BOOK OF ABSTRACTS

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INTRODUCTION

In the third EBR Conference, “Seeing further: The past, present and future of Evidence-Based Research”, we aim to bring together a broad range of key EBR actors and stakeholders (including researchers, funding agencies, research regulators, editors and reviewers, educators, patients and consumers, etc.) to discuss the past, present and future roles of EBR in the generation, synthesis and translation of knowledge. The conference is organized by the EU-funded EVBRES COST Network (CA-17117) and will be taking place online from 6th to 7th October 2022.

Scientific commitee members

Hans Lund

Tina Poklepović Peričić, chair

Karen Robinson

Klara Brunnhuber

Malgorzata Bala

Raluca Sfetcu

Jana Babjakova

Michaela Kosticova

Caroline Blaine

CONFERENCE PROGRAM

3RD EVIDENCE-BASED RESEARCH CONFERENCE
"SEEING FURTHER: THE PAST, PRESENT AND FUTURE OF EVIDENCE-BASED RESEARCH"

Time (CET)	Thursday, 6 October 2022 DAY 1	Time (CET)	Friday, 7 October 2022 DAY 2
9.00 - 9.10	Welcome Hans Lund Tina Poklepović Peričić	9.00-10.00	**3RD KEYNOTE SESSION:** When enough is enough? How to decide when we do not need more research.
9.10 - 10.10	**1ST KEYNOTE SESSION:** EBR and research value	9.00 – 9.30	Arianne Verhagen "A case on exercise for patients with knee osteoarthritis"
9.10 – 9.40	Paul Glasziou "Making EBR possible, easier, and the norm: funders' and researchers' roles"	9.30 - 10.00	Julian Savulescu Looking back to move EBR forward " What has changed since the paper from 1996: Are research ethics committees behaving unethically?"
9.40 - 10.10	Joeri Tijdink "Quality of clinical trials and its relation with research integrity" Chair: Klara Brunnhuber; Co-chair: Hans Lund		Chair: Hans Lund; Co-chair: Robin Christensen
10.10. - 10.30	Q&A	10.00-10.30	Q&A
10.30 -11.00	BREAK	10.30-11.00	BREAK

11.00 - 12.00 Chair: Tomislav Meštrović, Co-chair: Tina Poklepović Peričić	**1ST ORAL PRESENTATIONS** Yuanxi Jia: The trends of Randomized Controlled Trials Citing Prior Systematic Reviews in the past 15 years: A Meta-Research Study Judith ter Schure: ALL-IN meta-analysis: furthering EBR with simpler statistics, efficiency, collaboration, and communication Julian Hirt: A systematic survey suggested areas for improving methods guidance articles and led to the development of a new database	11.00-12.00 Chair: Luca Pingani, Co-chair: Mersiha Mahmić-Kaknjo	**3RD ORAL PRESENTATIONS** Michaela Kosticova: Online Training School in Evidence – based Research Troels Madsen: Limited use of systematic reviews when justifying new studies and contextualizing new results in randomised controlled trials on excercise interventions for knee osteoarthiritis: A systematic review and meta-analysis of randomised trials Carole Lunny: Development of a new risk of bias tool for network meta-analysis (RoB NMA Tool)
12.00 - 13.30	LUNCH	12.00-13.30	LUNCH
13.30 – 14.00	James Barker “Answering the four statements of expectations of editors” Chair: Tina Poklepović Peričić	13.30 – 14.00	Jeremy Grimshaw “Introducing the Global Commission on Evidence” Chair: Hans Lund
14.00 - 14.30 Mersiha Mahmić-Kaknjo, Tina Poklepović Peričić	**LIGHTNING TALKS** Ishanka Weerasekara: Taking the lead towards a successful story: use of evidence synthesis and evidence-based research (EBR) approach in Sri Lankan Universities Sumanth Kumbargere Nagraj: Developing a toolkit for Involving a multi-ethnic groups in an evidence-based research process Carole Lunny: Over half of clinical practice guidelines use non-systematic methods to inform recommendations: a methods study	14.00-14.30 Chair: Joanna Zajac; Co-chair: Jana Babjakova	**LIGHTNING TALKS** Parisa Gazerani: To Integrate Innovation Measures into Evidence Synthesis in Health Alexandru Vasile: Developing and piloting an automated article screening for systematic review of clinical, animal and in-vitro studies Mersiha Mahmić-Kaknjo: Which steps of systematic review production and updating should be prioritized for methods development and automation - preliminary results of a Delphi study
14.30 - 15.00	BREAK	14.30-15.00	BREAK

