THE ECOSYSTEM OF EVIDENCE

Lessons learned in the pandemic era and future challenges

10th International Conference for EBHC Teachers and Developers
10th Conference of the International Society for EBHC
Taormina, 25th - 28th October 2023

#EBHC2023

Building a sustainable ecosystem of evidence

New challenges after the pandemic

Nino Cartabellotta
GIMBE Foundation

GIMBE EVIDENCE FOR HEALTH

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PERSONAL VIEW

The sins of expertness and a proposal for redemption

Two decades ago I was an expert on the subject of compliance with therapeutic regimens. I enjoyed the topic enormously, lectured internationally on it, had my opinion sought by other researchers and research institutes, and my colleagues and I ran international compliance symposiums and wrote two books, chapters for several others, and dozens of papers about it. Whether at a meeting or in print, I was always given the last word on the matter.

It then dawned on me that experts like me commit two sins that retard the advance of science and harm the young. Firstly, adding our prestige to our opinions gives the latter far greater persuasive power

There are still far more experts around than is healthy

an expert in an old field with a new name: evidence based medicine. Because interest in these ideas was so great, especially among young clinicians around the world, my writing and editing was published in several languages, and when I was not running a clinical service I was out of town demonstrating evidence based medicine at the bedside and lecturing about it (over 100 times in 1998).

Although acceptance of my views was not universal, once again my conclusions came to be given too much credence and my opinions too much weight. And newcomers to the field who regarded me with affection faced an additional deterrent to challeng-

David L Sackett *director, Trout Research and Education Centre at Irish Lake, Markdale, Ontario, Canada*

As before, I decided to get out of the way of the young people now entering this field,

It then dawned on me that experts like me commit two sins that retard the advance of science and harm the young.

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Tiziano Innocenti
GIMBE Foundation

GIMBE EVIDENCE FOR HEALTH

Outline

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

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- **Proposal**

Background

ELSEVIER

Check for updates

Journal of Clinical Epidemiology 110 (2019) 90–95

Journal of Clinical Epidemiology

COMMENTARY

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

Antonino Cartabellotta[a,*], Julie K. Tilson[b]

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[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 definition

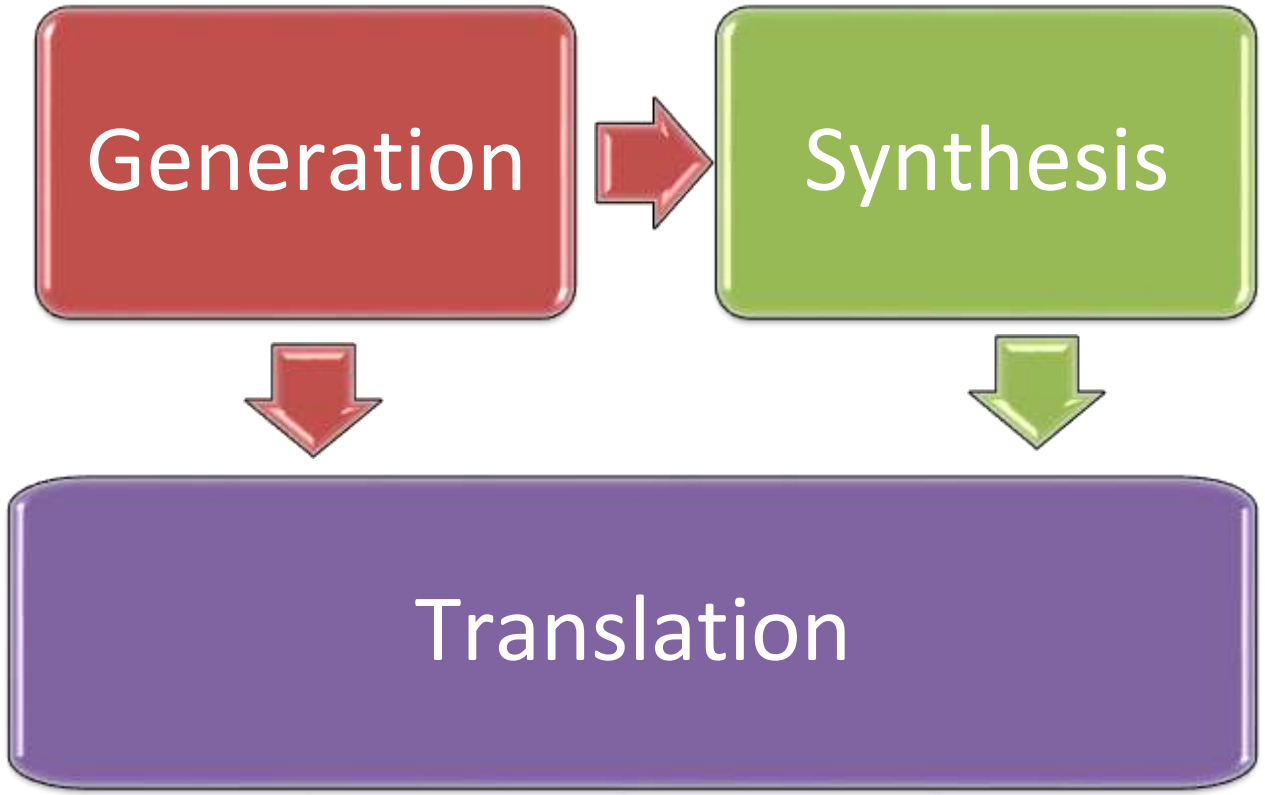
A community of **living organisms** in conjunction with the **non-living components** of their **environment** (air, water, mineral soil), interacting as a system

