Evidence and Gap Maps (EGMs)

Dr. Ashrita Saran, Evidence Synthesis Specialist, Campbell Collaboration

@campbellreviews  @AshritaSaran
• What are Evidence and Gap Maps (EGMs)

• Different Examples

• Innovations in EGMs
  ✓ You will learn EGMs can be used for range of research questions!
Range of evidence synthesis products

- Systematic review: *primary studies*
- Review of reviews: *systematic reviews*
- Evidence and gap map: SRs & *primary studies*
- Mega-map: SRs & EGMs
- Map of maps: EGMs
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).
What are evidence and gap maps?

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Organization</th>
<th>Brief on its inception</th>
</tr>
</thead>
<tbody>
<tr>
<td>2003</td>
<td>Yale prevention of research</td>
<td>Developed a systematic and replicable 9-step process termed “evidence mapping” (CAM)</td>
</tr>
<tr>
<td>2003</td>
<td>Evidence for Policy and Practice Information and Coordinating Centre (EPPI-Centre)</td>
<td>Methodology for systematic mapping developed by EPPI</td>
</tr>
<tr>
<td>2006</td>
<td>The Social Care Institute for Excellence (SCIE)</td>
<td>Methodology of EPPI was adopted by SCIE</td>
</tr>
<tr>
<td>2010</td>
<td>International Initiative for Impact Evaluation (3IE)</td>
<td>The first 3ie “Evidence Gap Map” was produced which focused on the health and nutritional impact of agricultural intervention</td>
</tr>
<tr>
<td>2011</td>
<td>National Trauma Research Institute of Global Evidence Mapping Initiative (GEMI)</td>
<td>Traumatic Brain Injury (TBI) and Spinal Cord Injury (SCI).</td>
</tr>
<tr>
<td>Year</td>
<td>Organization</td>
<td>Brief on its inception</td>
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<tr>
<td>------</td>
<td>--------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
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<tr>
<td>2012</td>
<td>Collaboration for Environmental Evidence (CEE)</td>
<td>Impacts of integrated farm management, organic farming and agri-environment</td>
</tr>
<tr>
<td>2012</td>
<td>Epistemonikos Foundation</td>
<td>Epistemonikos has over 250 active collaborators that continuously upload and translate documents</td>
</tr>
<tr>
<td>2014</td>
<td>IZA Institute of study of Labour Economics, World of Labour (IZA)</td>
<td>World of Labour publishes literature reviews accompanied by maps</td>
</tr>
<tr>
<td>2016</td>
<td>Sightsavers</td>
<td>Visual impairment evidence gap maps (EGMs)</td>
</tr>
<tr>
<td>2016</td>
<td>International Rescue Committee (IRC)</td>
<td>Based on a format adapted from the International Initiative for Impact Evaluation’s</td>
</tr>
<tr>
<td>2017</td>
<td><strong>Campbell Collaboration</strong></td>
<td>Campbell has applied the EGMs to range of research questions.</td>
</tr>
</tbody>
</table>
Rise of evidence mapping in international development: findings from 2017 map of maps

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
Evidence and Gap Map Examples
# Adolescent Sexual and Reproductive Health Evidence Gap Map

**3IE Evidence Gap Map**

Published date: 11 January 2017

Last modified date: 02 February 2017

**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
- All

## Country
- All

## Study design
- All

## Population
- All

### Outcomes

<table>
<thead>
<tr>
<th>Adolescents knowledge, attitudes and empowerment</th>
<th>Adolescent behaviours</th>
<th>Adolescent health</th>
<th>Health services</th>
<th>Enabling environment</th>
<th>Cross cutting themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and awareness</td>
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<tr>
<td>- Contraception</td>
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<tr>
<td>- Puberty and reproductive health</td>
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<tr>
<td>- Knowledge and awareness of health</td>
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<tr>
<td>- Knowledge and awareness of harm</td>
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<tr>
<td>- Communication and support-seeking</td>
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<tr>
<td>- HIV and sexually transmitted infections</td>
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<td>- HIV testing and incidence</td>
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<td>- HIV and AIDS</td>
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<tr>
<td>- Other health outcomes</td>
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<tr>
<td>- Accessing and utilizing services</td>
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<td>- Providers and service quality</td>
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<tr>
<td>- Education outcomes</td>
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<tr>
<td>- Livelihoods</td>
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<tr>
<td>- Marital status</td>
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<tr>
<td>- Parents and family</td>
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<tr>
<td>- Community and CSOs</td>
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<tr>
<td>- Law and policy</td>
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<tr>
<td>- Cost analysis</td>
<td></td>
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<tr>
<td>- Effects by sex</td>
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<tr>
<td>- Effects for very young adolescents</td>
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<td>- Effects by rural or urban area</td>
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<tr>
<td>- Effects for other subgroups</td>
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</tr>
</tbody>
</table>

### Interventions

<table>
<thead>
<tr>
<th>Provider training and youth-friendly service adjustments</th>
<th>Commodity distribution and supply chain improvements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Update chart**

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*Note: The table is a representation of the evidence gaps across different outcomes and interventions.*
<table>
<thead>
<tr>
<th>Strength of Evidence</th>
<th>Sectors:</th>
<th>Biomedical</th>
<th>Service delivery</th>
<th>Health systems</th>
<th>Impact/Economic evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Burden of disease</td>
<td>Risk and Prevention</td>
<td>Treat</td>
<td>C.detect</td>
<td>QCC</td>
</tr>
<tr>
<td>Strong</td>
<td>Epi</td>
<td>Risk and Prevention</td>
<td>Treat</td>
<td>C.detect</td>
<td>QCC</td>
</tr>
<tr>
<td></td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
<td>Strong</td>
</tr>
<tr>
<td>Inconclusive</td>
<td>Inconclusive</td>
<td>Inconclusive</td>
<td>Inconclusive</td>
<td>Inconclusive</td>
<td>Inconclusive</td>
</tr>
<tr>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
<td>Weak</td>
</tr>
</tbody>
</table>

**Strength of evidence**: if the review found strong evidence/mixed/no in response to the research question or outcome.

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

**Sightsaver**

Click here to open key abbreviations.
Evidence Map of Mindfulness

Evidence Based Synthesis Program
Interpret and EGM?