15.00 - 16.00 Chair: Tella Lanta; Co-chair: Marija Franka Žuljević	**2ND ORAL PRESENTATIONS** Mona Nasser: The spread of systematic review methodologies in new disciplines Charlotte Kugler: A call for collaboration between decision-making bodies and academia Audrey Tan: An overview of reviews to develop a priority setting framework for national health research agendas	15.00-16.00 Chair: Tella Lanta, Co-chair: Jana Babjakova	**4TH ORAL PRESENTATIONS** Carole Lunny: A new taxonomy was developed for overlap across "Overviews of systematic reviews": a meta-research study of research waste Ahmad Sofi-Mahmudi: Effects of including preprints in meta-analyses on estimates: preliminary results Prashanti Eachempati: Using a systematic review to develop a taxonomy of uncertainty in health care to structure the design of future participatory research.
16.00 - 16.30	BREAK	16.00-16.30	BREAK
16.30 - 17.30 16.30 – 17.00 17.00 - 17.30	**2ND KEYNOTE SESSION:** Are systematic reviews contributing to research waste Lesley Stewart "Has registration succeeded in minimizing redundancy in systematic reviews?" Livia Puljak "How to avoid redundancy in systematic reviews?" Chair: Daeria Lawson; Co-chair: Raluca Sfetcu	16.30-17.30 16.30-17.00 17.00-17.30	**4TH KEYNOTE SESSION:** Looking back to move the EBR forward When enough is enough? How to decide when we do not need more research? Jong-Wook Ban "Using a Bayesian approach to decide on the conclusiveness of systematic reviews" Looking back to move EBR forward Mike Clarke "The present and the future of EBR in the light of the 1998 paper" Chair: Karen Robinson; Co-chair: Malgorzata Bala
17.30 - 18.00	Q&A	17.30-18.00	ECI awards for best oral presentation and lightning talk
18.00-18.30		18.00-18.30	Goodbye/ Conference close

ABSTRACTS

Developing a toolkit for Involving a multi-ethnic groups in an evidence-based research process

Sumanth Kumbargere Nagraj[1,2], Mona Nasser[1], Rupert Jones[3], Lynne Callaghan[3], Cath Quinn[3], Martha Paisi[4]

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ABSTRACT

BACKGROUND: The evidence-based research process starts with asking the important research questions that is relevant to stakeholders. Previous evaluations on research priority setting (RPS) processes including the prioritisation of topics for Cochrane reviews has shown that most RPS processes often do not involve stakeholders from a range of ethnicity, socioeconomic situations or educational levels.

AIM: This study intends to conduct priority setting with a diverse range of stakeholders and understand the similarities and differences in their priorities and values.

METHODS: We selected oral health as a health topic to focus our RPS process as it is a common health problem. We recruited 14 dental surgeons and 40 community participants from one of the four ethnicities in Malaysia and conducted semi-structured interviews in their preferred language. We compared the challenges involving different ethnic groups, similarities and differences in their views and the influence of their different life experiences on their research priorities.

FINDINGS: Based on our observations, we listed various factors that demonstrate how ethnicity needs to be considered in their environment, context and interaction with other groups in that community and the impact of their cultural and religious views and practices on their priority choices and values.

CONCLUSION: Our research observations will shape a toolkit to involve multiple ethnic groups who speak different languages in a RPS process.

ALL-IN meta-analysis: furthering EBR with simpler statistics, efficiency, collaboration, and communication

Judith ter Schure
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ABSTRACT

Science is justly admired as a cumulative process ("standing on the shoulders of giants"), yet scientific knowledge is typically built on a patchwork of research contributions without much coordination. This lack of efficiency has specifically been addressed in clinical research by recommendations for living systematic reviews and against research waste.

