

# Evidence Gap Maps and Other Innovative Reporting Strategies

Howard White, Campbell Collaboration

KTDRR and Campbell Collaboration Research Evidence Training  
Session 4: May 15, 2019

Center on  
**KNOWLEDGE TRANSLATION FOR  
DISABILITY & REHABILITATION RESEARCH**

at American Institutes for Research ■



# Evidence Gap Maps and Other Innovative Reporting Strategies

---



Howard White, CEO  
Ashrita Saran, Evidence Synthesis Specialist  
Campbell Collaboration



**@campbellreviews**

**@HowardNWhite**

**@AshritaSaran**

---

# What are evidence and gap maps?

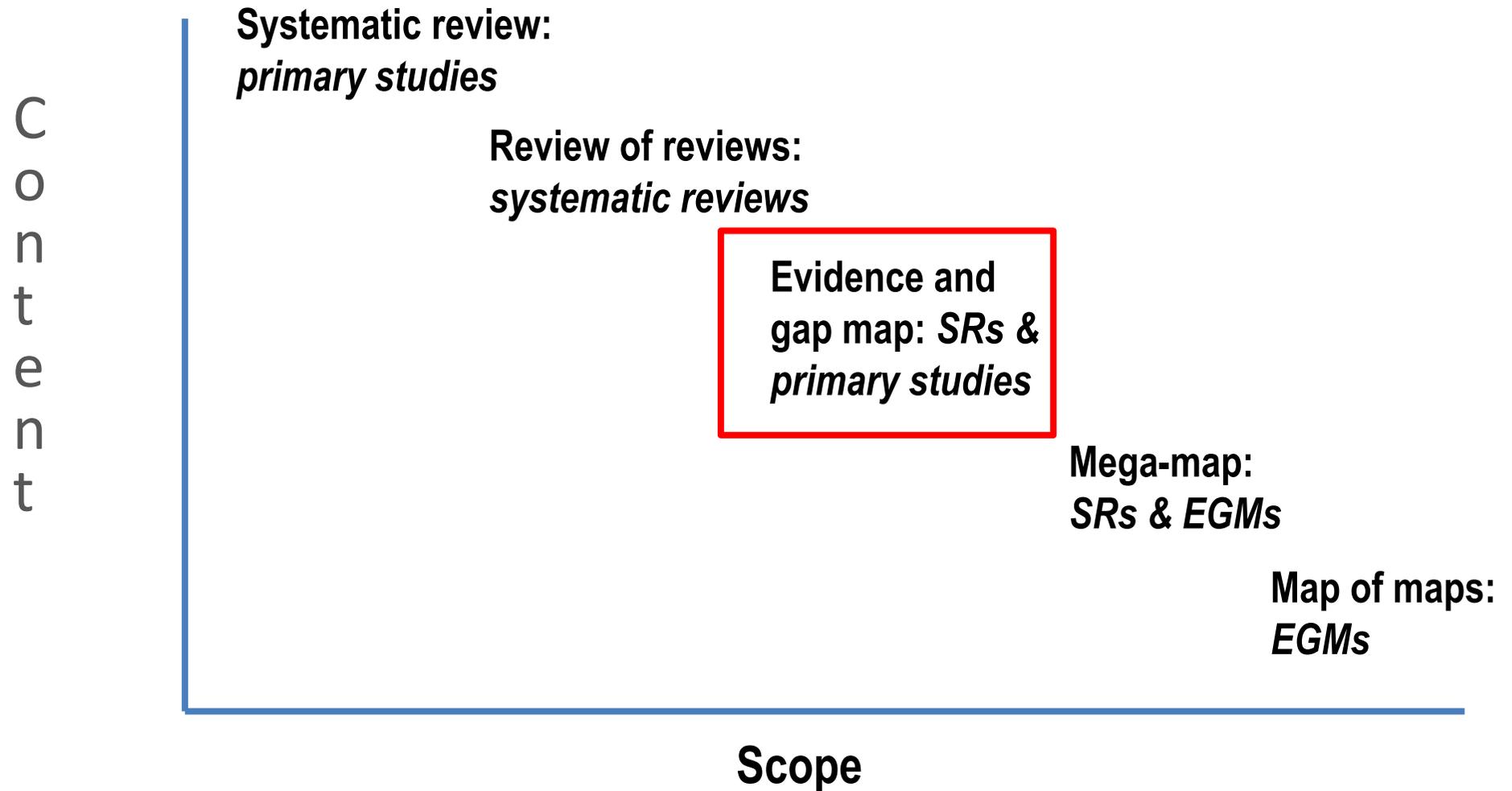
A systematic presentation of all available, relevant evidence for a particular sector or sub-sector.

A typical map is a matrix of intervention categories (rows) and outcome domain (columns).



Source: 3ie. (2017). A map of evidence maps relating to sustainable development in L&MICs. Retrieved from <http://gapmaps.3ieimpact.org/evidence-maps/map-evidence-maps-relating-sustainable-development-lmics>. Licensed under Creative Commons. © 3ie. Used with permission.

# Range of evidence synthesis products



There may be additional filters for study design, location and population sub-group.

***Show what evidence is there, NOT what it says***

Evidence may be

- Global or for particular region(s)
- Include primary studies and systematic reviews
- Cover different types of evidence (but most examples are of effectiveness studies)

