

AGENCY FOR HEALTHCARE RESEARCH AND QUALITY

AHRQ

Cochrane US

Agency for Healthcare Research and Quality

Cochrane Canada

North American Systematic Review Methods Virtual Research Day

GIN Guidelines International Network

October 30th, 2020
11:30 – 3:30 pm ET / 8:30 – 12:30 pm PT

Scientific Resource Center for the AHRQ EPC Program

- Guidelines International Network (GIN) North America
  - https://g-i-n.net/regional-communities/gin-na
- Cochrane United States
  - https://us.cochrane.org/
- Cochrane Canada
  - https://canada.cochrane.org/
- AHRQ Evidence-based Practice Center program
  - https://effectivehealthcare.ahrq.gov/
- Scientific Resource Center
  - https://effectivehealthcare.ahrq.gov/about/src

Sessions

Non-randomized Studies

- ***A tool to assess Risk Of Bias In Non-randomised Studies - of Exposures (ROBINS-E)****
  - Julian Higgins *(University of Bristol)*
- **Guideline development using systematic reviews supplemented with internal health system data: The development and application of a conceptual framework***
  - Jennifer Lin & Helen Wu *(Kaiser Permanente, USA) – GIN NA abstract*
- ***Examining the effect of nutrition interventions to reduce hyperphosphatemia in chronic kidney disease: Is including non-randomized trials a waste of time?****
  - Mary Rozga *(Academy of Nutrition and Dietetics, USA)*

* Slides for this presentation are included in this packet

Italicized titles indicate the presenting author self-identified as an early career investigator

Sessions

Strength of Evidence and Bias

- ***Meta-analysis as a simultaneous inference problem: a novel approach to assess replicability of evidence***
  - Orestis Panagiotou *(Brown University, USA)*
- ***Methodological review of items for assessing the risk of bias in network meta-analyses provides groundwork for the development of a new risk of bias tool for network meta-analysis****
  - Carole Lunny *(Cochrane Hypertension Group, Canada)*
- ***Ignoring non-significant factors without data may bias the results of meta-analysis of prognostic studies***
  - Li Wang *(McMaster University, Canada)*
- **Dealing with retrieval bias for an evidence-informed individual patient data network meta-analysis (GIN abstract)***
  - Areti A. Veroniki *(St. Michael's Hospital, Canada) – GIN NA abstract*

* Slides for this presentation are included in this packet

Italicized titles indicate the presenting author self-identified as an early career investigator

Sessions

Improving Use of Systematic Reviews

- ***depressionscreening100.com/phq: A practice-based perspective to using the Patient Health Questionnaire-9 to screen for depression****
  - Brooke Levis *(McGill University, Canada)*
- ***Using a distribution-based approach and systematic review methods to derive minimum clinically important differences***
  - Jennifer Watt *(University of Toronto, Canada)*
- ***Progress toward a reporting guideline for overviews of reviews of healthcare interventions: Preferred Reporting Items for Overviews of Reviews (PRIOR)****
  - Michelle Gates *(University of Alberta, Canada)*

* Slides for this presentation are included in this packet

Italicized titles indicate the presenting author self-identified as an early career investigator

Sessions

Improving Efficiency of Systematic Reviews

- **Accelerating integration of emerging evidence into healthcare delivery: rapid reviews for learning health systems***
  - Marcy Hager *(Oregon Health & Science University, USA)*
- **Rapid review methods: a systematic scoping review***
  - Candyce Hamel *(Ottawa Hospital Research Institute, Canada)*
- **A new machine-learning powered tool to aid citation screening for evidence synthesis: PICOPortal***
  - Eitan Agai *(Fast Healthcare Interoperability Resources, Resources for Evidence-Based Medicine [EBMonFHIR], USA)*

* Slides for this presentation are included in this packet

Italicized titles indicate the presenting author self-identified as an early career investigator

University of BRISTOL

A tool to assess Risk Of Bias In Non-randomised Studies - of Exposures (ROBINS-E)

Julian Higgins on behalf of the ROBINS-E development team, led by Jonathan Sterne, Julian Higgins, Rebecca Morgan (*originally due to deliver this*), Kyla Taylor, Andrew Rooney, Holger Schünemann and Kristina Thayer

Morgan R, Taylor K, Higgins J, Rooney A, Thayer K, Schünemann H, Sterne J. A tool to assess Risk Of Bias In Non-randomized Studies – of Exposures (ROBINS-E). In: *Advances in Evidence Synthesis: special issue. Cochrane Database of Systematic Reviews* 2020; (9 Suppl 1): p.321. https://doi.org/10.1002/14651858.CD202001

no conflicts of interest to declare

A modern family of risk-of-bias assessment tools in health research

	Randomized trials of interventions	Non-randomized/observational studies of interventions	Non-randomized/observational studies of exposures
First generation	**Cochrane RoB (2008)**	**ROBINS-I (2016)**	
Second generation	**RoB 2 (2019)**	ROBINS-I V2 *(coming soon)*	

University of BRISTOL

A plethora of tools

86 in 2007

Published by Oxford University Press on behalf of the International Epidemiological Association
 Advance Access publication 30 April 2007

International Journal of Epidemiology 2007;**36**:666–676
doi:10.1093/ije/dym018

Tools for assessing quality and susceptibility to bias in observational studies in epidemiology: a systematic review and annotated bibliography

Simon Sanderson,[1]* Iain D Tatt[2,4] and Julian PT Higgins[3]

A modern family of risk-of-bias assessment tools in health research

RESEARCH METHODS AND REPORTING

OPEN ACCESS

ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions

Jonathan AC Sterne,[1] Miguel A Hernán,[2] Barnaby C Reeves,[3] Jelena Savović,[1,4] Nancy D Berkman,[5] Meera Viswanathan,[6] David Henry,[7] Douglas G Altman,[8] Mohammed T Ansari,[9] Isabelle Boutron,[10] James R Carpenter,[11] An-Wen Chan,[12] Rachel Churchill,[13] Jonathan J Deeks,[14] Asbjørn Hróbjartsson,[15] Jamie Kirkham,[16] Peter Jüni,[17] Yoon K Loke,[18] Theresa D Pigott,[19] Craig R Ramsay,[20] Deborah Regidor,[21] Hannah R Rothstein,[22] Lakhbir Sandhu,[23] Pasqualina L Santaguida,[24] Holger J Schünemann,[25] Beverly Shea,[26] Ian Shrier,[27] Peter Tugwell,[28] Lucy Turner,[29] Jeffrey C Valentine,[30] Hugh Waddington,[31] Elizabeth Waters,[32] George A Wells,[33] Penny F Whiting,[34] Julian PT Higgins[35]

For numbered affiliations see end of article.

Correspondence to: J A C Sterne jonathan.sterne@bristol.ac.uk

Additional material is published online only. To view please visit the journal online.

Cite this as: *BMJ* 2016;355:i4919 http://dx.doi.org/10.1136/bmj.i4919

Non-randomised studies of the effects of interventions are critical to many areas of healthcare evaluation, but their results may be biased. It is therefore important to understand and appraise their strengths and weaknesses. We developed ROBINS-I ("Risk Of Bias In Non-randomised Studies - of Interventions"), a new tool for evaluating risk of bias in estimates of the comparative effectiveness (harm or benefit) of interventions from studies that did not use randomisation to allocate units (individuals or clusters of individuals) to comparison groups. The tool will be particularly useful to those undertaking systematic reviews that include non-randomised studies.

Non-randomised studies of the effects of interventions (NRSI) are critical to many areas of healthcare evaluation. Designs of NRSI that can be used to evaluate the effects of interventions include observational studies such as cohort studies and case-control studies in which intervention groups are allocated during the course of usual treatment decisions, and quasi-randomised studies in which the method of allocation falls short of full randomisation. Non-randomised studies can provide evidence additional to that available from randomised trials about long term outcomes, rare events, adverse effects and populations that are typical of real world practice.[1,2] The availability of linked databases and compilations of electronic health records has enabled NRSI to be conducted in large representative population cohorts.[3] For many types of organisational or public health interventions, NRSI are the main source of evidence about the likely impact of the intervention because randomised trials are difficult or impossible to conduct on an area-wide basis. Therefore systematic reviews addressing the effects of health related interventions often include NRSI. It is essential that methods are available to evaluate these studies, so that clinical, policy, and individual decisions are transparent and based on a full understanding of the strengths and weaknesses of the evidence.

Many tools to assess the methodological quality of observational studies in the context of a systematic review have been proposed.[4,5] The Newcastle-Ottawa[6] and Downs-Black[7] tools have been two of the most popular: both were on a shortlist of methodologically sound tools,[5] but each includes items relating to external as well as internal validity and a lack of comprehensive manuals means that instructions may be interpreted differently by different users.[5]

In the past decade, major developments have been made in tools to assess study validity. A shift in focus from methodological quality to risk of bias has been accompanied by a move from checklists and numeric scores towards domain-based assessments in which different types of bias are considered in turn. Examples are the Cochrane Risk of Bias tool for randomised trials,[8] the QUADAS 2 tool for diagnostic test accuracy studies,[9] and the ROBIS tool for systematic reviews.[10] However, there is no satisfactory domain-based assessment tool for NRSI.[4]

In this paper we describe the development of ROBINS-I ("Risk Of Bias In Non-randomised Studies - of Interventions"), which is concerned with evaluating risk of bias in estimates of the

SUMMARY POINTS

- Non-randomised studies of the effects of interventions are critical to many areas of healthcare evaluation but are subject to confounding and a range of other potential biases
- We developed, piloted, and refined a new tool, ROBINS-I, to assess "Risk Of Bias In Non-randomised Studies - of Interventions"
- The tool views each study as an attempt to emulate (mimic) a hypothetical pragmatic randomised trial, and covers seven distinct domains through which bias might be introduced
- We use "signalling questions" to help users of ROBINS-I to judge risk of bias within each domain
- The judgements within each domain carry forward to an overall risk of bias judgement across bias domains for the outcome being assessed

First
gene

Secon
gene

Non-omized/observational dies of interventions

Non-randomized/observational studies of exposures

ROBINS-I (2016)

ROBINS-I V2 *(coming soon)*

ROBINS-E

University of BRISTOL

ROBINS-E

- Joint initiative between our team in Bristol (UK), McMaster University (Canada), National Toxicology Program (NIH, USA), Environmental Protection Agency (USA) and others

- Fully drafted version piloted in Bristol in October 2019
- Refinements still being made

- Similar to ROBINS-I, but more attention to
  - defining the causal effect of interest
  - exposure measurement

RESEARCH METHODS AND REPORTING

OPEN ACCESS

ROBINS-I: a tool for assessing risk of bias in non-randomised studies of interventions

Jonathan AC Sterne,[1] Miguel A Hernán,[2] Barnaby C Reeves,[3] Jelena Savović,[1,4] Nancy D Berkman,[5] Meera Viswanathan,[6] David Henry,[7] Douglas G Altman,[8] Mohammed T Ansari,[9] Isabelle Boutron,[10] James R Carpenter,[11] An-Wen Chan,[12] Rachel Churchill,[13] Jonathan J Deeks,[14] Asbjørn Hróbjartsson,[15] Jamie Kirkham,[16] Peter Jüni,[17] Yoon K Loke,[18] Theresa D Pigott,[19] Craig R Ramsay,[20] Deborah Regidor,[21] Hannah R Rothstein,[22] Lakhbir Sandhu,[23] Pasqualina L Santaguida,[24] Holger J Schünemann,[25] Beverly Shea,[26] Ian Shrier,[27] Peter Tugwell,[28] Lucy Turner,[29] Jeffrey C Valentine,[30] Hugh Waddington,[31] Elizabeth Waters,[32] George A Wells,[33] Penny F Whiting,[34] Julian PT Higgins[35]

University of BRISTOL

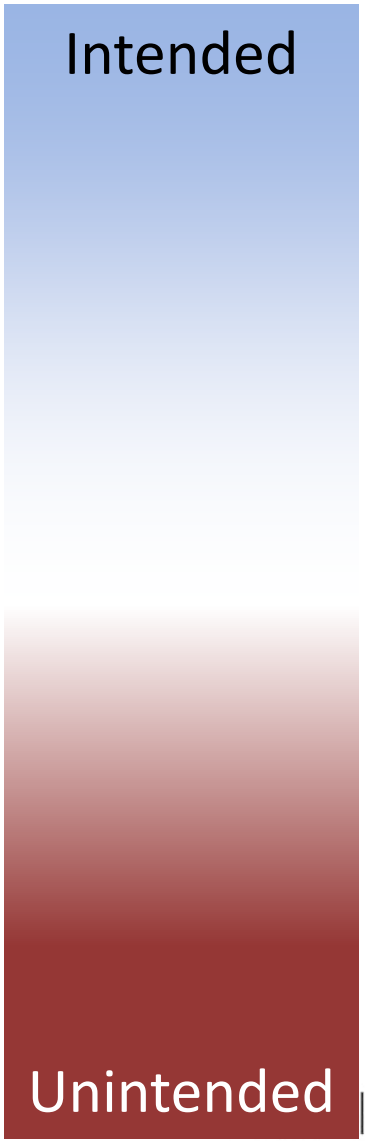
ROBINS-E contributors to date

- Elie Akl, Carla Ancona, Mohammed Ansari, Bruce Armstrong, Whitney Arroyave, Tom Bateson, Nancy Berkman, Lisa Bero, Aaron Blair, Abee Boyles, Bert Brunekreef, Paul Demers, Tanja Farmer, Francesco Forastiere, Davina Ghersi, Barbara Glenn, Ali Goldstone, Gordon Guyatt, David Henry, Miguel Hernan, Julian Higgins, Ellen Kirrane, Judy LaKind, Juleen Lam, Tom Luben, Ruth Lunn, Alexandra McAleenan, Luke McGuinness, Daniele Mandrioli, Suril Mehta, Joerg Meerpohl, Rebecca Morgan, Rebecca Nachman, Annette O'Connor, Julie Obbagy, Neil Pearce, Beth Radke, Andrew Rooney, Kenneth Rothman, Jelena Savović, Mary Schubauer-Berigan, Holger Schünemann, Pam Schwingl, Beverly Shea, Kyle Steenland, Jonathan Sterne, Patricia Stewart, Kurt Straif, Kyla Taylor, Kris Thayer, Jos Verbeek, Roel Vermeulen, Meera Viswanathan, Shelia Zahm

University of BRISTOL

Intervention vs exposure
A continuum

- Interventions
  - by a health professional
  - legislation
- Personal choices
  - type of toothbrush
  - taking a vitamin supplement
  - dietary intake
  - lifestyle, e.g. smoking, exercise
- Exposures
  - occupational
  - environmental
- Traits
  - socioeconomic status
  - biomarkers
  - genetic



Establishing the causal effect being evaluated

- For observational studies we need to define the causal effect estimated by the result under consideration
  - Convenient to use counterfactuals
  - It may help to define a **target experiment**
    - In the hypothetical target experiment, exposure would be assigned in a planned manner, rather than being observed. An unlimited number of exposure plans can be assigned. The target experiment need not be feasible or ethical.

  - Essential for assessing risk of bias because it defines the result that would be seen (other than due to sampling variation) in the absence of bias

Establishing the causal effect being evaluated

Need not be feasible or ethical

University of BRISTOL

ROBINS-E domains

Risk of bias due to confounding
Risk of bias in measurement of exposure
Risk of bias in selection of participants into the study (or into the analysis)
Risk of bias due to post-exposure interventions
Risk of bias due to missing data
Risk of bias in measurement of outcomes
Risk of bias in analysis and selection of the reported result

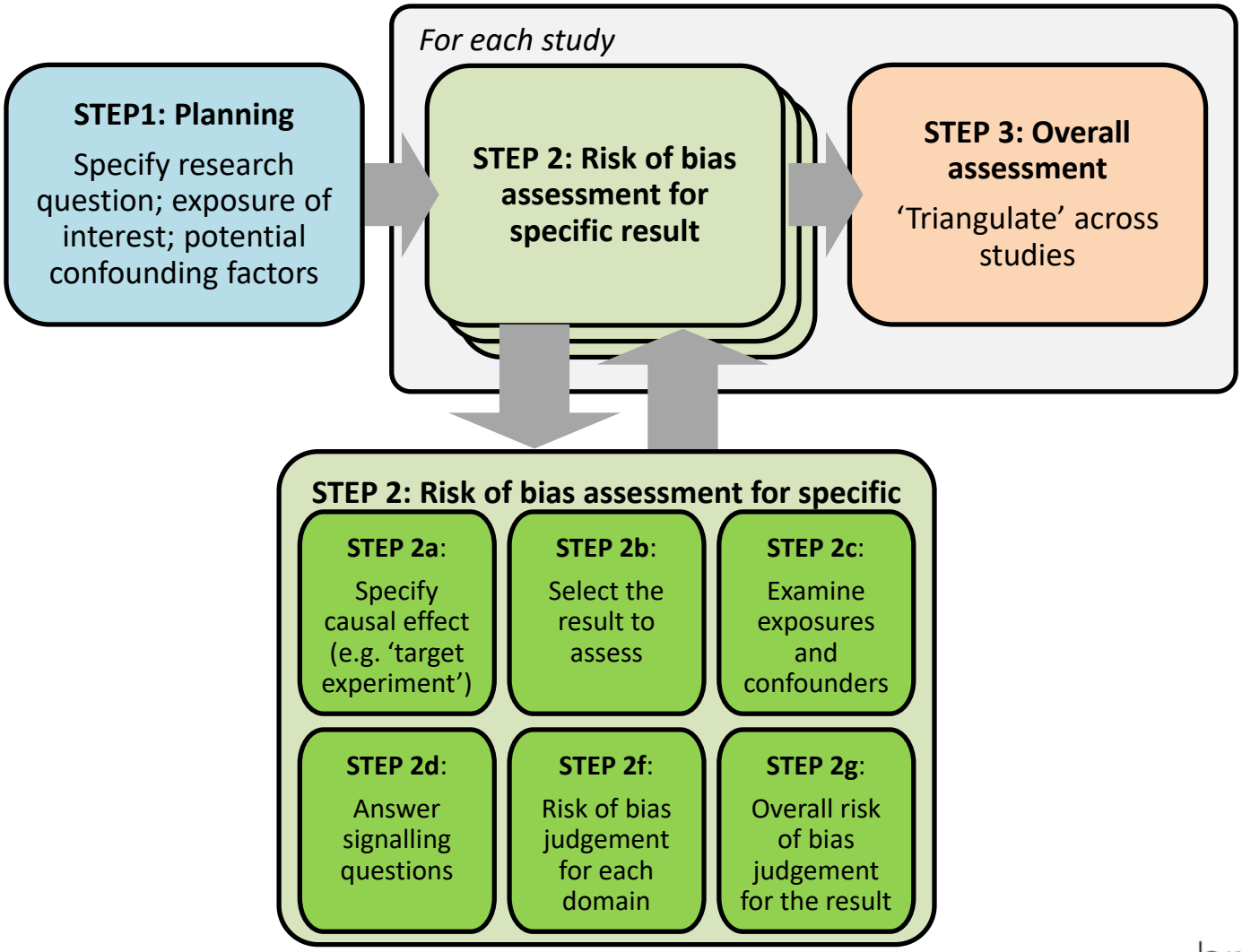
University of BRISTOL

ROBINS-E risk-of-bias judgement

Judgement	Interpretation
Low risk of bias	there is little or no concern about bias with regard to this domain
Some risk of bias	there some concern about bias with regard to this domain, although it is not clear that there is an important risk of bias
Clear risk of bias	the study has some important problems in this domain: characteristics of the study give rise to a clear risk of bias
Very high risk of bias	the study is very problematic in this domain: characteristics of the study give rise to a very high risk of bias

University of BRISTOL

ROBINS-E process



University of BRISTOL

Key messages

1. **Risk of bias** is the appropriate way to think about study limitations, and needs to be addressed at multiple stages of a systematic review

2. Risk of bias assessments are **detailed and difficult** if you want to do them properly for observational studies

3. **ROBINS-E is on its way** for [P][EC][O] questions
   - and there is parallel work for addressing multiple other study designs/analyses, including instrumental variables analyses (e.g. Mendelian randomization studies)

Guideline development using systematic reviews supplemented with internal health system data: the development and application of a conceptual framework

North American Systematic Review Methods Virtual Research Day
October 30, 2020

Jennifer S. Lin, MD, MCR
Director, Kaiser Permanente EPC

Helen Wu, PhD
Senior Manager, Kaiser Permanente Care Management Institute Evidence Services

Disclosures

Neither presenter has any financial conflicts of interests

The framework presented today was funded by AHRQ 290-2015-00007-I, Task Order 1- “Methods and Dissemination: Collaboration to improve validity, consistency, and utility of systematic reviews”

This presentation was initially submitted to the 2020 GIN Annual Conference

Aim:

To articulate a framework for using unpublished health system data alongside systematic reviews to inform guideline development and to explore its application in one health system's, Kaiser Permanente's, guideline program.

A Narrative Review and Proposed Framework for Using Health System Data with Systematic Reviews to Support Decision-making

Jennifer S. Lin, MD[1,2], M. Hassan Murad, MD[3], Brian Leas, MD[4], Jonathan R. Treadwell, PhD[4], Roger Chou, MD[5], Ilya Ivlev, PhD[1], and Devan Kansagara, MD[6]

[1]Kaiser Permanente Research Affiliates Evidence-based Practice Center, Portland, OR, USA; [2]The Center for Health Research, Kaiser Permanente Northwest, Portland, OR, USA; [3]Mayo Clinic Evidence-based Practice Center, Rochester, MN, USA; [4]ECRI Institute-Penn Medicine Evidence-based Practice Center, Plymouth Meeting, PA, USA; [5]Pacific Northwest Evidence-based Practice Center, Portland, OR, USA; [6]Veterans Health Administration Health Services Research Department Evidence Synthesis Program, Portland, OR, USA.