We propose to further those recommendations with ALL-IN meta-analysis: Anytime Live and Leading INterim meta-analysis. ALL-IN provides statistical methodology for a meta-analysis that can be updated at any time – reanalyzing after each new observation while retaining type-I error guarantees, live – no need to prespecify the looks, and leading – in the decisions on whether individual studies should be initiated, stopped or expanded, the meta-analysis can be the leading source of information. We illustrate the method for time-to-event data, showing how synthesizing data at interim stages of studies can increase efficiency when studies are slow in themselves to provide the necessary number of events for completion. The meta-analysis can be performed on interim data, but does not have to. The analysis design requires no information about the number of patients in trials or the number of trials eventually included. So it can breathe life into living systematic reviews, through better and simpler statistics, efficiency, collaboration, and communication.

A call for collaboration between decision-making bodies and academia

Charlotte M Kugler[1,2], Kaethe Goossen[3], Tim Mathes[4], Dawid Pieper[1,2]

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ABSTRACT

AIM: The research-policy gap is a challenge that has been known for decades. Evidence-based research (EBR) calls for the use of existing evidence in a transparent and explicit way to prevent research waste. The aim of this contribution is to show that collaboration between health institutions and academia is needed.

METHODS: We report a case of research waste from Germany in the form of a systematic review (SR) on total knee arthroplasty (TKA).

RESULTS: In Germany, the Federal Joint Committee (G-BA) is responsible for taking health policy decisions. It sets criteria hospitals need to fulfil to be allowed to perform TKAs. Therefore, we conducted the above SR on TKA, funded by the Ministry for Research and Education, registered it on PROSPERO and published a protocol. Afterwards, the G-BA commissioned the German HTA agency IQWiG to investigate the same question. The IQWiG report was published after our SR with only small differences in eligibility criteria. Both reviews drew the same conclusions. There was no contact between decision-making bodies and academia.

CONCLUSIONS: The presented example clearly represents a case of research waste and demonstrates the research-policy gap. Despite legal pathways that likely explain the described case, researchers, decision-makers, and stakeholders should seek possibilities to prevent such scenarios in future. EBR is a general concept that should be followed by all people applying research methods.

Taking the lead towards a successful story: use of evidence synthesis and evidence-based research (EBR) approach in Sri Lankan Universities

Ishanka Weerasekara[1], Lamawansa Meegahalande Durage[2], Declan Devane[3,4,5], Hans Lund[6]

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ABSTRACT

AIM: To find strategies to promote and support the use of evidence synthesis and EBR approach among university staff and postgraduate students in Sri Lanka.

METHODS: The importance of evidence synthesis, including systematic reviews, and EBR approach were highlighted in a 'letter to the editor' submitted to a faculty journal. A range of short, medium and long-term actions were identified which would help embed and build capacity in evidence synthesis and EBR.

RESULTS: The 'letter to the editor' on the value of evidence synthesis was accepted for publication and will be shared among the readership of the University of Peradeniya. University of Peradeniya was identified as the potential coordinating body to implement the identified strategies. A basic introductory systematic review course is planned. This will be open to all faculties of the University, and individual researchers and research groups of the university will be invited. An advanced systematic review course is also planned for those with specific systematic review educational needed beyond that contained in the introductory course. At the end of the course, participants who will work in teams, are expected to produce a publishable systematic review protocol. An EBR course will be introduced as a medium-term action.

CONCLUSION: Specific approaches were identified, and initial plans were implemented to improve the capacity building of the university staff and postgraduate students with the ultimate goal of improving the use of systematic reviews and EBR approach. Advancing these approaches into a sustainable programme and establishing an EBR national centre are important aspects for further consideration.

A systematic survey suggested areas for improving methods guidance articles and led to the development of a new database

Julian Hirt[1,2], Hannah Ewald[3], Daeria O. Lawson[4], Lawrence Mbuagbaw[4], Ramon Rohner[1], Christof Schoenenberger[1], Federico Germini[4], Davide Papola[5], Linan Zeng[4,6], Katja Suter[1], Lars G. Hemkens[1,7,8], Matthias Briel[1,4], Stefan Schandelmaier[1,4]

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ABSTRACT

AIM: Methodological flaws limit the value of health research although appropriate methods guidance for the planning, conduct, interpretation, and reporting of health research is usually available. Our aim was to investigate the characteristics of methods guidance and explore potential areas for improvement regarding findability, development process, and transparency.

METHODS: We performed a systematic survey of methods guidance articles published in 2020 in 12 selected medical and methodological journals and assessed their characteristics related to findability (terminology, indexing), guidance development methods, and transparency (expertise of authors, conflicts of interests).