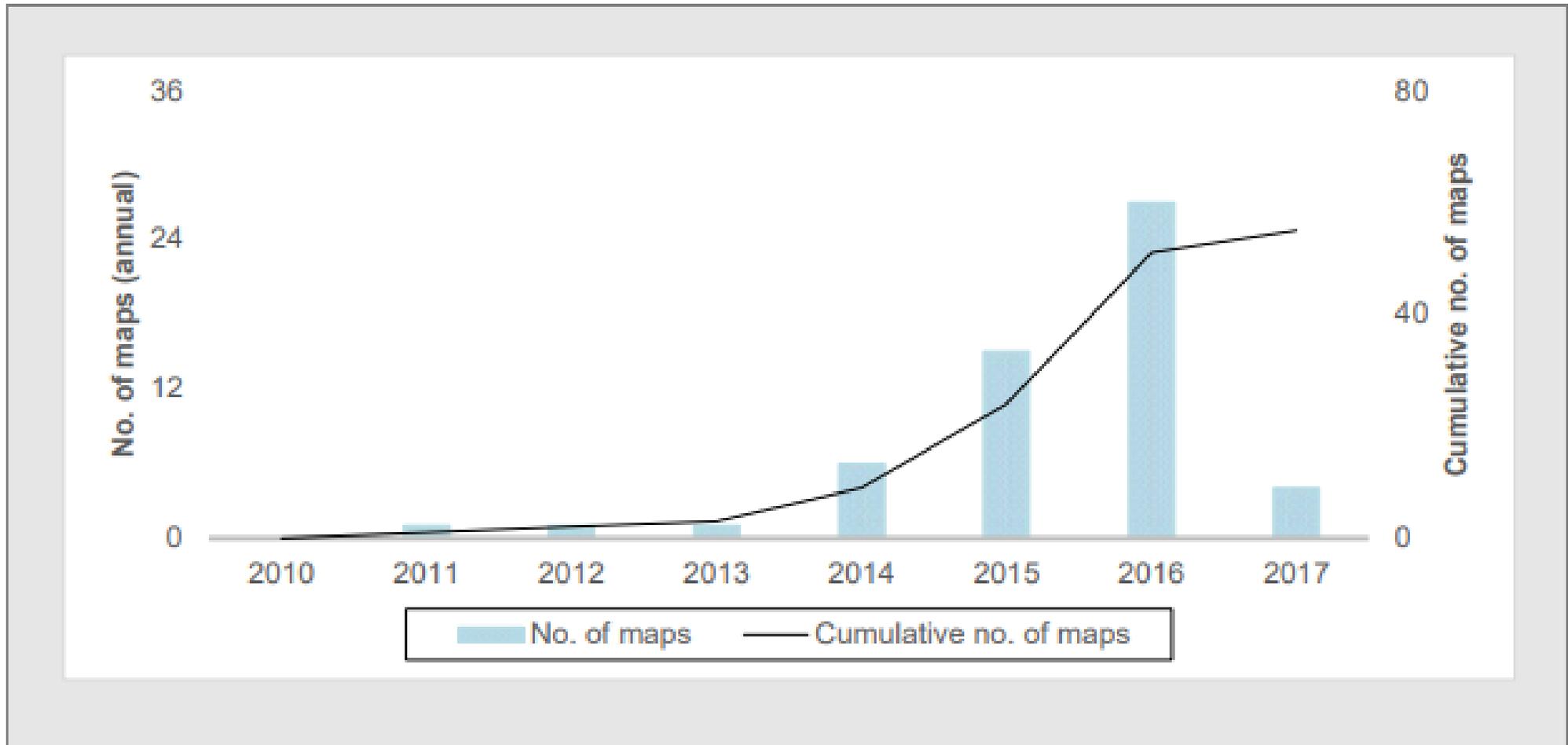
# History of evidence mapping

Year	Organization	Brief on its inception
2003	Yale prevention of research	Developed a systematic and replicable 9-step process termed “evidence mapping” (CAM)
2003	Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre)	Methodology for systematic mapping developed by EPPI
2006	The Social Care Institute for Excellence (SCIE)	Methodology of EPPI was adopted by SCIE
2010	International Initiative for Impact Evaluation (3IE)	The first 3ie “Evidence Gap Map” was produced which focused on the health and nutritional impact of agricultural intervention
2011	National Trauma Research Institute of Global Evidence Mapping Initiative (GEMI)	Traumatic Brain Injury (TBI) and Spinal Cord Injury (SCI).

# History of evidence mapping?

Year	Organization	Brief on its inception
2012	Collaboration for Environmental Evidence (CEE)	Impacts of integrated farm management, organic farming and agri-environment
2012	Epistemonikos Foundation	Epistemonikos has over 250 active collaborators that continuously upload and translate documents
2014	IZA Institute of study of Labour Economics, World of Labour (IZA)	World of Labour publishes literature reviews accompanied by maps
2016	Sightsavers	Visual impairment evidence gap maps (EGMs)
2016	International Rescue Committee (IRC)	Based on a format adapted from the International Initiative for Impact Evaluation's
2017	Campbell Collaboration	Campbell has applied the EGMs to range of research questions.

# Rise of evidence mapping in international development: findings from 2017 map of maps



Source. Phillips, D., Coffey, C., Tsoli, S., Stevenson, J., Waddington, H., Eysers, J., White, H., & Snilstveit, B. (2017). *A map of evidence maps relating to sustainable development in low- and middle-income countries evidence gap map report*. CEDIL Pre-Inception Paper: London.

# EGMs are systematic

- Have a pre-specified protocol
- Have a systematic search strategy
- Have clear inclusion and exclusion criteria which are systematically applied
- Systematically report all eligible studies

Construction of the framework is a critical stage: needs stakeholder buy-in

# Evidence and Gap Map Examples

---

## 3IE Evidence Gap Map

**?** HOVER OVER a bubble to see details with links to studies. **CLICK ON** a link in the axes to see an explanation of the Intervention / Outcome. **SELECT** an area of the chart to zoom in. **TOGGLE** study categories on and off using the legend at the bottom of the chart. **EXPORT** the chart using the menu button at the top right of the chart.

Region  Country  Study design  Population

Source. 3ie. (2017). Adolescent sexual and reproductive health evidence gap map. Retrieved from <https://gapmaps.3ieimpact.org/evidence-maps/adolescent-sexual-and-reproductive-health-evidence-gap-map>. Licensed under Creative Commons. © 3ie. Used with permission.



**Interventions**

h systems

## Methodological quality of the review

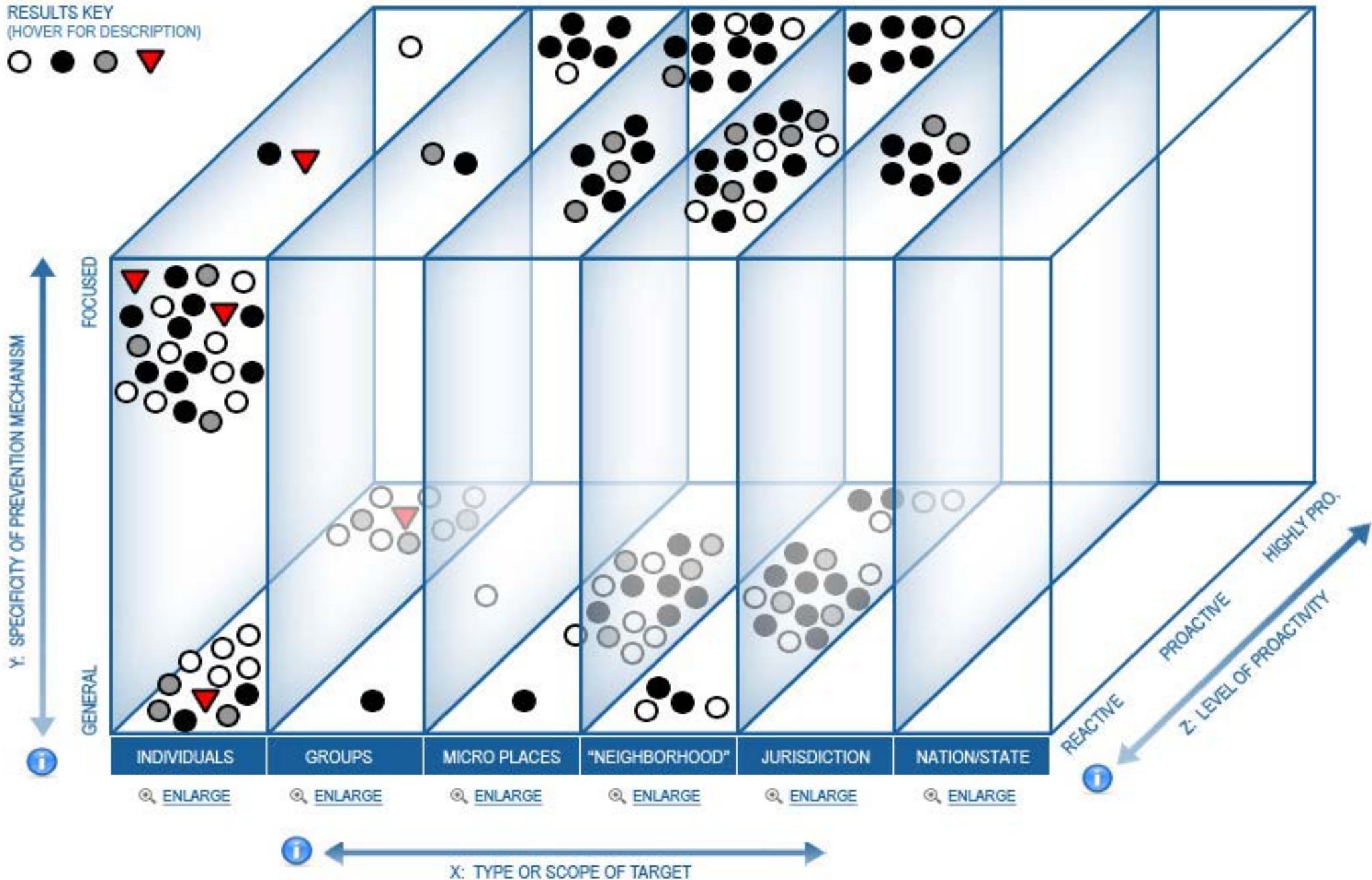
● Low confidence   ● Medium confidence   ● High confidence