Systematic reviews are a necessary, but often insufficient, source of information to address the decision-making needs of health systems. In this paper, we address when and how the use of health system data might make systematic reviews more useful to decision-makers. We describe the different ways in which health system data can be used with systematic reviews, identify scenarios in which the addition of health system data may be most

to improve the delivery of care (i.e., what to do and how to do it).[1, 2] Often, findings of systematic reviews are not clinically actionable due to low certainty in the evidence from published research, leaving decision-makers without a clear path forward. Even when an evidence base provides high certainty regarding the effectiveness of an intervention, reviews generally lack key contextual details that inform successful imple-

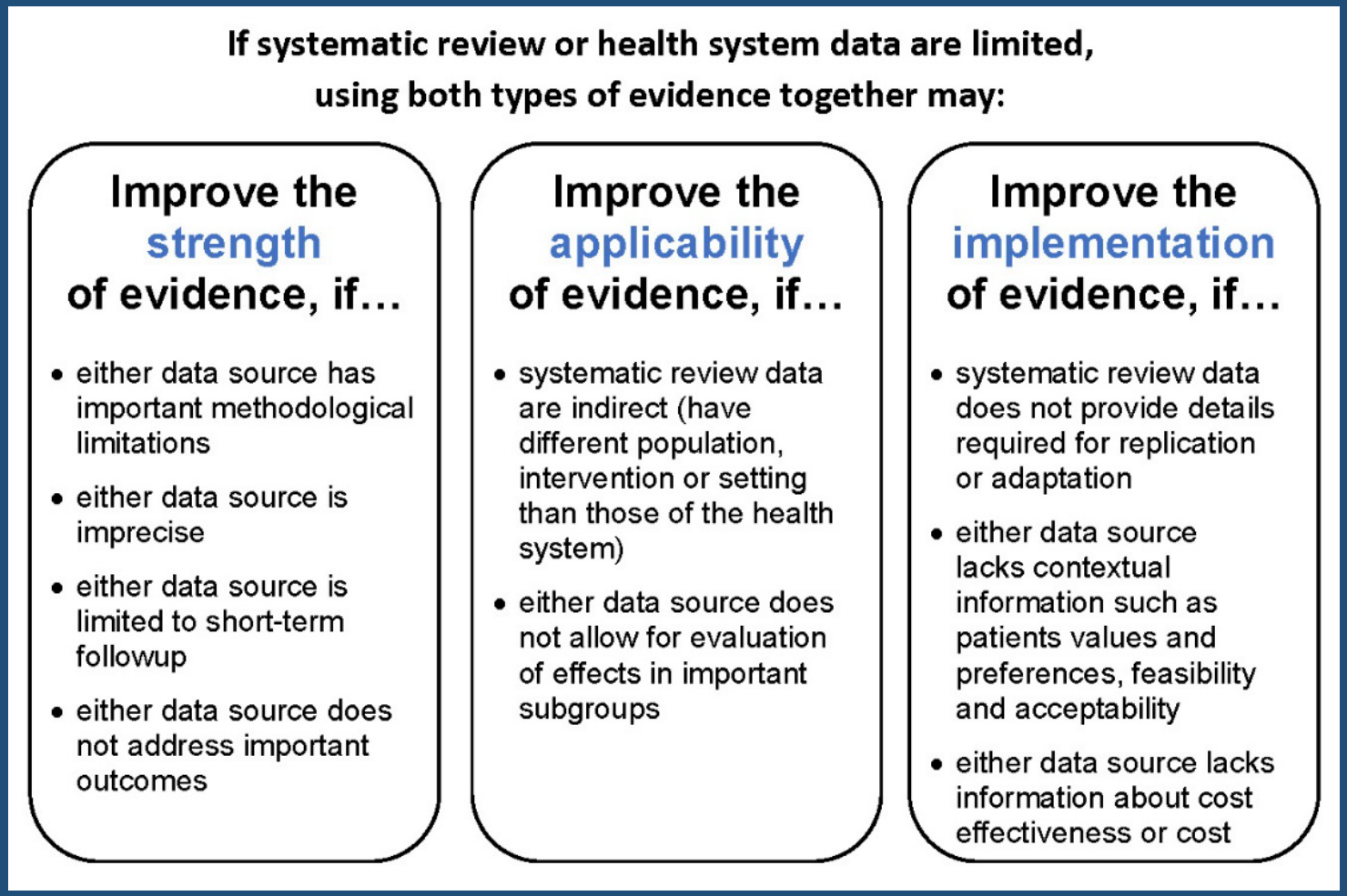
J Gen Intern Med 35(6):1830–5 DOI: 10.1007/s11606-020-05783-5

Framing the problem

Systematic reviews are often a necessary but not sufficient information source for health system decision making

- often ‘insufficient’ evidence and a clinical decision needs to be made nonetheless
- often not clear the applicability of findings in the ‘research’ to local practice
- often evidence around net benefit (= effectiveness – harms) are insufficient for implementing a clinical service

Scenarios when health system data may be incorporated into or used in addition to systematic reviews



Limitations and considerations when using unpublished primary data from health systems in systematic reviews

- Formal critical appraisal is a must
  - Biases and limitations for NRS well understood
- Numerous critical appraisal tools available, but may not be robust enough to understand limitations of real-world data (RWD)
  - RWD = data not collected for research purposes
- Vetting information quality and data quality
  - Information quality = the extent to which the data source can answer the question being asked
  - Data quality = integrity of the data (e.g., data accuracy, completeness, interpretability/accessibility, timeliness, mode of data collection)

Kaiser Permanente's National Guideline Program

Kaiser Permanente's Care Management Institute maintains a set of national clinical practice guidelines on selected topics

- **Methods:** Draw from existing external guidelines and systematic reviews when available, with critical appraisal and use of GRADE framework
  - Capacity to conduct internal analysis for high-priority topics that are not addressed well elsewhere
  - Avoid duplication of effort, focus on issues uniquely important for the KP health system
  - Importance of maintaining quality standards for internal analyses, where methods/limitations may not be documented in the explicit, transparent manner of published research
- **Expertise:** Clinical leaders bring insights about the gaps between external guidelines/systematic reviews and the answers clinicians need

Application of the Framework to KP's National Adult Diabetes Guideline

Topic	Domain(s)	Feasibility*
Cost-effectiveness of treatments	**Implementation** – Cost for KP as an integrated delivery system is different	Most feasible
Third-step therapy	**Applicability** – Existing studies are indirect, do not explicitly address third-step therapy or specific combinations of interest	Possibly feasible
Use of SGLT-2 and GLP-1 agonists	**Applicability** – Existing studies are indirect, do not explicitly evaluate role of HbA1c levels; no head-to-head trials	Possibly feasible
Long-term harms of newer treatments	**Strength** – Research does not track long-term harms well	Least feasible

* Key feasibility considerations: data access; formulary differences across the KP health system; timeline needed to measure outcomes of interest; sample size/power

Questions / Discussion

Examining Effect of Nutrition Interventions to Reduce Hyperphosphatemia in Chronic Kidney Disease: Is Including Non-Randomized Trials A Waste of Time?

Mary Rozga, PhD, RDN

Nutrition Researcher, Evidence Analysis Center

Academy of Nutrition and Dietetics

Conflicts of Interest

Employee for the Academy of Nutrition and Dietetics

No other conflicts of interest to disclose.

Background

Chronic Kidney Disease (CKD)

Individuals with CKD are at risk of hyperphosphatemia and resulting health outcomes, such as CKD Mineral and Bone Disorder and cardiovascular diseases.

Study Designs for Nutrition Interventions

- RCTs are the gold standard for examining the efficacy of healthcare interventions
- RCTs of nutrition interventions may not always be feasible
  - long periods of time to affect health outcomes
  - lack of generalizability
- High-quality only vs best evidence to support practice

Objectives

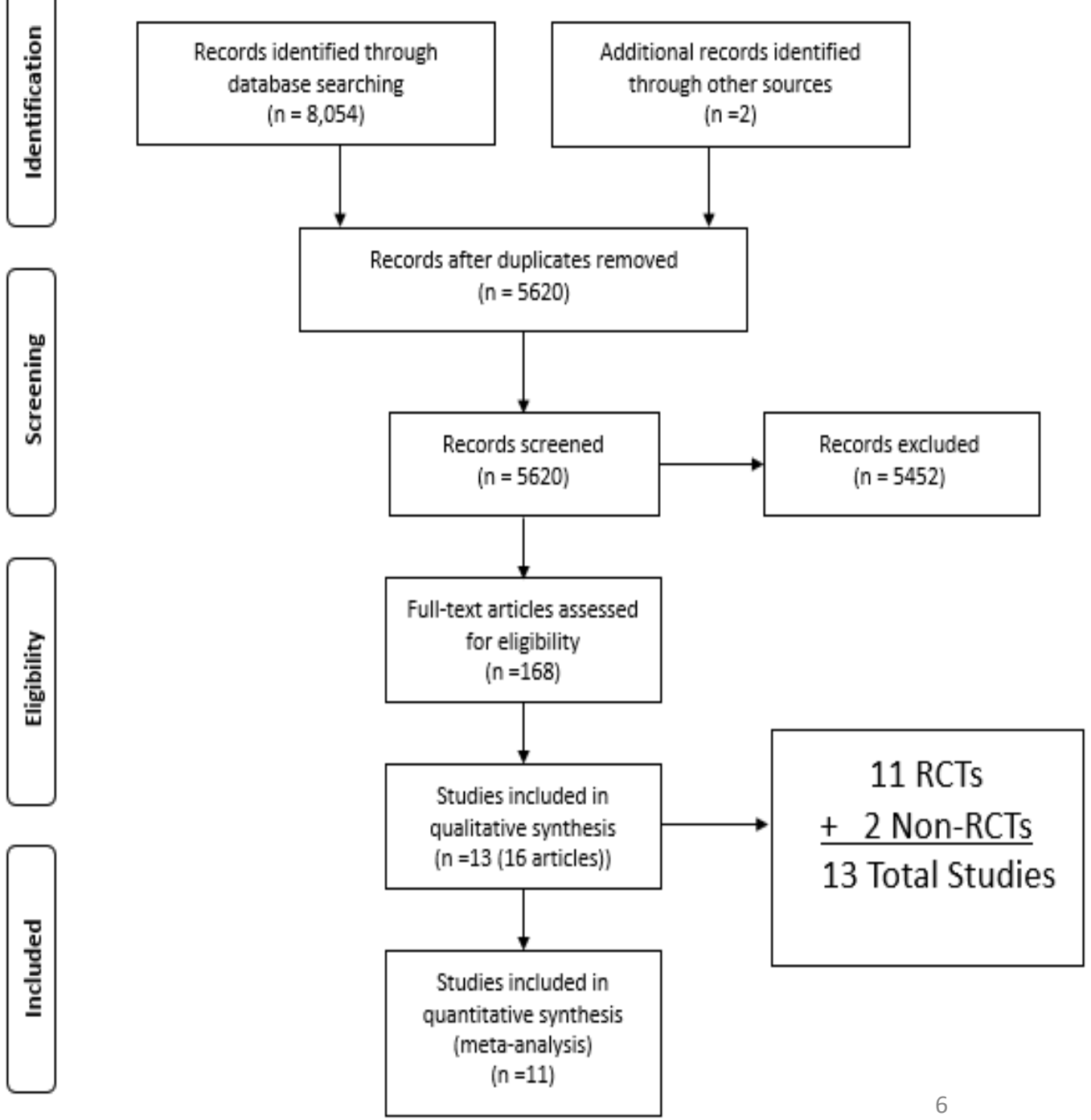
1. To examine difference in the effect size and certainty of evidence from RCTs only vs. RCTs + Non-RCTs in a nutrition intervention.

2. To examine the efficacy of phosphate-specific nutrition counseling provided by a dietitian, compared to usual care or an alternative intervention, on serum phosphate levels in individuals with CKD.

Systematic Review Methods

- **Eligibility Criteria**
  - Individuals with CKD (P)
  - Phosphate-specific nutrition therapy from a dietitian (I)
  - Usual Care/Controlled Trials (C)
  - Phosphate Levels (O)
- **Literature Search**
  - 2000-2019
  - MEDLINE, Embase, CINAHL, Web of Science and other databases
- **Risk of Bias Assessment**
  - ROB 2.0 for RCTs
  - ROBINS-I for Non-RCTs
- **Meta-analysis**
  - Stratified by Study Design
- **Quality of Evidence**
  - Stratified by Study Design

Study Inclusion



Effect of Phosphate-Specific Nutrition Counseling Provided by a Dietitian compared to Control on Serum Phosphate Levels (mg/dL) by Study Design (N=11/13 Studies)

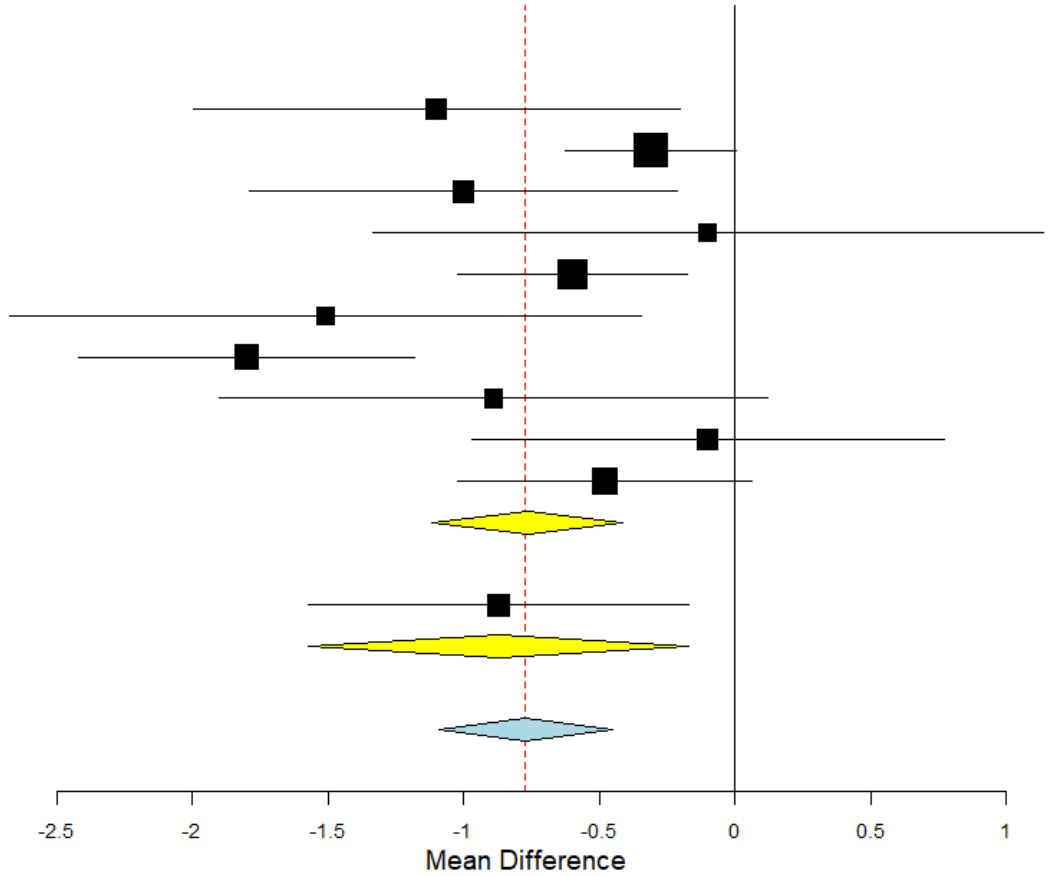


Figure from OpenMeta

Results of Studies Not Included in Meta-Analysis

Two studies did not include data that could be pooled in meta-analysis.

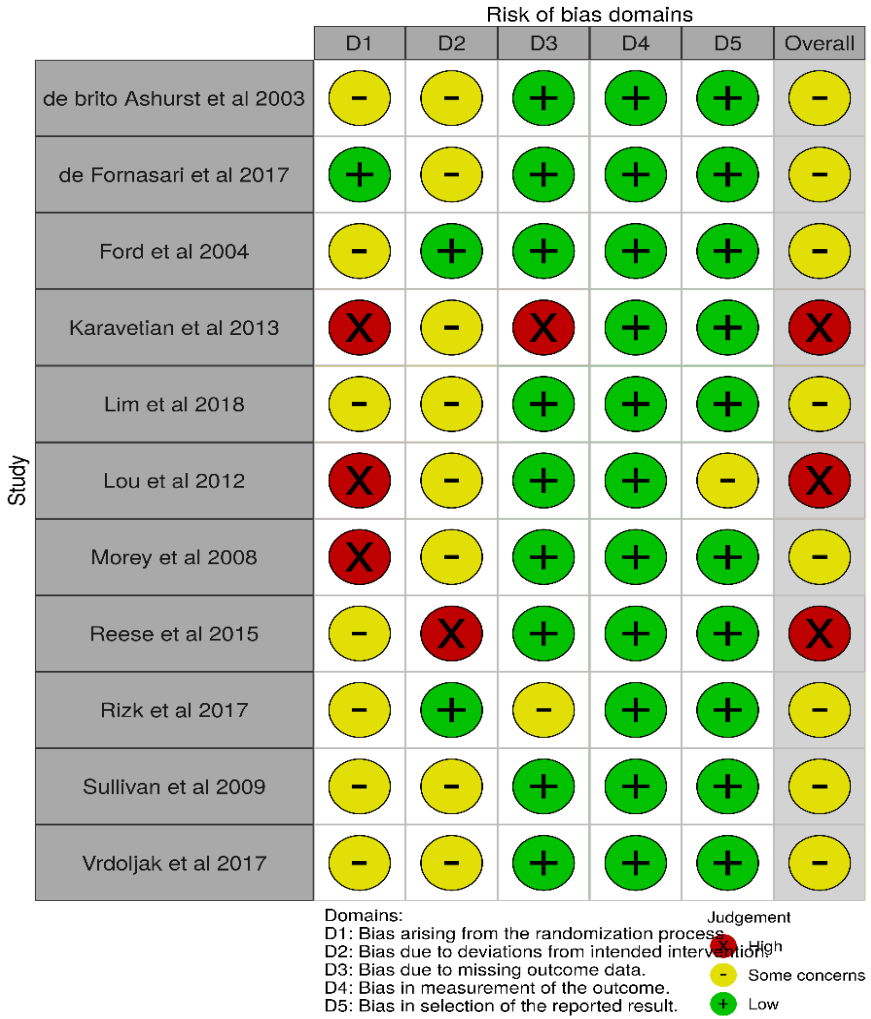
RCT

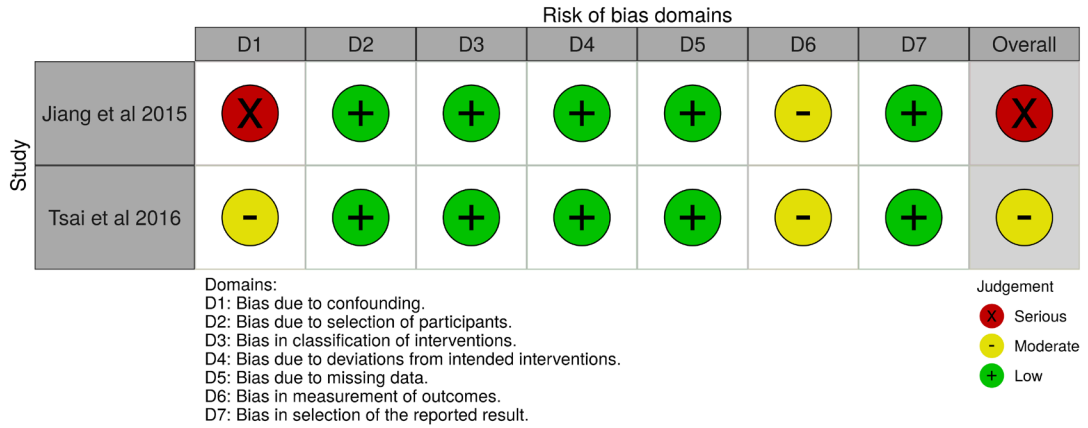
- Reese et al 2015
- Intervention group had a non-significant greater decrease in median change in serum phosphate at 10-weeks compared to the control group.

Non-RCT

- Jiang et al 2015
- Intervention group had significantly reduced serum phosphate levels at 9 and 12 months compared to control group.
- Peritoneal Dialysis

Risk of Bias: RCTs vs NRCTs





Figures created with the Cochrane Collaboration's robvis tool

Serum Phosphate Levels: Summary of Findings

Outcomes	Anticipated absolute effects* (95% CI)		№ of participants (studies)	Certainty of the evidence (GRADE)	Comments
	Risk with usual care	Risk with phosphate-focused diet therapy			
Serum Phosphate Levels follow up: range 2.5 months to 12 months	Reference	MD **0.76 mg/dl[c] lower** (1.12 lower to 0.41 lower)	Total: 1168 (11 RCTs) In Meta-analysis: 1144 (10 RCTs)	⊕⊕◯◯ LOW [a]	The evidence suggests phosphate-focused diet therapy from a dietitian reduces serum phosphate levels.
Serum phosphate levels follow up: 4 months to 12 months	Reference	MD **0.87 mg/dl[c] lower** (1.57 lower to 0.17 lower)	Total: 158 (2 Non-RCTs) In Meta-analysis: 61 (1 Non-RCT)[h]	⊕⊕◯◯ LOW [b]	The evidence suggests phosphate-focused diet therapy from a dietitian reduces serum phosphate levels.

CI= Confidence Interval; MD= Mean Difference; RCT= Randomized Controlled Trial

[a] Risk of bias, moderate heterogeneity

[b] Risk of bias, small sample size, large confidence interval

Limitations

- Lack of Non-RCTs included for comparison to RCTs
- Only one study, a Non-RCT, included individuals on peritoneal- vs hemodialysis

Conclusions

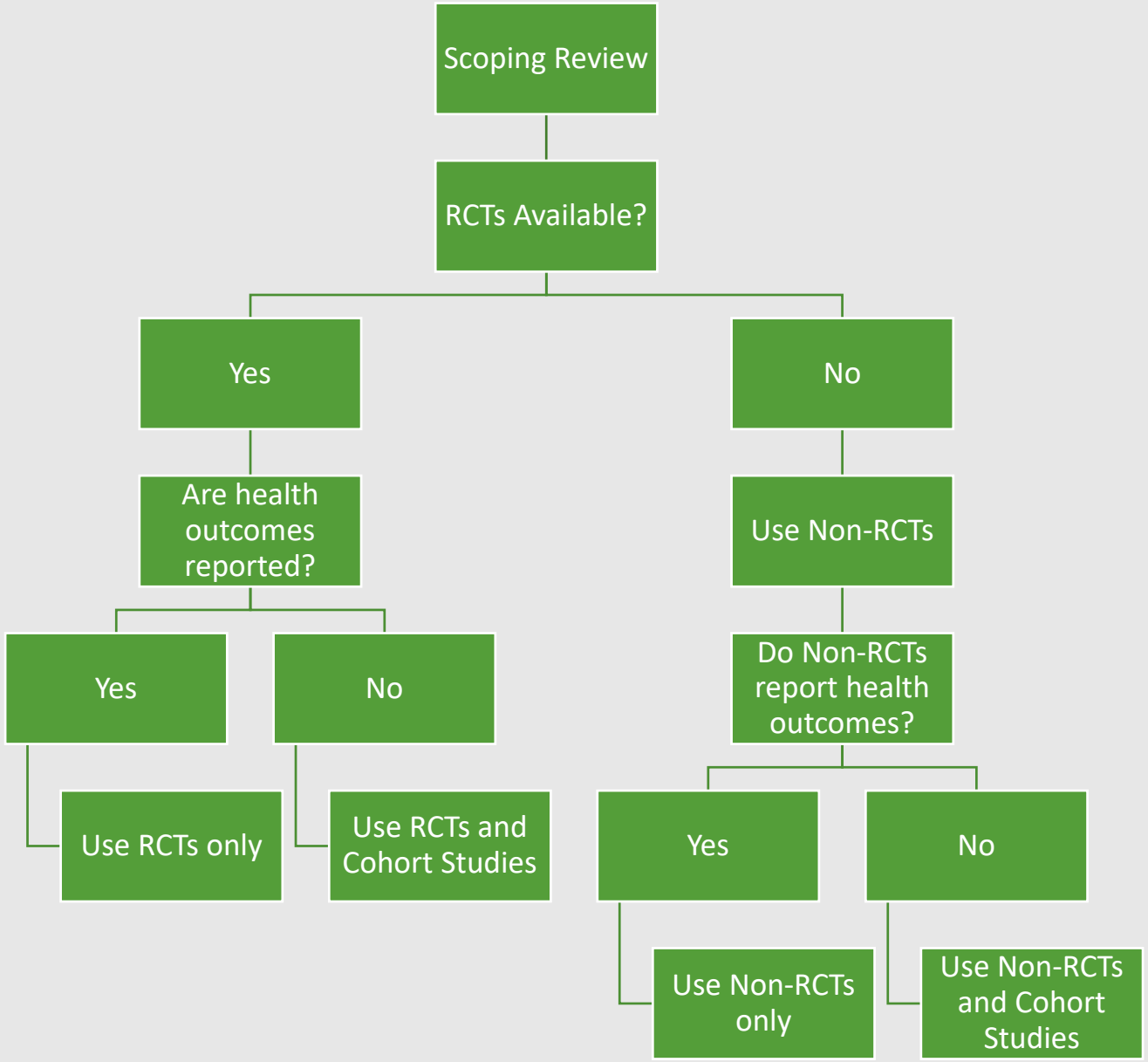
Overall effect size and certainty of evidence were not notably affected by including or excluding Non-RCTs when examining the effect of phosphate-focused nutrition therapy on phosphate levels in individuals with CKD on dialysis.

