teachers and Developers
8th Conference of the International Society for EBHC
Taormina, 6th-9th November 2019

#EBHC2019

THE ECOSYSTEM OF EVIDENCE

Global challenges for the future

Nino Cartabellotta
GIMBE Foundation

Outline

- **Background**
- **Analysis**
- **Challenges**
- **Proposal**



Outline

- **Background**
- Analysis
- Challenges
- Proposal





8th International Conference for EBHC Teachers and Developers

The ecosystem of evidence

Connecting generation, synthesis and translation

Taormina, 25th – 28th October 2017

The ecosystem of evidence: the way forward

Nino Cartabellotta

GIMBE Foundation



COMMENTARY

The ecosystem of evidence cannot thrive without efficiency of knowledge generation, synthesis, and translation

Antonino Cartabellotta^{a,*}, Julie K. Tilson^b

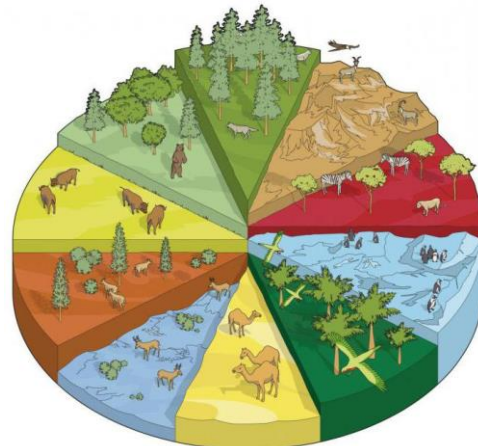
^a*GIMBE Foundation, Via Amendola 2, 40121 Bologna, Italy*

^b*Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, CA, USA*

Accepted 23 January 2019; Published online 30 January 2019

Ecosystem

A community of **living organisms** in conjunction with the **non-living components** of their **environment** (air, water, mineral soil), interacting as a system





The ecosystem of evidence

An ecosystem influenced by:

- **Living organisms:** stakeholders, with their competition, collaboration and conflicts of interest
- **Environment:** social, cultural, economic, political context
- **Non-living component:** evidence