Strength of Evidence	Sectors:			Service delivery				Health systems				Impact/Economic evaluation	
	Burden of disease	Biomedical		C.detect	QCC	QNCC	Access	Workforce	Financing	Leadership	HMIS		
Strong	●	●● ●●	●● ●●		●● ●● ●● ●● ●●		●● ●●						<p><b>Strength of evidence: if the review found strong evidence/mixed/no in response to the research question or outcome</b></p>
Inconclusive	●●	●● ●	●● ●●		●●							●	
Weak		●●	●● ●●		●● ●● ●●								

Traffic light signal to identify quality of each review (SURE checklist)

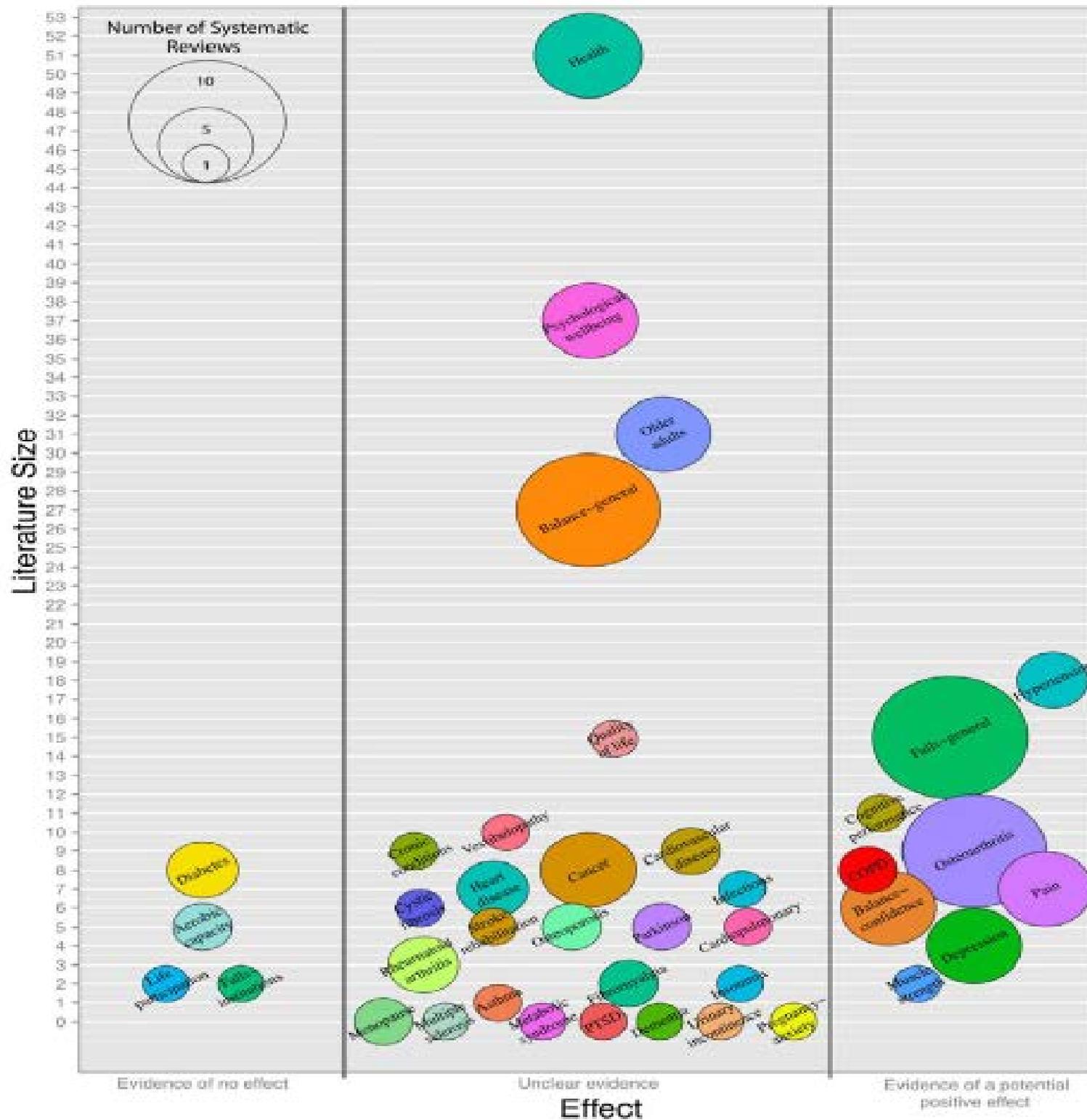
**Sightsavers**

RESULTS KEY  
(HOVER FOR DESCRIPTION)



# Evidence-based policing matrix

Cynthia Lum, Christopher Koper, and Cody Telep.  
 George Mason University, Center for Evidence-Based Crime Policy.  
<https://cebc.org/evidence-based-policing/the-matrix/>



# Evidence-Based Synthesis Program

Source. Hempel, S., Taylor, S. L., Marshall, N. J., Miake-Lye, I. M., Beroes, J. M., Shanman, R., Solloway, M. R., & Shekelle, P. G. (2014). *Evidence Map of Mindful-ness*. VA-ESP Project #05-226.