Suggest conducting a scoping review. When RCTs are identified, it may save time and effort to consider RCTs without Non-RCTs.

Future Research

Does inclusion of long-term cohort studies improve understanding of the long-term feasibility and effects of nutrition interventions on patient-centered outcomes when assessed in tandem with RCTs?

Suggested Process for Determining Study Design Inclusion



Questions?

Mary Rozga, PhD, RDN

mrozga@eatright.org

EAC
Evidence
Analysis Center

Academy of Nutrition and Dietetics

Rozga M, Cheng F, Moloney L, Handu D. **Examining the effect of nutrition interventions to reduce hyperphosphatemia in chronic kidney disease: is including non-randomized trials a waste of time?** Advances in Evidence Synthesis: special issue *Cochrane Database of Systematic Reviews* 2020;(9 Suppl 1). https://doi.org/10.1002/14651858.CD202001

References

1. Ashurst Ide B, Dobbie H: A randomized controlled trial of an educational intervention to improve phosphate levels in hemodialysis patients. *J Ren Nut* 13:267-274, 2003

2. de Fornasari ML, Dos Santos Sens YA: Replacing Phosphorus-Containing Food Additives With Foods Without Additives Reduces Phosphatemia in End-Stage Renal Disease Patients: a Randomized Clinical Trial. *J Ren Nut* 27:97-105, 2017

3. Ford JC, Pope JF, Hunt AE, Gerald B: The effect of diet education on the laboratory values and knowledge of hemodialysis patients with hyperphosphatemia. *J Ren Nutr* 14(1):36-44, 2004

4. Jiang N, Fang W, Gu AP, Yuan JZ, Yang XX, Lin AW, Ni ZH, Qian JQ: Improving diet recipe and cooking methods attenuates hyperphosphatemia in patients undergoing peritoneal dialysis. *Nutr Metab Cardiovasc Dis* 25:846-852, 2015.

5. Karavetian M, Ghaddar S: Nutritional education for the management of osteodystrophy (nemo) in patients on haemodialysis: a randomised controlled trial. *J Ren Care* 39:19-30, 2013

6. Lim E, Hyun S, Lee JM, Kim S, Lee MJ, Lee SM, Oh YS, Park I, Shin GY, Kim H, Morisky D, Jeong JC: Effects of education on low-phosphate diet and phosphate binder intake to control serum phosphate among maintenance hemodialysis patients: a randomized controlled trial. *Kidney Res Clin Prac* 37:69-76, 2018

7. Lou LM, Caverni A, Gimeno JA, Moreno R, Perez J, Alvarez R, B Campos, M García, A Gutiérrez, S Bielsa, J Castilla, A Sanz, F Martin, Aragon CKD Research Group: Dietary intervention focused on phosphate intake in hemodialysis patients with hyperphosphoremia. *Clin Nephrol* 77:476-483, 2012

8. Morey B, Walker R, Davenport A: More dietetic time, better outcome? A randomized prospective study investigating the effect of more dietetic time on phosphate control in end-stage kidney failure haemodialysis patients. *Nephron* 109:c173-180, 2008

9. Reese PP, Mgbako O, Mussell A, Potluri V, Yekta Z, Levsky S, Bellamy S, Parikh CR, Shults J, Glanz K, Feldman HI, Volpp K: A Pilot Randomized Trial of Financial Incentives or Coaching to Lower Serum Phosphorus in Dialysis Patients. *J Ren Nutr* 25:510-517, 2015

10. Rizk R, Hiligsmann M, Karavetian M, Evers S: Cost-effectiveness of dedicated dietitians for hyperphosphatemia management among hemodialysis patients in Lebanon: results from the Nutrition Education for Management of Osteodystrophy trial. *J Med Econ* 20:1024-1038, 2017

11. Sullivan C, Sayre SS, Leon JB, Machekano R, Love TE, Porter D, Marbury M, Sehgal AR: Effect of food additives on hyperphosphatemia among patients with end-stage renal disease: a randomized controlled trial. *JAMA* 301:629-635, 2009

12. Tsai WC, Yang JY, Luan CC, Wang YJ, Lai YC, Liu LC, Peng YS: Additional benefit of dietitian involvement in dialysis staffs-led diet education on uncontrolled hyperphosphatemia in hemodialysis patients. *Clin Exp Nephrol* 20:815-821, 2016

13. Vrdoljak I, Panjkota Krbavcic I, Bituh M, Leko N, Pavlovic D, Vrdoljak Margeta T: The impact of education and cooking methods on serum phosphate levels in patients on hemodialysis: 1-year study. *Hemodial Int* 21:256-264, 2017

METHODOLOGICAL REVIEW OF ITEMS FOR ASSESSING BIAS IN NETWORK META-ANALYSES PROVIDES GROUNDWORK FOR THE DEVELOPMENT OF A NEW RISK OF BIAS TOOL FOR NETWORK META-ANALYSIS (ROB NMA TOOL)

Lunny C, Tricco AC, Veroniki AA, Dias S, Hutton B, Salanti G, Wright J, Higgins J, White IR, Whiting P.

CAROLE LUNNY, MPH, PHD, POSTDOCTORAL FELLOW
COCHRANE HYPERTENSION GROUP AND THE THERAPEUTICS INITIATIVE
UNIVERSITY OF BRITISH COLUMBIA
CAROLE.LUNNY@TI.UBC.CA

TWITTER: @CAROLE_LUNNY

ACKNOWLEDGEMENT OF TRADITIONAL LAND

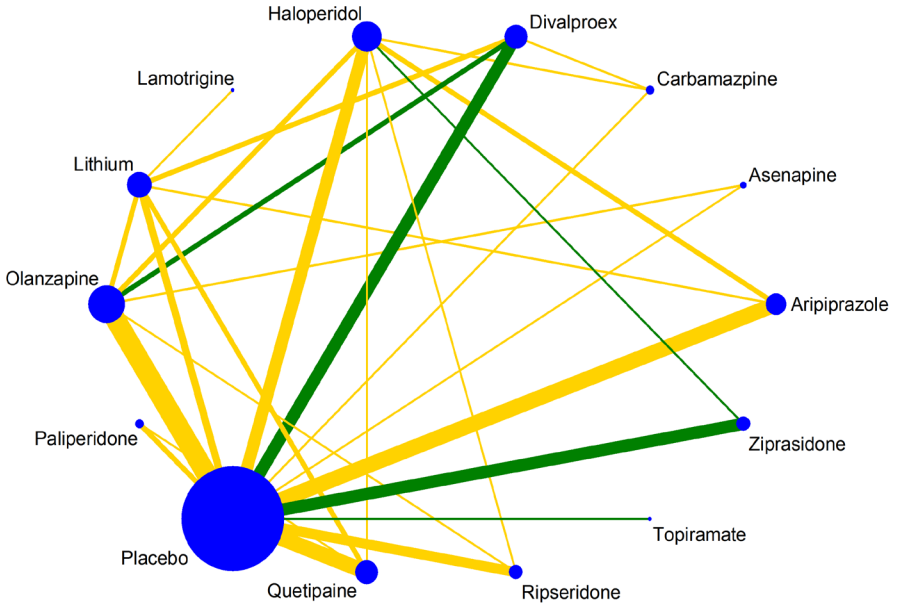
We wish to acknowledge the land in Vancouver, BC, Canada, on which the research is conducted.

For thousands of years it has been the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam), Skwxwú7mesh (Squamish), Stó:lō and Səl̓ílwətaʔ/Selilwitulh (Tsleil- Waututh) Nations.

WE HAVE NO ACTUAL OR POTENTIAL CONFLICTS OF INTEREST IN RELATION TO THIS PRESENTATION

SESSION OUTLINE

- Background
  - Project team
  - Quality assessment tools
  - Rationale for a risk of bias tool for reviews with NMA
- Stages of development of our risk of bias tool
- Methodological review of bias items for NMAs
- Future steps



Chaimani 2013

PROJECT TEAM

Steering group:
Carole Lunny, Andrea Tricco, Brian Hutton, Argie Veroniki, Georgia Salanti, Julian Higgins, Ian White, Sofia Dias, Penny Whiting

Stakeholders: PHAC, NICE, WHO, CADTH, G-BA, BC Support Unit, HTAi, Patient Voices Network, SPOR Evidence Alliance, Health Canada, Cochrane UK, Cochrane Consumer Network, Cochrane Canada, Cochrane Hypertension Group;
Universities : Bristol, Ottawa Hospital Research Institute, University of British Columbia, University of Bern, University College London, University of Toronto, University of York

QUALITY ASSESSMENT FOR REVIEWS WITH *PAIRWISE META-ANALYSIS*

- A structured quality assessment tool provides a standardised providing consistency across reviews
- Many tools and checklists can be used for systematic reviews analysis:

Bias occurs if systematic flaws or limitations in the design, conduct or analysis distort the review conclusions

Number of checklists, instruments and tools		
Reporting	Quality of conduct	Risk of Bias
60	**40**	**1**

Page 2020; Lunny 2019; Whiting 2017

TOOLS AND CHECKLISTS TO AID IN SYSTEMATIC REVIEW CONDUCT, OR TO ASSESS THE REPORTING OR METHODOLOGICAL QUALITY OF A REVIEW

Tool purpose	Examples of tools or checklists for reviews with narrative summary or pairwise MA	Tools or checklists for reviews with NMA
Guidance for conducting systematic reviews	MECIR	**No**
Assess the quality of conduct of reviews	AMSTAR-2, OQAQ	ISPOR (International Society for Pharmacoeconomics and Outcomes Research)
Guidelines for the complete reporting published reviews	PRISMA	PRISMA-NMA , NICE-DSU
Assess the risk of bias of published reviews	ROBIS	**No**
Assess the certainty in evidence and the strength of recommendations	GRADE	GRADE-NMA, CINeMA, Threshold method

RATIONALE FOR THE DEVELOPMENT OF A RISK OF BIAS TOOL FOR NMAS

1. Quality subpar. In a survey of 438 NMAs:
    - 75% considered moderate to low methodological quality using AMSTAR
    - ~50% inadequately reported 6 ISPOR network meta-analysis items
2. Novel elements in reviews with NMA require a bias assessment tool tailored to identifying NMA biases
    - Example, choice of node-making method (e.g. splitting, lumping) can drastically alter the network and subsequent results
3. Many reviews with NMA are published on the same topic with conflicting conclusions. For example, one study identified 28 NMAs on treatments for rheumatoid arthritis
    - Choosing a high quality NMA from multiple conflicting NMAs is difficult without a tailored risk of bias tool

Davies & Galla 2020; Rucker 2015; Kibret 2014; Shi 2018; Zarin 2017

STAGES OF TOOL DEVELOPMENT

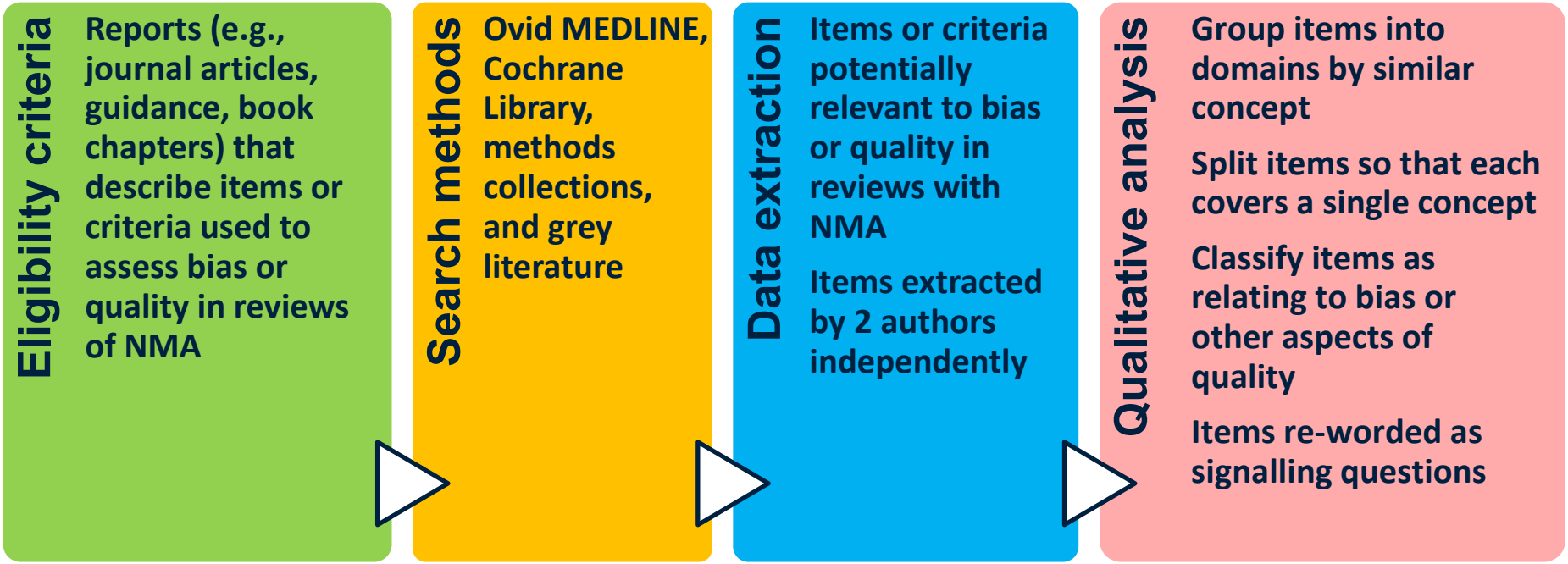
- Our RoB NMA tool will address the degree to which the methods lead to a risk of bias in the review conclusions
- Objectives in 3 stages
- Methodology for developing a comprehensive and systematic risk of bias tool described in Whiting et al.'s "Framework for Developing Quality Assessment Tools"

Stage 1.
Methodological review

Stage 2.
Delphi exercises

Stage 3.
Pilot test and refine

METHODS: METHODOLOGICAL REVIEW OF ITEMS



PRELIMINARY RESULTS: METHODOLOGICAL REVIEW OF ITEMS

- 56 studies included (2003-2020), which fall under these categories:

Tools	Methods	Guidance	Quality assessments of NMAs
16	21	12	7

- Included the updated PRISMA guidance for SRs with pairwise meta-analysis
- Data extraction of items underway
- List of retained items will be refined by the steering group
- Final list of unique items will be compiled into a domain-based risk of bias tool

NEXT TWO STAGES

- Conduct a multi-round Delphi process to solicit expert opinion on what items should be included
    - Sample of 50 experts will be invited
    - Consensus defined as 70% agreement
- Pilot test and refine the tool
- Knowledge translation strategy including training knowledge users in how to use the tool

THE UNIVERSITY OF BRITISH COLUMBIA

Abstract: Lunny C, Andrea T, Veroniki A, Wright J, White I, Dias S, Salanti G, Hutton B, Higgins J, Whiting P. *Methodological review of items for assessing the risk of bias in network meta-analyses provides groundwork for the development of a new risk of bias tool for network meta-analysis.* Advances in Evidence Synthesis: special issue *Cochrane Database of Systematic Reviews* 2020;(9 Suppl 1).

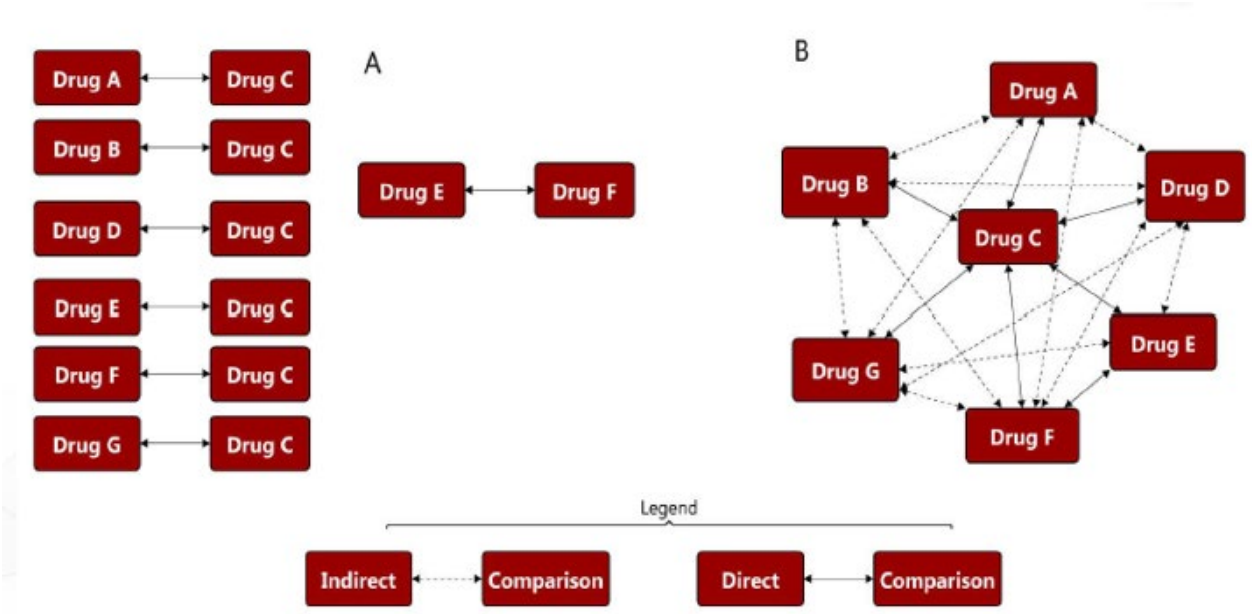
Carole Lunny, MPH, PhD, Cochrane Hypertension Group and Therapeutics Initiative, University of British Columbia, Vancouver, BC, Canada
carole.lunny@ti.ubc.ca

Twitter: @carole_lunny and @Drug_Evidence

EXTRA SLIDES FOR QUESTIONS

WHAT IS AN NMA?

- Review with NMA aims to, or intends to, simultaneously synthesise more than two heath care interventions of interest
- Moving from individual pairs of comparisons to a network/unified meta-analysis



EXAMPLES OF BIASES IN NMA SYNTHESIS

Node splitting bias. Methods can include:

1. Broad lumping approach that groups similar interventions at a broad level and is useful to estimate effects of intervention groups,
2. Grouping interventions with similar PICO elements together, taking account of clinically important variables,
3. Lumping-and-dismantling approach informed by meta-regression to investigate effects attributed to different components
4. Class-effect model approach that lumps similar interventions together as a class but assumes effect variations between these interventions, using modeling to estimate effects of specific interventions

- Rank/ probabilities can be biased if the uncertainty of some treatment effects is larger than on others
- Distortions of summary estimates in cases with between-study heterogeneity that are not accounted for (e.g. with meta-regression). These can impact the ordering of treatments and treatment effects
- Pre-specification of methods is essential and should be based on objectives

October 30, 2020

DEALING WITH RETRIEVAL BIAS FOR AN EVIDENCE-INFORMED INDIVIDUAL PATIENT DATA NETWORK META-ANALYSIS

Areti Angeliki Veroniki, MSc, PhD

Co-authors: Ashoor H, Rios P, Seitidis G, Mavridis D, Straus S, Tricco A

Prepared for: Systematic Review Methods Research Day

CONFLICTS OF INTEREST

I have no actual or potential conflict of interest in relation to this presentation

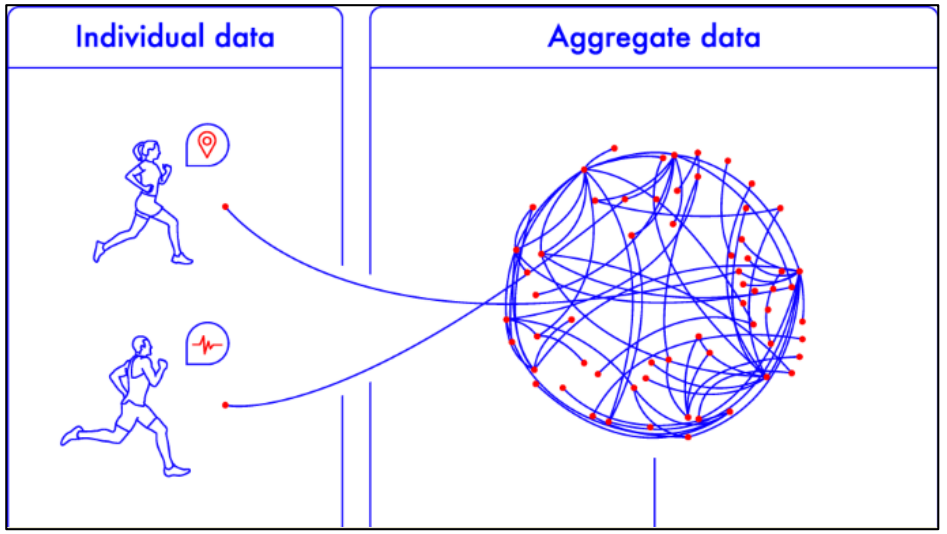
This project was partly funded by the Canadian Institutes of Health Research Drug Safety and Effectiveness Network and the Canadian Institutes of Health Research Knowledge Synthesis

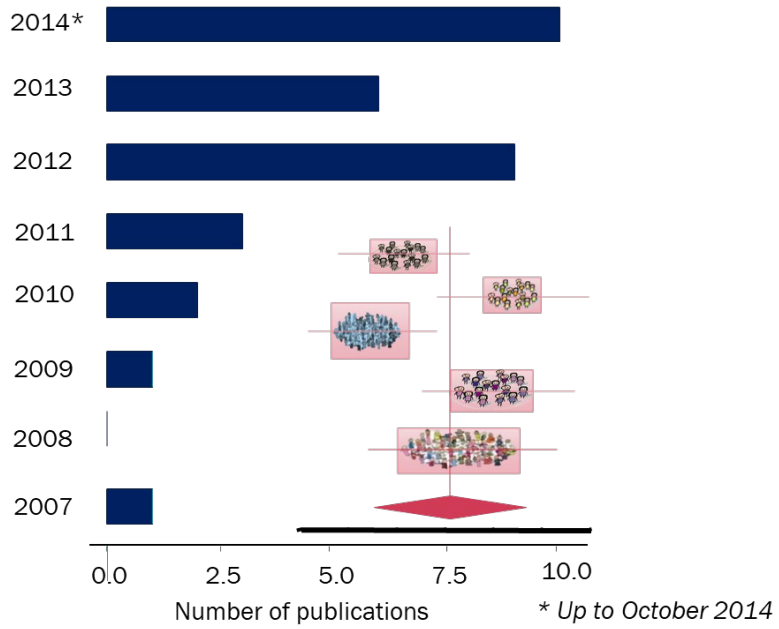
INDIVIDUAL PATIENT DATA NETWORK META-ANALYSIS

Personalized medicine is required to optimize health care

IPD meta-analyses: use data from each individual patient enrolled in each included trial

- Gold standard for synthesising evidence across clinical trials





IPD indirect comparisons are published with increasing frequency in health care literature