RESULTS: We included 105 methods guidance articles. Guidance articles used 36 alternative expressions for guidance in titles and abstracts; less than half were indexed with author keywords (17%) or Medical Subject Headings (38%) related to guidance; 42% reported any methods for guidance development; 22% describe the authors' expertise; and 34% reported conflicts of interests.

CONCLUSIONS: Poor findability, unclear development processes, and little transparency regarding author's expertise and conflicts of interests provide potential areas for improving methods guidance. A solution for the findability provides our new open-access LIbrary of Guidance for HealTh Scientists (LIGHTS, www.lights.science). More research is required to inform methods for guidance development and transparency considerations.

Online Training School in Evidence-based Research

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ABSTRACT

AIM: To present lessons learned from organizing and teaching four online Training Schools about Evidence-based Research (EBR TSs). The overall aim of TSs was to teach clinical researchers why and how to be evidence-based while doing research.

METHODS: EBR TSs were developed and organized within the EVBRES COST action CA17117. In total, seven TSs have been planned during the COST action. The structure and content of three online TSs (TS2- TS4), conducted as two-phase courses with asynchronous and synchronous phases in 2021, will be presented and compared with the 5th TS, which will run asynchronously during summer 2022. Feedback from participants and challenges for improvement will be discussed as well.

RESULTS: 47 participants have completed the TS2-TS4. The asynchronous phase1 ran on the Moodle platform and consisted of four modules. It introduced prerequisite knowledge needed to perform EBR. Synchronous phase 2 consisted of 10 modules and was conducted live for two days in April, May, and September 2021 on the Zoom platform. Participants learned how to use the EBR approach.

CONCLUSIONS: There is a need to conduct the EBR TS as a two-phase course, with the first phase focusing on teaching about systematic reviews as a prerequisite and key element in the EBR approach. The time strain and availability of teachers and moderators were identified as the main challenges to conduct the online TS synchronously. Thus, the next online EBR TSs are planned to be asynchronous two-phase online courses, which will be available also after the end of COST action.

Developing and piloting an automated articlescreening for systematic review of clinical, animaland in-vitro studies

Alexandru Vasile[1], Mario Gianni[2], Frederico Klein[3], Alexandra Bannach-Brown[4], Mona Nasser[5], Eoin Tuohy[1], Murray Mackay[1], Diana Donovan[1], Jernej Šorli[1], Ioana Domocos[1], Millad Dulloo[1], Nimita Patel[1], Olivia Drayson[1], Ana Patricia Ayala[6], Anaa Fogtman[7]

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ABSTRACT

AIM: In this work we present an automated article screening framework for systematic review of clinical, animal and in-vitro studies to assess sex-difference in response to Ionising Radiation. The framework proposes a structured methodology for designing and developing datasets from such complex and heterogeneous systematic reviews and integrates a Natural Language Processing (NLP) technique to reduce the costs of conducting the systematic review.

METHODS: A random sample of 4000 records extracted from a systematic search strategy has been screened independently by at least two reviewers. These records were used to train and validate the proposed NLP model. The model implements a variant of the Bidirectional Encoder Representation from Transformers (BERT), called small BERT. The performance of small BERT has been evaluated against a Long Short-Term Memory (LSTM) model commonly used in NLP. Recall, F1-score, area under the receiver operating characteristic curve (AUC), Cohen's Kappa coefficient and Work Saved Over Sampling at 95% (WSS@95%) metrics have been used in the comparison.

RESULTS: Results demonstrated that small BERT outperformed LSTM in all the metrics with a Recall of 0.98, F1-score of 0.97, AUC of 0.99, Cohen's Kappa of 0.98 and WSS@95% of 0.88.

CONCLUSIONS: Compared to LSTM, our framework showed a better differentiation between the included and the excluded classes and a better quality of the classification. It was also more robust to the class imbalance in our data.

