KTDRR's Workshop on Scoping Review Methods for Producing Research Syntheses

Methods for Scoping Reviews

Session 2: May 25, 2016 (3-4:30 PM ET)

Faculty:

Chad Nye, PhD; Ginny Brunton, PhD (candidate); Oliver Wendt, PhD

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A brief reminder…

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Scoping reviews…

… are a useful product in their own right

… can be a stage in the review process

(to allow narrowing of the research question and criteria for studies included in synthesis)

… provide a context to assist interpretation for the synthesis

Dimensions of difference in reviews - 1

*" Only a handful of **review types possess** prescribed and explicit methodologies and many of the labels used fall short of being mutually exclusive… the typology reported here acknowledges that there is **a lack of unique distinguishing features** for the most common review types, **whilst** highlighting that **some common features do exist**."*

Grant and Booth, 2009

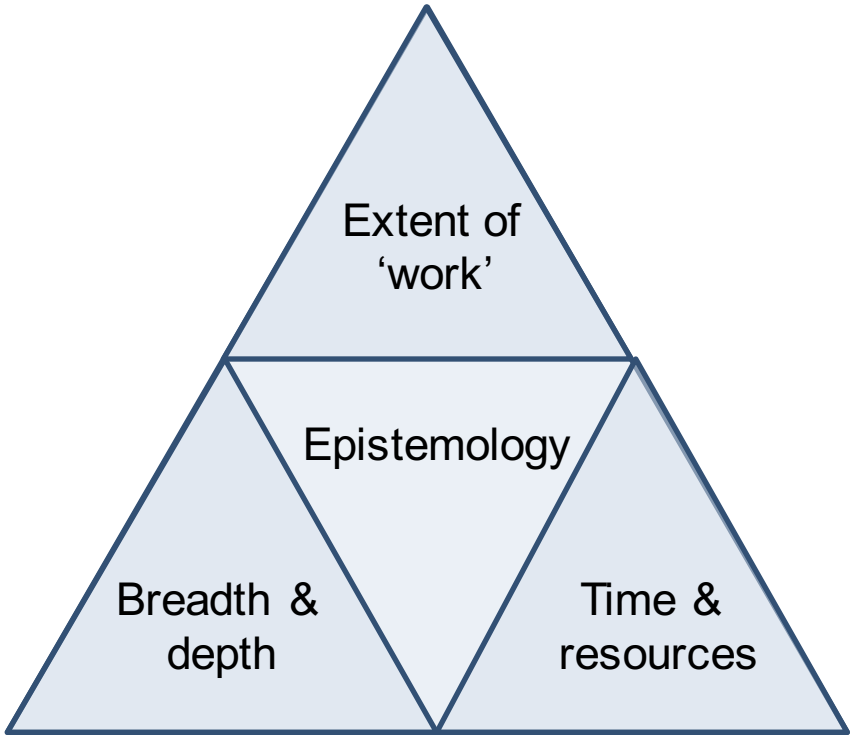
Dimensions of difference in reviews - 2

- Questions and conceptual framework
- Studies considered
- Single or multi component reviews
- Breadth, depth and time available
- Methods of review, and aggregative and/ or configuring emphasis (*Sandelowski et al., 2012*)

**Many of the steps that follow could also apply to other types of review*

Differences in extent, detail and epistemology

- Reviews (maps and syntheses) are not of a pre-defined breadth and depth
- Time, other resources, and type and extent of review need to be fit for purpose
  - Scoping reviews
  - Rapid, or interim, Evidence Assessments



Steps of a Scoping Review

- Consult stakeholders
- Set the research question
- Literature search
- Select the studies
- Chart the data
- Summarize and report the results
- Consult with stakeholders to interpret the findings