Veroniki et al BMC Med Res Methodol 2016

SHARING INDIVIDUAL PATIENT DATA (IPD) FROM RCTS

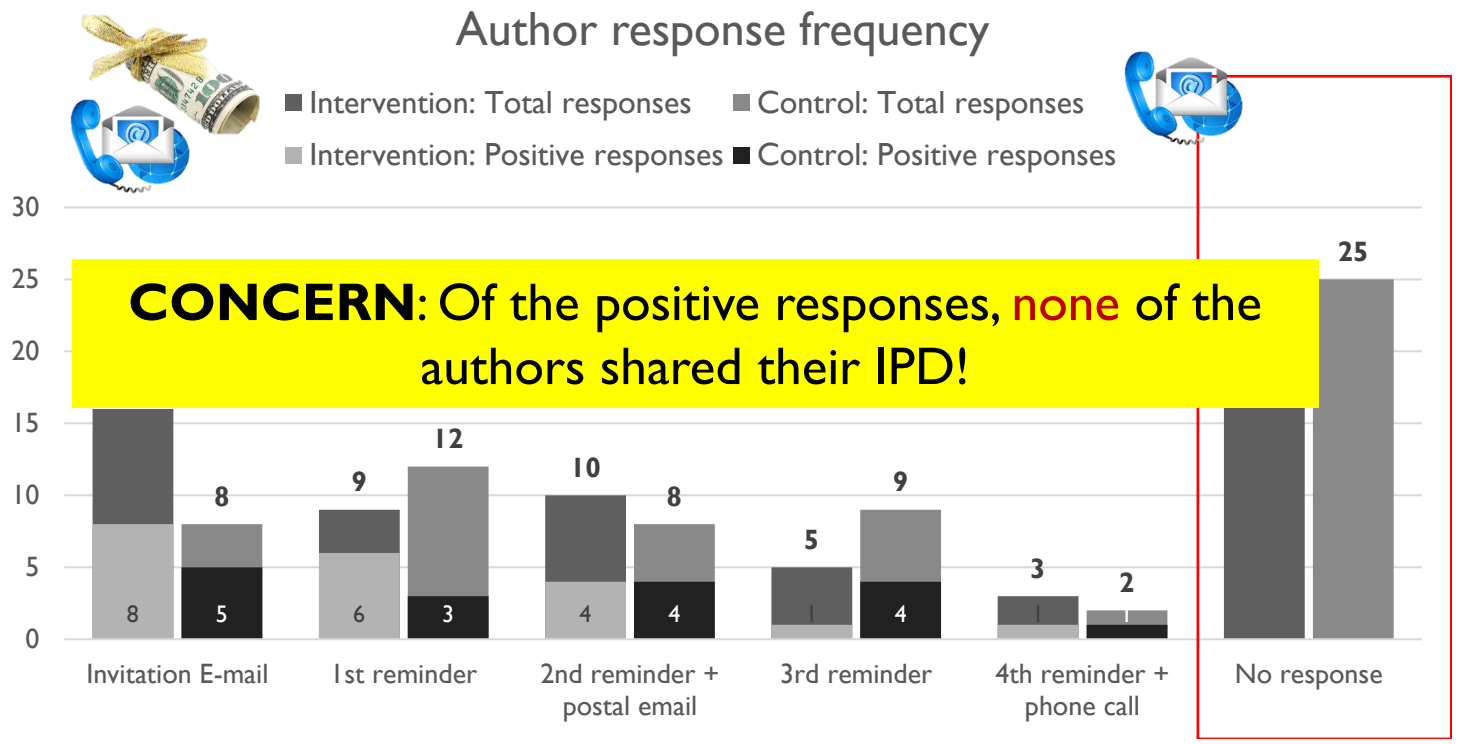
- Network meta-analyses modelling IPD usually include non-sponsored or publicly sponsored RCTs
- Evidence suggests that IPD sharing may depend on study characteristics, such as funding type, RCT size, RCT risk of bias, and treatment effect
- Retrieval bias in IPD network meta-analysis of sponsored RCTs has not been assessed before
- What are the challenges and barriers?

Veroniki et al J Clin Epidemiol. 2019

SHARING INDIVIDUAL PATIENT DATA (IPD) FROM RCTS

- Missing data can distort the medical literature and harm patients when erroneous decisions are made
  - IPD meta-analyses based only on a portion of the trials can affect the results (selection bias)!

- 33% of the negative responses were due to:
  - lack of resources or time,
  - lack of ownership or IPD, and
  - old IPD that could not be retrieved

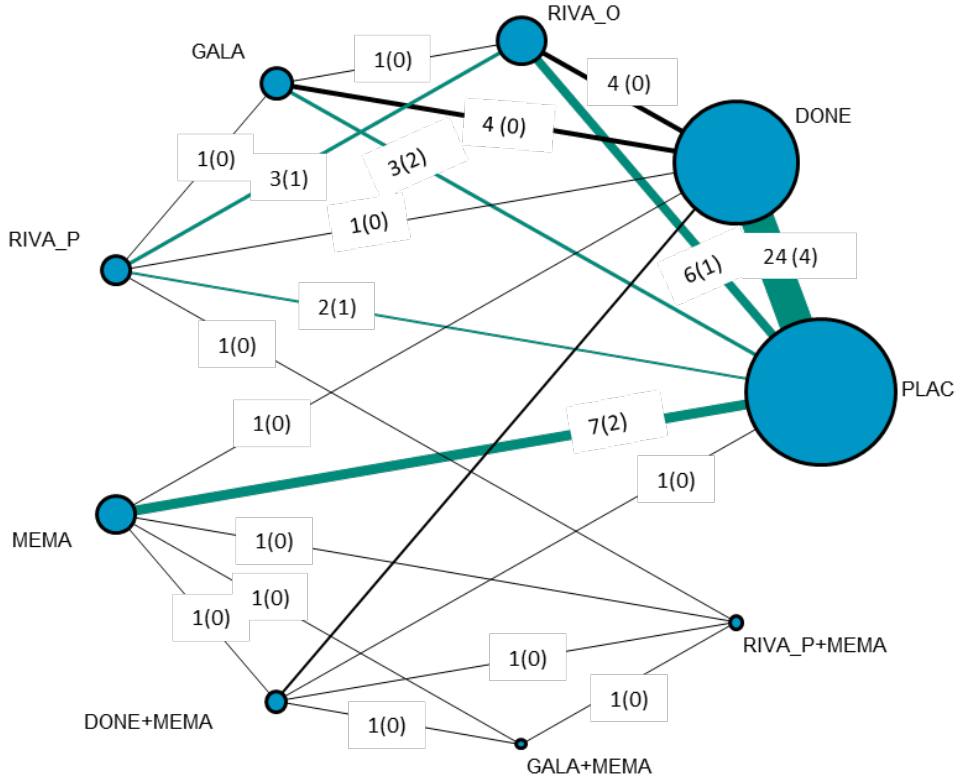


Veroniki et al J Clin Epidemiol. 2019

SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

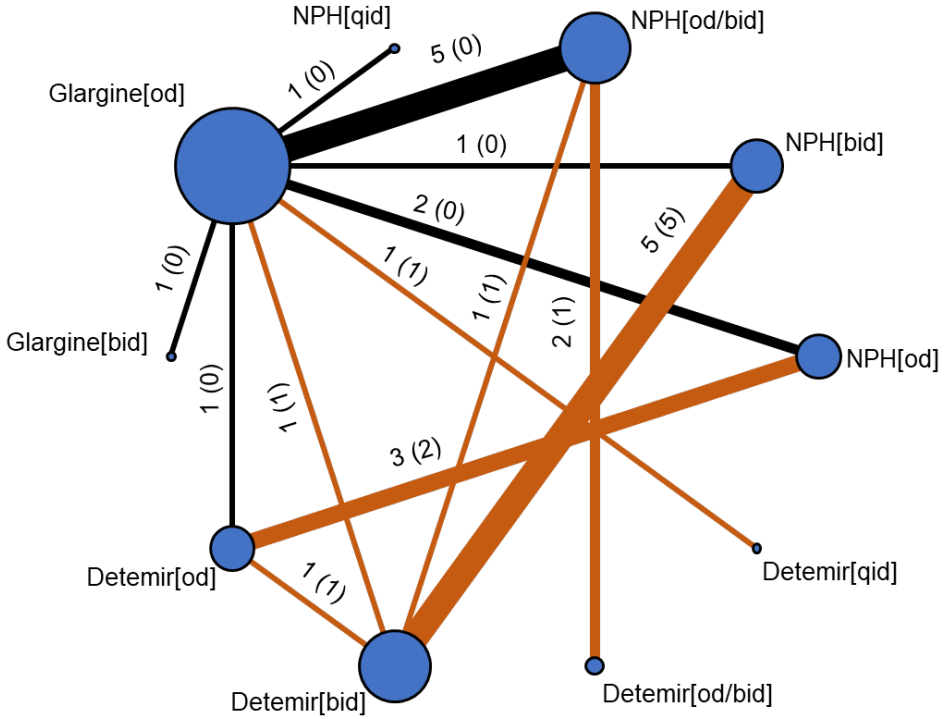
To individualize the management of patients with Alzheimer's dementia
To fill an important knowledge gap in health care, and to inform decision making

Veroniki et al BMJ Open 2016



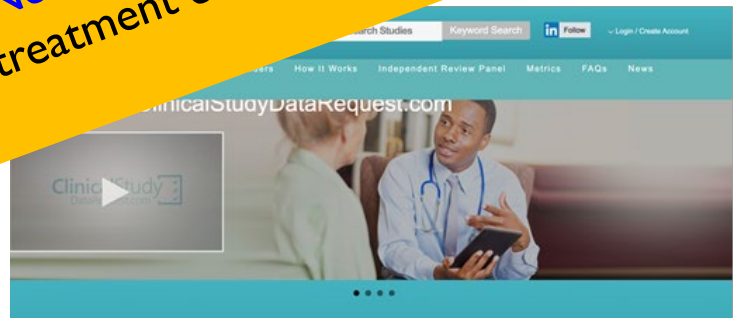
To inform clinical practice guidelines in the development of tailored management recommendations for patients with type 1 diabetes

Veroniki et al BMJ Open 2015



INDIVIDUAL PATIENT DATA NETWORK META-ANALYSIS

Data sharing was only possible though proprietary sponsor-specific platforms!



Newer studies with a larger sample size and a smaller treatment effect were more likely to have IPD that was available

Alzheimer's Dementia

- 15 sponsors were contacted for 82 RCTs
- 6 (40%) sponsors shared their data through proprietary sponsor-specific platforms
- 6 sponsors were contacted for 46 RCTs (14,580 participants)
- We obtained IPD for 14 RCTs (8,007 participants)
  - 1,058 total waiting days up to March 9, 2020

T1DM

- 2 sponsors were contacted for 25 RCTs
- 1 (50%) sponsor shared their data through a proprietary sponsor-specific platform
- We obtained 12 RCTs (4,877 participants)

INDIVIDUAL PATIENT DATA NETWORK META-ANALYSIS

Alzheimer's Dementia

- We were able to include 12 RCTs in our NMA due to incompleteness of provided data
  - A study included only IPD for the placebo arm
  - A study did not include outcome data

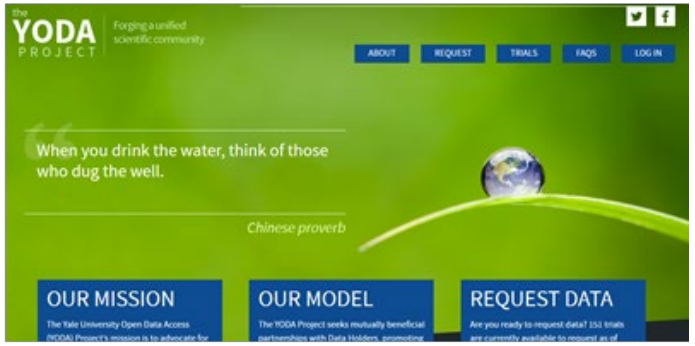
- A big challenge in the IPD was the high dropout rate from the RCTs

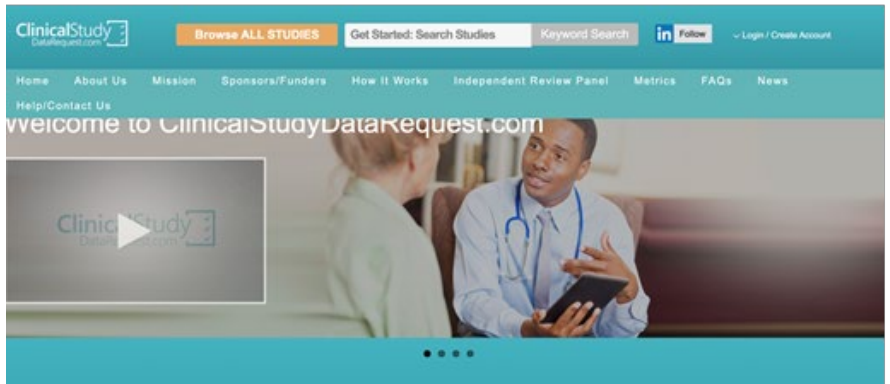
- Two studies did not report an outcome of interest in the final publication, but in the retrieved IPD we were able to use data for this outcome

T1DM

- We were able to include 12 RCTs in our NMA

PRIMARY CHALLENGES ENCOUNTERED

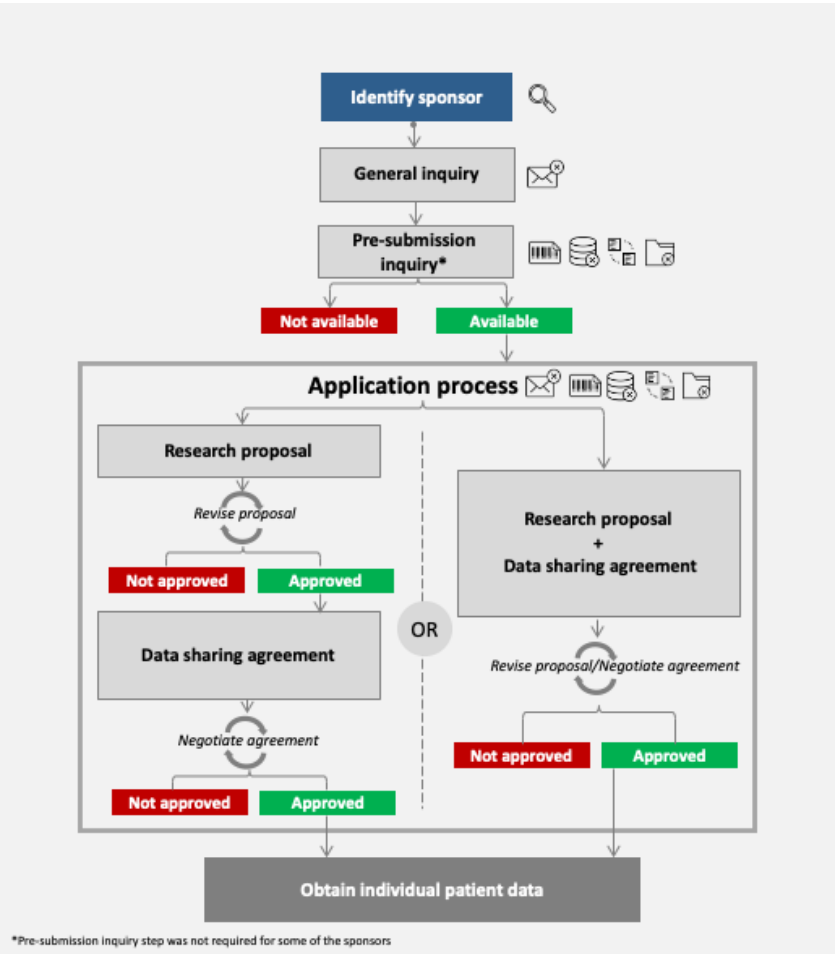




Challenges encountered included:

- **Identification** of trial data set when certain details were not available (e.g. NCT number)
- **Data ownership**
- Sponsors **switched platforms**, while we were navigating the data
- **Software availability**: Required R packages (e.g., mice) were not available/provided
  - we were not allowed to install any new R packages; R packages were older versions (e.g. lme4)
- IPD available through proprietary sponsor-specific platforms did not allow a **one-stage analysis** as planned in our protocol

PRIMARY CHALLENGES ENCOUNTERED



- **Time** that the platform permitted access to the individual patient data was often **limited**
- **Cost** associated with **obtaining access** to the data for certain time
- **Cost** associated with the WHO Drug Dictionary license to obtain access to the **additional medications** used for each patient
- Available individual patient data did not include the **full information** as shown in the publication:
  - Only data for placebo were available, or
  - Did not give information about a reported outcome (e.g. only baseline MMSE values were available).
  - Date of follow-up was coded in some studies and it was impossible to make a judgement on first and last date

Veroniki et al JCE 2019, DOI: 10.1016/j.jclinepi.2019.05.031

HOW THESE FINDINGS WILL INCREASE SCIENTIFIC KNOWLEDGE

- Well-conducted individual patient data network meta-analyses facilitate tailored decision making
- We were able to obtain data for studies that did not report outcome data in the original publication
- Retrieval bias can severely impact the knowledge synthesis findings and decision-making
- We retrieved individual patient data for **15% (12/80) of the eligible RCTs** in Alzheimer's dementia and **46% (12/26) of RCTs in type I diabetes**
- IPD sharing is not yet well-established in the field of Alzheimer's dementia and type I diabetes, and more efforts are required to achieve this goal

QUESTIONS?

AVeroniki@uoi.gr

@AVeroniki

Abstract Citation: Veroniki AA, Ashoor H, Rios P, Seitidis G, Mavridis D, Straus S, Tricco A. Dealing with retrieval bias for and evidence-informed individual data network meta-analysis. In: Advances in Evidence Synthesis: special issue. Cochrane Database of Systematic Reviews 2020;(9 Suppl 1):[458] https://doi.org/10.1002/14651858.CD202001

depressionscreening100.com/phq: A practice-based perspective to using the Patient Health Questionnaire-9 to screen for depression

October 30, 2020

Brooke Levis

Co-authors: Yuliia Dehtiarova, Ying Sun, Yin Wu, Andrea Benedetti, & Brett D. Thombs

Disclosures

- I have no personal or financial conflicts of interest to disclose

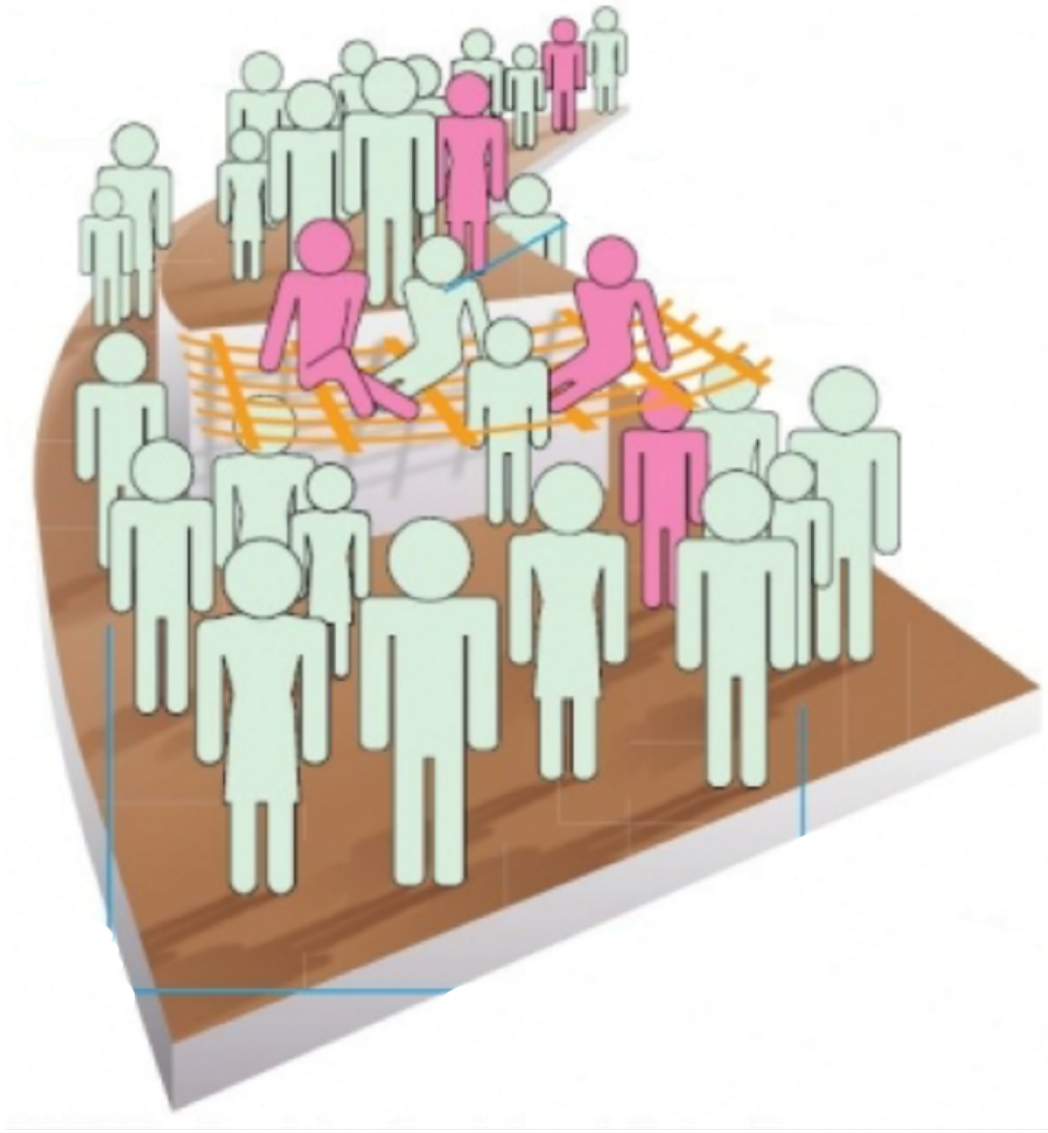
- The abstract for this presentation was originally submitted to the 2020 Cochrane Colloquium

Levis B, Dehtiarova Y, Sun Y, Wu Y, Benedetti A, Thombs BD, and the DEPRESSD PHQ Collaboration. depressionscreening100.com/phq: a practice-based perspective to using the Patient Health Questionnaire-9 to screen for depression. In: Advances in Evidence Synthesis: special issue. *Cochrane Database of Systematic Reviews* 2020;(9 Suppl 1):53.