Which steps of systematic review production and updating should be prioritized for methods development and automation - preliminary results of a Delphi study

Mersiha Mahmic-Kaknjo[1,2], Vicko Tomic[3,4], Moriah E. Ellen[5,6], Barbara Nussbaumer-Streit[7], Raluca Sfetcu[8,9], Eduard Baladia[10], Nicoletta Riva[11], Angelos P. Kassianos[12], Ana Marušić[3]

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ABSTRACT

Systematic reviews (SRs) are invaluable pieces of evidence. Tremendous resources are spent on producing and updating SRs. To identify the most promising areas and methods to improve efficient SRs' production and updating, we designed a Delphi study, which was conducted using the online survey tool LimeSurvey. In November and December 2021, 55 experienced SR authors were invited to participate. After two reminders were sent 2 weeks apart, 33 respondents (60%) completed the survey. The survey consisted of 7 demographic questions and 19 topic questions that were answered based on a 5-point Likert-based statement (strongly agree, agree, indifferent, disagree, strongly disagree). Topic questions focused on which areas are most time/effort/resources intensive and should be prioritized in further research. These questions were accompanied by open-ended fields for comments. Most participants were 41-50 years old, averaging 13.33 years of experience in conducting SRs (SD 6.84). More than 66.67% of the respondents agreed/strongly agreed that the following topics should be prioritized: extracting data (n=30), literature searching (n=27), screening abstracts (n=27), obtaining (n=27) and screening full texts (n=27), updating SRs (n=27), finding previous SRs (n=25), translating non-English studies (n=25), synthesizing data (n=23), project management (n=22), writing the protocol (n=22), constructing the search strategy (n=22) and critically appraising (n=22). The most frequently raised topics in open-ended questions were: important tools and approaches (already developed and automated, and ones that need to be developed); different areas require a different level of automation; full automation is not suitable for areas that need complex human judgment.

The Trends of Randomized Controlled Trials Citing Prior Systematic Reviews in the Past 15 Years: A Meta-Research Study

Yuanxi Jia[1], Bingli Li[1], Zhirong Yang[1], Fuxiao Li[1], Ziyi Zhao[1], Chang Wei[1], Xuhao Yang[2], Qianyi Jin[1], Di Liu[1], Xin Wei[3], Jennifer Yost[4], Hans Lund[5], Jinling Tang[1], Karen Robinson[6]

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ABSTRACT

AIMS: To assess the trends and the influential factors associated with the citation of prior systematic reviews in reports of RCTs.

METHODS: This was a meta-research study. RCTs assessing health interventions were identified from the latest version of Cochrane reviews. Those published two years after the first version of the Cochrane reviews were deemed eligible. Eligible RCTs could also cite other relevant systematic reviews, i.e., non-Cochrane reviews. The citation of Cochrane and non-Cochrane reviews was determined by screening the references of eligible RCTs.

RESULTS: Among 4,003 eligible RCTs published between 2007 and 2021, 1,241 (31%) cited Cochrane reviews, 1,698 (42.4%) cited non-Cochrane reviews, while 2,265 (56.7%) cited systematic reviews of either type. The percentage citing Cochrane reviews, non-Cochrane review, and systematic reviews of either type increased from 15.3%, 25.1%, and 35.5% in 2007-2008 to 40.8%, 64.1%, and 71.8% since 2020 by 1.9%, 3.3%, and 3.0% per year, respectively. The citation of systematic reviews ranged from 22.8% in eye and vision to 79.9% in tobacco control. RCTs with ≥ 100 participants, non-industry funders, and authors from developed countries were 1.15 (95%CI: 1.03 to 1.29), 1.43 (1.29 to 1.58), and 1.10 (1.01 to 1.19) times more likely to cite systematic reviews than those with < 100 participants, industry funders, and authors from developing countries, respectively.

CONCLUSIONS: Citation of prior evidence in published RCTs has improved over time, but many still failed to do so. This lack of consideration of prior evidence may waste research resources and unnecessarily put patients at risk.

An overview of reviews to develop a priority setting framework for national health research agendas

Audrey Tan[1], Dr Sumanth Kumbagere Nagraj[2], Dr Mona Nasser[2], Dr Tarang Sharma[3], Tanja Kuchenmuller[3]

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ABSTRACT

AIM: Well-designed health research systems include mechanisms for setting research priorities. The aim of this overview of reviews was to synthesize existing systematic reviews to produce a framework that supports countries to set evidence-informed priorities when developing and implementing national health research agendas.

METHODS: We searched Ovid MEDLINE and the WHO Institutional Repository for Information Sharing from 2010-2020 for critical or systematic reviews that evaluated research priority setting exercises. We adapted the AMSTAR framework for quality assessment and the REPRISE checklist for data extraction. Data were thematically analyzed by main focus, location and context and then integrated into a framework.