Hospitals

Research funders

Regulatory agencies

Academia, Institutions

Professional bodies

Politicians

Biomedical journals

Citizens

Local health authorities

Industry

Patient associations

Charities

Medical specialty societies

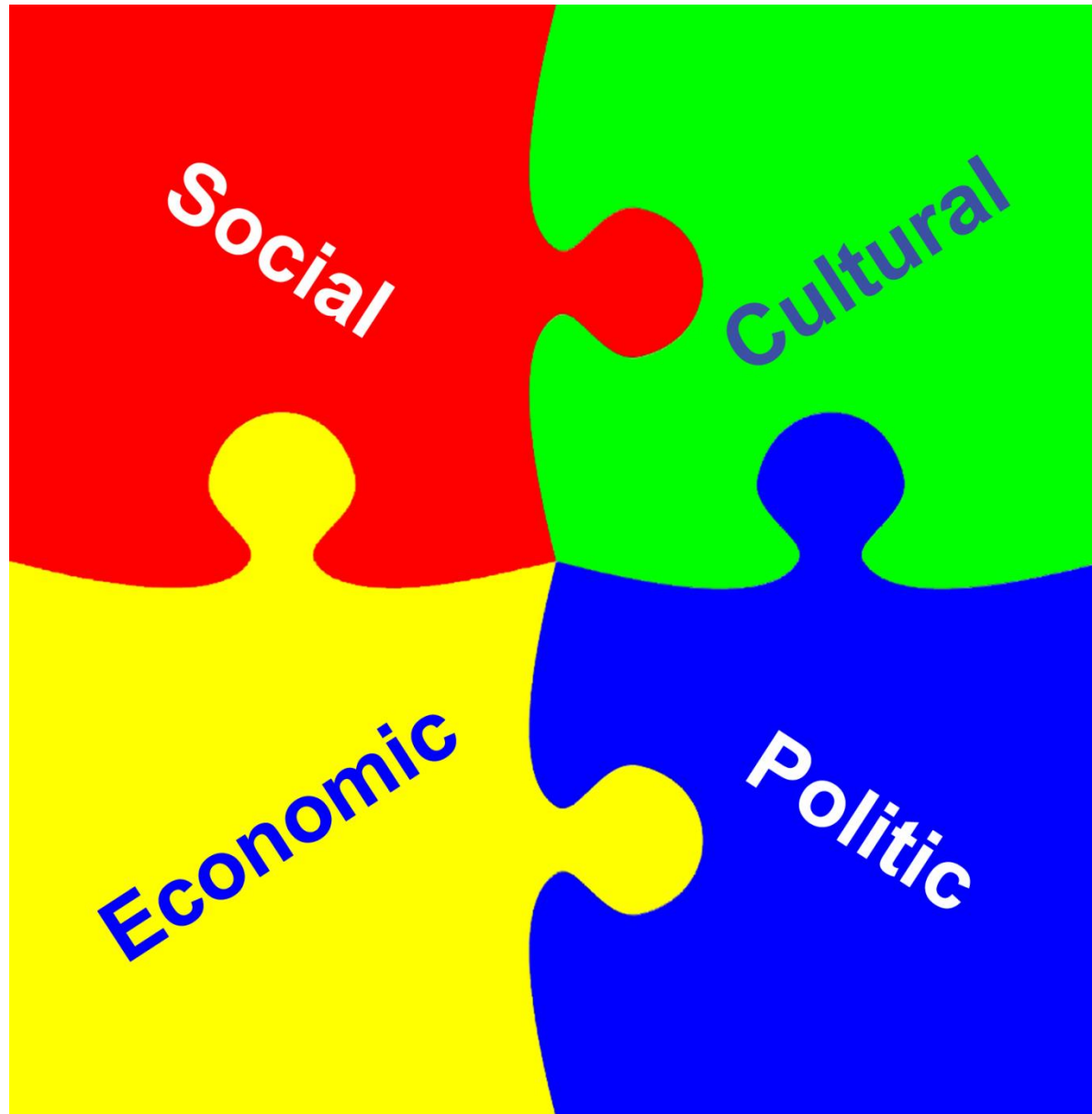
Healthcare managers

Ethical committees

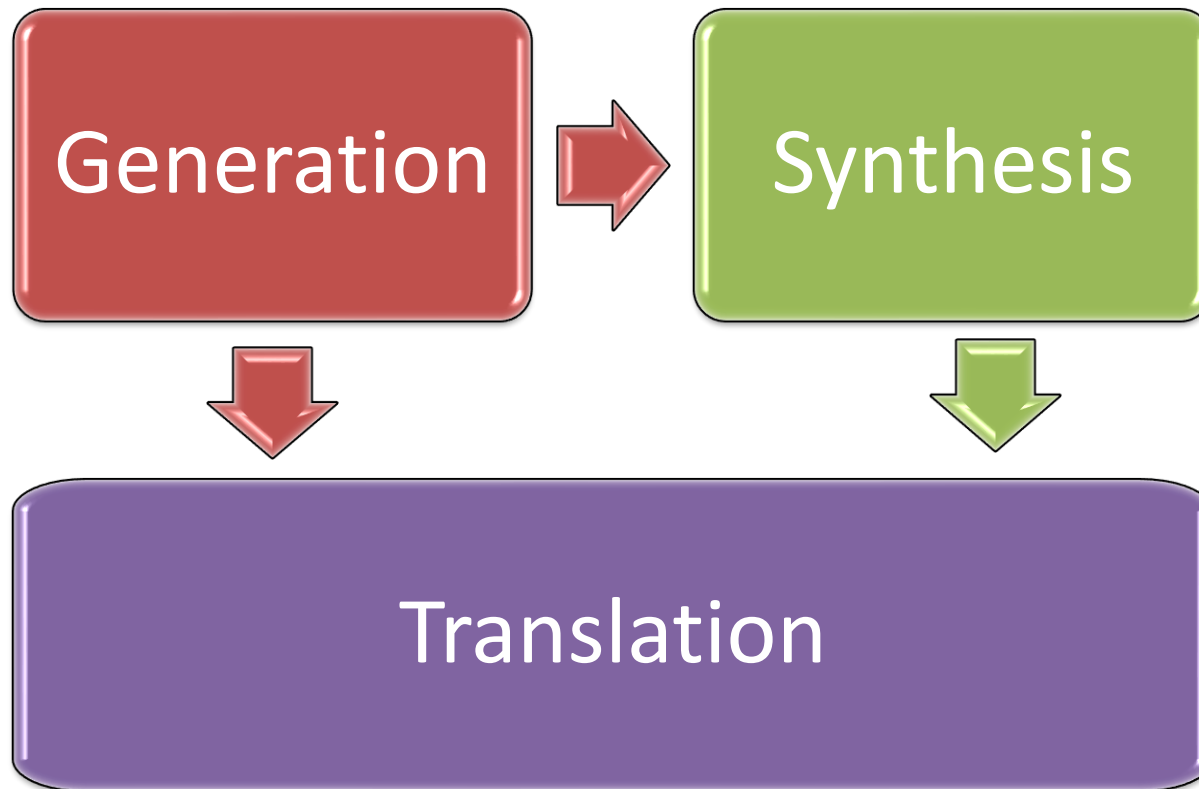
Payers

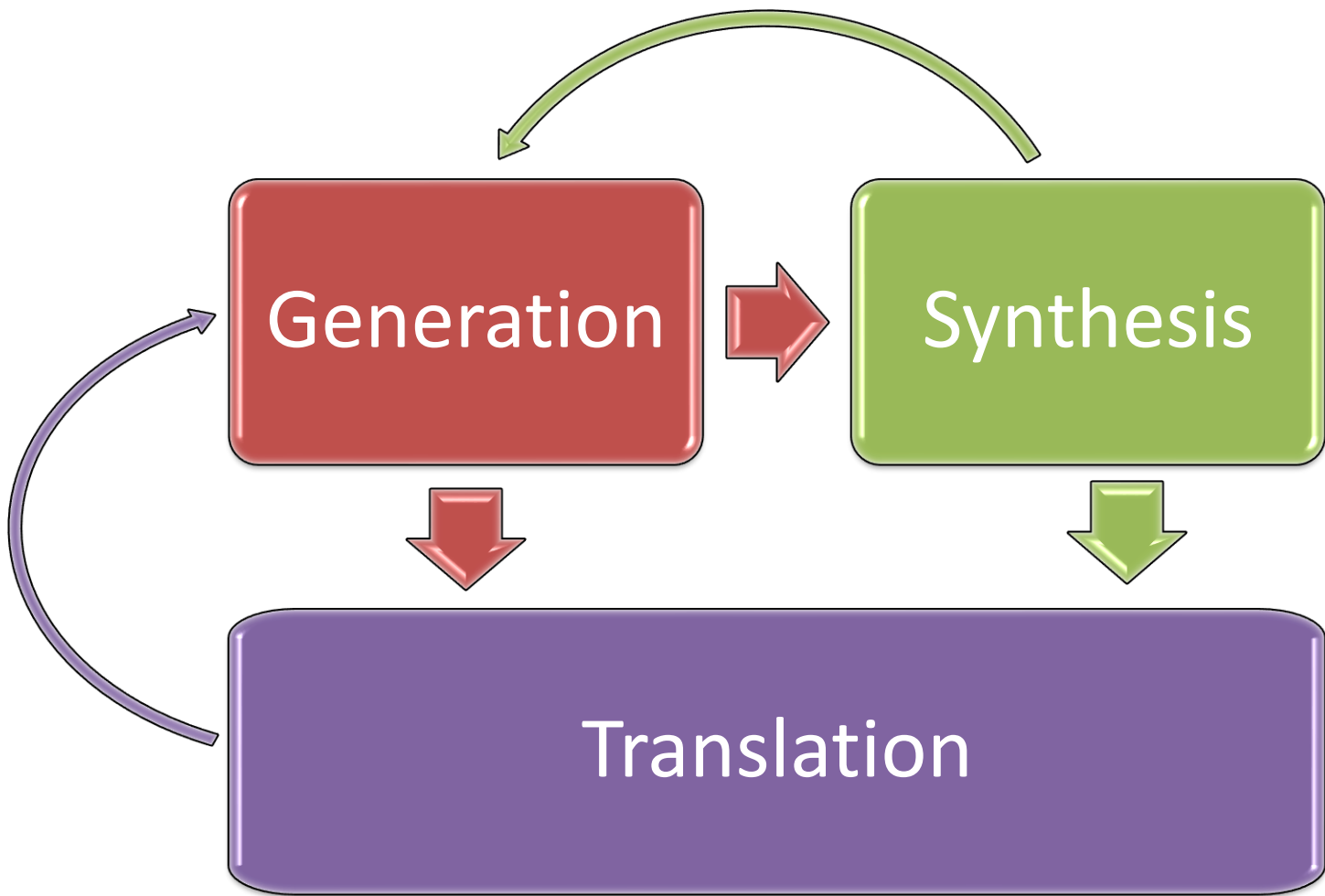
Health professionals

Researchers









Generation



The way forward

Synthesis



The way forward

Translation



The way forward

Outline

- Background
- **Analysis**
- Challenges
- Proposal



The Rational Clinical Examination

Evidence-Based Medicine



A New Approach to Teaching the Practice of Medicine

Evidence-Based Medicine Working Group

Progress in evidence-based medicine: a quarter century on

Benjamin Djulbegovic, Gordon H Guyatt

In response to limitations in the understanding and use of published evidence, evidence-based medicine (EBM) began as a movement in the early 1990s. EBM's initial focus was on educating clinicians in the understanding and use of published literature to optimise clinical care, including the science of systematic reviews. EBM progressed to recognise limitations of evidence alone, and has increasingly stressed the need to combine critical appraisal of the evidence with patient's values and preferences through shared decision making. In another progress, EBM incorporated and further developed the science of producing trustworthy clinical practice guidelines pioneered by investigators in the 1980s. EBM's enduring contributions to clinical medicine include placing the practice of medicine on a solid scientific basis, the development of more sophisticated hierarchies of evidence, the recognition of the crucial role of patient values and preferences in clinical decision making, and the development of the methodology for generating trustworthy recommendations.