Google Images, 2016

Arksey & O'Malley 2005; Levac et al. 2010; Thomas et al. 2013

Consult stakeholders

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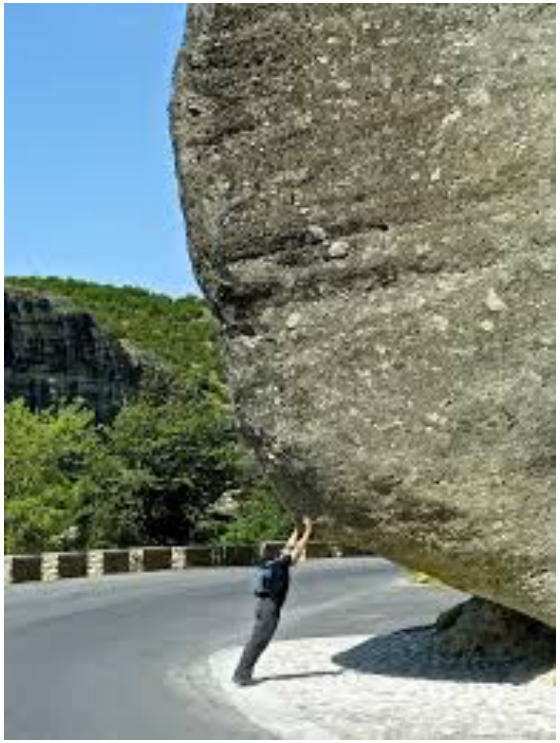
Who are stakeholders?

- Actual or potential recipients of services
  - students, patients, carers, etc.
- Employers, industry, unions, pressure groups
- Other members of the public
- Practitioners
  - teachers, health professionals
- Service managers
- Managers and policy-makers
  - from local organisations to central government
- Researchers

Why involve stakeholders?

- To **broaden perspectives**
- To **reduce/uncover biases** via a transparent and critical approach:
  - What questions are being asked? Why?
  - Who and what is influencing the way an issue is looked at?
- To improve quality and **relevance**
- To **improve accessibility** by translating jargon
- To encourage **wider dissemination** of the review
- To ensure the **review's claims stay within their warrant**



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Ways to involve users and access users' perspectives

- Consultation → Collaboration → Control
- 'Active' involvement in review activities
  - as members of a review group, advisory panel, focus group
  - helping to set initial question/ influencing theoretical framework
  - identifying studies
  - day-to-day review activities
  - refining question for in-depth review
  - communication, interpretation and application of findings
- Other ways of accessing user perspectives?
  - other people's research on user views (*Rees et al., 2014*)

Practical ways of working

- Design time
  - when to bring stakeholders in (early and throughout!)
  - different for different subjects
- Be clear about purpose of map
  - its claims should not exceed its warrant
- Consider the amount of understanding/complexity that needs to be considered in the answer provided by the scoping review
  - populations, related concepts, processes

Set the review question

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What is a review question?

- Is an **investigative statement** rather than a topic of interest
- Should be **clear and answerable**
- Is the **driver** for all review processes
- Is in dynamic **interplay** with theory and inclusion/exclusion criteria

Identify the research questions

- Key domains to be explored
- Boundaries
- Wording
  - **instead of** 'what is the effectiveness of...'
  - **use** 'what is the nature/ extent of research about...' or 'what research has been undertaken on...'

- Tint & Weiss, 2016

"What are current conceptualizations and measurements of family wellbeing in the ASD literature?"

"What are the key findings?"

"What are the gaps and limitations in the literature?"

Specify and clarify main concepts

- **PICOC**
  - **P**opulation, **I**ntervention, **C**omparator, **O**utcome, **C**ontext/ Setting
- **ECLIPSE**
  - **E**xpectation, **C**lient Group, **L**ocation, **I**mpact, **P**roviders, **Se**rvice
- **SPIDER**
  - **S**ample, **PI**- Phenomenon of Interest, **D**esign, **E**valuation, **R**esearch type

Search for literature

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Common characteristics of systematic searching

- Search strategies are:
  - intended to find studies that ***might be*** relevant for the review's question
  - **derived from the review question**
  - **practically constrained**
  - supported by a **rationale**
  - **explicitly** reported
  - **iterative**: draft, test and implement a structured search plan (search strategy)

Sources of research

- Bibliographic databases
  - ‘general’, e.g. ERIC, Medline, EconLit
  - ‘specialised’, e.g. OpenGrey
- Internet search engines and gateways
  - e.g. Google Scholar, PolicyHub
- Hand-searching journals and websites
- Scanning reference lists
- Forward citation searching
- Professional contacts, key authors/ experts

- Balance feasibility with breadth and comprehensiveness of the scoping process
  - e.g. limit the sources (rather than the search terms)
  - e.g. limit by dates
  - e.g. limit by study designs (where possible)
- Don’t rely on databases alone