RESULTS: 31 studies were included from the 2395 titles identified. The topics undergoing prioritization included specific diseases or conditions, healthcare practices and research priority setting methods. Stakeholders in the reviews typically included patients, families and carers, researchers, clinicians, policymakers and research funders. All the reviews were low or critically low quality. The main themes that emerged included: identifying and engaging with stakeholders; methods; context; and health area.

CONCLUSIONS: Our overview confirmed aspects of existing frameworks and identified new evidence-based concepts, such as sustainability, for countries to consider while developing their national research agendas. We propose a framework that highlights four key phases - Preparatory; Priority-setting; Follow-up; and Sustainability – and thirteen sub-domains that support countries in answering questions to improve the health and well-being of populations. Our framework demonstrates how evidence synthesis can not only identify and address research gaps and priorities, but also inform the design of research systems.

Development of a new risk of bias tool for network meta-analysis (RoB NMA Tool)

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ABSTRACT

AIMS: Our aim is to develop a risk of bias (RoB) tool for network meta-analysis (NMA). An international steering committee (ISC) decided that the tool would be an extension to the ROBIS tool to assess biases in systematic reviews (SRs). Our objectives were to: (i) generate a list of items for inclusion; (ii) conduct a Delphi experts survey to determine an item's inclusion; and (iii) survey stakeholder views about the structure of the tool.

METHODS: A protocol was written. We included tools, papers and editorial standards presenting items related to bias, reporting, or quality in NMAs. General SR items were excluded. Items with 70% agreement after 2 Delphi rounds were included. We disseminated an anonymous survey to stakeholders with 22 questions through social media.

RESULTS: 59 articles were included which yielded 99 items. Of these, 22 items were deemed eligible and entered into a Delphi survey of which 26 respondents completed round 1, and 22 completed round 2. Seven items did not reach consensus in round 2. After further refinement by the ISC, 16 items were worded as signalling questions, and categorised into 3 domains. 298 stakeholders participated in the survey and 84% reported they would use the tool if they received adequate training, and 50% preferred a tool to assess both bias in NMA results and conclusions.

CONCLUSIONS: Our risk of bias tools will allow users understand the relative strengths and weaknesses of NMAs. In the future we aim to pilot test the tool in different user groups.

Over half of clinical practice guidelines use non-systematic methods to inform recommendations: a methods study

Carole Lunny[1,2], Cynthia Ramasubbu[1], Lorri Puil[1], Tracy Liu[1], Savannah Gerrish[3], Douglas M Salzwedel[1], Barbara Mintzes[4], James M Wright[1]
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ABSTRACT

AIM: To assess whether systematic methods were used when synthesizing the evidence for guidelines; and to determine the type of review cited in support of recommendations.

METHODS: Guidelines published in 2017 and 2018 were retrieved from the TRIP and Epistemonikos databases. We randomly sorted and sequentially screened clinical guidelines on all topics to select the first 50 that met our inclusion criteria. Our primary outcomes were the number of guidelines using either a systematic or non-systematic process to gather, assess, and synthesise evidence; and the numbers of recommendations within guidelines based on different types of evidence synthesis (e.g. systematic reviews, literature reviews, overviews of reviews).

RESULTS: Of the 50 guidelines, 34% (n=17) systematically synthesised the evidence to inform recommendations, and 66% used a non-systematic process. The 17 systematically developed guidelines clearly reported their objectives and eligibility criteria, conducted comprehensive search strategies, and assessed the quality of the studies. Of the 50 guidelines, 88% cited reviews to inform recommendations. There was a total of 128 recommendations citing 249 reviews of any type. 64% of these were systematic reviews (SRs) with pairwise meta-analysis, 3% were SRs with network meta-analysis, and 9% were SRs without meta-analysis. Cochrane SRs represented 19% of all review types.

CONCLUSIONS: As confirmed by previous research, our findings suggest that serious methodological problems are widespread. Guidelines should report key methods and evidence used to underpin recommendations consistently and transparently. Assessing the process used to synthesize the evidence in guidelines enables users to determine the trustworthiness of the recommendations.

