

Evidence and gap map of studies assessing the effectiveness of interventions for people with disabilities

Howard White¹
Ashrita Saran¹
Hannah Kuper²



¹The Campbell Collaboration.

²International Centre for Evidence in Disability, London School of Hygiene and Tropical Medicine

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About CEDIL: The Centre of Excellence for Development Impact and Learning (CEDIL) is an academic consortium supported by UKAID through DFID. The mission of the centre is to develop and promote new impact evaluation methods in international development.

Corresponding Author: Dr Ashrita Saran, email: asaran@campbellcollaboartion.org

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Executive Summary

Background

The United Nations Convention on the Rights of Persons with Disabilities (CRPD) defines disability as “long-term physical, mental, intellectual or sensory impairments which, in interaction with various barriers, may hinder [a person’s] full and effective participation in society on an equal basis with others” (UN DESA, 2006). An impairment becomes disabling when individuals are prevented from participating fully in society because of social, political, economic, environmental or cultural barriers.

There are approximately 1 billion people with disabilities globally, which corresponds to almost 15 per cent of the world’s population (World Report on Disability, 2011). The majority of people with disabilities (80 per cent) live in low- and middle-income countries (LMICs) where disability disproportionately affects the most disadvantaged sector of the population. People with disabilities face widespread exclusion, for instance from school, employment, social life and political participation. These exclusions are a violation of their rights as set out in the United Conventions on the Rights of Persons with Disabilities. Exclusion also hinders development. In 2006 the World Bank estimated the global GDP loss due to disability to be between \$1.71 trillion to \$2.23 trillion annually (Metts, 2004).

Over the past decade the academic literature on disability outcomes and effectiveness has grown. However there remain gaps in the evidence base. These include gaps in the type of evidence available. There is a particular lack of evidence on effectiveness and an absence of rigorous measurement of outcomes.

This report summarises findings from an evidence and gap map (EGM) commissioned by the Department for International Development (DFID) and undertaken by the Campbell Collaboration (Campbell) and the International Centre for Evidence and Disability (ICED).

Methods

An EGM is a table which offers a visual presentation of the available evidence for a particular sector. The map provides an overview of what studies are available, but it does not summarise the findings.

In the disability map the rows are intervention categories and the columns are indicator (outcome) domains. The framework for the EGM – interventions and

outcomes – are based on the components of WHO's Community Based Rehabilitation (CBR) matrix (Figure 1) (WHO, 2010). Both interventions and outcomes use the same set of headings, that is: health, education, livelihood, social and empowerment.

The CBR framework and guidelines which underpin the matrix recognise that a comprehensive and multi-sectoral approach is required to improve the equalisation of opportunities and social inclusion of people with disabilities while combating the perpetual cycle of poverty and disability. These were developed through a five year consultative process building on recommendations made in 2003 at the International Consultation to Review Community-based Rehabilitation in Helsinki. The framework has become widely accepted by the international community as a reference point for strategy development, programme design and developing monitoring and evaluation systems.

This EGM sets out the availability of rigorous evidence exploring the effectiveness of interventions for people with disabilities in LMICs in achieving outcomes relating to education, health, and jobs and livelihoods. The map includes systematic reviews and impact evaluations only published from 2000 in English. Qualitative studies, process evaluations, and non-impact evaluations (e.g. cross-sectional surveys) are not eligible for inclusion, as although these studies can produce valuable insights into the needs and experiences of people with disabilities, they are not designed to measure impact.

The search for eligible studies comprised: (1) an electronic search of over 20 databases and sector-specific websites, and (2) checking studies included in the identified systematic reviews (referred to as 'back checking' or 'snowballing'); (3) screening of the all studies identified against pre-defined criteria to identify eligibility for inclusion in the EGM. The next edition of the map will include also a more extensive search for grey literature.

Study quality of systematic reviews was assessed using the AMSTAR 2 tool.