Lancet 2017; 390: 415-23



EDITORIALS

Evidence based medicine manifesto for better healthcare

A response to systematic bias, wastage, error, and fraud in research underpinning patient care

Carl Heneghan *director*¹, Kamal R Mahtani *deputy director*¹, Ben Goldacre *director EBM DataLab*¹, Fiona Godlee *editor in chief*², Helen Macdonald *head of education*², Duncan Jarvies *multimedia editor*²

¹Centre for Evidence Based Medicine, University of Oxford, UK; ²The BMJ, London, UK



Consensus Statement | Medical Education

Core Competencies in Evidence-Based Practice for Health Professionals

Consensus Statement Based on a Systematic Review and Delphi Survey

Loai Albarqouni, MD, MSc; Tammy Hoffmann, PhD; Sharon Straus, MD, MSc; Nina Rydland Olsen, PhD; Taryn Young, PhD;
Dragan Ilic, PhD; Terrence Shaneyfelt, MD, MPH; R. Brian Haynes, MD, PhD; Gordon Guyatt, MD, MSc; Paul Glasziou, MBBS, PhD

Challenges facing early-career and mid-career researchers: potential solutions to safeguard the future of evidence-based medicine

Georgia C Richards ¹, Stephen H Bradley,^{2,3}
Andrew B Dagens,⁴ Christoffer B Haase,⁵ Brennan C Kahan,⁶
Tanja Rombey,⁷ Cole Wayant ⁸, Logan Z J Williams,⁹
Peter J Gill^{10,11}

BMJ Evidence-Based Medicine 25 October 2019.

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



CrossMark
click for updates

EDITORIALS

How medicine is broken, and how we can fix it

The chief medical officer's review on statins and oseltamivir may look for answers in the wrong places