The ecosystem of evidence

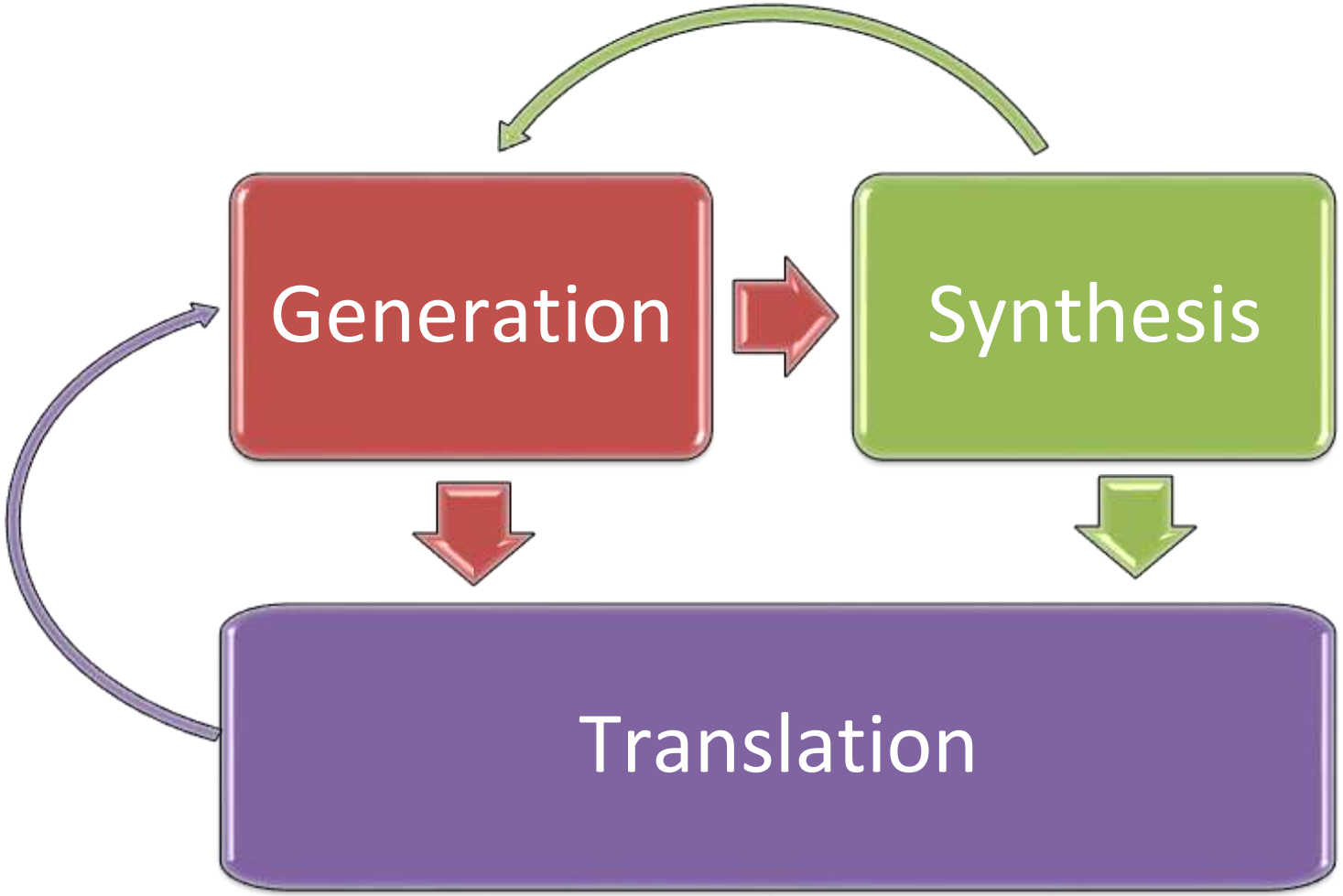
An ecosystem influenced by:

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

Ecosystem of evidence



Ecosystem of evidence



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- Proposal

Analysis

Editorial

Evidence-based medicine

ACP J Club. 1991 Mar-April;114:A16. doi:10.7326/ACPJC-1991-114-2-A16

Gordon H. Guyatt, MD, MSc

Analysis

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

Analysis

PLOS ONE

OPEN ACCESS

Citation: Bala MM, Poklepović Peričić T, Zajac J, Rohwer A, Klugarova J, Välimäki M, et al. (2021) What are the effects of teaching Evidence-Based Health Care (EBHC) at different levels of health professions education? An updated overview of systematic reviews. PLoS ONE 16(7): e0254191. https://doi.org/10.1371/journal.pone.0254191

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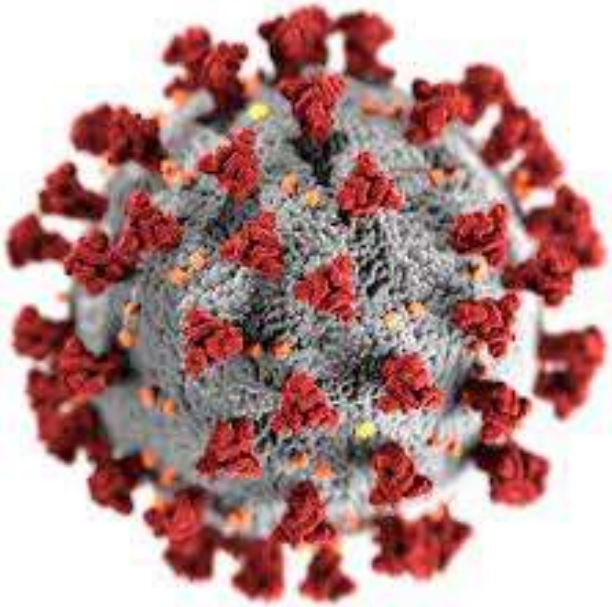
Published: July 22, 2021

RESEARCH ARTICLE

What are the effects of teaching Evidence-Based Health Care (EBHC) at different levels of health professions education? An updated overview of systematic reviews

Malgorzata M. Bala[1☯]*, Tina Poklepović Peričić[2☯], Joanna Zajac[1], Anke Rohwer[3], Jitka Klugarova[4], Maritta Välimäki[5,6], Tella Lantta[5], Luca Pingani[7,8,9], Miloslav Klugar[4], Mike Clarke[3,10], Taryn Young[3]



Analysis

ELSEVIER

Check for updates

Journal of Clinical Epidemiology 126 (2020) 164–166

Journal of Clinical Epidemiology

COVID-19 ARTICLES

Evidence-based medicine in times of crisis

Benjamin Djulbegovic
Gordon Guyatt*
Department of Supportive Medicine
City of Hope
Duarte, CA, USA
Department of Hematology
Evidence-Based Analytics and Comparative Effectiveness
McMaster University
Hamilton, ON, L8S 4L8, Canada