# You can read about these different types of map in our discussion paper

CAMPBELL METHODS SERIES: DISCUSSION PAPER 6

October 2018

## Evidence and gap maps: a comparison of different approaches

Ashrita Saran and Howard White

Version 1.0

# Evidence Mapping initiatives

---

# EGMs can be applied to range of research questions

Some examples:

- Map of Maps
- Mega Map
- Effectiveness Map (Homelessness)
- Homelessness Process map
- Uganda country EGM
- IMMANA EGM (methods and metrics)

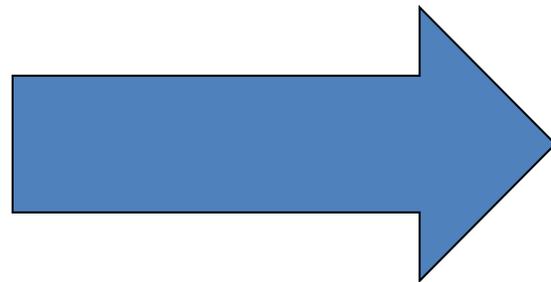
# **Map of Maps for the Effectiveness of International Development Interventions: Scope and methodology**

- Evidence and gap map
- Extra-extra large scope: all of international development
- Includes only EGMs

# 55 completed and 18 on-going EGMs

Sectors	Sustainable Development Goals (SDGs)																
	SDG1 - Poverty	SDG2 - Agriculture nutrition and food security	SDG3 - Health	SDG4 - Education and learning	SDG5 - Gender equality and empowerment	SDG6 - WASH	SDG7 - Energy	SDG8 - Economic growth and employment	SDG9 - Infrastructure	SDG10 - Inequality	SDG11 - Urban and rural development	SDG12 - Consumption	SDG13 - Climate change	SDG14 - Marine	SDG15 - Ecosystem related outcomes	SDG16 - Peaceful and inclusive societies	SDG17 - Global Partnership
Agriculture and rural development	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	
Climate change and environment	●	●	●	●		●		●	●	●	●		●		●	●	
Conflict management and post-conflict reconstruction	●	●	●	●	●	●		●		●		●			●	●	
Cross-sectoral	●		●	●	●	●		●		●	●	●				●	
Economic policy		●	●	●	●	●		●							●	●	
Education	●	●	●	●	●	●	●	●	●	●	●	●			●	●	

Source: 3ie. (2017). A map of evidence maps relating to sustainable development in L&MICs. Retrieved from <http://gapmaps.3ieimpact.org/evidence-maps/map-evidence-maps-relating-sustainable-development-lmics>. Licensed under Creative Commons. © 3ie. Used with permission.



**Use map to identify  
priority Evidence  
and Gap Maps**

**Resulting maps being produced by CEDIL:**

- **Disability**
- **Transport**
- **Access to justice**

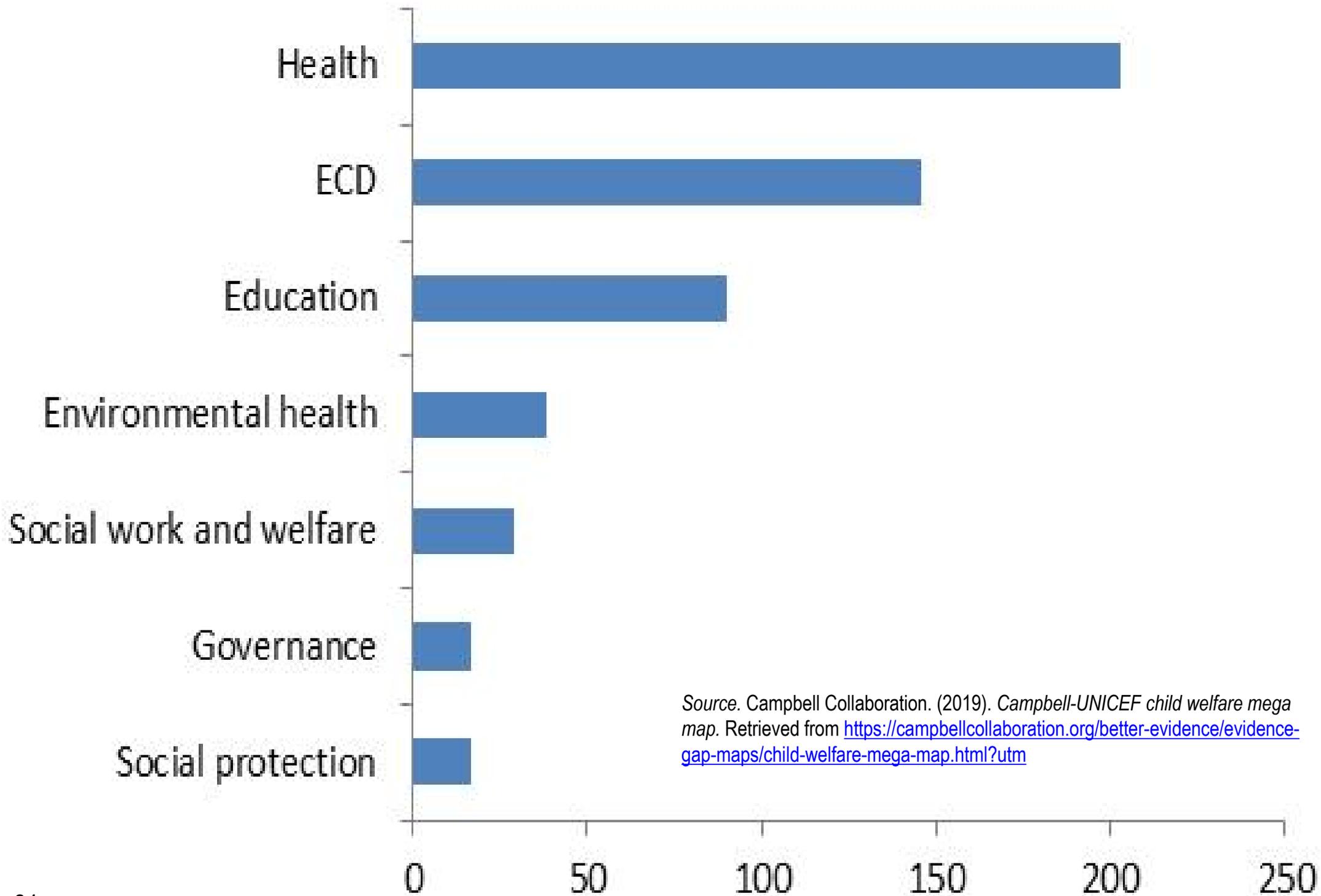
**Mega map on child welfare in  
low and middle income  
countries:  
a map of systematic reviews**

---

- Evidence and gap map
- Large scope: all of child welfare (health, nutrition, education, child protection...)
- Includes EGMs and Systematic reviews



Source: Campbell Collaboration. (2019). *Campbell-UNICEF child welfare mega map*. Retrieved from <https://campbellcollaboration.org/better-evidence/evidence-gap-maps/child-welfare-mega-map.html?utm>



Source. Campbell Collaboration. (2019). *Campbell-UNICEF child welfare mega map*. Retrieved from <https://campbellcollaboration.org/better-evidence/evidence-gap-maps/child-welfare-mega-map.html?utm>