A new taxonomy was developed for overlap across 'Overviews of systematic reviews': a meta-research study of research waste

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ABSTRACT

AIM: To assess the frequency and characteristics of overlapping overviews.

METHODS: MEDLINE, Epistemonikos and Cochrane Database of Systematic Reviews were searched for overviews that: synthesised reviews of health interventions and conducted systematic searches. Overlap was defined as: duplication of PICO eligibility criteria, and not reported as an update nor a replication. We categorised overview topics according to 22 WHO ICD-10 medical classifications, overviews as broad or narrow in scope, and overlap as identical, nearly identical, partial, or subsumed. Subsummation was defined as when broad overviews subsumed the populations, interventions and at least one outcome of another overview.

RESULTS: Of 541 overviews included, 169 (31%) overlapped across similar PICO, fell within 13/22 WHO ICD-10 medical classifications, and 62 subtopics. 148/169 (88%) overlapping overviews were broad in scope. One topic was covered by six overviews, namely behavioral counseling and pharmacotherapy interventions for tobacco cessation. The topics of acupuncture for pain, cannabinoids for symptoms, acupuncture for pregnancy-related symptoms, and exercise for bone/muscle health overlapped across five overviews each. Fifteen overviews had nearly identical overlap (9%); 123 partial overlap (73%), and 31 subsumed (18%) others.

CONCLUSIONS: One third of overviews overlapped in content and a majority covered broad topic areas. A multiplicity of overviews on the same topic adds to the ongoing waste of research resources across medical disciplines. Authors of overviews can use this study and the sample of overviews to identify gaps in the evidence for future analysis, and topics that are already studied which do not need to be duplicated.

Effects of including preprints in meta-analyses on the estimates: preliminary results

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ABSTRACT

OBJECTIVE: To assess the weight of preprint articles in meta-analyses and evaluate whether including such articles has changed meta-analyses' results or conclusions.

METHODS: We searched for open-access systematic reviews with meta-analyses from medical journals available in the Europe PMC on April 23, 2022. After extracting the list of papers that searched for preprints, firstly, we extracted the weight of the preprint(s) in meta-analysis. Furthermore, we ran a sensitivity analysis to find out whether excluding preprint(s) changed the magnitude of effects of the meta-analysis or not and evaluated if those changes would change the conclusion. We used R and the metafor package for analysis.

RESULTS: Our search yielded 478 results. Of which, we picked a random sample of 50 papers. So far, we have evaluated 14 of them. Of these 14, 10 were excluded for various reasons. The remaining four papers included 16 meta-analyses, all of which were about COVID-19. On average, more than two preprints were included in these 16 meta-analyses. In two instances, the inclusion of preprints caused a change in the result of the meta-analysis. The majority estimated risk ratios (n=7) and proportions (n=6), and two of them measured mean differences. In six meta-analyses, the inclusion of preprints caused a right-shifting of the results; however, preprints changed the significancy level in two meta-analyses. The mean absolute change for risk ratios was 0.48, for mean differences was 1.71, and for proportions was 0.06.

CONCLUSION: The inclusion of preprints may change the results of some meta-analyses significantly.

Limited use of systematic reviews when justifying new studies and contextualizing new results in randomized controlled trials on exercise interventions for knee osteoarthritis: A systematic review and meta-analysis of randomized trials.

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ABSTRACT

AIM

To examine the prevalence and quality of justification and contextualization in randomized trials on land-based exercise interventions for knee Osteoarthritis.

METHODS

We searched Medline, Embase, CENTRAL, Cinahl, PEDro, and Psycinfo for studies investigating the effect of land-based exercise compared to any control for patients with knee OA. Prevalence of justification and contextualization was enumerated by the frequency of referrals to systematic reviews and frequency of studies integrating study results in the context of a systematic review respectively. Quality of justification and contextualization was assessed qualitatively by whether studies provided appropriate justification and contextualization.

RESULTS

Two hundred and sixty-three studies were included. Enumeration of frequency of referrals to systematic reviews found that 69 (26%) studies did not refer to a systematic review. Eighty-five (32.5%) studies provided “Appropriate”, 25 (9.5%) “Partly” appropriate”, and 153 (58%) “Not appropriate” justification.