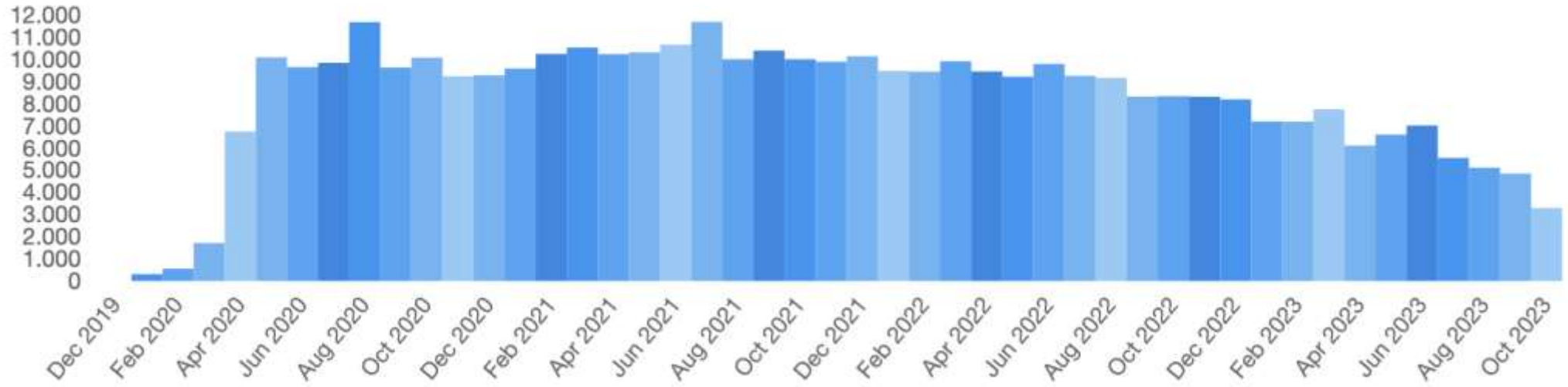
LitCovid Data

381.923
Publications

8
Topics

8,000
Journals

Monthly Publications



Analysis

Clinical Trials in Global Health 4

How COVID-19 has fundamentally changed clinical research in global health

Jay J H Park, Robin Mogg, Gerald E Smith, Etheldreda Nakimuli-Mpungu, Fyezah Jehan, Craig R Rayner, Jeanine Condo, Eric H Decloedt, Jean B Nachega, Gilmar Reis, Edward J Mills

***Lancet Glob Health* 2021;**
9: e711–20

Analysis

EBM analysis

OPEN ACCESS

Adapt or die: how the pandemic made the shift from EBM to EBM+ more urgent

Trisha Greenhalgh ,[1] David Fisman,[2] Danielle J Cane,[3]
Matthew Oliver ,[4] Chandini Raina Macintyre[5]