# Next steps from Mega Map

- Social work / child abuse
- Governance / child rights / trafficking
- Equity



**UNICEF  
commissioned  
violence  
against  
children EGM**

# **Evidence and Gap Homelessness effectiveness map**

---

- Evidence and gap map
- Includes effectiveness studies
- Critical appraisal of all included studies



# A section of the homelessness effectiveness map

# Next steps/developments from the map

- Identification of additional studies
- Evidence summaries for interventions
- Commissioning mixed methods systematic reviews



**On-going reviews  
identified using  
studies identified in  
evidence maps**

# **Evidence and Gap Map- Process Evaluation-Barriers and Facilitators (Homelessness)**

- Evidence and gap map
- Scope: homelessness process evaluations(nearly all is grey literature obtained through website searches not database searches)
- Columns are barriers and facilitators, not outcomes

Filters 

			F1. Contextual factors				F2. Policy maker/ funders			F3. Program administrator/ man			
			F 1.1 Housing Market	F 1.2 Labour Market	F 1.3 Welfare Support	F 1.4 Law	F 2.1 Buy in (Leadership, culture, priorities, commitment to programme)	F 2.2 Contracting arrangements with external agencies	F 2.3 Framework provision (e.g. policies and guidelines)	F 3.1 Buy in (Leadership, culture, priorities)	F 3.2 Identification of recipient /targeting mechanism	F 3.3 Referral route (e.g. defined agency or contact)	F 3.4 Sufficiency of Resou (space, time budget appropriat of service facilitie
Legislation	Housing/Homel... legislation		●	●	●	●	●	●	●	●	●	●	●
	Welfare benefits				●	●	●	●		●			●
	Health and social care				●		●	●					●

## A section of the homelessness 'facilitator' map

# Next steps/developments from the homelessness maps

- Evidence summaries for interventions
- Commissioning mixed methods systematic reviews



**Building  
intervention tool  
(evidence portal)**

# **Evidence and Gap Map – Uganda Country EGM**

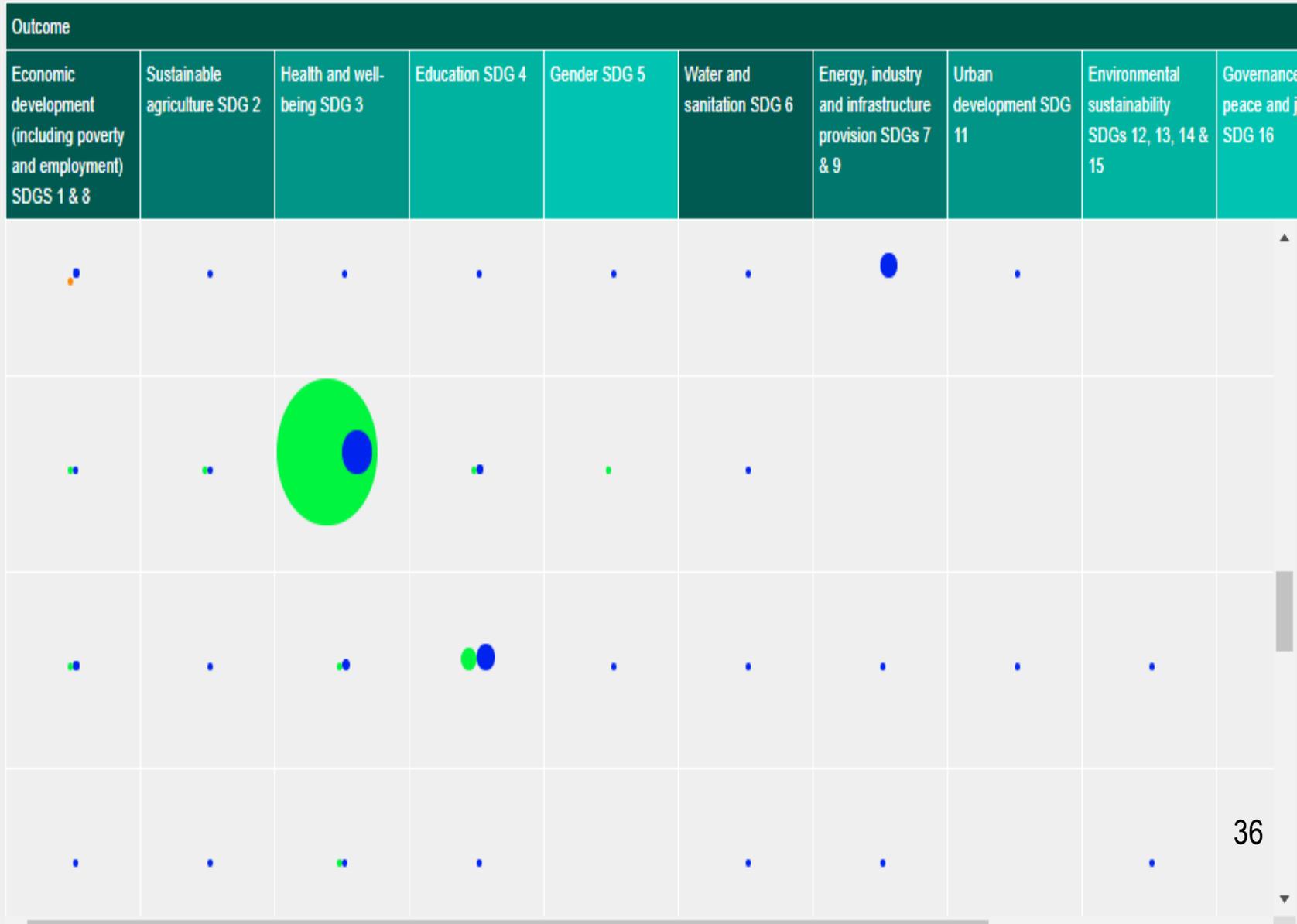
- Evidence and gap map
- Scope: all evaluations in Uganda from 2000-present day
- Includes all evaluation studies: Process evaluations, impact evaluations and formative evaluations

# The Uganda country evidence and map



Evidence and Gap Map of Development Evaluations in Uganda. (Includes 235 process evaluations, 203 impact evaluations and 1 formative evaluation)