Ben Goldacre *senior clinical research fellow*, Carl Heneghan *professor of evidence based medicine*

Centre for Evidence Based Medicine, Nuffield Department of Primary Health Care, University of Oxford, Oxford, UK



ELSEVIER



CrossMark

Journal of Clinical Epidemiology 73 (2016) 82–86

**Journal of
Clinical
Epidemiology**

Evidence-based medicine has been hijacked: a report to David Sackett

John P.A. Ioannidis^{a,b,c,d,*}

^a*Department of Medicine, Stanford Prevention Research Center, Stanford, CA 94305, USA*

^b*Department of Health Research and Policy, Stanford University School of Medicine, Stanford, CA 94305, USA*

^c*Department of Statistics, Stanford University School of Humanities and Sciences, Stanford, CA 94305, USA*

^d*Meta-Research Innovation Center at Stanford (METRICS), Stanford University, Stanford, CA 94305, USA*

Accepted 18 February 2016; Published online 2 March 2016

The way forward



Evidence Generation

- More guidelines for reporting protocols: observational studies, diagnostic studies...
- More evidence about the impact of reporting guidelines
- Extending both WHO statement and ICMJE policies concerning clinical trials to register observational studies
- Exploring ways to reduce the extreme fragmentation of regulation issues
- Exploiting all opportunities to increase the reproducibility of biomedical research



Evidence Generation

- We need less publications and more high quality evidence
- Changing the ways to measure the impact biomedical research and to fund it
- To increase the efficiency of basic research
- To reach good balance among basic, translational, clinical and health service research