BMJ Evidence-Based Medicine October 2022 | volume 27 | number 5 |

Analysis

Journal of Clinical Epidemiology

Journal of Clinical Epidemiology 138 (2021) 219–226

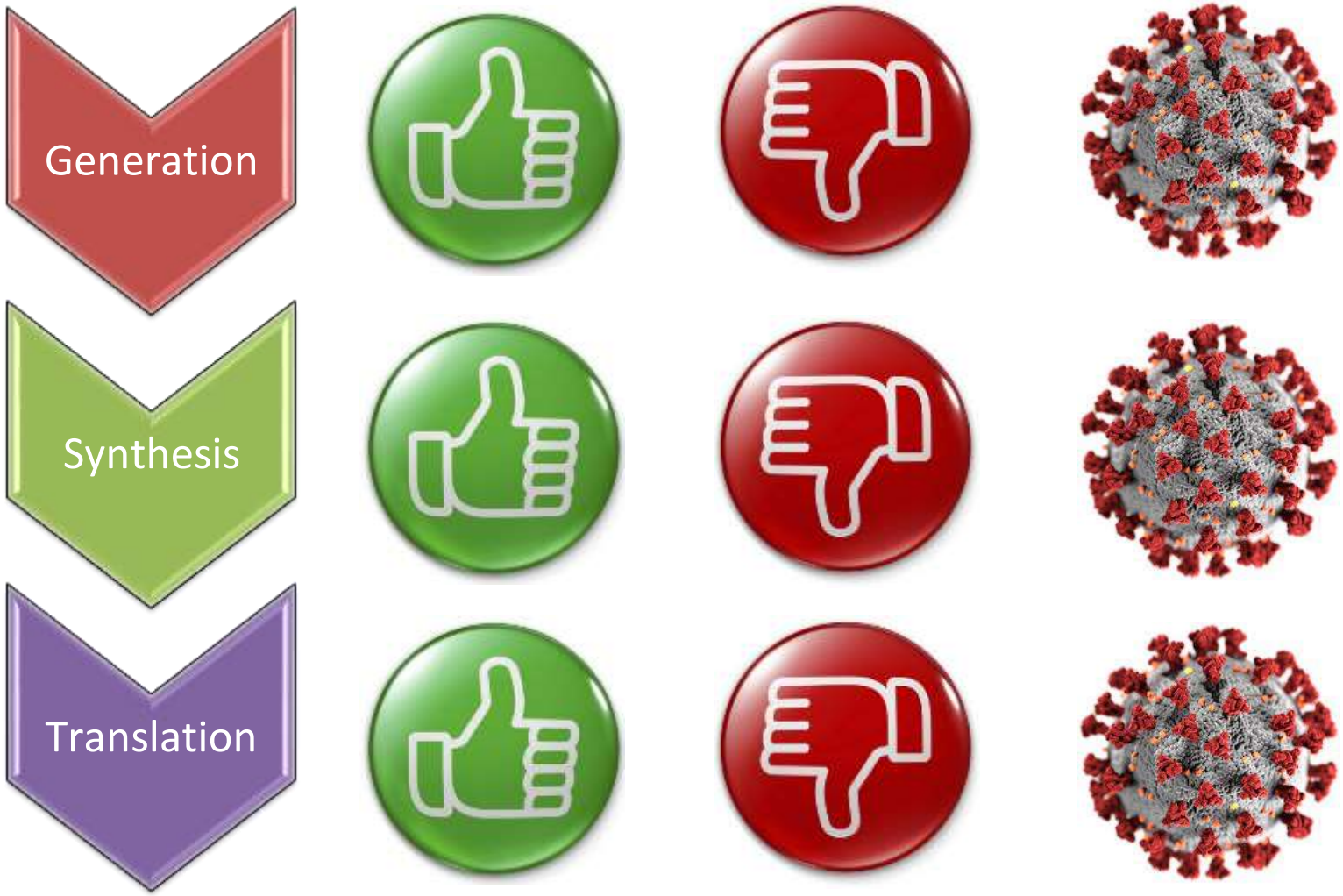
COMMENTARY

Methodology over metrics: current scientific standards are a disservice to patients and society

Ben Van Calster[a,b,c,*], Laure Wynants[a,c,d], Richard D Riley[e], Maarten van Smeden[f], Gary S Collins[g,h,i]

Challenges and The way forward

Ecosystem of evidence



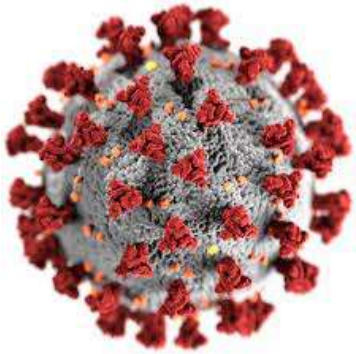
Evidence Generation

- REWARD recommendations
- James Lind Alliance
- EBR Network
- Reporting guidelines for protocol and studies (SPIRIT, CONSORT, …)
- EQUATOR Network
- Trial registration: AllTrials, WHO and ICMJE statement, WHO ICTRP
- …

Evidence Generation

- 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
- We STILL need less publications and more high-quality evidence

Evidence Generation



- Complex interventions and complex systems need more flexible methods
- Need to provide similar opportunities to those in high-income countries for clinical trial research in low-income regions
- Observational and real-world evidence are underrepresented
- Need for structures and incentives to enable faster data sharing of anonymised datasets
- Scientific integrity is still a key issue

Evidence Synthesis

- Cochrane handbooks
- Reporting guidelines (PRISMA, AGREE-II, RIGHT, …)
- GRADE method
- International efforts to help researchers and meta-researchers (e.g. PragMeta, Systematic Reviewlution)
- International standards: G-I-N, AGREE II, IOM
- New ways of working, and sharing high-quality evidence (e.g. MAGICapp)

Evidence Synthesis

SYSTEMATIC REVIEWS

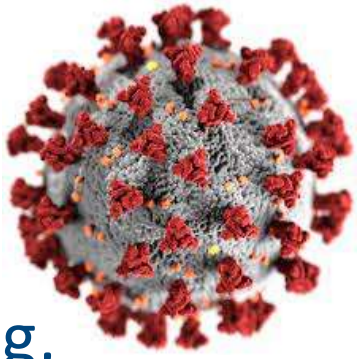
- International policies to converge efforts on Cochrane reviews
- Extend the ICMJE recommendations on registration number mandatory for publication to systematic reviews
- Centralized database for (non Cochrane) high-quality systematic reviews

Evidence Synthesis

CLINICAL PRACTICE GUIDELINES

- International governance to avoid proliferation of low quality CPGs
- Better management of COIs according to G-I-N standards
- Central CPGs database searchable for quality criteria (AGREE II, G-I-N, IOM)

Evidence Synthesis



- Traditional methods are not effective in rapidly collating, assessing, and synthesising evidence to inform decision-making
- Duplication of systematic reviews
- Funding (much of the work is being undertaken by crowdsourcing and volunteers)
- Increase the reliability of alternative methodologies (rapid and living reviews)
- Foster use of artificial intelligence/machine learning

Evidence Translation

National Collaborating Centre for Methods and Tools
Centre de collaboration nationale des méthodes et outils

School of Nursing | McMaster University

HOME | COVID-19 | TRAINING | TOOLS | KNOWLEDGE REPOSITORIES | IMPACT | ABOUT US | ACCESS MY DASHBOARD

The Registry of Methods and Tools for Evidence-Informed Decision Making

Click below to filter by the seven steps or the entire process

Search for...