3IE adolescent and reproductive health map
Mapping evidence: Why?

- Evidence and Gap Maps
  - Interventions in place, no evidence → Consider generating the evidence
  - No intervention, good evidence
    - Saturation, no need of further new evidence → Consider summarizing the evidence
    - No intervention, no research → Pilot and research
  - No intervention, no research
Evidence maps are an important building block in the evidence architecture.
Evidence Mapping initiatives
EGMs can be applied to a range of research questions. Some examples include:

- 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

• But extra-extra large scope

• Includes only EGMs
55 completed and 18 on-going EGMs
Developments/Next steps from Map of Maps

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
• But extra large scope
• Includes EGMs and Systematic reviews
### Campbell-UNICEF Child Welfare Mega Map

This map shows the coverage of 302 systematic reviews.

<table>
<thead>
<tr>
<th>Early Childhood Development</th>
<th>Health Impacts</th>
<th>Healthy Development</th>
<th>Learning and Development</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mortality</td>
<td>Morbidity</td>
<td>Disability and Childhood Illness</td>
</tr>
</tbody>
</table>
Developments/Next steps from Mega Map

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

Commissioning 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

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Cost</th>
<th>Crime and Justice</th>
<th>Employment and Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community engagement and social connectedness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved skill and self care</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall well being and quality of life</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Loneliness</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cost effectiveness</td>
<td></td>
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<td></td>
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<tr>
<td>Cost per participant</td>
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<td></td>
<td></td>
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<tr>
<td>Saving</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Arrest and imprisonment</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Recidivism</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Victims of crime</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Access to welfare benefits</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Earnings</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Low quality primary studies
- Medium/high quality primary studies
- Low quality reviews
- Medium/high quality reviews

*Generated using v.1.0.2 of the EPPI-Mapper powered by EPPI Reviewer and created with love by the Digital Solution Foundry team.*
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

• Large scope

• Includes Implementation studies: barriers and facilitators (nearly all is grey literature obtained through website searches not database searches)
### A section of the homelessness ‘facilitator’ map

- **F1. Contextual factors**
  - F 1.1 Housing Market
  - F 1.2 Labour Market
  - F 1.3 Welfare Support
  - F 1.4 Law

- **F2. Policy makers/ funders**
  - 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)

- **F3. Program administrators/ managers**
  - 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 Sufficient resource (space, time, budget, appropriate service facilities)

**Legislation**
- Housing/ Homelessness legislation
- Welfare benefits
- Health and social care
A section of the homelessness ‘barriers’ map
Next steps/developments from the homelessness maps

- Evidence summaries for interventions
- Commissioning mixed methods systematic reviews

Building Intervention tool
### Access to Health Services

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.

- **Strength of Evidence:** At least 3 RCT or 5 other studies with combined sample size of 300
- **Cost Effectiveness:** To be determined
- **Impact:** 3 or more RCTs showing positive effect. No studies showing adverse effect

### Discharge

Discharge programmes coordinate services for people at risk of homelessness who are being discharged from institutions such as hospitals, prisons or the military.

- **Strength of Evidence:** At least 2 RCTs or 3 other studies with combined sample size of at least 200
- **Cost Effectiveness:** At least one RCT or 2 other studies showing positive effect and no study showing adverse effect.

### Housing First

Housing First is a housing intervention that provides accommodation with minimal conditionality for people with complex needs.
Evidence and Gap Map - Uganda Country EGM
• Evidence and gap map

• Large scope

• Includes all evaluation studies: Process evaluations, impact evaluations and formative evaluations
The Uganda country evidence and gap map

269 process evaluations, 207 impact evaluations and 7 formative evaluations
### Uganda country evidence and gap

<table>
<thead>
<tr>
<th>Sustainable agriculture (SDG 2)</th>
<th>Health and well-being (SDG 3)</th>
<th>Education (SDG 4)</th>
<th>Gender (SDG 5)</th>
<th>Water and sanitation (SDG 6)</th>
<th>Energy and productivity (ECD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>and nutrition</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

- **Education and literacy (including ECD)**
- **Care and protection of vulnerable groups**

**Impact evaluation**

**Process evaluation**
Study authorship

- Authors not named
- All Ugandan team
- Ugandan lead with non-Ugandans
- Ugandan authors with non-Ugandan lead
- No Ugandan authors
Developments/Next steps

Commission more evaluations in the areas of evident gaps

Country-level synthesis in areas with a lot of evidence
List of Campbell EGMs

- 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
Key take away points

- EGMs can be applied to a range of research questions.

- The relevant evidence (factual or counterfactual, quantitative or qualitative) depends on the question.
Read more on maps

Evidence and gap maps: a comparison of different approaches
Ashrita Saran and Howard White
Version 1.0


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