Evidence Synthesis

SYSTEMATIC REVIEWS

- International policies to converge efforts on Cochrane reviews
 - New ICMJE Statement:
 - PROSPERO registration number mandatory for publication
 - Encourage Cochrane reviews → publication of a synthesis on affiliated ICMJE journals
- Centralized database for (non Cochrane) high-quality systematic reviews



Evidence Synthesis

CLINICAL PRACTICE GUIDELINES

- International governance to avoid proliferation of low quality CPGs
- Better management of COIs according to G-I-N standards
- Exploring ways to include multimorbidity in CPGs recommendations
- Central CPGs database searchable for quality criteria (AGREE II, G-I-N, IOM)
- Improve usability: e.g. CDSS



Evidence Translation

- More good quality evidence about: knowledge translation (KT), shared decision making, patient adherence
- Set standards for:
 - defining KT priorities at local level
 - developing care pathways, through local adapting of CPGs
 - assessing barriers and facilitating factors



Evidence Translation

THE WAY FORWARD

- Measuring performance
 - Using reliable process and outcome measures
 - Align performance measures and reward systems across different levels: professional → team → health organization → health care system



Disappearance of the National Guideline Clearinghouse: A Huge Loss for Evidence-Based Health Care

Zachary Munn, PhD, and Amir Qaseem, MD, PhD, MHA; for the American College of Physicians and the Joanna Briggs Institute

Ann Intern Med. 2018;169:648-649.



FEATURE

Has Cochrane lost its way?

Dissent over growing centralisation culminated in the expulsion of one of Cochrane's founding members. **Melanie Newman** reports on the organisation's internal struggles

Melanie Newman *freelance journalist, London, UK*

Cochrane crisis: Secrecy, intolerance and evidence-based values

John P. A. Ioannidis

Eur J Clin Invest. 2019;49:e13058.


ORIGINAL PAPER

WILEY

Journal of **Evaluation in Clinical Practice**
International Journal of Public Health Policy and Health Services Research



Moral entrepreneurship, the power-knowledge nexus, and the Cochrane “crisis”

Trisha Greenhalgh MD, Professor of Primary Care Health Sciences¹  |

Mustafa F. Ozbilgin PhD, Professor of Organisational Behaviour²  |

Barbara Prainsack DrPhil, Professor^{3,4}  |

Sara Shaw PhD, Associate Professor of Health and Social Policy¹ 

Outline

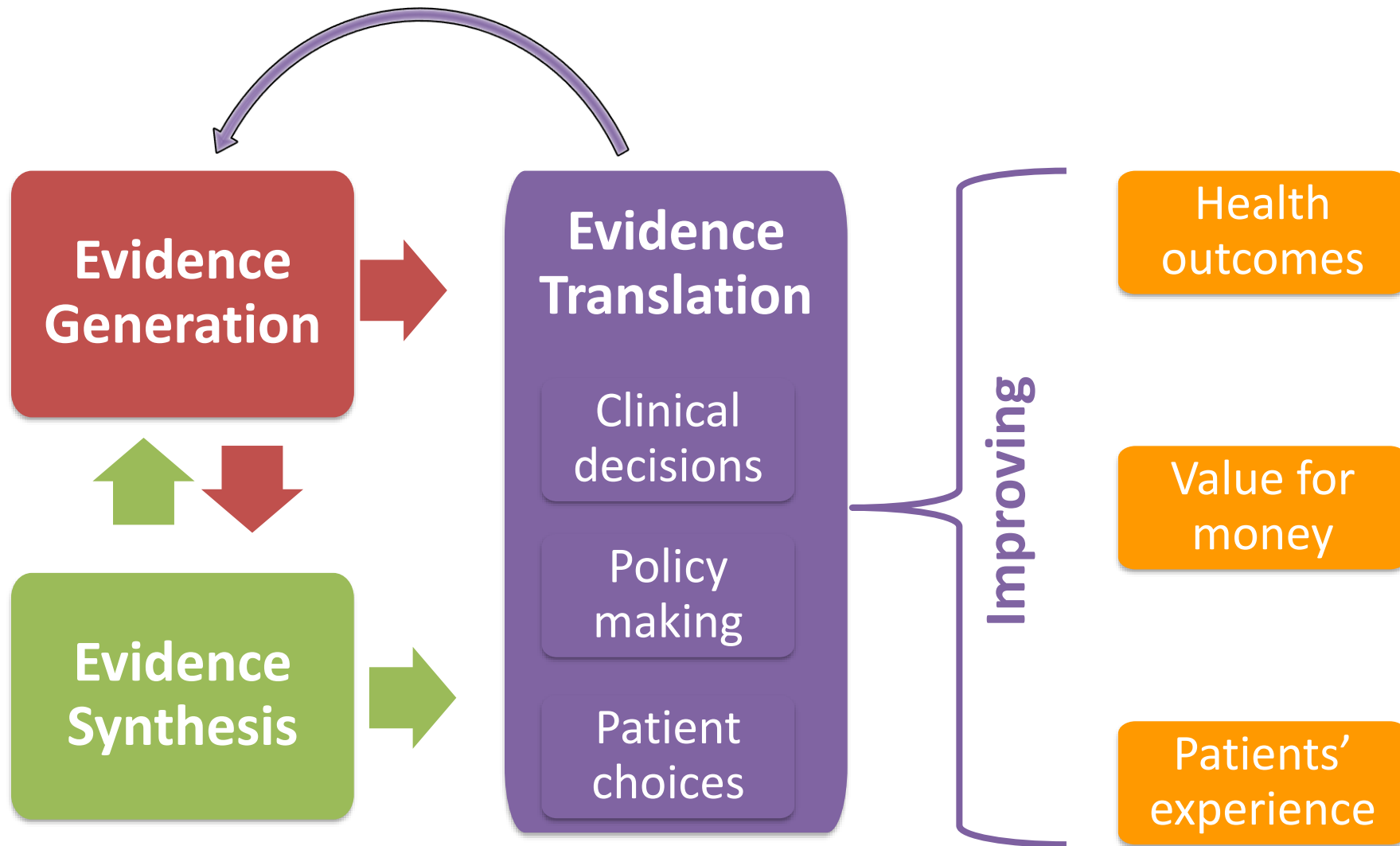
- Background
- State of the art
- **Challenges**
- Proposal