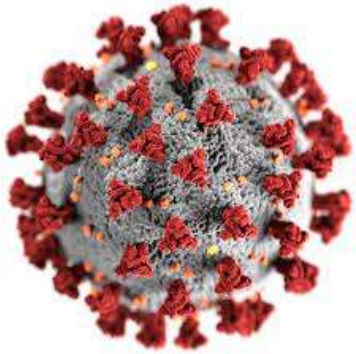
Paul Glasziou, MBBS, PhD
University of Oxford
Oxford, England, UK

Brian Haynes, MD, PhD
McMaster University
Hamilton, Ontario, Canada

EDITORIAL

The paths from research to improved health outcomes

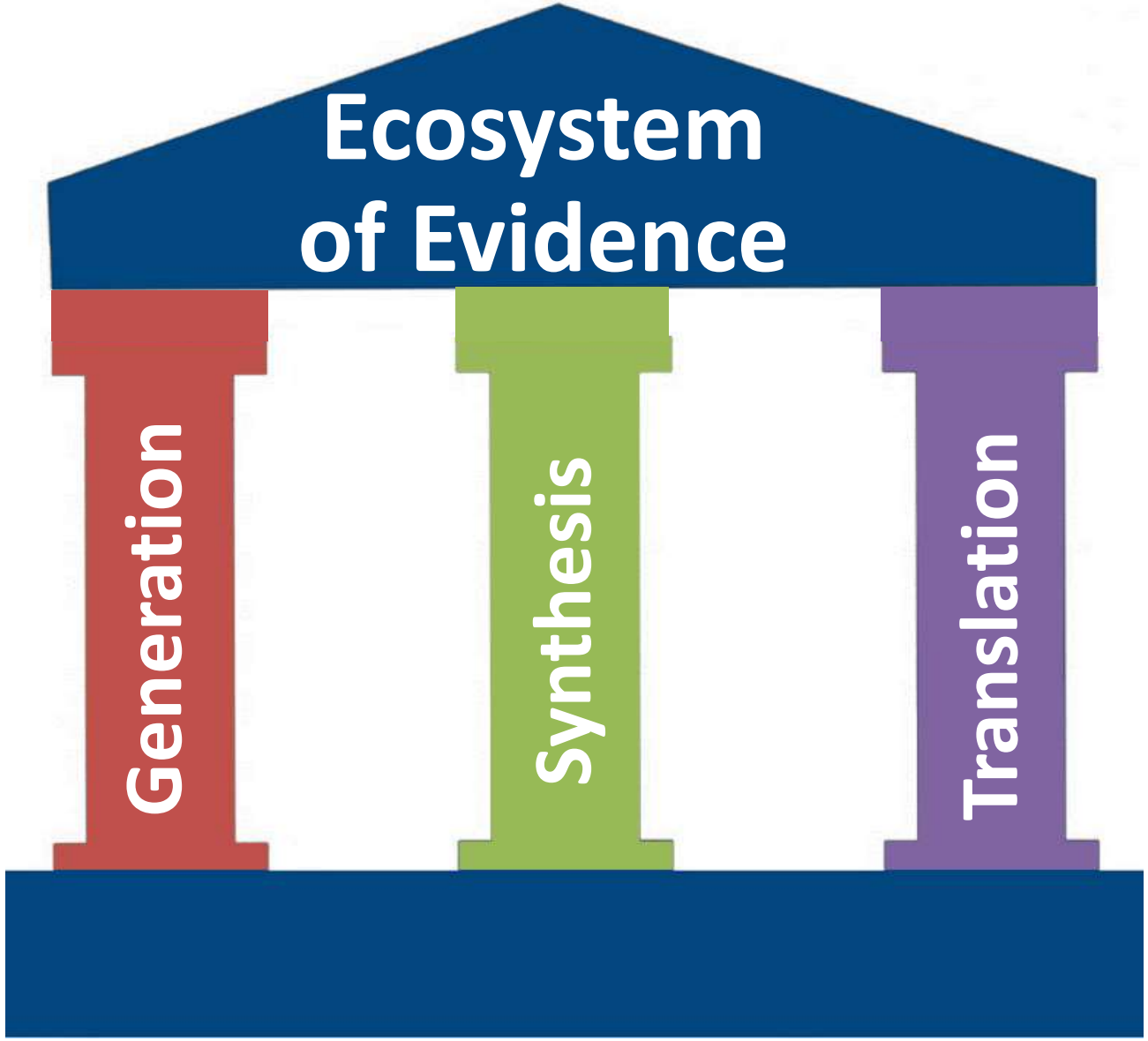
Evidence Translation



- The pandemic has largely contributed to health inequalities
- New evidence is often overwhelming and difficult to keep up with, particularly for low/middle income countries
- Evidence is often conflicting or lacking consensus, or inadequate to inform in-country measures
- A gap still persists between evidence-informed decision-making and policymakers' decisions
- Lack of transparency surrounding the process for how decisions are ultimately made