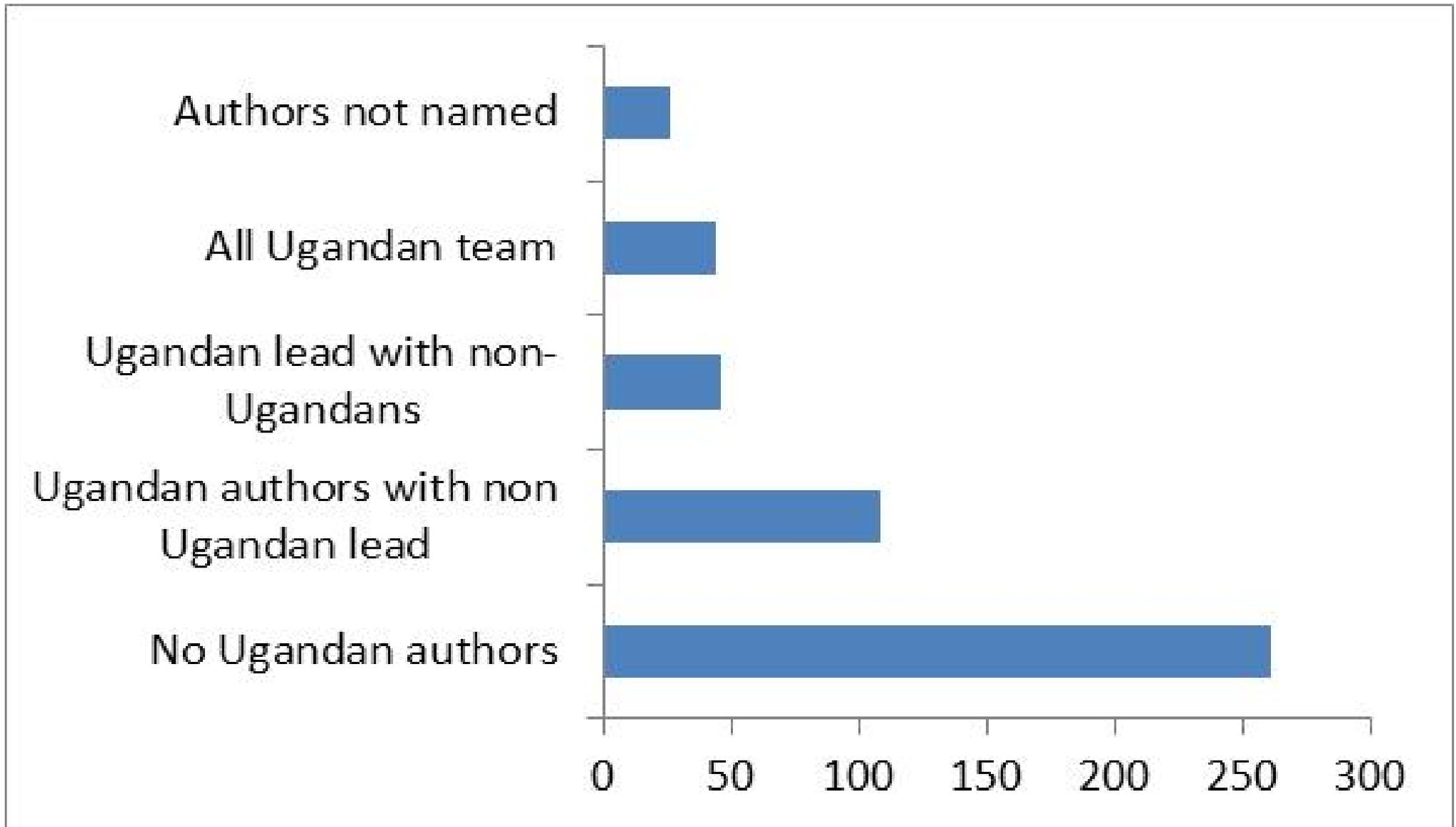
rs ⚙ About ⓘ



	Transport infrastructure
Social transformation	Population, health and nutrition
	Education and literacy (including ECD)
	Care and protection of vulnerable groups



11 Impact evaluation  
12 Process evaluation



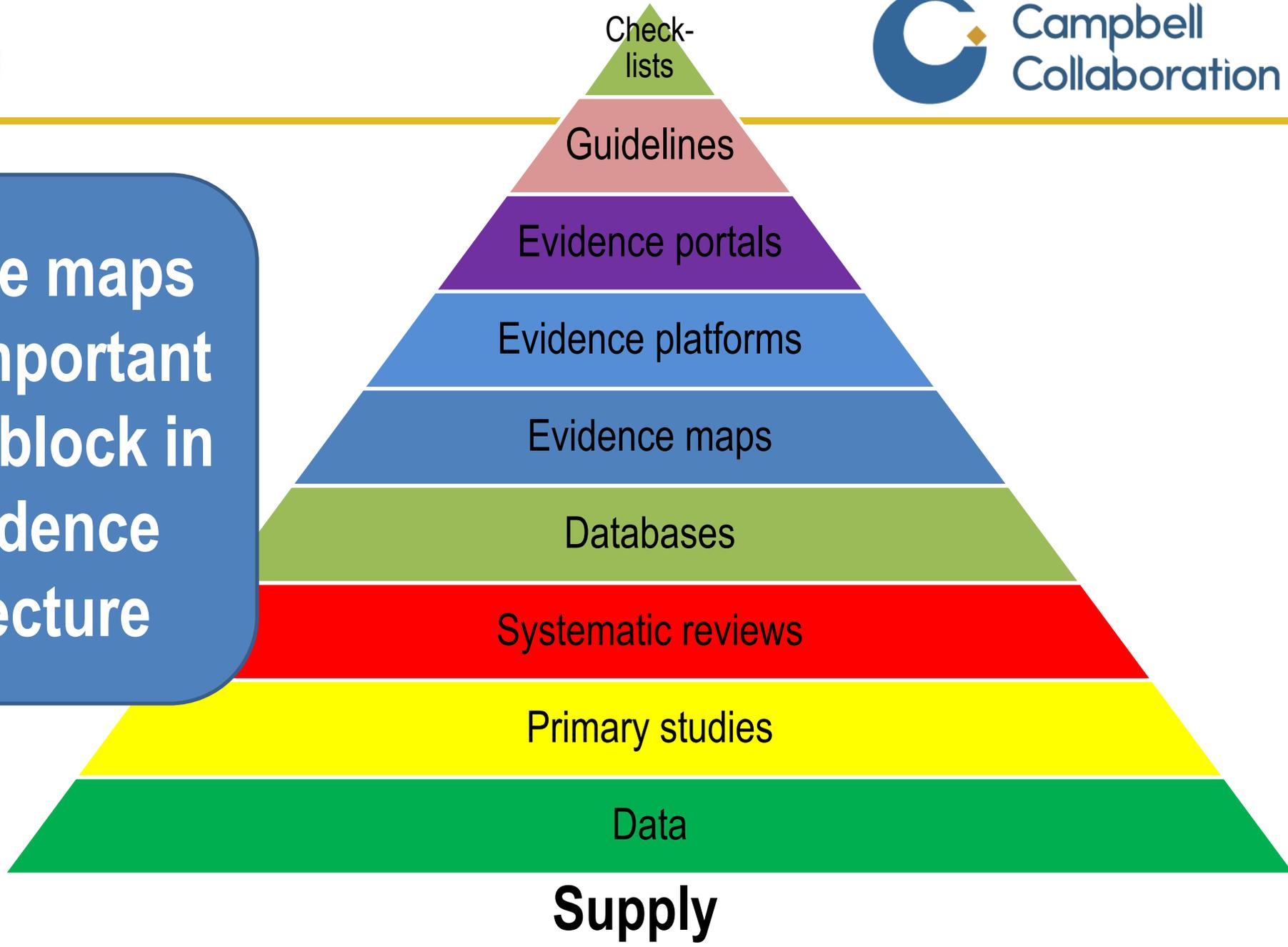
Commission more evaluations in the areas of evident gaps