After commissioning the EGM, DFID subsequently commissioned Campbell and ICED to produce two Rapid Evidence Assessments (REAs) which summarize the studies identified by the EGM in relation to education and social inclusion and empowerment outcomes. These REAs were commissioned in advance of the Global Disability Summit in July 2018, co-hosted by the UK Government, Government of Kenya and International Disability Alliance. The REAs will be used to inform global action to implement the Sustainable Development Goals (SDGs) and Convention on the Rights of Persons with Disabilities (CPRD).

As part of the REAs, the quality of individual studies related to education and social inclusion and empowerment were assessed against six assessment criteria

(see Annex 5 for more details). The quality assessments of these studies are reported here.

Results

The initial search yielded over 46,000 potentially eligible studies. Following assessment of titles, abstracts and full-texts, and snowballing, the map includes 138 eligible studies of which 53 are systematic reviews and 85 primary studies.

Health is the most heavily populated area of the map. Over 100 studies concern health interventions or report health outcomes. Education is next most heavily populated with 30 studies in the education intervention/outcome sector.

There are relatively few studies for livelihoods and social, and virtually none for empowerment.

There are also geographic gaps most notably for low-income countries and sub Saharan Africa. There is also a gap with respect to study quality, especially with respect to primary studies.

Finally, drawing on the findings from the two REAs, it appears that evidence is focused on individual level interventions, addressing people with specific impairment types of health conditions and attempting to improve their skills or behaviour. Fewer studies evaluate institutional or systemic interventions, which attempt to address the barriers to inclusion and underlying drivers of disability. This is a very notable gap in the evidence base. The future research agenda should explicitly consider the possibility for analysing rights-based approaches.

About Evidence and Gap Maps

1.1 Disability and development

The Preamble to the United Nation Convention on the Rights of Persons with Disability (CRPD) acknowledges that disability is “an evolving concept”, but also stresses that “disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others” (UN DESA, 2006: 1).

Impairments can relate to vision, hearing, physical, psychosocial, and cognitive or other bodily functions. An impairment becomes disabling when individuals are prevented from participating fully in society because of social, political, economic, environmental or cultural barriers.

More than 1 billion persons in the world have some form of disability, which is about 15 per cent of the world's population (World Report on Disability, 2011). The majority of people with disabilities (80 per cent) live in low- and middle-income countries (LMICs) where disability disproportionately affects the most disadvantaged sector of the population (Banks, Kuper, & Polack, 2017).

Persons with disabilities are more likely to experience a range of exclusions, including from employment, education, healthcare access and social or political participation. As a consequence, on average they have poorer adverse socioeconomic outcomes than persons without disabilities, such as less education, poorer health outcomes, and lower levels of employment (World Report on Disability, 2011). People with disabilities are more likely to experience poverty, both because disability causes poverty, and also because people who are poor are more likely to become disabled (e.g. through exclusion from healthcare).

The impact of disability on poverty is reflected at a global level, as well as at a personal level. In 2006 the World Bank estimated the global GDP loss due to disability to be between \$1.71 trillion to \$2.23 trillion annually (Metts, 2004). Between 12 and 20% of the population of LMICs have been estimated to be non-productive due to disability (World Bank, 2007).

Over the past decade the academic literature on disability has increased, as has the consistency in which disability is measured, due to the widespread adoption of the Washington Group questions. There has also been growth in the literature

available on outcomes and effectiveness of interventions around disability, though large evidence gaps still remain (Andresen, Lollar, & Meyers, 2000) (Iemmi, 2015) (Ramey, Lydon, Healy, McCoy, and Mulhern, 2016).

Likewise, there are important questions which have not been adequately addressed, including the type of evidence needed on 'What works' to improve disability outcomes and inclusion, and what are realistic expectations for this type of research?.