Depression in medical settings

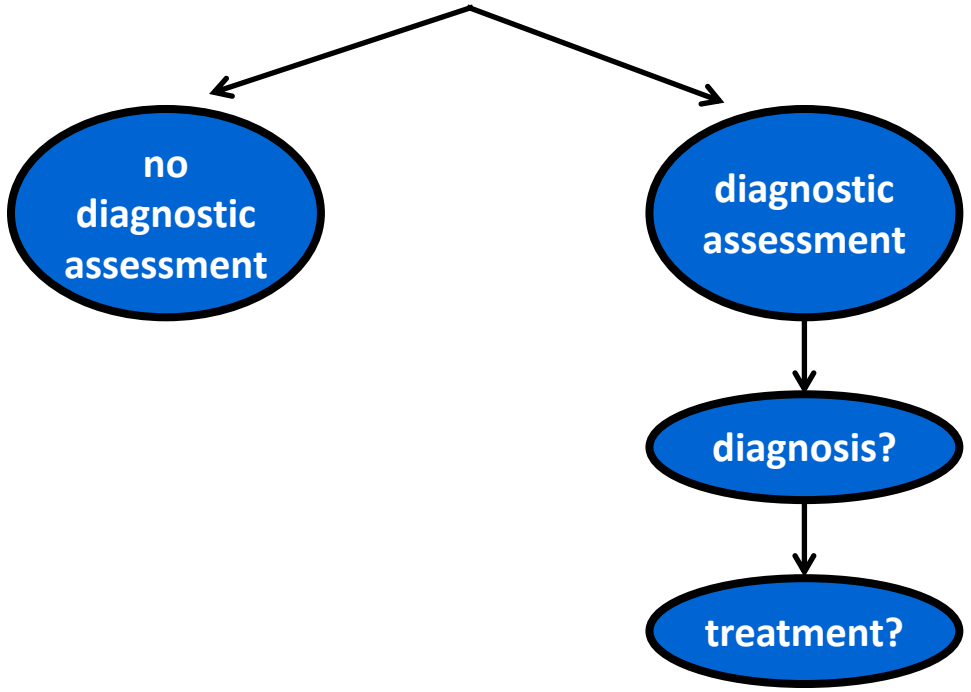
- **Common and disabling condition**
- **Highly prevalent**
  - **General population**: ~5%
  - **Primary care**: 10%
  - **Specialty care**: 10-20%
- **Associated with poor prognosis**
- **One possible solution:** routine depression screening

Depression screening



PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? *(Use "✔" to indicate your answer)*	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3

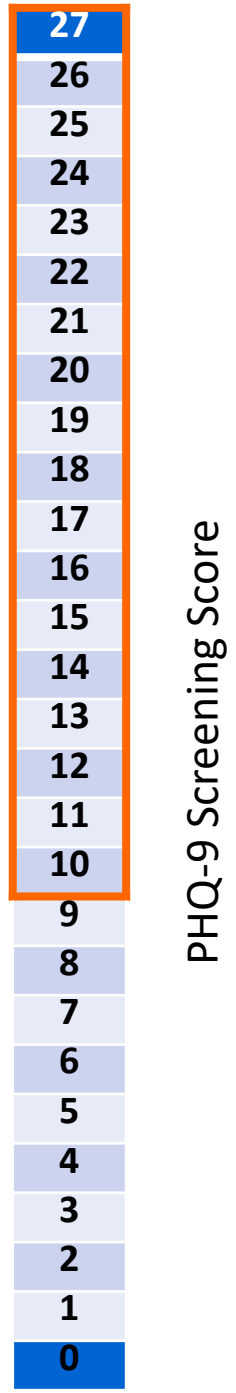


Is the PHQ-9 accurate?
Diagnostic test accuracy

PHQ-9

Screening Tool	Diagnostic Interview: Depression +	Diagnostic Interview: Depression –
Screen +	a	b
Screen –	c	d

- **Sensitivity:** a/(a+c)
- **Specificity:** d/(b+d)
- **Positive Predictive Value:** a/(a+b)
- **Negative Predictive Value:** d/(c+d)



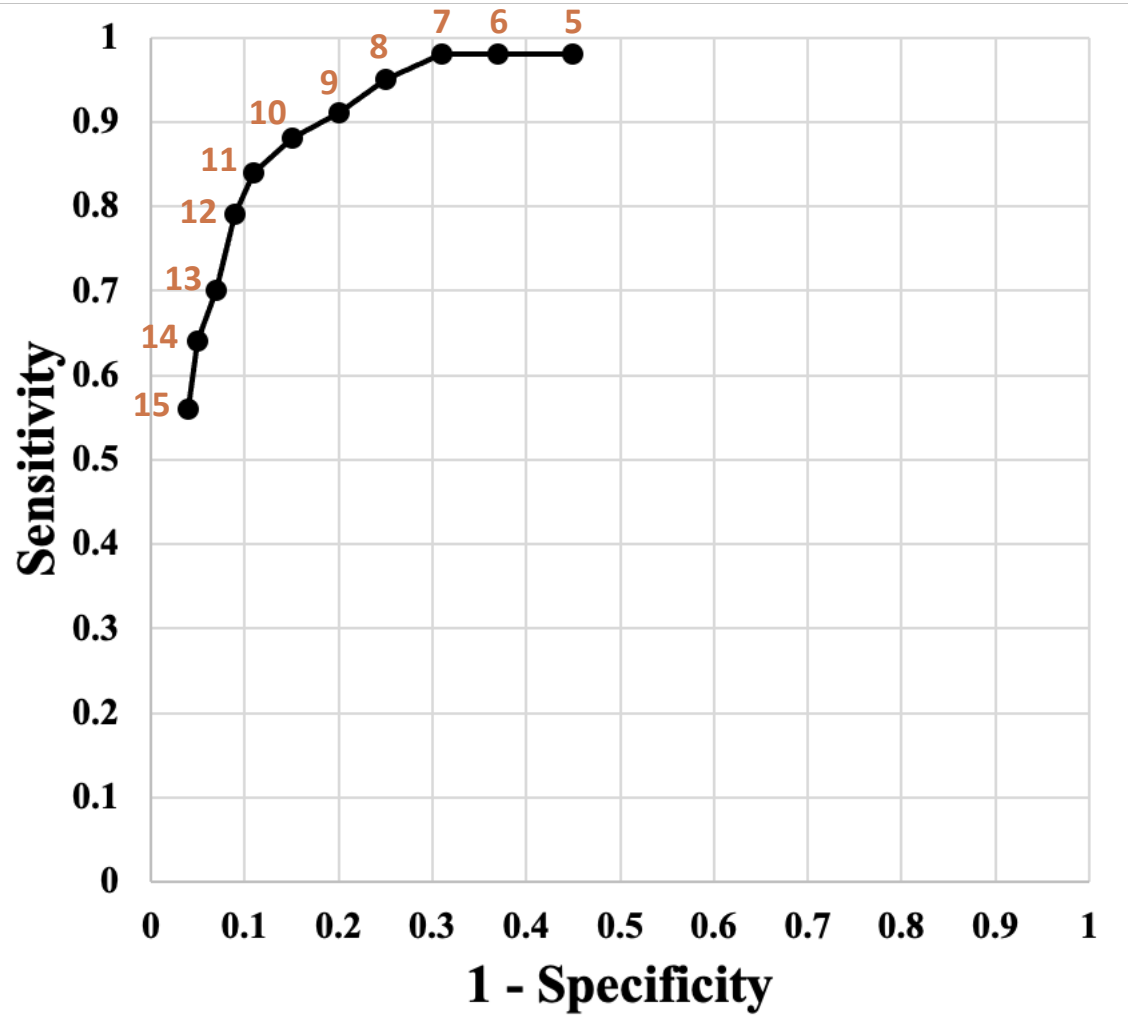
PHQ-9 diagnostic accuracy

RESEARCH

Accuracy of Patient Health Questionnaire-9 (PHQ-9) for screening to detect major depression: individual participant data meta-analysis

Brooke Levis,[1] Andrea Benedetti,[2] Brett D Thombs,[1] on behalf of the DEPRESsion Screening Data (DEPRESSD) Collaboration

Results



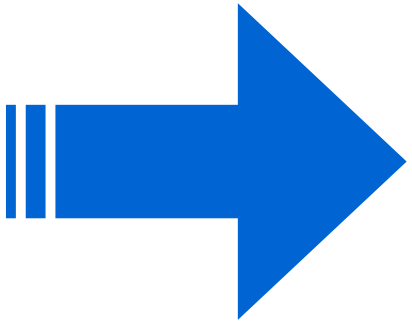
A **cutoff of ≥ 10** maximized combined sensitivity and specificity

- Sensitivity = 0.88
- Specificity = 0.85

What does this mean?

Findings

- PHQ-9 has the greatest combination of sensitivity and specificity at a **cutoff of ≥ 10**



So what?

- What cutoff should clinicians use in clinical practice?
- Should clinicians <u>always</u> use a cutoff of ≥ 10?
- Are sensitivity and specificity equally important?
- What does “88% sensitivity” even mean?

Knowledge Translation web tool: http://depressionscreening100.com/phq/

- **Objective and purpose:**
  - To create a user-friendly knowledge translation tool based on sensitivity and specificity estimates from the IPDMA
  - The tool allows clinicians to estimate, for a given depression prevalence and PHQ-9 screening cutoff score:
    - How many patients would screen positive versus negative
    - How many in each group would be correctly versus incorrectly identified
- **Knowledge user involvement:**
  - We consulted with family physicians during development

Knowledge Translation web tool:

http://depressionscreening100.com/phq/

Please type in the prevalence in %

Enter an integer between 1 and 100

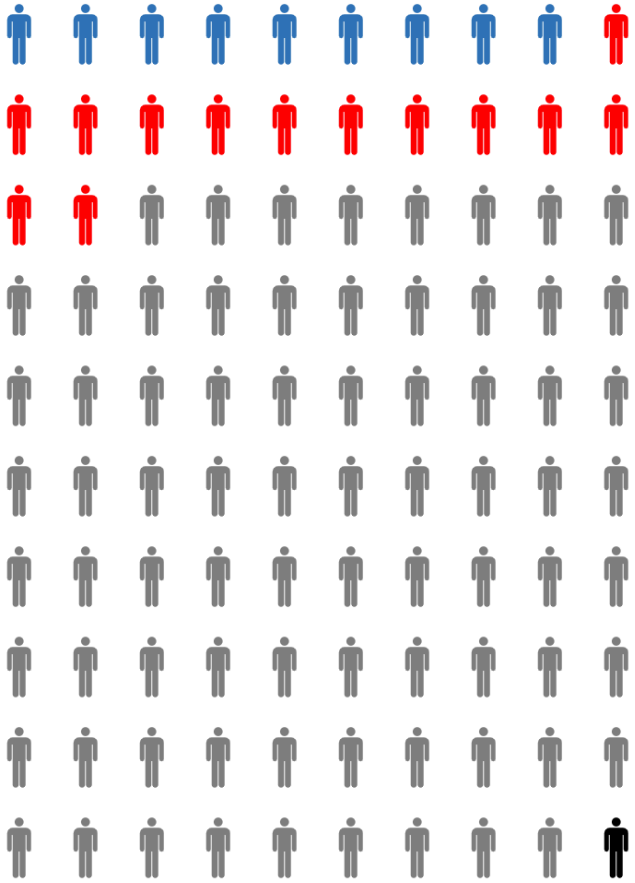
Prevalence

10

The default cutoff threshold is the standard cutoff score of 10 or greater. Use the slider below to select a lower or higher cutoff threshold

Cutoff

Calculate



Based on the prevalence you entered, **22** of **100** patients (22%) in your practice would screen positive for possible depression.

Of the **22** patients who screen positive:

9 (39%) would meet diagnostic criteria for major depression (true positives)

13 (61%) would not meet diagnostic criteria for major depression (false positives)

Based on the prevalence you entered, **78** of **100** patients (78%) in your practice would screen negative for possible depression.

Of the **78** patients who screen negative:

77 (99%) would be correctly ruled out (true negatives)

1 (1%) would be missed major depression cases (false negatives)

Summary and Impact

- This web-tool improves clinician understanding of results from our meta-analysis by
  - Translating results into numbers that are more readily understood
  - Providing guidance

Acknowledgements

- **Co-authors:** Yuliia Dehtiarova, Ying Sun, Yin Wu, Andrea Benedetti, and Brett D. Thombs
- **PhD Supervisors:** Brett Thombs and Andrea Benedetti
- **DEPRESSD Steering Committee:** Brett Thombs, Andrea Benedetti, Jill Boruff, Pim Cuijpers, Simon Gilbody, John Ioannidis, Lorie Kloda, Sarah Markham, Dean McMillan, Scott Patten, Ian Shrier, and Roy Ziegelstein
- **DEPRESSD Project Team**
- **DEPRESSD-PHQ Data Contributors**
- **DEPRESSD Funding:** CIHR
- **PhD Funding:** CIHR and FRQS

Fonds de recherche Santé Québec

CIHR IRSC
Canadian Institutes of Health Research
Instituts de recherche en santé du Canada

Progress toward a reporting guideline for overviews of reviews of healthcare interventions: Preferred Reporting Items for Overviews of Reviews (PRIOR)

Michelle Gates[1], Allison Gates[1], Michelle Pollock[2], Ricardo M Fernandes[3,4], Dawid Pieper[5], Andrea C Tricco[6,7,8], Lisa Hartling[1]

[1]Alberta Research Centre for Health Evidence, Department of Pediatrics, University of Alberta, Canada
[2]Institute of Health Economics, Canada
[3]Clinical Pharmacology Unit, Instituto de Medicina Molecular, Faculty of Medicine, University of Lisbon, Portugal
[4]Department of Pediatrics, Santa Maria Hospital, Portugal
[5]Institut für Forschung in der Operativen Medizin, Department für Humanmedizin, Universität Witten/Herdecke, Germany
[6]Li Ka Shing Knowledge Institute of St. Michael's Hospital, Canada
[7]Dalla Lana School of Public Health & Institute of Health Policy, Management, and Evaluation, University of Toronto, Canada
[8]Queen's Collaboration for Health Care Quality Joanna Briggs Institute Centre of Excellence, Queen's University, Canada

North American Systematic Review Methods
Virtual Research Day - October 2020

@arche4evidence

Abstract accepted for the 2020 Cochrane Colloquium.

Gates M, Gates A, Pollock M, Fernandes RM, Pieper D, Tricco AC, Hartling L. Progress toward a reporting guideline for overviews of reviews of healthcare interventions: Preferred Reporting Items for Overviews of Reviews (PRIOR). In: Advances in Evidence Synthesis: special issue. Cochrane Database Syst Rev. 2020;9 Suppl 1:400.

The authors have no conflicts of interest to declare.

Background and rationale

WHAT ARE OVERVIEWS OF REVIEWS?

Overviews of reviews use **systematic methodology** to search for and synthesize data from **multiple systematic reviews (SRs)** on a similar topic with the purpose of mapping, synthesizing, and/or exploring discrepancies in the evidence.

UNIQUE CHALLENGES when the unit of analysis is the SR

INCREASED COMPLEXITY

Need to deal with two layers of information:

Systematic reviews
+
their included primary studies

+

METHODOLOGICAL UNCERTAINTY

Recommendations are abundant but fragmented and inconsistent

EVIDENCE- and CONSENSUS-BASED REPORTING GUIDANCE UNAVAILABLE

» PRIOR

arche toward knowledge

UNIVERSITY OF ALBERTA

Plans for PRIOR

OBJECTIVE To develop an **evidence- and agreement-based reporting guideline** for overview of reviews of healthcare interventions using explicit, systematic, transparent methods based on guidance of the EQUATOR Network

METHOD

PROJECT LAUNCH	LIT REVIEW	DELPHI	DEVELOP GUIDANCE
– Identify and invite experts	– Methodological review of reporting – Scoping review of methods for conduct	– Recruit participants – Two online rounds – One in-person round (virtual)	– Write initial draft – Pilot test – Disseminate
Expert advisory board (EAB)	Prospective item list	Agreement on preliminary item list	Final PRIOR guideline

arche toward knowledge

UNIVERSITY OF ALBERTA

Step 1: Project launch

ESTABLISHED A CORE TEAM responsible for day-to-day operations, and an international and interdisciplinary **expert advisory board**

ROLE OF THE EXPERT ADVISORY BOARD

- Provide expertise related to overview methodology and guideline development
- Nominate participants for the Delphi exercise, participate, provide feedback
- Help to plan and facilitate the in-person meeting
- Assist in producing the guideline, dissemination, knowledge translation

REGISTERED INTENT to develop PRIOR with the EQUATOR Network (2017)

PLANNED the project goals, steps, preliminary timelines, and published an a-priori protocol (2019)

OBTAINED ETHICS APPROVAL to undertake the project

Step 2: Literature reviews

METHODOLOGICAL REVIEW - REPORTING

- <30% describe a protocol, synthesis methods, quality of primary studies with the reviews, certainty of evidence
- <10% describe how primary studies were considered, how they dealt with discordant reviews

SCOPING REVIEW - METHODS GUIDANCE

- 77 guidance documents available
- Several areas of conflicting or lacking guidance
  - Whether, how, and when to include primary studies
  - How best to identify and manage primary study overlap
  - Rating the certainty of the evidence
- Limited evidence to support methodological decisions

EVIDENCE-BASED
preliminary list of candidate items

arche toward knowledge

Icon courtesy of Freepik via flaticon.com

UNIVERSITY OF ALBERTA

Preliminary item list

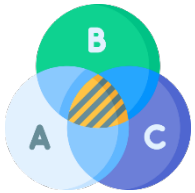
STAND-ALONE GUIDELINE (not a PRISMA extension)

- Many items similar to PRISMA, but unit of analysis differs (systematic reviews)
- Allowed us to focus on particular challenges related to overviews
- Intended to facilitate future guideline extensions (e.g., diagnostic overviews)

ITEMS UNIQUE TO OVERVIEWS (examples)

RATIONALE and SCOPE
Describe why an overview of reviews format is the most appropriate methodology for answering the research question

ELIGIBILITY CRITERIA
Specify the pre-established definition of a systematic review used as a criterion for inclusion in the overview of reviews.



DATA EXTRACTION
State any methods used to deal with overlapping data from primary studies within the included systematic reviews during data extraction. State the method used to illustrate and/or quantify the degree of overlap across included systematic reviews.

arche toward knowledge

UNIVERSITY OF ALBERTA

Step 3: Modified Delphi

"The Delphi is a group facilitation technique that aims to obtain consensus from a group of experts"

- Iterative process where participants provide feedback in multiple rounds
- After each round, the findings are analyzed and summarized for participants
- Participants review group responses and re-consider their original decision in subsequent rounds, until a high level of agreement is reached (≥70%)

PURPOSIVE SAMPLE
100 international participants with diverse expertise in conducting, reviewing, disseminating, and using overviews

ONLINE DELPHI 1 & 2
Given preliminary items and available evidence, participants vote to include/exclude (5-point scale)

SELECTED PARTICIPANTS
Subset of 10 expert panelists invited to an in-person meeting using the nominal group technique to reach agreement on final items

arche toward knowledge

Hasson et al. J Adv Nurs 2000;32(4):1008-15.

UNIVERSITY OF ALBERTA

Step 3: Modified Delphi - progress

ROUND 1: 53 participants (53% response)

- ✓ Agreement (≥70%) for the **inclusion of 48** of 52 items
- ✓ More than 500 unique qualitative comments

Reworded 1 item
Added 5 items

ROUND 2: **44 participants** (83% return)

- x **No agreement** on 9 remaining items (many were close)
- ✓ More than 250 unique qualitative comments

IN-PERSON: **13 selected participants**

- 2 x 2-hour virtual meetings to deliberate and re-vote
- Discussion of next steps (pilot-testing, dissemination)

arche toward knowledge

Icon courtesy of Freepik via flaticon.com

UNIVERSITY OF ALBERTA

Step 4: Guidance statement development

REFINEMENT OF ITEM LIST

- Edit items based on participant comments, with the aim of producing clear, concise, and unambiguous wording for each item
- May involve condensing and/or re-organizing the checklist to a manageable length to enhance usability (e.g., 20 items + sub-items)

PILOT-TESTING

- A group of potential users will test the checklist
- Finalization of the checklist based on user feedback and input of the expert panel (in-person attendees)

Step 4: Guidance statement development

WRITING

A writing group consisting of the core team, EAB, and expert panelists from in-person meeting will draft the initial manuscript, explanation and elaboration document

DISSEMINATION

publication in peer-reviewed journal

post on EQUATOR

infographics

Other ideas?

social media & video

arche toward knowledge

UNIVERSITY OF ALBERTA

THANK YOU

Look forward to PRIOR in 2021!

Acknowledgments: We thank all participants of the Delphi rounds, and Drs. Amanda Newton and Shannon Scott for input into the protocol. LH is supported by a Tier 1 Canada Research Chair in knowledge synthesis and translation. ACT is supported by a Tier 2 Canada Research Chair in knowledge synthesis.

@arche4evidence

mgates1@ualberta.ca

Accelerating integration of emerging evidence into health care delivery: rapid reviews for learning health systems

Presenter: Marcy Hager, Director of Evidence-based Practice Program, Oregon Health & Science University

Disclosures

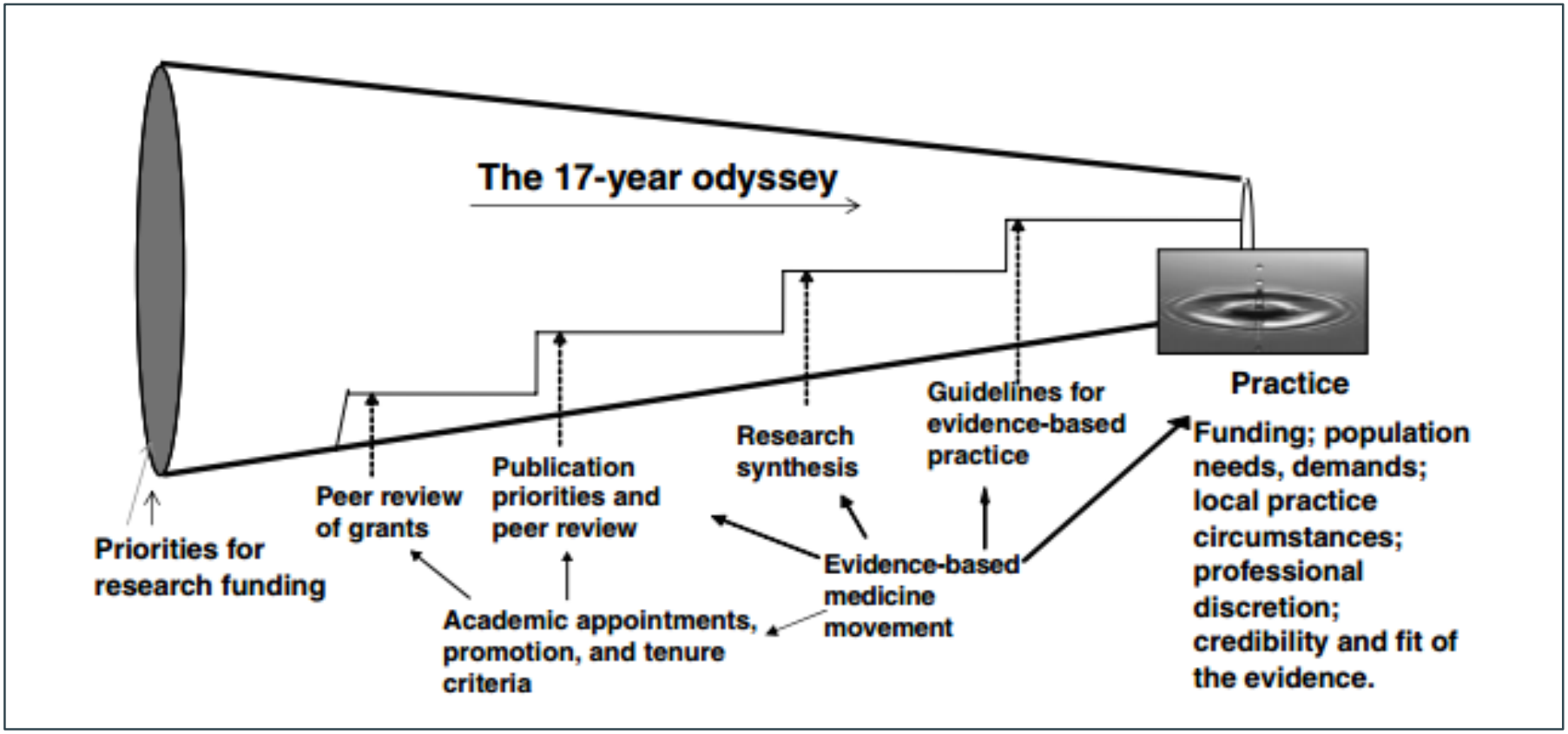
Presenter: Marcy Hager

I have no personal financial relationships with commercial interests relevant to this presentation to disclose.