For contextualization 1 (0.4%) study integrated study results in a meta-analysis, 67 (25.6%) of studies integrated study results narratively, and 195 (74%) provided no apparent attempt at contextualization. 53 (20.2%) provided “Appropriate”, 31 (11.8%) provided “Partly appropriate”, and 179 (68%) provided “Not appropriate” contextualization.

CONCLUSIONS

Even though most studies referred to systematic reviews in their introduction, 58% of trials did not use a systematic review to justify the study. 74% of included studies did not attempt to contextualize study results in the context of a systematic review.

To Integrate Innovation Measures into Evidence Synthesis in Health

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ABSTRACT

AIM: Evidence-based practices are essential to ensure high-quality, high-value, effective, safe, and sustainable interventions in the health sector. Evidence synthesis has gained momentum and several ways are implemented, such as systematic reviews. Several factors and measures have been implemented to enhance the quality and reliability of systematic reviews, including the level of uncertainty, and quality. However, measures of innovation in evidence synthesis are largely lacking. The objective of this project is to identify potential measures of innovation to be integrated into the current evidence synthesis in health.

METHODS: A gap identification analysis will firstly inform about the potential value and importance of innovation to be considered for its implementation in evidence synthesis. Factors that can influence the measure of innovation, such as safety and effectiveness, resource requirement, demands, barriers and facilitators, and sustainability will be then extracted and determined through existing literature and a focused group interview.

RESULTS: A study protocol has been developed for the conduction of systematic literature and focused group interviews. Based on the identified factors, related to innovation measures, an example systematic review (prevention and treatment of chronic pain) will be conducted to present the feasibility of extracted factors in association with the implementation and success of innovative intervention studies.

CONCLUSIONS: Identification and communication of measures of health innovation may enhance the value of systematic reviews and other evidence synthesis efforts, improving the dissemination and adoption of innovative interventions that are effective, feasible, and sustainable across different health-related contexts.

Using a systematic review to develop a taxonomy of uncertainty in health care to structure the design of future participatory research

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ABSTRACT

BACKGROUND: Uncertainty pervades every aspect of the healthcare system. Identifying the different meanings and conceptual models of uncertainty in healthcare with a systematic review will help to explore the patterns emerging from such models so that we can move further to identify how people respond to such uncertainties.

OBJECTIVE: To showcase how we developed a holistic model of uncertainties that covers different levels of decision-making in healthcare based on findings from a systematic review and how it helped to shape our primary research.

METHODOLOGY: 4143 articles were otained and 31 studies were included. Thematic synthesis was done by a clinician, non-clinician and a methodology expert to compare the different approaches to the interpretation of data.

RESULTS: Based on themes identified, we developed an overarching model of uncertainty, illustrating three distinct yet interdependent levels: the macro, meso and microlevel. We involved patients and sought their views on the developed model.

CONCLUSION: This systematic review was able to deconstruct the layers of uncertainty affecting health decisions and allowed us to acknowledge that uncertainty can change and evolve during interactions between different people. We used this framework to design an innovative participatory approach which explores how individuals of different ethnicities and uncertainty tolerance respond to uncertainty in oral health decisions. The approach can be extrapolated for similar projects.

The spread of systematic review methodologies in new disciplines

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ABSTRACT

BACKGROUND: The systematic review (SR) methodologies has moved beyond health to other disciplines like environmental or computer science. However, the appropriateness or relevance of these methodologies to different disciplines still requires further work.

METHODS: We piloted adapting certain aspects of systematic review methodologies to disciplines in which these methods are not established practices. Our pilot focuses on two areas – the intersection of art and science that is a new emerging interdisciplinary field that needs to balance the standards of two disciplines and astrophysics which is a establish scientific field that the key findings and measurements do not have a human-centred aspect (unlike health care).

RESULTS: The case study in art/ humanities focused on collaboration of artist and scientist and the case study in astrophysics focused on correlation of h-alpha lines with inclination of spiral galaxies. Up to now, we identified the following practice challenges - identifying database, methods to search, the volume of search results and bad reporting of studies. The methodological challenges included the lack of agreed framework to judge quality of studies, the lack of methodological research raises question on the relevance of some of the methods that we use e.g. we do not know whether publication bias works similarly in other field. Further results will be reported in the conference.

CONCLUSIONS: Although systematic review methodologies can be used in other fields, we need to be aware that our methods are based on methodological research conducted predominately in health literature that might not be extrapolatable to other disciplines.

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