These questions are important, as rigorous and comparable data on disability and evidence on programmes that 'work' are needed in order to inform decisions about the most effective ways of improving outcomes of people with disabilities. Understanding the numbers of people with disabilities and their circumstances can improve efforts to remove disabling barriers and provide services to allow people with disabilities to participate on an equal basis with others. For example, better measures of the social, cultural, legal and economic context (the disability-relevant environment) and its impacts on the different aspects of disability need to be developed to facilitate the identification of cost-effective environmental interventions. Tools are needed to measure the experience of stigma related to disability, so that effective interventions can be developed and evaluated that address this issue.

Knowledge production related to disability takes place:

- across several sectors: such as health, social welfare, education and child rights
- focuses on various populations: different genders, ages, ethnicities, or with different needs arising from different impairments
- in different contexts: e.g. more and less developed communities, humanitarian settings, institutions versus community, and
- Involves diverse methodical approaches: e.g. systematic reviews, and primary studies of different designs.

A mapping of the existing knowledge base will provide a comprehensive overview of this knowledge and so enable the purposeful and targeted commissioning of future research, tailored to the most eminent needs for knowledge and guidance.

This report summarises preliminary findings from an EGM commissioned by DFID under the Centre for Excellence for Development Impact and Learning (CEDIL) programme, and undertaken by the Campbell and the International Centre for Evidence and Disability (ICED).

2.1 What is an evidence and gap map?

An evidence and gap map (EGM) is a presentation of the available, relevant evidence for a particular sector.

Relevance is defined in relation to the scope of the map. Most maps are “effectiveness maps” – as is this one – for which relevant studies are impact evaluations and systematic reviews of effects. In an effectiveness map, qualitative studies, process evaluations, and non-impact evaluations (e.g. cross-sectional surveys) are not eligible for inclusion, as although these studies can produce valuable insights into the needs and experiences of people with disabilities, they are not designed to measure impact.

The evidence included in an EGM may be global or for a particular region(s). It may also cover different types of evidence, and may include primary studies and systematic reviews. The disability EGM covers low- and middle-income countries (LMICs).

An EGM provides an overview of what studies and systematic reviews are available, but it does not summarise the findings. DFID has subsequently commissioned Campbell and ICED to produce two Rapid Evidence Assessments (REAs) summarizing the studies identified by the EGM in relation to education and social inclusion and empowerment. The REAs were commissioned in advance of the Global Disability Summit in July 2018, co-hosted by the UK Government, Government of Kenya and International Disability Alliance and will be used to inform global action to implement the Sustainable Development Goals (SDGs) and Convention on the Rights of Persons with Disabilities (CPRD).

Uses of EGMs

- The EGM guides users to the available relevant evidence of the effectiveness of interventions for people with disabilities to inform strategy and programme development. A map aims to provide an efficient and reliable way for policy makers and practitioners to find evidence of what works, and for researchers and research commissioners to identify research priorities. The map structures the evidence to guide the user to the area they are interested in. And the studies have been screened to ensure that only relevant studies are included.
- Tell users where there is no relevant evidence. If a map shows there is no evidence for a particular intervention/outcome combination then it is not possible to select or design programmes based on available evidence as there simply isn't any. There is also no point in conducting systematic reviews in these areas as they will be what are known as ‘empty reviews’.

Rather, gaps tell researchers and research commissioners where new primary studies are needed.

- Identify areas with many primary studies and no reviews, so that commissioning reviews is feasible and useful. Areas with several existing reviews can be candidates for commissioning reviews of reviews.

Examples of the use of maps

EGMs were first developed in 2009 in the field of international development by the International Initiative for Impact Evaluation (3ie). 3ie has used maps to shape grant programmes for research in areas such as agricultural innovation (Lopez-Avila et al., 2017), intimate partner violence (Picon et al., 2017), and adolescent and sexual reproductive health (Rankin et al., 2016).

The decision to produce an EGM on disability was the result of an evidence gap identified in a 'map of maps' produced by 3ie and Campbell as part of the CEDIL programme (Phillips et al., 2017).

1.2 Overview of the Disability EGM

This report summarises findings of the EGM commissioned by DFID to identify the availability of rigorous evidence exploring the effectiveness of interventions for people with disabilities in LMICs in achieving outcomes relating to education, health, and jobs and livelihoods.