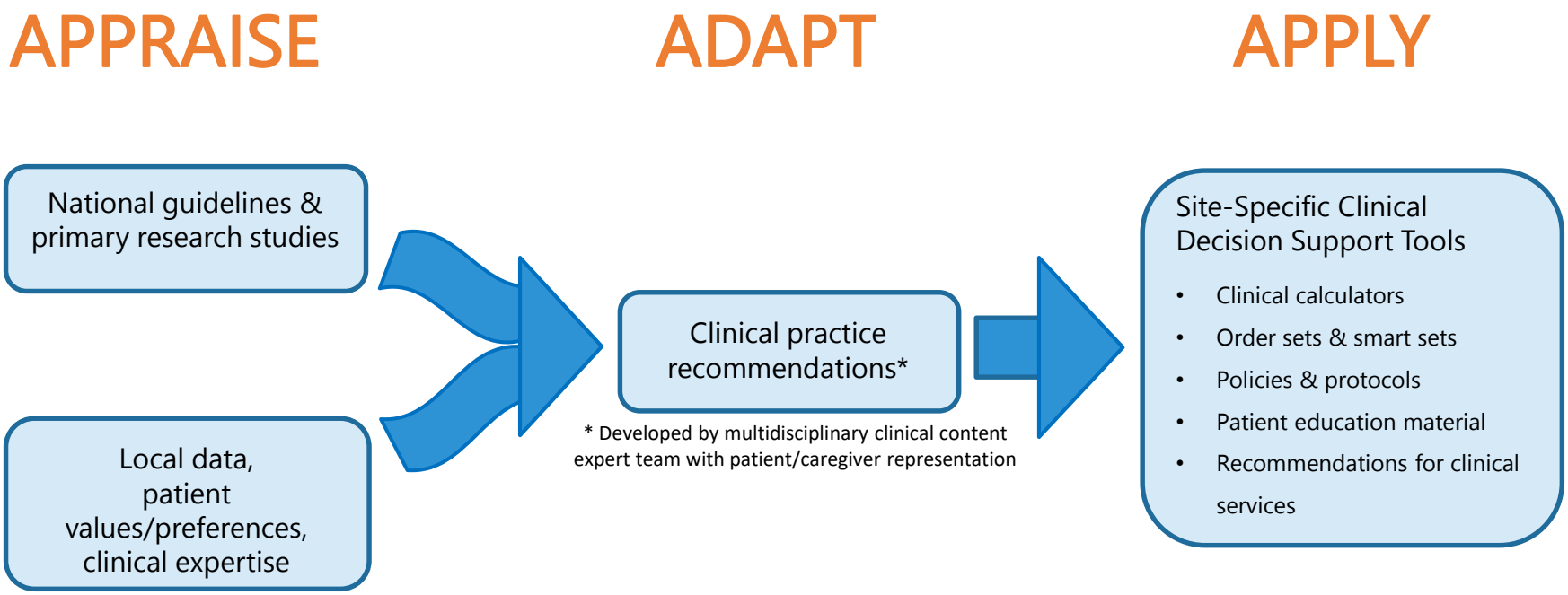
Learning Health Systems

Why is there a need for a localized rapid review process?

The 17-Year evidence-to-practice gap



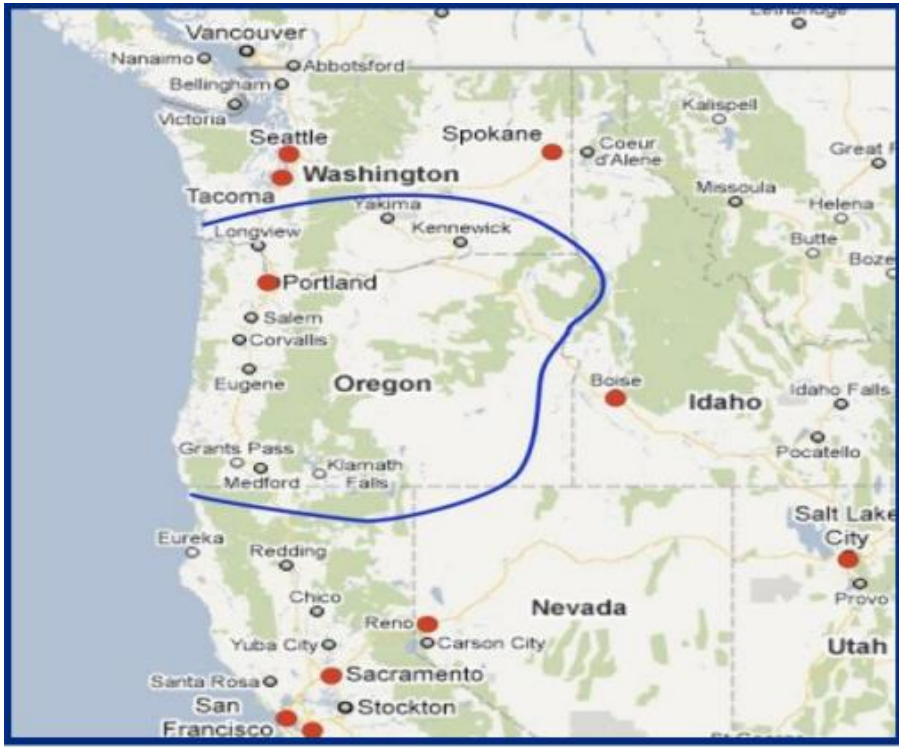
Source: Green LW, Ottoson J, Garcia C, Robert H (2009). Diffusion theory and knowledge dissemination. *Annual Review of Public Health* 30, 151.


APPRAISE
ADAPT
APPLY
National guidelines & primary research studies
Local data, patient values/preferences, clinical expertise
Clinical practice recommendations*
* Developed by multidisciplinary clinical content expert team with patient/caregiver representation
Site-Specific Clinical Decision Support Tools
Clinical calculators
Order sets & smart sets
Policies & protocols
Patient education material
Recommendations for clinical services

OHSU Health
Evidence-based Practice Program

How do we get there?

OHSU Health System



Oregon Health Science University (OHSU), Hillsboro Medical Center and Adventist Health formed OHSU Health System with the goal of transforming members into a value-based care organization through partnership and innovation.

Office of Clinical Integration and Evidence-based Practice

- Established with the goal of integrating best research evidence into clinical practice.
- Supports the development and implementation of evidence-based guidelines
- Goal: "One Standard of Care" across OHSU Health

EBP Deliverables

- OHSU Health System Evidence-based Clinical Guidelines
- Evidence Briefs
- EBP Interdisciplinary Course

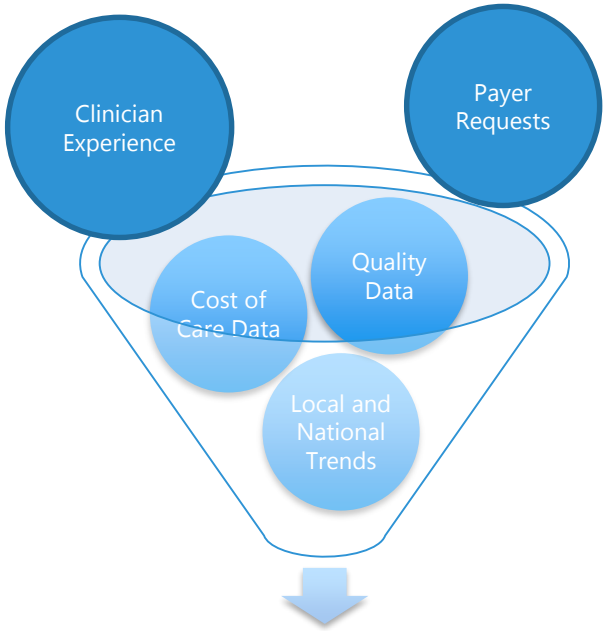
Clinical Guidelines

Clinical Integration Council

- Interdisciplinary body was formed to oversee care standardization throughout the health system by:
  - Prioritizing OHSU Health System Guidelines
  - Identifying clinical champions
  - Removing barriers
  - Providing resources

- Clinical Advisory Council includes following members:
  - Chief Medical Officers (OHSU, Hillsboro and Adventist)
  - Chief Nursing Officers (OHSU, Hillsboro and Adventist)
  - Physician Champions (OHSU, Hillsboro and Adventist)
  - Quality Officer
  - Senior Associate Dean

Guideline Selection Process



Candidate Topics

Ranking by multiple stakeholders

Selection by Clinical Integration Council

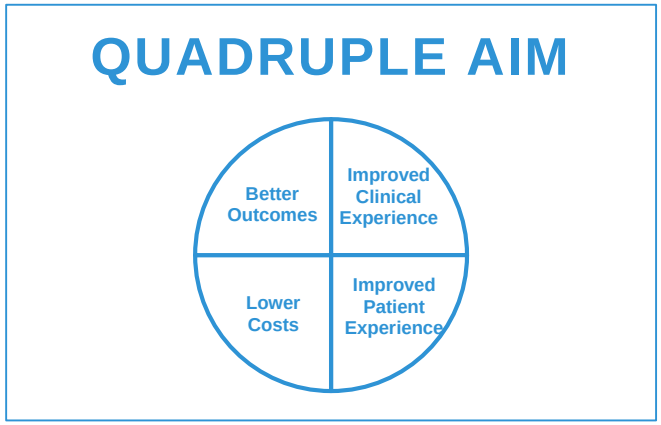
Weighted Overall Project Score:	Project Number: 1
0.00	

Criteria	Score	Weight	Weighted Score*	Issues/Concerns
1.0 Sponsorship		0.10	0.00	
2.0 Quality, Pt Safety and Experience Improvement Benefit		0.30	0.00	
<List outcomes to be impacted>				
3.0 Financial Benefits		0.25	0.00	
<List areas to be impacted>				
4.0 At Risk Populations		0.10	0.00	
5.0 Impact/Effort		0.15	0.00	
6.0 Best Practices		0.05	0.00	
7.0 Provider Wellness/Satisfaction		0.05	0.00	
TOTAL (sum of weighted score column)		1	0.00	

Note: Any criterion scores of zero must be addressed before project is approved

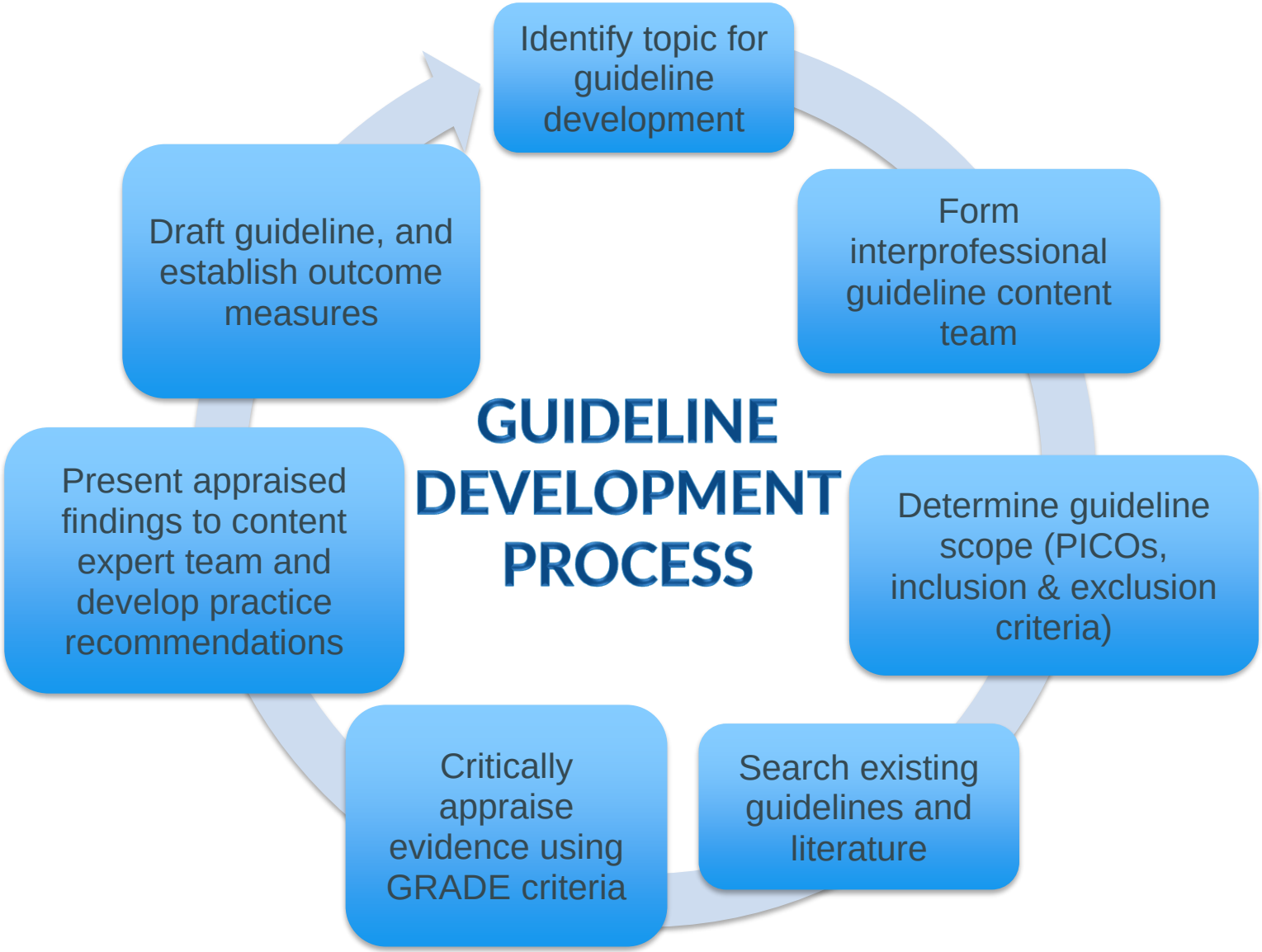
* Weighted score = project's score for each criterion times the weight.

Projected Resources Required:	
Clinical Informatics/ITG - Epic Workflow and Build	
Clinical Informatics - Reporting	
Value Analytics	
Quality Management	
Pharmacy	
Supply Chain	
Clinical Staff	
Other (specify)	



Guideline Topic	Sponsorship	Quality/Pt Experience	Financial Benefit	At-Risk Population	High Impact/ Low Effort	Best Practices	Provider Wellness
Adult Cystic Fibrosis Pain and Anxiety	✓	✓	✓			✓	✓
Safe Opioid Prescribing for Chronic, Non-End-of-Life Pain	✓	✓	✓	✓		✓	✓
Supplemental Feeding in Healthy, Term Neonates	✓	✓	✓		✓	✓	✓
Colorectal Cancer Screening	✓	✓	✓	✓	✓	✓	✓
Heart Failure	✓	✓	✓	✓		✓	✓
Acute Low Back Pain	✓	✓	✓	✓	✓	✓	✓
Pancreatitis	✓	✓	✓			✓	✓
Pediatric Urinary Tract Infection	✓	✓	✓			✓	✓
Sickle Cell Disease	✓	✓	✓			✓	✓
Induction of Labor	✓	✓	✓	✓		✓	✓

Step 1: Guideline Development



Step 2: Guideline Implementation

Collect Baseline Data	Communicate and Educate	Develop Decision Support Tool	Develop the Process Metrics	Identify Programmatic Recommendations

• What can we collect already
• Data work and workflow impact
• Workflow integration
	• Patient Education Materials
	• Staff Materials
	• Patient Communication Materials
	• Expert Talking Points
	• Tool Kits for Site Implementation
		• Links to Guidelines
		• Document Templates
		• Flow Sheets
		• EHR Changes
		  • Best Practice Alerts
		  • Order Sets
			• Answer how well we are using the tools
			• Resource
			• Communication
			• Project Coordination
			• Site Coordination
			• Develop the reporting tool
			• Publish the reporting tool
			• Identify resources
				• Develop a Business Case
				• Develop an ROI evaluation
				• Develop Budgeting Reports

Impact from Guidelines

Outcome Measures Post-Implementation	
Cystic Fibrosis	• Opioid-using encounters during hospitalization decreased 9% at 1-year post-implementation. • Encounters in which IV opioids were prescribed decreased 8%. • Morphine equivalent dose/day (MEDD) was reduced by 1.4. • Length of stay reduced 1/5 days.
Opioid Prescribing	• Reduced **4660** opioid prescriptions (11% to 9%) during 17 months of follow-up (P < .0001). • Reduced average MEDD per prescription from 21.1 to 16.8 (P = .009).
Supplemental Feeding	• Pre-intervention, median documentation was 0; this rose to: ➢ 78.6% after provider and staff education ➢ 84.9% after the integration of charting tools ➢ 100% after RNs began calculating & documenting with tool
Heart Failure	• All cause readmissions decreased from 17.5% to 11% • Related readmissions decreased from 12% to 7%

Lessons Learned

- Executive sponsorship and support is essential
- Include patients in guideline development and implementation
- Engage EHR team early on to ensure recommendations are realistic
- Ensure appropriate stakeholders are at the table
- Focus implementation efforts
- Time-consuming
- Competing demands
- Behavior change is more than just Epic tools

EBP Program Partnerships

- Medical Librarian
- Pacific Northwest Evidence-based Practice Center
- Data Analyst/Report Writing
- Health System Effectiveness
- Quality/Performance Improvement
- Alignment with Health System Initiatives such as
  - Integrated Delivery System
  - Population Health
  - Value-based Care

Thank You

Contact Information: hagerm@ohsu.edu

Inspired by research. Driven by compassion. Inspiré par la recherche. Guidé par la compassion.

Rapid Reviews Methods – A Scoping Review

CANDYCE HAMEL, MSC, PHD(C)
KNOWLEDGE SYNTHESIS GROUP, OHRI

NORTH AMERICA SYSTEMATIC REVIEW METHODS
VIRTUAL RESEARCH DAY
OCTOBER 30, 2020

The Ottawa Hospital RESEARCH INSTITUTE | L'Hôpital d'Ottawa INSTITUT DE RECHERCHE

www.ohri.ca | Affiliated with • Affilié à uOttawa

Disclaimer

Declaration of interest: None.

Rapid review methods

ELSEVIER

Check for updates

Journal of Clinical Epidemiology 126 (2020) 131–140

Journal of Clinical Epidemiology

REVIEW

Few evaluative studies exist examining rapid review methodology across stages of conduct: a systematic scoping review

Candyce Hamel[a,b,*], Alan Michaud[a], Micere Thuku[a], Lisa Affengruber[c], Becky Skidmore[a], Barbara Nussbaumer-Streit[c], Adrienne Stevens[a], Chantelle Garritty[a,b]

[a]*Ottawa Hospital Research Institute, Knowledge Synthesis Group, Ottawa, Ontario K1H 8L6, Canada*
[b]*School of Medicine, University of Split, Split, Croatia 21000*
[c]*Cochrane Austria, Department for Evidence-based Medicine and Evaluation, Danube University Krems, Krems, Austria*

Accepted 23 June 2020; Published online 26 June 2020

Abstract

Objectives: The objective is to identify studies that have assessed methodological shortcuts for undertaking rapid reviews (RRs) and mapping these to review conduct stages and Methodological Expectations of Cochrane Intervention Reviews (MECIR) guidance.

Study Design and Setting: We conducted a systematic scoping review. We searched multiple databases (e.g., MEDLINE, Embase), which were supplemented by grey literature searching. Methods were defined *a priori* in a published protocol.

Results: Out of 1,873 records, 90 publications were divided into four RR categories: formal evaluation (n = 14), development, which included four subcategories (n = 65), comparison (n = 2), and applying reporting guidelines/critical appraisal tools (n = 3), and a systematic review surrogate category (n = 6). Four formal evaluation studies were composite evaluations, including more than one shortcut simultaneously. The remaining 10 studies evaluated viable (e.g., including English-only publications) and unviable (e.g., single-reviewer screening) shortcuts, covering five key dimensions and five 'other' (e.g., involving stakeholders) considerations while conducting a review. Because of complexities around shortcuts evaluated, only a cursory mapping to MECIR criteria was possible.

Conclusion: Some methods shortcuts may be valid in the context of RRs, but limitations in the studies may limit their applicability. The results will serve to inform discussions within Cochrane regarding possible future implementation of RRs.

Keywords: Rapid reviews; Methodology; Shortcuts; Formal evaluations; Abbreviated methods; Scoping review

Objective

- Protocol:
  - Open Science Framework (https://osf.io/dekx6/)
- Objective: to conduct a scoping review of the literature
  - assessing one or more method(s) applicable for undertaking rapid reviews (e.g., single reviewer screening vs. double reviewer screening) or
  - comparing the results of rapid reviews to those of systematic reviews (e.g., do conclusions change?) across all stages of conduct.