Stansfield et al., 2014

Approaches to searching

- **Purposive searching**
  - To identify main themes in the literature (sometimes uses saturation sampling)
  - Searching plans may develop as evidence comes to light

- **Comprehensive searching**
  - Ideal is to find all studies that answer the review question
  - An unbiased sample is next best

Controlled and free-text terms

- Indexers use standardized **controlled terms** to describe papers
  - e.g. Subject headings in ASSIA, Descriptors in ERIC
  - Scope notes define controlled terms for indexers (and us)
- Use controlled terms for each concept in your review
  - check controlled terms applied to known relevant studies
- Supplement with non-indexed **free text** terms

Study Selection and Classification

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Initial Decision Profile
Employment Strategies for Adults with Autism
Title/Abstract Inclusion Step

- **Study # _____**
- **Full Citation (APA style):**

_____

1. **Is this an Intervention Study?**

   Yes (go to #2) Unclear (go to #2) No, Then **STOP, study not eligible for inclusion!**

2. **Were the Participants at least 18 Years Old?**

   Yes (go to #3) Unclear (go to #3) No, Then **STOP, study not eligible for inclusion!**

3. **Were Employment strategies the aim of the study?**

   Yes (get full text) Unclear (get full text) No, Then **STOP, study not eligible for inclusion!**

What are the Criteria for Inclusion or Exclusion?

Assume the initial decision was accurate!!

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Eligibility Criteria

- Need to assess the relevance of each study based on pre-selected eligibility criteria
- Provides consistency in study selection
- Provides a basis of justification of study selection
- Aids in reducing bias in selection process

Eligibility Criteria

- Specify which studies will be ‘in’ and which studies will be ‘out’ of the review.
- Criteria may be modified during the retrieval process
- Criteria fundamental to collecting rigorous & defensible set of data for review

Eligibility Criteria

- **How 'broad' or 'narrow' the study selection process is determined in part by the review question.**
  - **If criteria too strict (e.g., clinic setting) results may not generalize**
  - **If criteria too broad (e.g., including all types of study designs) may be less confident in results**

Inclusion/Exclusion Guideline

- Characteristics to Consider
  - Participant Characteristics
  - Intervention/Focus Characteristics
  - Study/Methodological Characteristics
  - Outcome and Measure Characteristics
  - Study Design Characteristics

Inclusion/Exclusion Criteria

- **Participant Characteristics**

N of Participants	Diagnosis
Age	Language Ability
Gender	Race/Ethnicity
SES	Severity Rating
Education	

Inclusion/Exclusion Criteria

- Intervention Characteristics
  - Treatment Type
  - Treatment Dosage
    - Number of Sessions
    - Frequency of Sessions
    - Length of Program
  - Treatment Grouping

Inclusion/Exclusion Criteria

- **Study/Methodological Characteristics**

Aim of Study
Recruitment Source
Study Source
Outcome Measures
Yr of Publication
Setting
Geographical Location
Study Design

Managing Study Data: A Coding Form

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Coding Form
Employment Strategies for Adults with Autism
Participant Characteristics

SES (pg)

1. Low
2. Low-Middle
3. Middle
4. Middle-Upper
5. Upper
6. Labeled Mixed
7. Unlabeled Mixed
8. Unclear/Not Reported

Coding Form
Employment Strategies for Adults with Autism
Intervention Characteristics

- **Treatment Type**

1. Supported Employment
2. Occupation Training
3. Employer Training

- **Treatment Dosage**

1. Length of Employment
2. Hours worked per day
3. Days worked per week

Coding Form
Employment Strategies for Adults with Autism
Study/Methodological Characteristics

- **Study/Methodological Characteristics**

Recruitment Source

1. Shelter Workshop
2. School Transition Program
3. Private Agency
4. Public Agency
5. Unclear/Not Reported

Quality of Evidence

1. Systematic Review w/ Meta Analysis
2. Randomized Control Trial
3. Quasi-experimental (Cohort) Trial
4. Single Group Trial
5. Single Subject Experimental Design
6. Case Study
7. Book
8. Opinion Paper

Chart the Data

- At time of protocol development come up with plan for data extraction and presentation of results
  - Can be draft chart or table

- "Living document"
  - Can be refined as review nears completion
  - Towards the end reviewers will have greatest awareness of the contents of their included studies

Chart the Data (cont.)