Country-level synthesis in areas with a lot of evidence

- Mega Map on Child welfare (LMIC)
- People with disabilities in LMICs
- Violence against children in LMICs
- Homelessness Implementation & effectiveness (HIC)
- Child neglect (HIC) & child neglect (LMIC)
- Social protection (LMIC)
- Social intervention for Mental disorder (Global)
- Transport (LMIC)
- Intervention for adult in war and armed conflict
- Institutional responses to child maltreatment (Global)
- Pathways between agriculture and nutrition
- Access to justice (LMIC)
- WASH (LMIC)
- Tobacco control
- Gender equality in reproductive health
- Improving functional ability if older adults

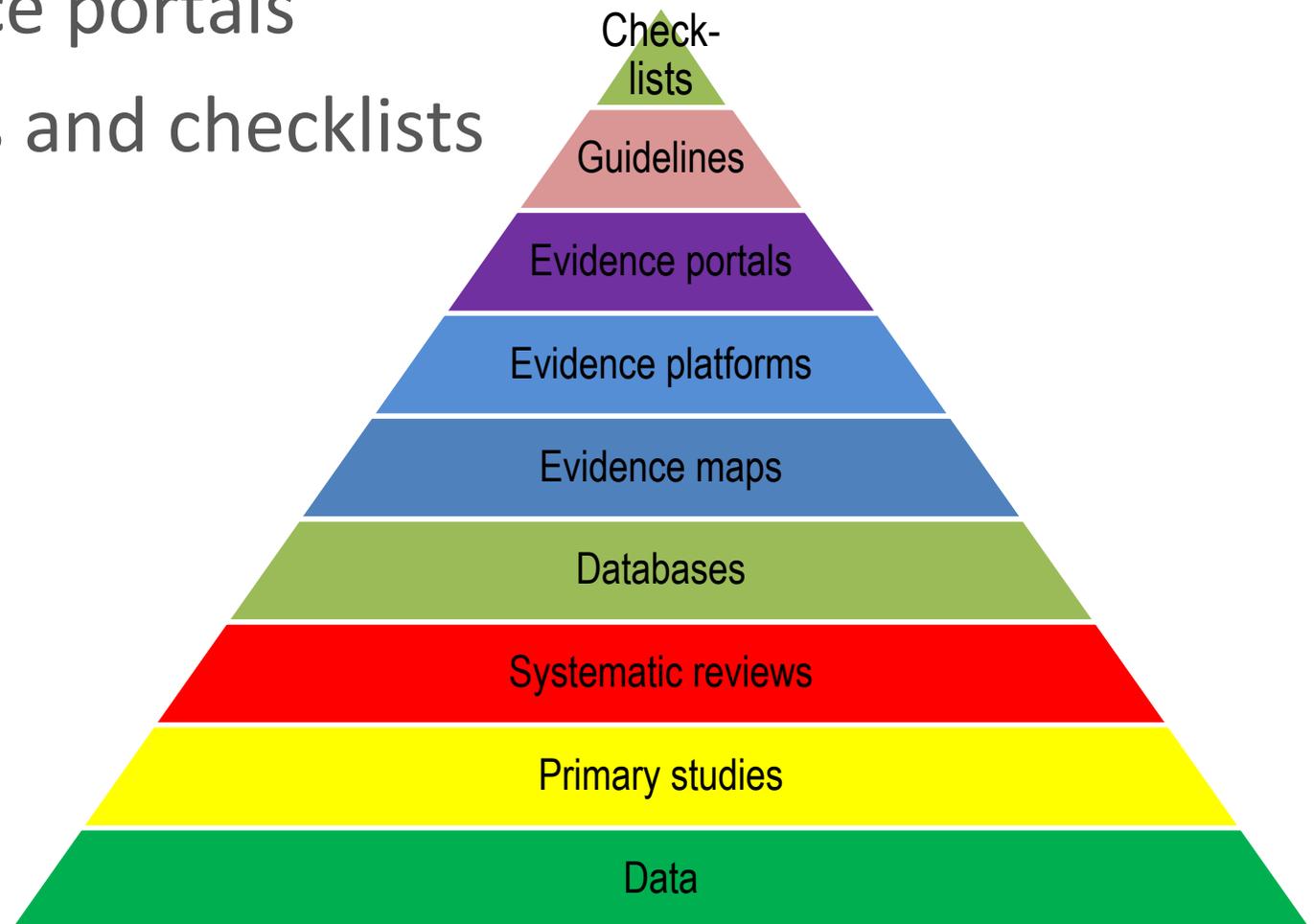
**We have titles for  
18 EGMs published  
in Campbell  
Library now**

**Evidence maps  
are an important  
building block in  
the evidence  
architecture**



# Mapping is a means to an end..

- Commissioning reviews
- To build evidence portals
- Write guidelines and checklists



An evidence portal

# Teaching and Learning Toolkit

An accessible summary of the international evidence on teaching 5-16 year-olds

Source: Educational Endowment Foundation. (n.d.). *Teaching and learning toolkit*. Retrieved from <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit>

Filter Toolkit

Toolkit Strand ▾

Cost ▾

Evidence Strength ▾

Impact (months) ▾

Filter results by keywords



Cost



Evidence



Months Impact

## Arts participation

Low impact for low cost, based on moderate evidence.



## Aspiration interventions

Very low or no impact for moderate cost, based on very limited evidence.



## Behaviour interventions

# Teaching and Learning Toolkit

An evidence portal (cont.)

An accessible summary of the international evidence on teaching 5-16 year-olds

Source. Educational Endowment Foundation. (n.d.). *Teaching and learning toolkit*. Retrieved from <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit>

Filter Toolkit	Toolkit Strand ^	Cost v	Evidence Strength ^	Impact (months) v
<p>Filter results by keywords</p> <hr/> <p>£ </p> <p>Cost</p> <p>🔒 </p> <p>Evidence</p> <p>+1 </p> <p>Months Impact</p> <p>Reset ↻</p>	<h2>Feedback</h2> <p>High impact for very low cost, based on moderate evidence.</p>			+8
	<h2>Metacognition and self-regulation</h2> <p>High impact for very low cost, based on extensive evidence.</p>			+7
	<h2>Reading comprehension strategies</h2> <p>High impact for very low cost, based on extensive evidence.</p>			+6

An evidence portal (cont.)

# Teaching and Learning Toolkit

An accessible summary of the international evidence on teaching 5-16 year-olds

Source. Educational Endowment Foundation. (n.d.). *Teaching and learning toolkit*. Retrieved from <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit>

Filter Toolkit      Toolkit Strand ^      Cost v      Evidence Strength ^      Impact (months) ^

Filter results by keywords

£

Cost

Evidence

+1

Months Impact

Reset

## Repeating a year

Negative impact for very high cost, based on moderate evidence.