- Abstract in special Supplement to the Cochrane Database of Systematic Reviews[1]

Methods

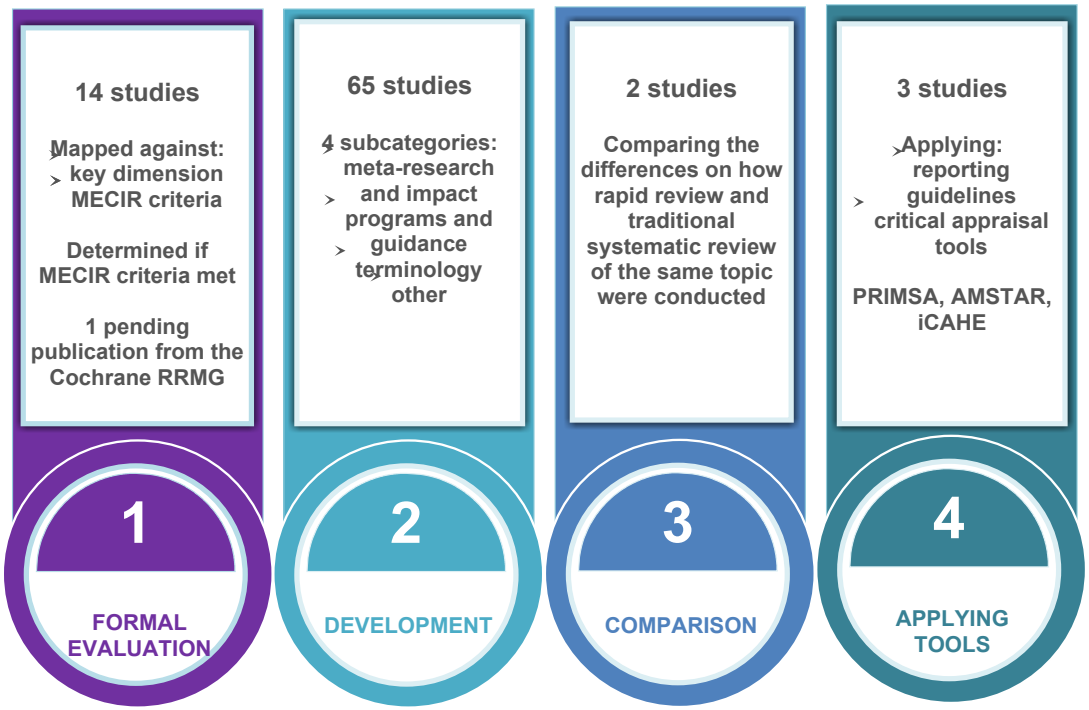
- Eligibility criteria
  - Published in English, since 1997
- Search for studies
  - MEDLINE® ALL, Embase Classic + Embase, PsycINFO, ERIC, Cochrane Library, CINAHL, Web of Science, Epistemonikos
  - Additional searching: grey literature (e.g., organizations that produce RRs), bibliographies of included studies, contacting experts in the field, bibliography of Robson 2018[2]
- Study selection
  - Piloting at title and abstract and full text screening
  - Liberal accelerated at title and abstract
  - Dual, independent at full text
- Data charting
  - Piloting performed on 5 records
  - One reviewer extracted, a second reviewer verified all data

Methods

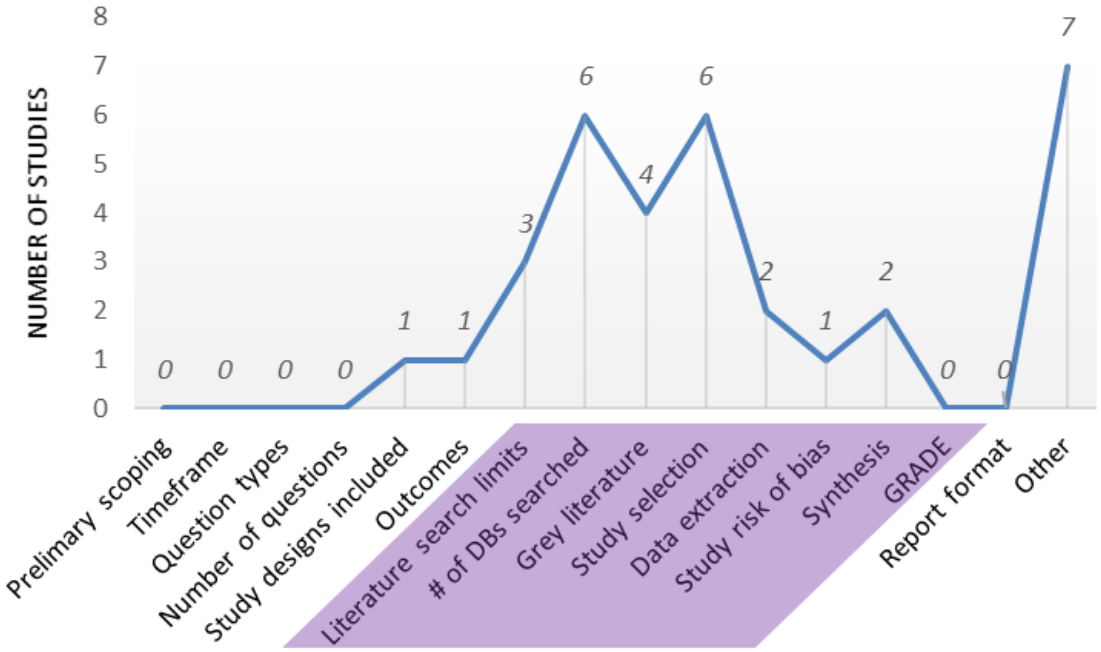
- Data synthesis
  - Two reviewers mapped the studies into 4 categories:
    - **1) Formal evaluation**
      - mapped to stages of conduct to identify gaps
      - compared to Methodological Expectations of Cochrane Intervention Reviews (MECIR) guidelines to see whether the method met the MECIR criteria
    - 2) Development: meta-research and impact, programs and guidance, terminology, other
    - 3) Comparison (i.e., comparing RRs to SRs of the same topic)
    - 4) Applying tools (e.g., PRISMA, AMSTAR)
  - All studies narratively described and presented in tables

Results

- 90 studies, including 6 SR surrogates
  - 68 studies (75.6%) published since 2014
- 14 formal evaluation studies[3-16]
  - 10 evaluated single shortcuts
  - 4 evaluated 'composite' shortcuts
  - 11 studies (78.6%) published since 2017



Mapping to key dimensions of the review process



- Includes the composite evaluations studies
- A study could have evaluated more than one shortcut
- 33 total evaluations
- 16 single evaluations

Shortcuts evaluated: 10 single-evaluation studies

Review stage	Evaluation	Viable?
Literature search limits	• **Marshall 2019**: Excluding articles older than 5, 7, 10, 15, and 20 years before the search date	✗
Number of databases searched / Grey literature	• **Marshall 2019**: Removing any studies not identified in PubMed	✓*
	• **Nussbaumer-Streit 2019**: Abbreviated searches, (i) combining a variety of database searches (ii) with or without gray literature searching	✓/✗
	• **Pham 2016**: (i) including only the bibliographic database that yielded the highest number of records, plus the ancillary sources searched in the original SR/MA, and (ii) limiting the search to bibliographic databases	✓/✗
Screening	• **Gartlehner 2020**: Single- reviewer screening	✓*
	• **Gartlehner 2019**: Machine-assisted, screening, single-reviewer screening, and machine screening alone	✓*
	• **Pham 2016**: Single-reviewer screening	✗
	• **Rathbone 2017**: Participants, interventions and comparators-based title-only screening	✓
Data extraction	• **Martyn St James 2017**: Extracting data from an existing SR	✓

* Not for SRs, but may be viable for RRs or where synthesis is urgently needed.

Shortcuts evaluated: 10 single-evaluation studies

Review stage	Evaluation	Viable?
Involving stakeholders	• **Moore 2017**: Including knowledge brokers in the review process	✓
Inclusion based on study design	• **Marshall 2019**: Excluding trials with fewer than 50, 100, and 200 participants, and using the largest trial only	✗
Inclusion based on language	• **Nussbaumer-Streit 2020**: Limiting to English-only publications	✓
Inclusion based on access to publication	• **Pham 2016**: Including studies that were available electronically	✓*
Peer-review search strategy	• **Spry 2018**: Impact of the peer review of search strategies	✓

* e-journals became more widely available in the 1990s

Discussion

- Little overlap in evaluations
  - Comparisons within a review stage of conduct differed
- Largely based on case studies
  - For example, Pham 2016 evaluated 4 different shortcuts using 3 SRs
- Composite evaluations
  - Recommend reporting the impact of each shortcut separately
- Recommendations may be topic dependent and impact of a shortcut should be considered
  - For example, if a topic was on nursing, then CINAHL should be searched

Questions

References

1. Hamel C, Michaud A, Affengruber L, Skidmore B, Stevens A, Nussbaumer-Streit B, Garritty C. Rapid review methods: a systematic scoping review. In: Advances in Evidence Synthesis: special issue Cochrane Database of Systematic Reviews 2020;(9 Suppl 1):431. https://doi.org/10.1002/14651858.CD202001.
2. Robson RC, Pham B, Hwee J, Thomas SM, Rios P, Page MJ, Tricco AC. Few studies exist examining methods for selecting studies, abstracting data, and appraising quality in a systematic review. Journal of Clinical Epidemiology 2019; 106:121-135. Epub 2018 Oct 9.
3. CADTH Health Technology Inquiry Service. Transcatheter Aortic Valve Implantation: A Critical Appraisal of a Health Technology Assessment and Comparison with a Rapid Review. 2010.
4. Eiring Ø, Brurberg KG, Nytrøen K, Nylenna M. Rapid methods including network meta-analysis to produce evidence in clinical decision support: a decision analysis. Syst Rev. 2018 Oct 20;7(1):168.
5. Gartlehner G, Affengruber L, Titscher V, Noel-Storr A, Dooley G, Ballarini N, et al. Single-reviewer abstract screening missed 13 percent of relevant studies: a crowd-based, randomized controlled trial. J Clin Epidemiol. 2020 Jan 20;
6. Gartlehner G, Wagner G, Lux L, Affengruber L, Dobrescu A, Kaminski-Hartenthaler A, et al. Assessing the accuracy of machine-assisted abstract screening with DistillerAI: a user study. Syst Rev. 2019 Nov 15;8(1):277.
7. Kaltenthaler E, Tappenden P, Booth A, Akehurst R. Comparing methods for full versus single technology appraisal: A case study of docetaxel and paclitaxel for early breast cancer. Health Policy. 2008;87(3):389–400.
8. Marshall I, Marshall R, Wallace B, Brassey J, Thomas J. Rapid reviews may produce different results to systematic reviews: a meta-epidemiological study. J Clin Epidemiol. 2019;109:30–41.
9. Martyn-St James M, Cooper K, Kaltenthaler E. Methods for a Rapid Systematic Review and Metaanalysis in Evaluating Selective Serotonin Reuptake Inhibitors for Premature Ejaculation. Evid Policy. 2017;13(3).
10. Moore G, Redman S, D'Este C, Makkar S, Turner T. Does knowledge brokering improve the quality of rapid review proposals? A before and after study. Syst Rev. 2017 28;6(1):23.
11. Nussbaumer-Streit B, Klerings I, Dobrescu AI, Persad E, Stevens A, Garritty C, et al. Excluding non-English publications from evidence-syntheses did not change conclusions: a meta-epidemiological study. J Clin Epidemiol. 2020 Feb;118:42–54.
12. Nussbaumer-Streit B, Klerings I, Wagner G, Heise TL, Dobrescu AI, Armijo-Olivo S, et al. Abbreviated literature searches were viable alternatives to comprehensive searches: a meta-epidemiological study. J Clin Epidemiol. 2018 Jun;102:1–11.
13. Pham MT, Waddell L, Rajić A, Sargeant JM, Papadopoulos A, McEwen SA. Implications of applying methodological shortcuts to expedite systematic reviews: three case studies using systematic reviews from agri-food public health. Res Synth Methods. 2016 Dec;7(4):433–46.
14. Rathbone J, Albarqouni L, Bakhit M, Beller E, Byambasuren O, Hoffmann T, et al. Expediting citation screening using PICo-based title-only screening for identifying studies in scoping searches and rapid reviews. Syst Rev. 2017 Nov 25;6(1):233.
15. Spry C, Mierzwinski-Urban M. The impact of the peer review of literature search strategies in support of rapid review reports. Res Synth Methods. 2018;9(4):521–6.
16. Taylor-Phillips S, Geppert J, Stinton C, Freeman K, Johnson S, Fraser H, et al. Comparison of a full systematic review versus rapid review approaches to assess a newborn screening test for tyrosinemia type 1. Res Synth Methods. 2017 Dec;8(4):475–84.

The Next Generation of Systematic Literature Review Platform

PICO Portal

A new machine-learning powered tool to aid citation screening for evidence synthesis

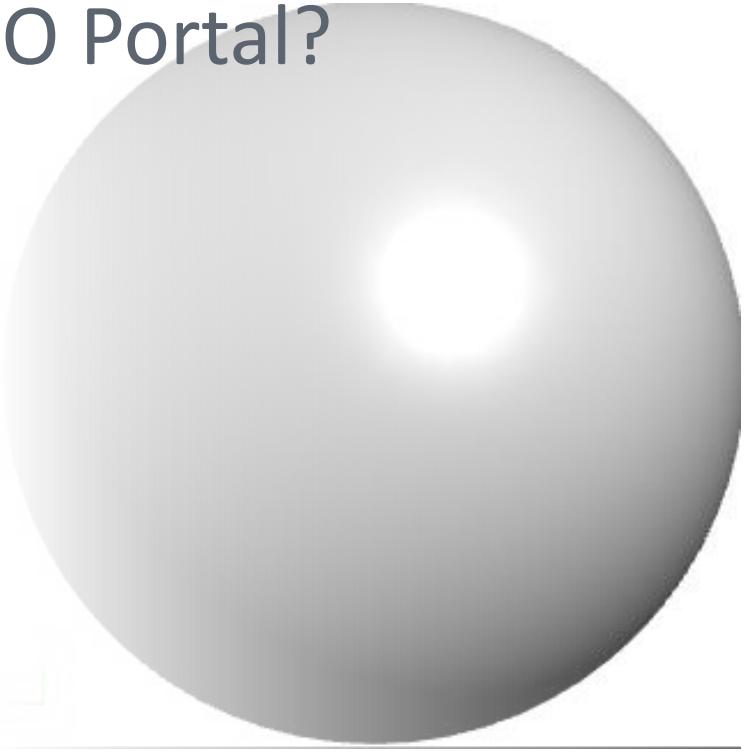
Eitan Agai – PICO Portal Founder
eagai@PICOportal.org

Agai E. A New Machine-Learning Powered Tool to Aid Citation Screening for Evidence Synthesis: PICO Portal. In: Advances in Evidence Synthesis: special issue. Cochrane Database of Systematic Reviews 2020;(9 Suppl 1):172 https://doi.org/10.1002/14651858.CD202001

PICO PORTAL

Agenda

- How to build “trust” in machine learning?
- Where is machine learning is applied in PICO Portal?
  - ‘Include’ & ‘exclude’ prediction
  - Study type classification
  - Deduplication
  - Highlighting keywords
  - Crowd sourcing
- Q&A



A Glance at PICO Portal

Highlights | « Previous | 6/15 | Next » | PICO Legends

Reset | Yes | Maybe | P | I | C | O

Select an exclude reason | eXclude

Title & Abstract

J._2017_611403981

Parents in transition: Experiences of parents of young people with a liver transplant transferring to adult services

Authors: Wright J., Elwell L., McDonagh J.E., Kelly D.A., Wray J.
Published on: 2017 **Publication:** Pediatric Transplantation;21(1):e12760

DOI: 10.1111/petr.12760

Predictors of successful transition from **pediatric** to adult services include ability to self-manage and engage with healthcare services . Parents have a key role in healthcare management throughout childhood and **adolescence** including encouraging development of self-management skills in their **children**. Transition to adult services can be challenging for parents and **young people**, yet parents' views regarding transition remain largely unexplored . Nine parents of **pediatric** liver transplant recipients (15.2-25.1 yr) participated in semistructured interviews . Interviews were analyzed using IPA . Analysis revealed three key themes:``emotional impact of transplantation ,"`` protection vs. independence ,"and``ending relationships and changing roles ."Parents expressed the dichotomous nature of the desire to promote independence in their **child** while still maintaining control and protection, and discussed how changing roles and relationships were difficult to navigate . Parents are important facilitators of **young people**'s development of self-management skills for successful transfer to adult services . Parents should be supported to move from a``managerial"to a``supervisory"role during transition to help **young people** engage independently with the healthcare team . Findings support the development of interventions for parents to emphasize their role in transition and guide the transfer of self-management skills from parent to young person.

Abstract Review

Final Consensus: Yes Hur[redacted]di

Article Analysis:

Non RCT

Tags (5) | Notes (0) | PDF (0)

Search..

- [x] Cond/Dx: Solid Organ Transplant
- [x] Study Design: Qualitative studies
- [x] Target Population: Patient
- [x] Setting: Primary care

Add new tag +

PICO PORTAL

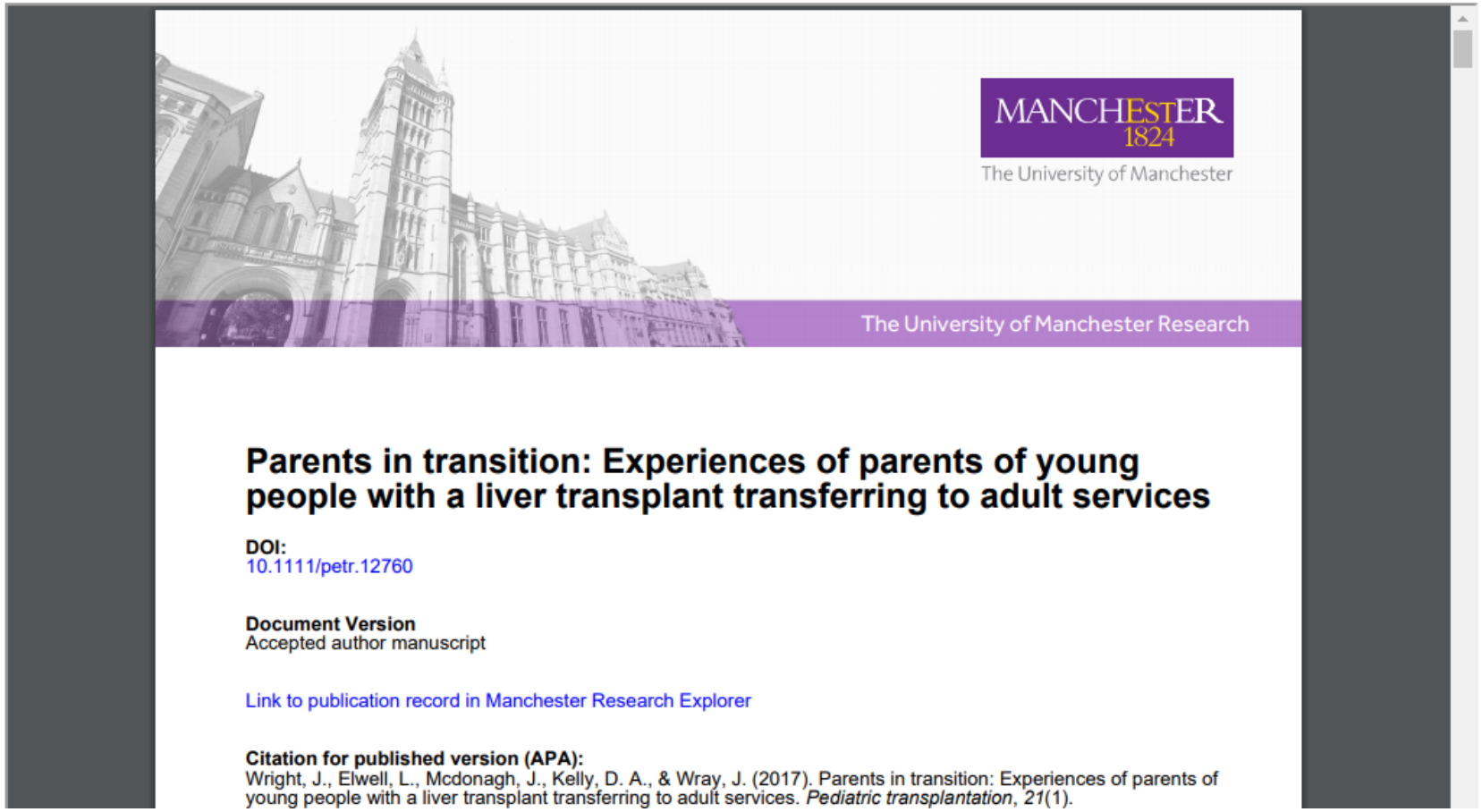
A Glance at PICO Portal

Highlights « Previous 6/15 Next » PICO Legends

Reset Yes Maybe P I C O

Select an exclude reason eXclude

Title & Abstract



Full Text Review

Final Consensus: I Ma er

Article Analysis:

Non RCT

Tags (5) Notes (0) PDF (0)

Search..

- Cond/Dx: Solid Organ Transplant
- Study Design: Qualitative studies
- Target Population: Patient
- Setting: Primary care

Add new tag +

PICO PORTAL

Building Machine Learning and “Trust”

Machine learning = classification, prediction & clustering

Trust is built when the classification, prediction & data clustering helps you make good research decisions

Based on these guiding principals, our approach is:

We **earn user’s trust** during the project duration, and we also make sure that the techniques that PICO Portal is using are benchmarked against published research

Predicting study results in systematic reviews is hard

If Chihuahua is "**Include**" & Muffin is "**exclude**", how do we teach a machine to solve that?

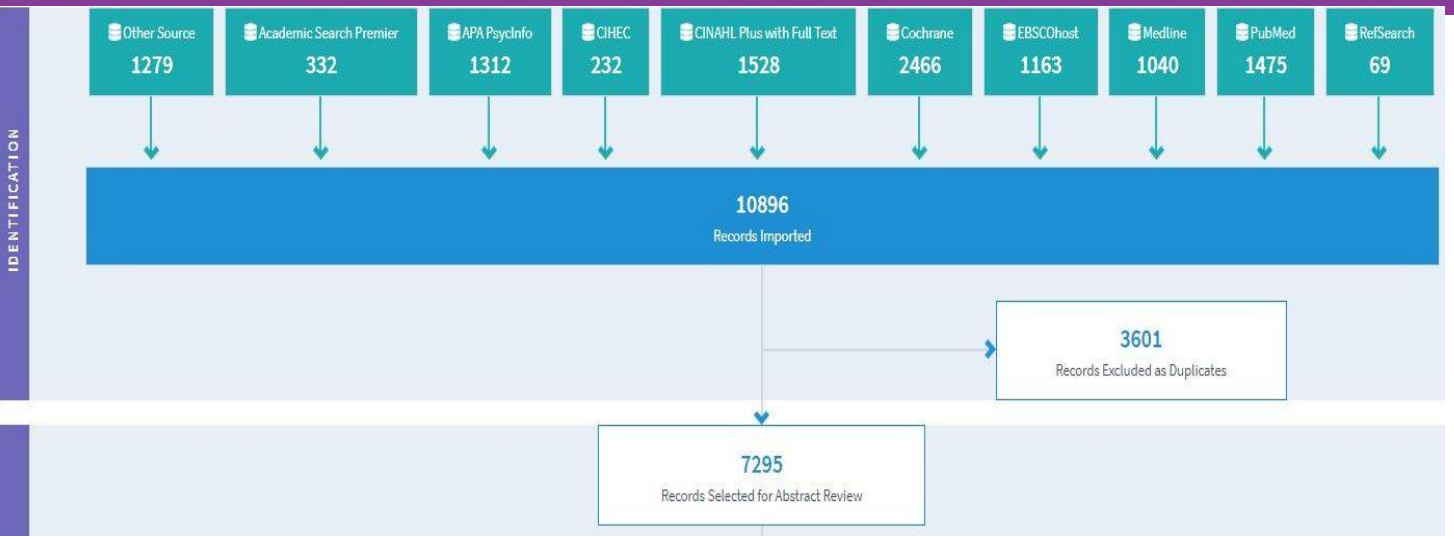
https://www.freecodecamp.org/news/chihuahua-or-muffin-my-search-for-the-best-computer-vision-api-cbda4d6b425d/