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

Lack of governance

- Too many standards (statements, rules, tools) of variable quality in attempt to improve generation, synthesis and translation of evidence
- Little evidence about their implementation status and effects
- Lack of a global vision of real needs

Outline

- Background
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- **Proposal**

The proposal

GLOBEE

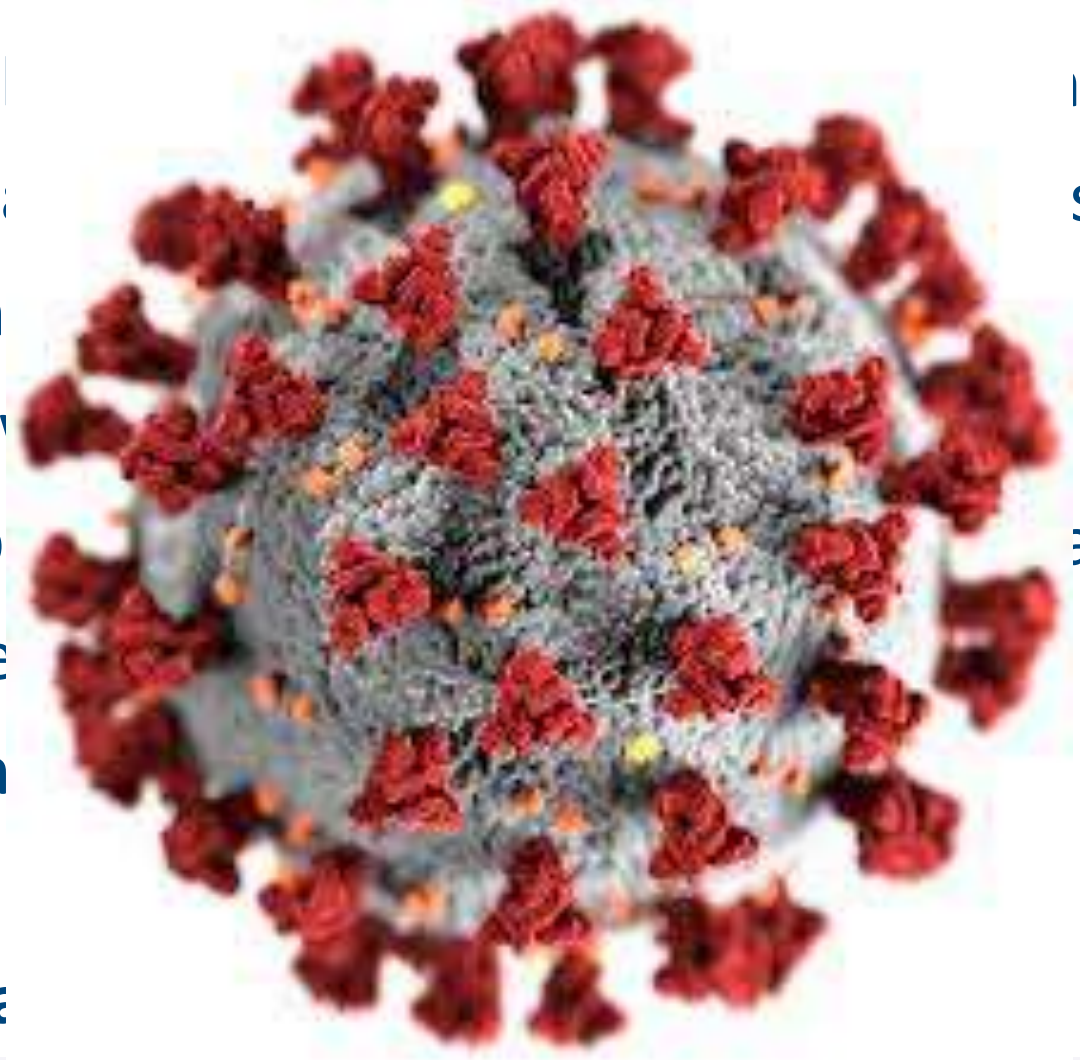
GLobal OBservatory on Ecosystem of Evidence

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 critica** …e ecosystem of evidence
2. **Mapping intern** …s, tools)
   - identifying th
   - proposing ne
3. **Monitoring imp** …andards:
   - primary re
   - institution
   - other
4. **Suggesting upd**



Re-start?

