# **Workshop on Scoping Review Methods for Producing Research Syntheses**

# ***Session 1: Introduction to Scoping Reviews and Synthesizing Evidence***

Sponsored by AIR’s Center on Knowledge Translation for Disability and Rehabilitation Research ([KTDRR](http://www.ktdrr.org))

# Faculty: Chad Nye, PhD; Ginny Brunton, Phd (candidate); Oliver Wendt, PhD

Text version of PowerPoint™ presentation:

[https://www.ktdrr.org/training/workshops/scoping/session2](http://www.ktdrr.org/training/workshops/scoping/session2/index.html)

**Slide 1: Title**

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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**Slide 2: A brief reminder…**

Image of a red rectangle with white lettering. A crown is at the top of the rectangle with the words below: KEEP CALM AND CARRY ON

Google Images, 2016.

**Slide 3: 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

**Slide 4: 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

**Slide 5: 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

**Slide 6: 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

Image on right: Triangle built of 4 smaller triangles. Top: Extent of work; Center: Epistemology; Left: Breadth & Depth; Right: Time & resources. © EPPI-Centre, 2016.

**Slide 7: 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

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

Image on right: Stick figure with question mark above head, looking at post with multiple signs. Google Images 2016

**Slide 8: Consult stakeholders**

Image in center: A group of people sitting in chairs in a circle. Google Images, 2016.

**Slide 9: 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

**Slide 10: 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**

Image on right: Picture of person appearing to hold up a huge boulder. Pixabay.com

**Slide 11: Ways to involve users and access users’ perspectives**

- Consultation (arrow to right) Collaboration (arrow to right) 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)

**Slide 12: 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

**Slide 13: Set the review question**

Image in center: A sphere covered in question marks. Pixabay.com

**Slide 14: 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

**Slide 15: 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?”

**Slide 16: 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

**Slide 17: Search for literature**

Image in center: A light highlights a pin with a red circle on top sticking out of some hay. Flickr.com

**Slide 18: 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)

**Slide 19: 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

**Slide 20: 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

**Slide 21: 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

**Slide 22: Study Selection and Classification**

**Slide 23: 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!

**Slide 24: What are the Criteria for Inclusion or Exclusion?**

Assume the initial decision was accurate!!

**Slide 25: 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

**Slide 26: Eligibility Criteria cont.**

* 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

**Slide 27: Eligibility Criteria cont.**

* 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

**Slide 28: Inclusion/Exclusion Guideline**

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

**Slide 29: Inclusion/Exclusion Criteria**

Participant Characteristics

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

**Slide 30: Inclusion/Exclusion Criteria cont.**

Intervention Characteristics

* Treatment Type
* Treatment Dosage
  + Number of Sessions
  + Frequency of Sessions
  + Length of Program
* Treatment Grouping

**Slide 31: Inclusion/Exclusion Criteria cont.**

Study Methodological Characteristics

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

**Slide 32: Managing Study Data: A Coding Form**

**Slide 33: 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

**Slide 34: 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

**Slide 35: 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

**Slide 36: 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

**Slide 37: 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

**Slide 38: 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

**Slide 39: 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

**Slide 40: Presentation or Charting Options cont.**

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

**Slide 41: 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

**Slide 42: Charting Example**

Table 1A Summary of articles included in review.

Author/Year: Davison et al. (2013)

Caregiver group: Family carers

Patient group: Children with overweight/obesity

Intervention: Family developed, family-centered intervention for childhood obesity.

Location: Upper State New York, USA

Study method: Pre-post cohort design. N=154 at baseline, N=119 at follow-up (77% retention).

Level of evidence: 4

Main findings: Significant improvement in child’s obesity, 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

**Slide 43: Preparing for Final Summary**

* Key difference: Scoping versus Systematic Review
  + Overview of existing literature typically (but not necessarily) without quality assessment (arrow to right) therefore data synthesis is often minimal
  + Whether or not to do quality assessment (arrow to right) 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

**Slide 44: Summarize and report the results**

“Data is not information; Information is not knowledge; Knowledge is not wisdom” Clifford Stoll.

Image in center: A cartoon person with a light bulb over its head and hand pointing up, captioned: “Knowledge: “*I have the answer*”

Image on right: A a stick figure under a large wave, captioned: “Data: “*I have the files*”

acreelman.blogspot.com, pixabay.com

**Slide 45: 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

**Slide 46: 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

**Slide 47: Consult to interpret findings**

Photo of a man and woman viewing or organizing multicolored notes on a whiteboard.

Flickr.com

**Slide 48: Interpreting the Results**

* Consult with stakeholders to…
  + ‘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

Image on the left: 4 stick figures hold a disk. The disk is marked as 4 joined puzzle pieces, with each person holding a piece that is a different color.

Flickr. Com

**Slide 49: Communicate the findings**

Graphic in the center: “THE STORY SO FAR

en.wikipedia.org

**Slide 50: 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

**Slide 51: To communicate… cont.**

* 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

**Slide 52: Evidence-informed policy and practice (EIPP) model**

This slide depicts the process of evidence-informed policy and practice, which is delineated by a blue oval labeled EIPP SYSTEM. Inside the oval are two boxes in the center; on the left, Evidence Production, on the right, Evidence use. There is a large blue two-way arrow labeled ‘mediation’ between the boxes. A green box at the top of the oval bridges the original boxes, with smaller two-way arrows linking to each of the items below (Evidence Production, Mediation, and Evidence Use.) A dotted orange circle labeled Systematic Reviews is placed below and between Evidence Production and Mediation, with arrows pointing to each. Below the oval is a blue box labeled Research on Evidence Production and Use, with a blue two-way arrow between this box and the oval.

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**Slide 53: Research synthesis as a part of knowledge accumulation**

This graphic depicts research synthesis as a cycle of knowledge accumulation. In the center is a large dotted circle with various arrows pointing clockwise around it., indicating continuing input and feed back throughout.

On the upper left is a blue box intersecting the circle. Funders, other review users and researchers ask questions: what do we know (and how we know it) and what do we want to know?

Two other blue boxes intersect the circle below this box: ‘Is there more that we want to know?’ and ‘Communication, Interpretation, Application.’

On the right side a large box also intersects the circle. At the top of the box: Systematic Review. Below that: Review Question. In the center of the box: Apply systematic review methods. At the bottom: Review findings.

EPPI-Centre, 2016

**Slide 54: Questions?**

Ginny Brunton: [g.brunton@ucl.ac.uk](mailto:g.brunton@ucl.ac.uk)

Chad Nye: [chadnye@gmail.com](mailto:chadnye@gmail.com)

Oliver Wendt: [wendto@purdue.edu](mailto:wendto@purdue.edu)

**Slide 55: References and Further Reading**

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**Slide 59: Disclaimer**

The contents of this presentation were developed under grant number 90DP0027 from the National Institute on Disability, Independent Living, and Rehabilitation Research ([NIDILRR](http://www2.ed.gov/about/offices/list/osers/nidrr/index.html)). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this presentation do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.