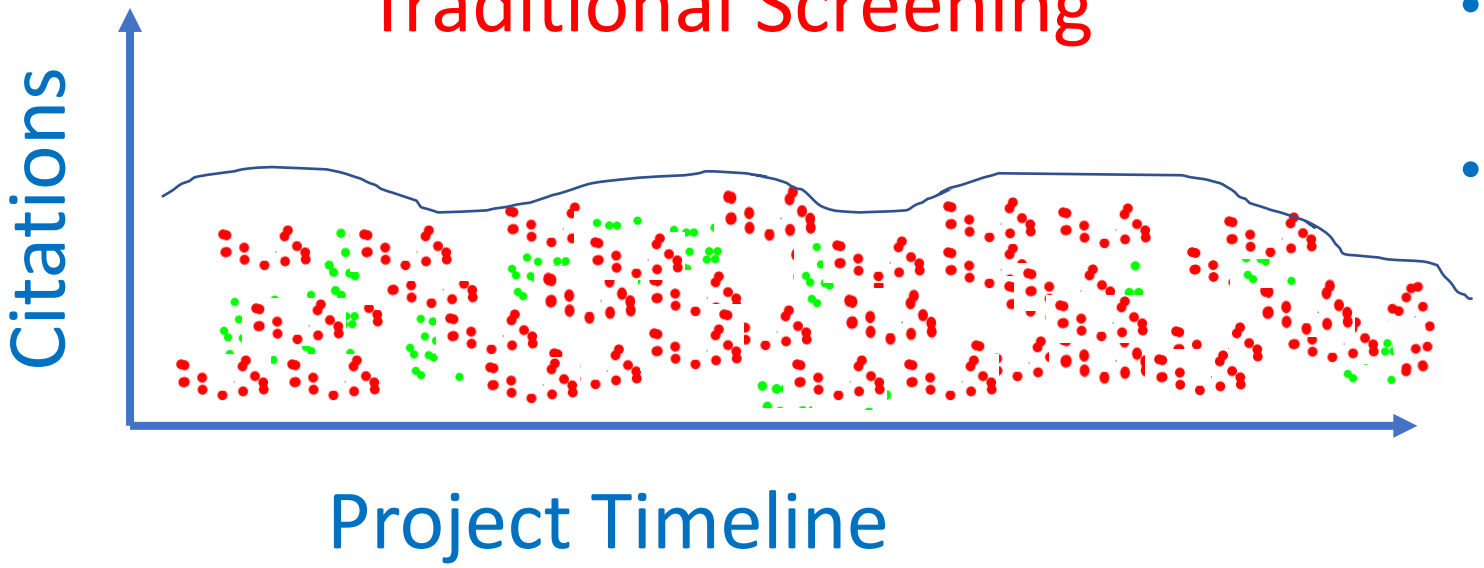
Predicting study results in systematic reviews is hard

And in this case of Sheepdog or Mop?

https://www.freecodecamp.org/news/chihuahua-or-muffin-my-search-for-the-best-computer-vision-api-cbda4d6b425d/

Traditional Screening

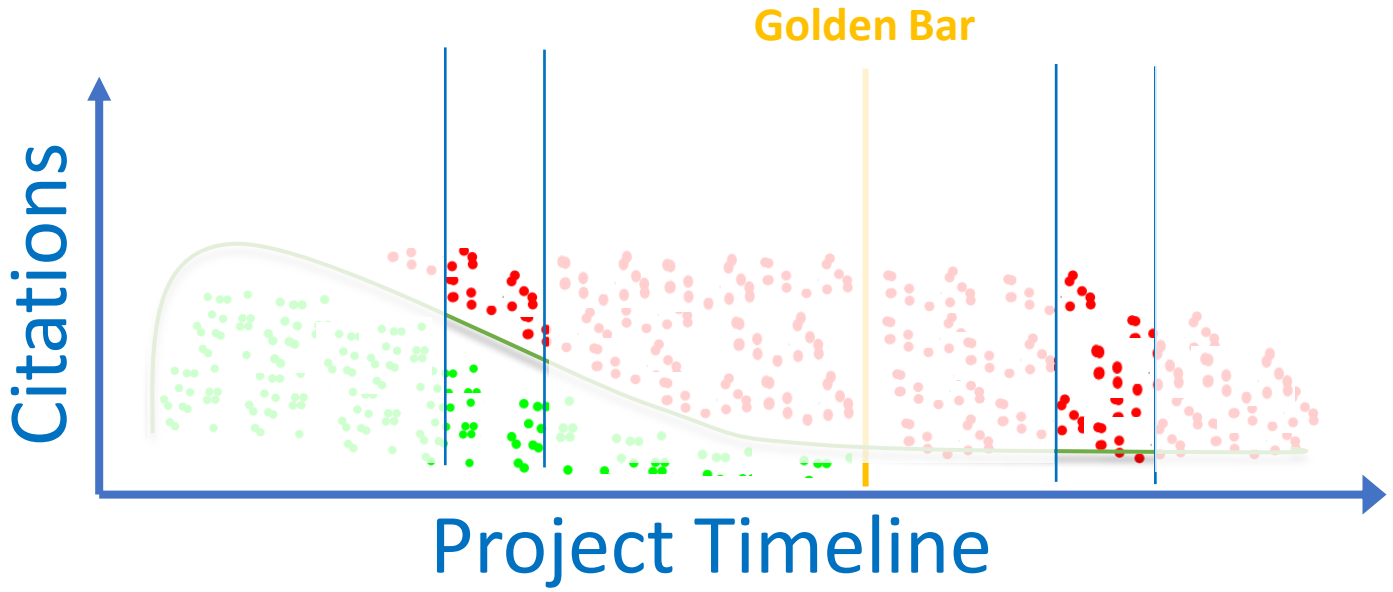


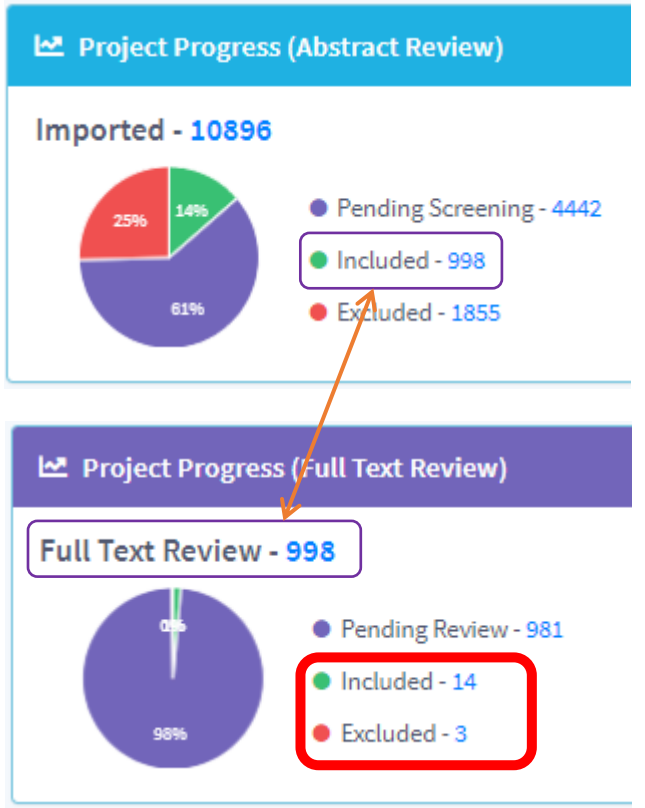


- Citation are screened in random order
- Resources need to be allocated manually
- In many cases the process is sequential and takes longer
- Open source or commercial tools resemble spreadsheets and aren't easy to use

Screening Using Prediction (Machine Learning)

- Citations are sorted with most likely "include" first
- Users can confirm the model is working for that project
- At the golden bar moment, users can reduce the resources





Screening can immediately help refine the inclusion/ exclusion criteria

Study Type Classification: Proceeding with Caution

Hall_2018_30387126

Caseworker-assigned discharge plans to prevent hospital readmission for acute exacerbations in children with chronic respiratory illness.

Authors: Hall Kerry K, Petsky Helen L, Chang Anne B, O'Grady KerryAnn F
Published on: 02 Nov 2018 **Publication:** Cochrane Database of Systematic Reviews
DOI: 10.1002/14651858.CD012315.pub2

BACKGROUND: Chronic respiratory conditions are major causes of **mortality** and **morbidity** . **Children** with chronic health conditions have increased **morbidity** associated with their physical, emotional, and general well-being . Acute respiratory exacerbations (AREs) are common in **children** with chronic respiratory disease, often requiring admission to hospital . Reducing the frequency of AREs and recurrent hospitalisations is therefore an important goal in the individual and public health management of chronic respiratory illnesses in **children**. Discharge planning is used to decide what a person needs for **transition** from one level of care to another and is

Article Analysis:

Non RCT | Possible Meta-Analysis

Tags (0) | Notes (0) | PDF (0)

Search..

- Target Population: Patient
- Study Design: Program evaluation
- Target Population: Provider
- Study Design: Qualitative studies

Highlights | « Previous | 110/2889 | Next » | PICO Legends

Article Analysis:

Non RCT | Systematic Review

Betz_2013_23876260

Voices not heard: a systematic review of adolescents' and emerging adults' perspectives of health care transition. [Review]

Authors: Betz Cecily L, Lobo Marie L, Nehring Wendy M, Bui Kim
Published on: 2013 Sep-Oct **Publication:** Nursing Outlook
DOI: 10.1016/j.outlook.2013.01.008

BACKGROUND: A better understanding of the needs of **adolescents** and emerging adults with **special health care needs** (AEA-SHCNs) is essential to provide **health care transition** services that represent best practices . The purpose of this systematic review was to evaluate the research on **health care transition** for AEA-SHCNs from

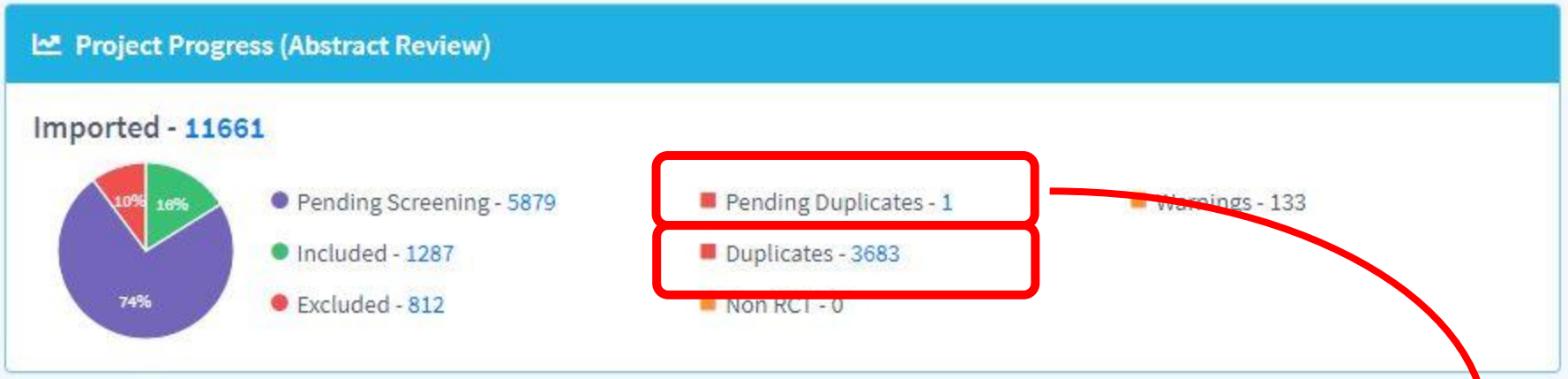
Tags (0) | Notes (0) | PDF (0)

Search..

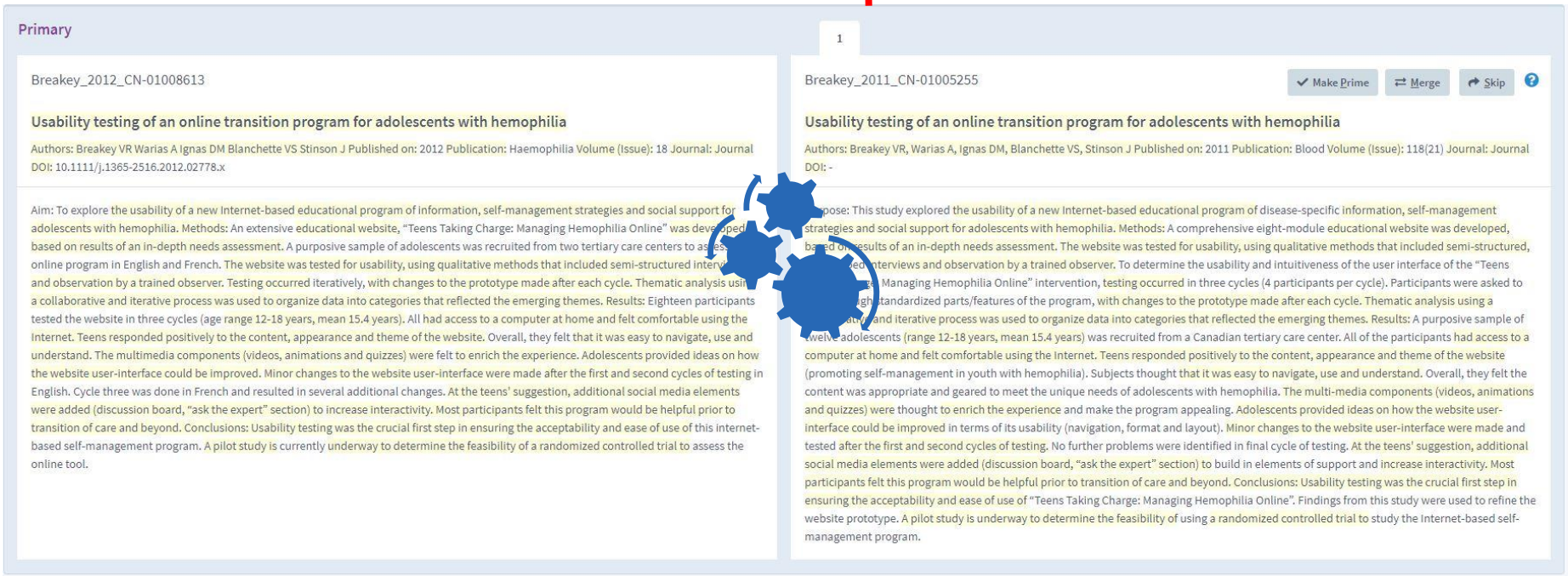
- Target Population: Patient
- Study Design: Program evaluation
- Target Population: Provider
- Study Design: Qualitative studies

PICO PORTAL

Sophisticated Deduplication

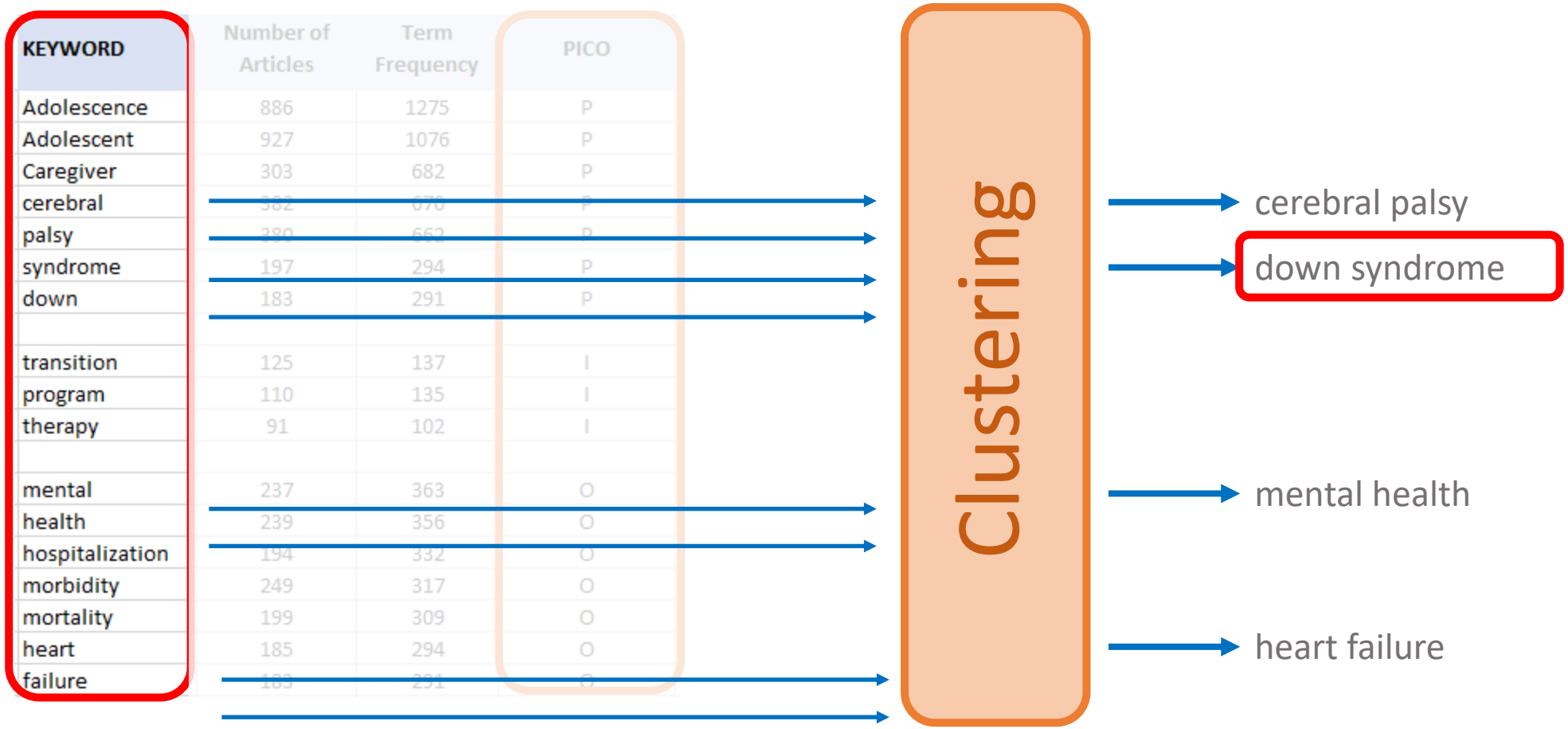


PICO Portal deduplication is fast and accurate relative to other similar platforms.



PICO PORTAL

Keyword Highlighting



Keyword Highlighting

Highlights | « Previous | 3/14 | Next » | PICO Legends

H._2016_610356946

Transition to adulthood for young people with intellectual disability: the experiences of their families

Authors: Leonard H., Foley K.-R., Pikora T., Bourke J., Wong K., McPherson L., Lennox N., Downs J.
Published on: 2016 **Publication:** European Child and Adolescent Psychiatry;25(12):1369-1381
DOI: 10.1007/s00787-016-0853-2 + Add Full Text PDF

Whilst the transition from school to adult roles can be challenging for any **adolescent**, for those with an **intellectual disability** it can present as a particularly difficult time both for the individual and their family . The process may involve coordinated planning, collaboration and decision-making among school staff, families and community agencies . This mixed-methods study utilised information from two cohorts: **young people** with Down syndrome in Western Australia (n = 190) and **young people** with **intellectual disability** (of any cause) in Queensland, Australia (n = 150). The parent-report questionnaires administered in both states comprised two parts: part 1 collected information about the individual with **intellectual disability** including information on health, functioning and service needs, and about specific transition related issues; and part 2 collected information about the health and well-being of their family . The majority (87 %) of parents said that they were involved in decision-making about transition planning but less than two-thirds (59.5 %) of **young people** were involved in this process . The three most helpful strategies indicated by parents that assisted with transition planning related to the provision of more information about financial assistance, the school transition program and the building of informal community-based supports . A number of themes emerged from the qualitative data which included parents' views and concerns about the capacity of their **young adult** to adapt and change to life in adulthood, their difficulty navigating services and programs, issues and challenges around their **young person** building connectedness, strain on family wellbeing and finances and worry about the longer term future.

Index: adult, article, decision making, Down syndrome, *family, female, finance, health status, human, *intellectual impairment, major clinical study, male, parent, patient worry, Queensland, questionnaire, *wellbeing, Western Australia, young adult

Reset | Yes | Maybe | P | I | C | O

Select an exclude reason | eXclude

Abstract Review

Reviewer 1: -
Final Consensus: -

Article Analysis:

Non RCT

Tags (0) | Notes (0) | PDF (0)

Search..

- Cond/Dx: ACEs
- Cond/Dx: Acquired Brain Injury
- Cond/Dx: ADHD
- Cond/Dx: Anorectal Malformations (ARMs)

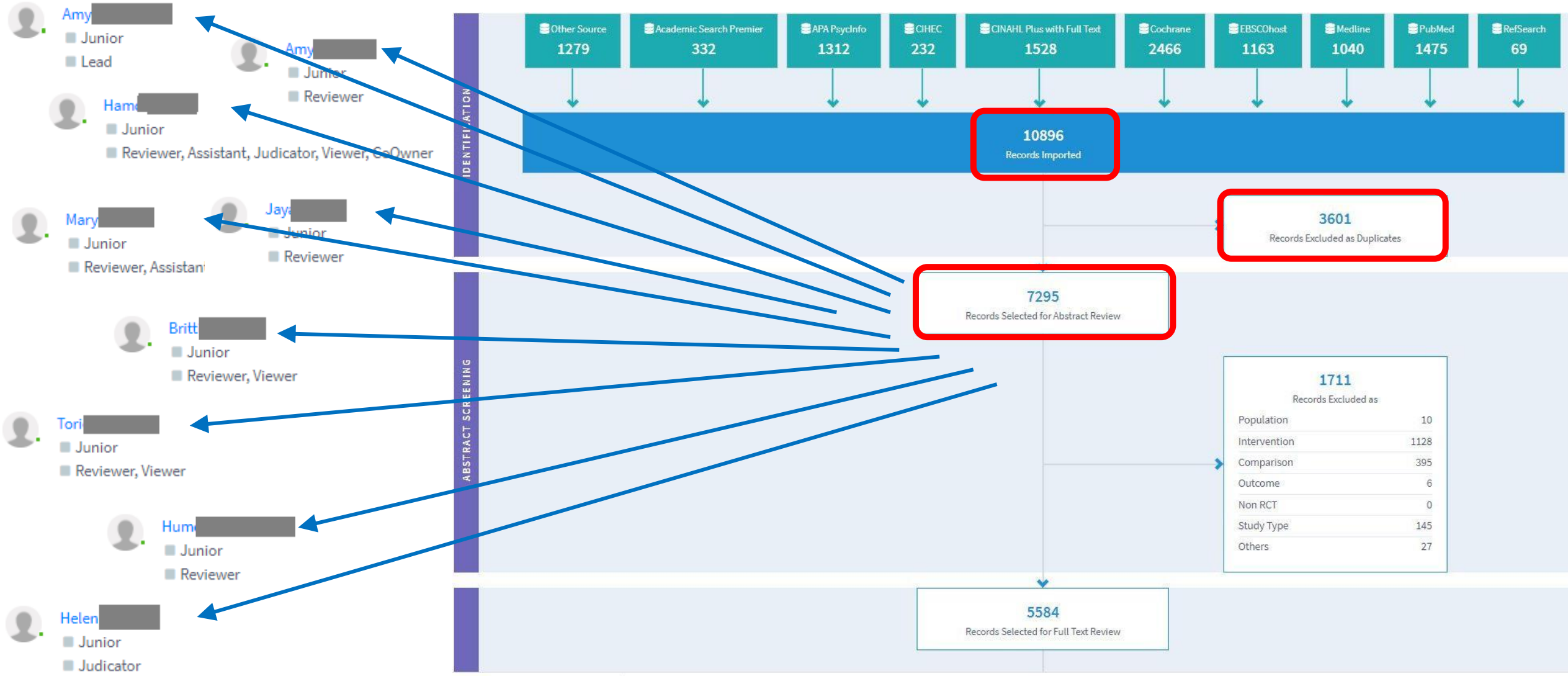
Add new tag +

Additional Information

Journal:	Journal
Source:	Embase: 610356946
issn_isbn:	1018-8827
Country:	Germany

PICO PORTAL

Smart Crowd Engine to Distribute the Work



PICO PORTAL

PICO Portal Q&A

https://picoportal.net

Contact Information:

Eitan Agai, founder
eagai@PICOportal.org

Agai E. A New Machine-Learning Powered Tool to Aid Citation Screening for Evidence Synthesis: PICO Portal. In: Advances in Evidence Synthesis: special issue. Cochrane Database of Systematic Reviews 2020;(9 Suppl 1):172 https://doi.org/10.1002/14651858.CD202001