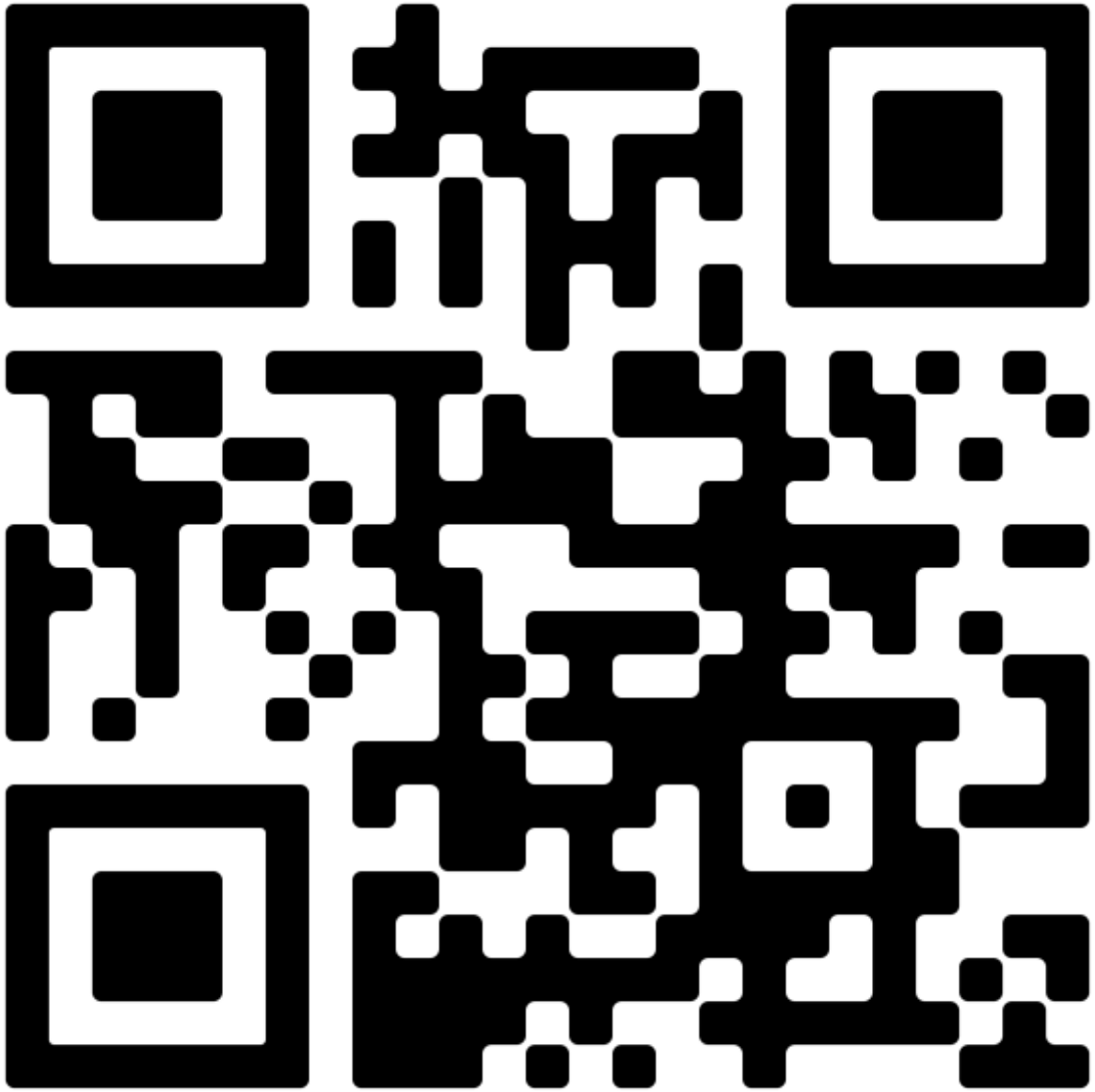
Are this project, its purposes and challenges still up-to-date?

The proposal

GLOBEE

GLobal OBservatory on Ecosystem of Evidence

www.globee.online



THANK YOU