- In scoping reviews charting means data extraction
- Draft chart (basically your coding form) should be piloted with a few selected studies and be refined
- As reviewers chart each study it may become apparent that additional unforeseen data can be meaningfully charted

Joanna Briggs Institute, 2015

Presentation or Charting Options

- Map of the data extracted
- Diagrammatic or tabular form
- Descriptive format
  → whatever you decide on, align it with the aims and the scope of the review

Presentation or Charting Options

- Use the elements of the P-C-C format as a guide to how the data should be mapped most appropriately:
  - Participants/Population
  - Concept (can include Outcomes)
  - Context

Presentation or Charting Options

(cont.)

- **Examples: Potential chart categories can include**
  - Authors
  - Year of publication
  - Study location
  - Research design
  - Study population
  - Aims of the study
  - Overview of methods
  - Outcomes measures
  - Results (of the primary studies)

Modified from Armstrong et al., 2011

Charting Example

Table A1
Summary of articles included in review.

Author/year	Caregiver group	Patient group	Intervention
Davison et al. (2013)	Family carers	Children with overweight/ obesity	Family developed, family-centred intervention for childhood obesity.

Location	Study method	Level of evidence	Main findings
Upper State New York, USA	Pre-post cohort design. $N = 154$ at baseline, $N = 119$ at follow-up (77% retention).	4	Significant improvements in child's obesity, light activity, daily TV viewing and dietary intake. Parents reported higher self-efficacy in offering healthy lifestyles and better support for children's physical activity.

Hithersay et al., 2014

Preparing for Final Summary

- Key difference: Scoping versus Systematic Review
  - Overview of existing literature typically (but not necessarily) without quality assessment → therefore data synthesis is often minimal
  - Whether or not to do quality assessment → will depend on resource limitations and purpose of the scoping review

- The resources available and purpose determine how results are summarized
  - Narrative may describe the range of study types or focus on the scope of definitions and the implications of this on the number of located studies
  - Consider the implications of the findings of the scoping review within the broader research, policy and practice context

Armstrong et al., 2011; Levac et al., 2010

Summarize and report the results

'Data is not Information;

Information is not Knowledge;

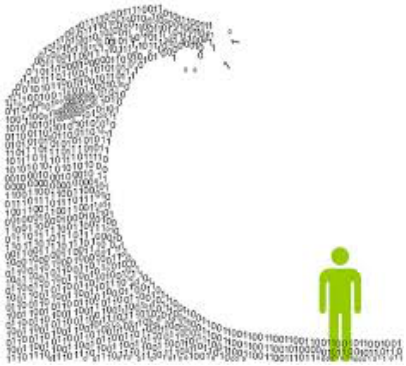
Knowledge is not Wisdom'

-Clifford Stoll

Knowledge

"I have the answer"

Data



"I have the files"

acreelman.blogspot.com, pixabay.com

Methods of summarizing studies - 1

- **Numeric**

  '…for instance, wellbeing was used interchangeably with adjustment (n=4), physical health (n=8), mental health (n=9), stress (n=19), and depression (n=23).'

- **Narrative approach**

  'Across studies, family wellbeing was consistently viewed with positive connotations.'

Tint and Weiss, 2016:264

Methods of summarizing studies - 2

- **Thematic approach**

  ‘One approach was to view family wellbeing as a subjective concept in itself that leads to physical and mental health outcomes…A contrasting approach was to view wellbeing as a *collection* of different constructs…in these situations, physical and mental health were seen as components of the overall wellbeing composite.’

Tint and Weiss, 2016:264

Consult to interpret findings

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Interpreting the results

- Consult with stakeholders to…

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…'Sense-check'…

…the findings against original questions

…the implications against reasons why scoping review was commissioned

…Identify priority areas for in-depth synthesis…

…e.g. meta-analysis

Communicate the findings

en.wikipedia.org

To communicate…

Consider:

- **Who** (policy-maker, practitioners?)
- **What** (findings, methods?)
- **Where** (journal article, newsletters?)
- **When** (beginning, middle or end?)
- **Why** (what are you trying to achieve by communicating?)

Report:

- your **rationale for doing** the scoping review
- its **research questions**
- **what purpose it is ultimately meant to serve** (prevents misuse)

Dobbins et al., 2009; Trevena et al., 2006, Wanyoni et al., 2011

To communicate…contd.