The ultimate goal of EBHC

To improve health outcomes, patients' experience and sustainability of healthcare systems by integrating the best evidence into clinical and policy decisions and patients' choices





Ecosystem of Evidence

Generation

Synthesis

Translation

Generation

Too many gray zones

Waste of primary
research

Influence of conflicts
of interests

Synthesis

Too many useless
systematic reviews

Too many
untrustworthy
clinical practice
guidelines

Influence of conflicts
of interests

Translation

Relevant gaps
between evidence
and clinical practice,
health policies,
patients' choices

Waste: overuse and
underuse of health
interventions,
inadequate
coordination of care

Suboptimal health
outcomes and
patients' experience

Lack of governance

- Too many standards (statements, rules, tools) of variable quality in attempt to improve generation, synthesis and translation of evidence
- Little/no evidence about their implementation status and effects
- Lack of a global vision of real needs



Outline

- Background
- State of the art
- Challenges
- **Proposal**





GLOBEE

GLOBEE

To set up the **GLobal OBservatory on Ecosystem of Evidence (GLOBEE)** to monitor needs, publication and implementation of international standards aimed to improve generation, synthesis and translation of evidence into clinical and health policy decisions as well as into patients' choices

GLOBEE: main steps

- 1. Mapping critical issues** that affect the 3 pillars of the ecosystem of evidence
- 2. Mapping international standards** (statements, rules, tools)
 - identifying those already available
 - proposing new ones if needed
- 3. Monitoring implementation** of the international standards:
 - primary research → systematic reviews
 - institutional reports
 - other
- 4. Suggesting updates** of the international standards

GLOBEE milestones 2019-2021

- **EBHC Conference 2019**
 - sharing proposal and informal meetings with delegates
- **2019-2021**
 - involving scientific committee
 - developing a database of critical issues, available standards, EBHC organizations and individuals
 - website developing
 - website release for experts' feedback
- **EBHC Conference 2021**
 - website launch



GLOBEE milestones 2021-2023

- **EBHC Conference 2021**
 - official website release
- **2021-2023**
 - GLOBEE dissemination
 - international advocacy
 - monitoring implementation of the standards
- **EBHC Conference 2023**
 - GLOBEE impact evaluation





GLOBEE

Global OBservatory on Ecosystem of Evidence

www.globee.online



GLOBEE

Global OBservatory on Ecosystem of Evidence

The Global OBservatory on Ecosystem of Evidence (GLOBEE) to monitor needs, publication and implementation of international standards aimed to improve generation, synthesis and translation of evidence into clinical and health policy decisions as well as into patients' choices.

[Get involved](#)



impossible