The Disability EGM is a table or matrix which provides a visual presentation of the evidence, the rows are intervention categories and the columns are indicator (outcome) categories.

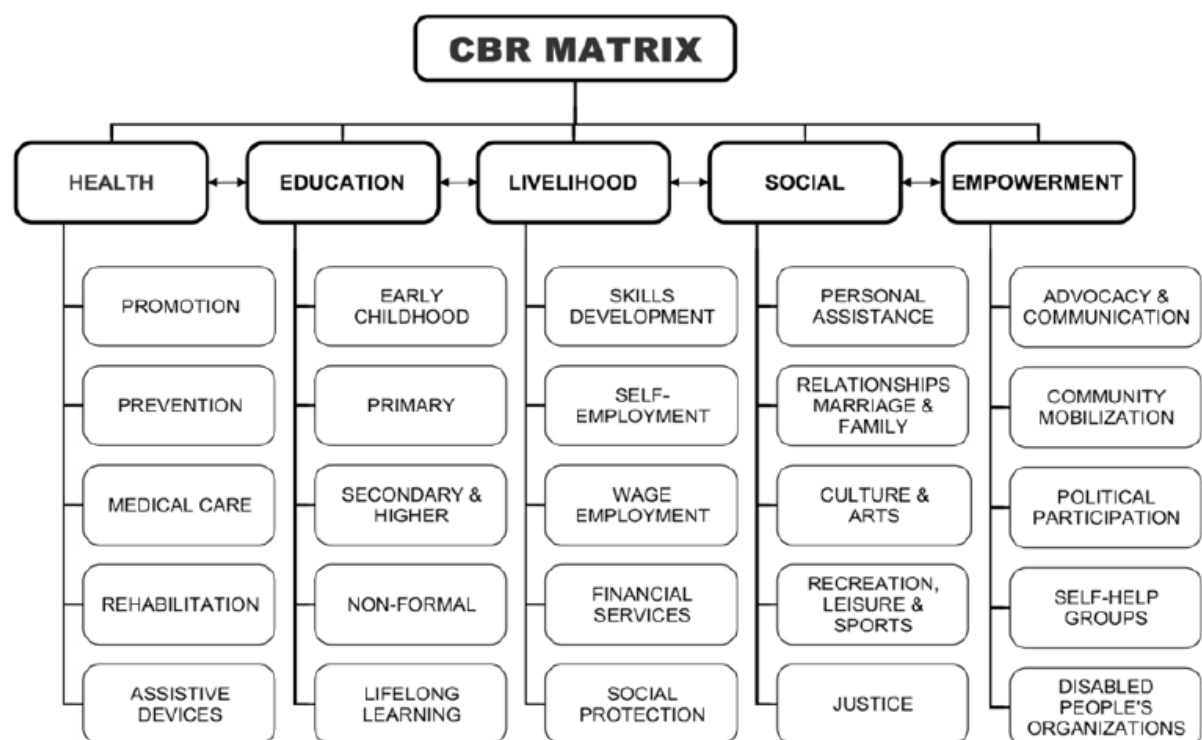
Both interventions and indicators (outcomes) have sub-categories, which have been structured in accordance with the components of WHO's Community Based Rehabilitation (CBR) Matrix (WHO, 2010; see Figure 1), that is: health, education, livelihood, social and empowerment. Given its importance to the DFID approach, advocacy and governance was added as a sixth intervention category. Examples of the sorts of intervention in each sub-category are listed in Annex 3.

For example, the livelihoods intervention category has the following sub-categories: skills development, self-employment, waged employment, financial services, and social protection. The outcome domain empowerment has the sub-domains informed choices, positions in public institutions and judiciary, voting rights, representation at community level, and advocacy.