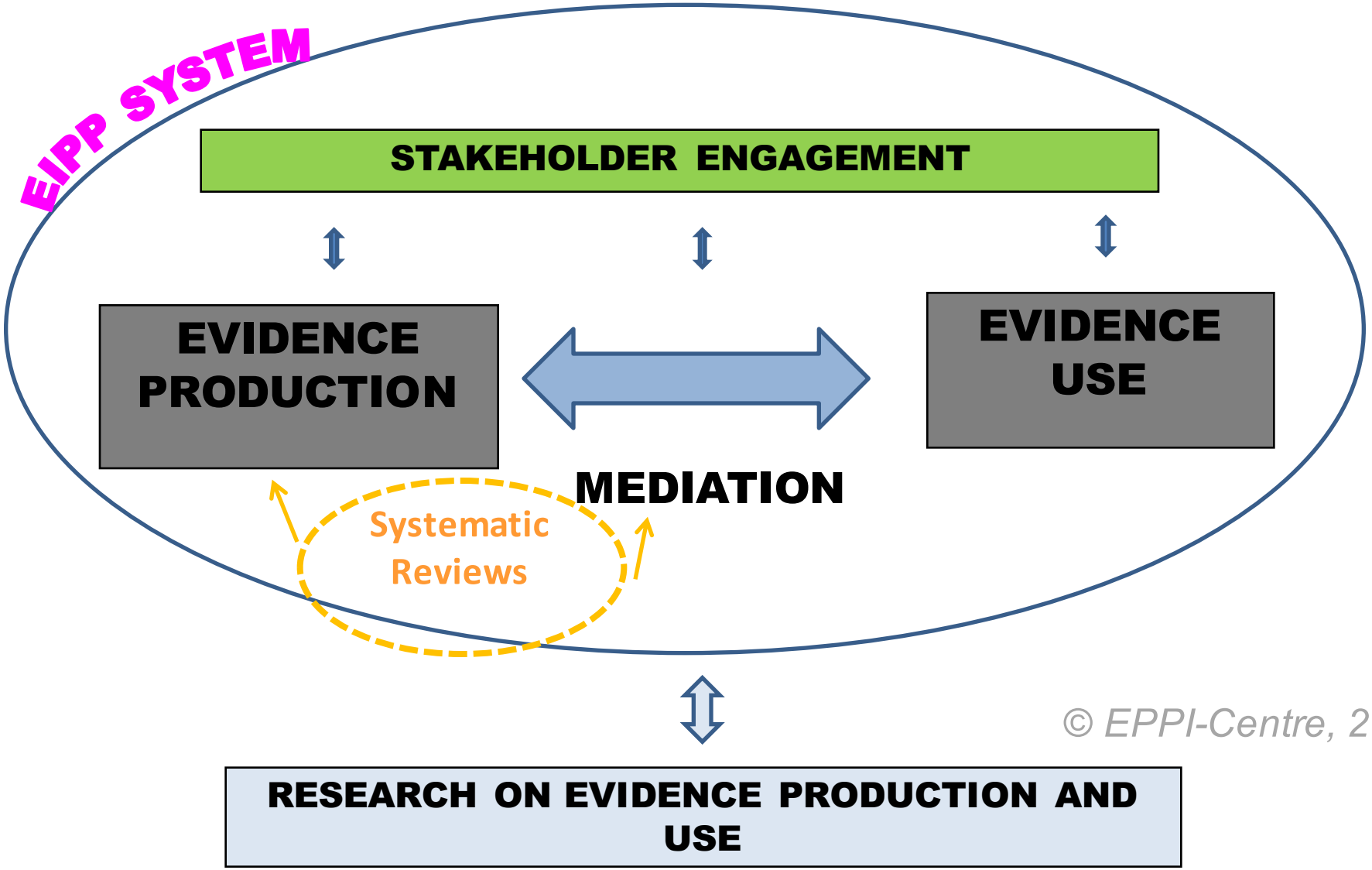
Structure:

- One page summary (tailored*)
- Report (actually a user friendly summary)
- Technical report (methods section is main part)
- Data coding