## Setting or streaming

Negative impact for very low cost, based on moderate evidence.



## Block scheduling

Very low or no impact for very low cost, based on limited evidence.





FILTER BY NAME OF INTERVENTION	STRENGTH OF EVIDENCE	COST EFFECTIVENESS	IMPACT <span>▼</span>
<p><b>Access to Health Services</b></p> <p>Interventions that provide access to health care may be through mobile street outreach, access to health professionals in a non-traditional setting, or treatment for mental and physical health.</p>			
<p><b>Discharge</b></p> <p>Discharge programmes coordinate services for people at risk of homelessness who are being discharged from institutions such as hospitals, prisons or the military.</p>			
<p><b>Housing First</b></p> <p>Housing First is a housing intervention that provides accommodation with minimal conditionality for people with complex needs.</p>			

# Evidence-based medicine is based on systematic reviews

The World Health Organization (WHO) follows a guideline development process, described in detail in the **WHO Handbook for Guideline Development (2nd edition)**, overseen by the Guidelines Review Committee (GRC) established by the Director-General in 2007. The WHO Guidelines Review Committee ensures that WHO guidelines are of a high methodological quality, developed using a transparent and explicit process, and are **informed on high quality systematic reviews** of the evidence using state-of-the art systematic search strategies, synthesis, quality assessments and methods.

## Checklist for Fall Prevention Programs

This checklist provides a brief guide to assessing the quality of fall prevention programs. It was developed by selected experts involved in the National Falls Free Coalition ([www.healthyagingprograms.org/content.asp?sectionid=113](http://www.healthyagingprograms.org/content.asp?sectionid=113)). The purpose of the checklist is to help community teams to “ask the right questions” about a specific fall prevention intervention and to weigh the pros and cons of different interventions.

A number of meta-analyses have identified three specific *types* of interventions that are effective in reducing falls. Each of these types can be effective, and projects that include more than one are likely to add to the effectiveness. The three types of interventions are:

- Clinical assessment to identify an individual’s risk factors, followed by a tailored intervention to reduce as many of these factors as possible.
- Exercise programs that improve leg strength and balance, such as Strong for Life, Tai Chi, or a multi-component exercise program with adequate attention to strength and balance.
- Multi-component interventions that include education about fall prevention, exercise programs or physical therapy, and medication management, such as Matter of Balance. These programs may also include vision correction, and home modification.

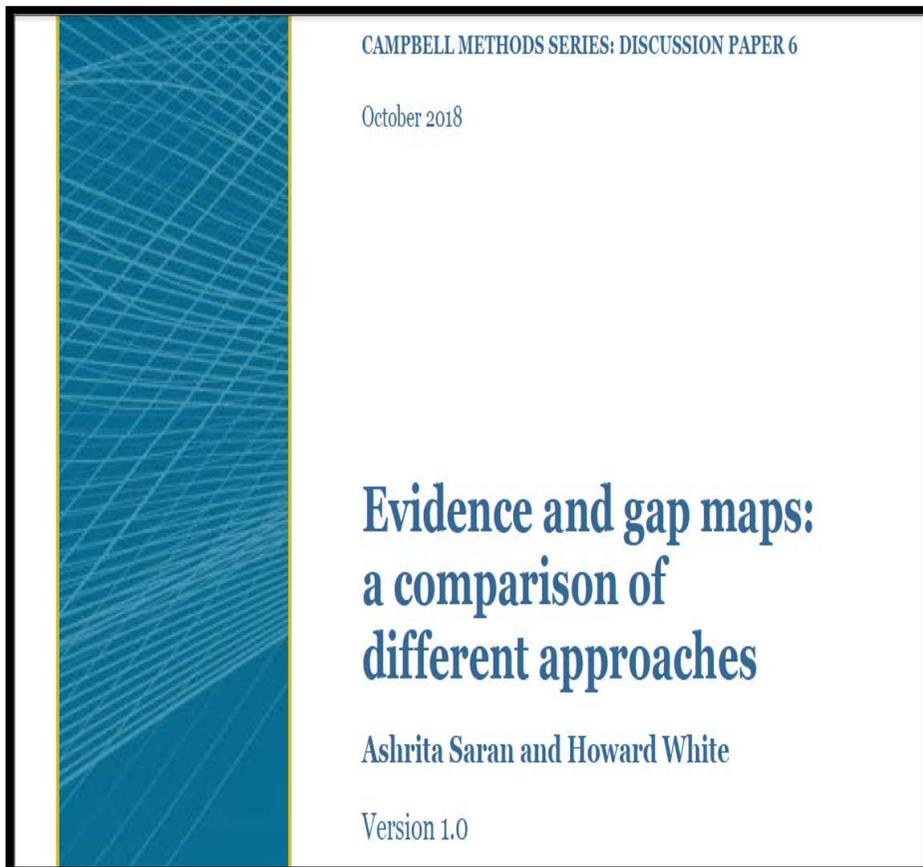
### Checklist Questions

1. Does the program clearly target a population in need of fall prevention programs?
2. Is the program suitable for diverse participants (e.g., age, gender, ethnicity, functional status)?
3. Can this program be implemented in a variety of settings?
4. Does the program offer strategies to modify program components to meet older adult needs, especially the more frail older adult?

Screen shot used with permission. National Council on Aging. (n.d.). Checklist for fall prevention programs. From Evidence-Based Healthy Aging Programming: Tools & Checklists, p. 9. Center for Healthy Aging. Retrieved from [https://www.ncoa.org/wp-content/uploads/cha\\_tools\\_checklists.pdf](https://www.ncoa.org/wp-content/uploads/cha_tools_checklists.pdf)

- ✓ EGMs are an interactive tool to make evidence discoverable, accessible and usable
- ✓ EGMs can be applied to a range of research questions.
- ✓ The relevant evidence (factual or counterfactual, quantitative or qualitative) depends on the question.
- ✓ EGMs are a building block in the evidence architecture

## Read more on maps



<https://www.campbellcollaboration.org/library/evidence-and-gap-maps-comparison-of-different-approaches.html>

## Join us at the What Works Global Summit



#WWGS2019

[WWGS2019.ORG](http://WWGS2019.ORG)

 COLEVAL  
Comité Operativo de Evaluación de la Política de Desarrollo Social

 Campbell  
Collaboration

Visit

[www.campbellcollaboration.org](http://www.campbellcollaboration.org)

# Thank you!

*Please take a few minutes to respond to the brief Evaluation Survey:*

<https://www.surveygizmo.com/s3/4932805/Evaluation-Session4-EGMs>

**Howard White: @HowardNWhite**

 [www.ktdrr.org](http://www.ktdrr.org)

 [ktdrr@air.org](mailto:ktdrr@air.org)

 4700 Mueller Blvd, Austin, TX 78723

 800.266.1832

The contents of this presentation were developed under grant number 90DPKT0001 from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR). 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.

Center on  
**KNOWLEDGE TRANSLATION FOR  
DISABILITY & REHABILITATION RESEARCH**

at American Institutes for Research ■