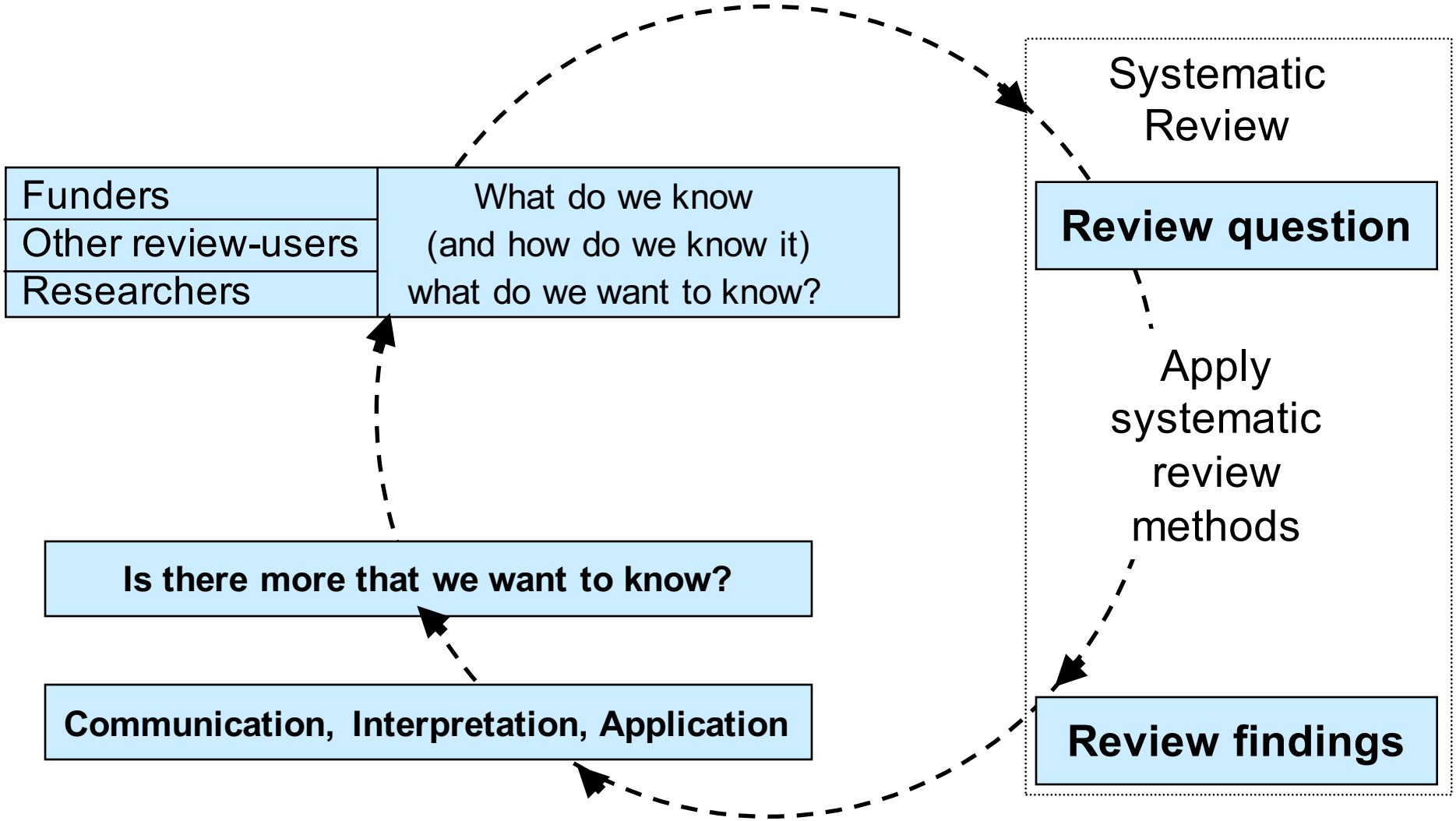
*Some evidence that active communication strategies that translate or tailor to target audiences are effective

Dobbins et al., 2009; Trevena et al., 2006, Wanyoni et al., 2011

Evidence-informed policy and practice (EIPP) model



Research synthesis
as a part of knowledge accumulation



Questions?

Ginny Brunton

g.brunton@ucl.ac.uk

Chad Nye

chadnye@gmail.com

Oliver Wendt

wendto@purdue.edu

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