The CBR framework and guidelines which underpin the matrix recognise that a comprehensive and multi-sectoral approach is required to improve the

equalisation of opportunities and social inclusion of people with disabilities while combating the perpetual cycle of poverty and disability. These were developed through a five year consultative process building on recommendations made in 2003 at the International Consultation to Review Community-based Rehabilitation in Helsinki. The framework has become widely accepted by the international community as a reference point for strategy development, programme design and developing monitoring and evaluation systems. This internationally-recognized framework for framing interventions in the sector was the clear choice for the framework for the disability EGM.

Figure 1.1 The WHO Community-Based Rehabilitation Matrix



Studies in the map may be coded under more than one intervention category or sub-category. This means that there are many more entries in the map than there are studies. The number of studies contained in the map is stated clearly at the top of the map.

The map has additional dimensions which capture study or intervention characteristics, such as study design, location and population sub-group (which includes type of disability). These can be applied as 'filters' in the online version of the map so that only studies which apply to the specific groups chosen are shown in the map.

The online version of the map is interactive so that users may click on entries to see a list of studies for any cell in the map. Clicking on study names provide a summary of the relevant study.

1.3 What evidence is included in the Disability EGM?

The Disability EGM provides an overview of the available evidence on 'what works' to improve outcomes of people with disabilities in LMICs.

The eligibility criteria include studies on individual-level interventions (e.g. improving social skills of people with disabilities) as well system/structural interventions (e.g. promoting the inclusive programming of livelihoods interventions). As will be reported below, most studies adopt the former, individual approach of 'treating' people with disabilities to improve outcomes rather than addressing the social origins of exclusion (Kuper et al., 2018).

The map includes both systematic reviews of effects and primary studies (impact evaluations). A full list of included studies is listed in Annex 2 at the end of this report.

Assessing what difference an intervention makes requires a particular type of study; that is, impact evaluations. Impact cannot be measured by simply comparing outcomes, such as stigma and discrimination, and social and life skill development, of programme participants before and after the intervention since these outcomes change even in the absence of that intervention. Impact evaluations compare what happens to those benefitting from an intervention to what happens to a similar group of individuals or families who do not participate in the programme. This group of non-participants is called the comparison group or control group.

The comparison group cannot just be any group of non-participants; they should have the same characteristics as those who benefit from the programme – such as similar impairments and living in similar circumstances. A good way to ensure comparability between the groups is so is to identify those who are eligible for the programme and then assign them at random to the programme and control groups. This is called a randomized controlled trial (RCT). There are many different RCT designs, so it is often possible to find one to fit the circumstances of a specific intervention.

Where randomization is not ethical or practically feasible then there are non-experimental approaches which use statistical methods to try to ensure the comparability of the comparison group. These approaches have technical names like propensity score matching and regression discontinuity designs.

As mentioned above, before versus after studies are not usually included amongst effectiveness studies since other factors also influence outcomes. However, there was anticipated to be little higher quality evidence available, and such designs are common in this field, and so we have included them in the map. They are however marked as being of low-quality.

The before versus after studies which are included in the EGM have to provide statistical analysis of the change in the outcome. We do not include case studies of a single case where statistical analysis is not possible. We also do not include qualitative case studies of a particular programme, which are usually in a specific setting. An example of a qualitative case study is a study of empowerment approaches at a special school for children with disabilities in Indonesia (Kamil et al., 2015). Data collection was through direct observation and 'deep interviews' with participants. Findings highlighted problems impeding effectiveness rather than assessing impact

Section 2

The disability evidence and gap map

2.1 Methodology

The methodology for constructing the map comprises: (1) developing and implementing the search strategy, (2) screening, (3) coding, and (4) mapping. This chapter details each of these stages.

2.2 Search strategy

The search was carried out on:

- (1) 14 academic databases, including Medline, OVID and Web of Science;
- (2) Six international organization websites including DFID;
- (3) Eight EGMs databases; and
- (4) Five systematic review databases.

A full list is given in Annex 1.

The search string is based on words related to “disability” as well as country/region and study design. Full details of the search strings used are available in the protocol (Saran et al., 2018).

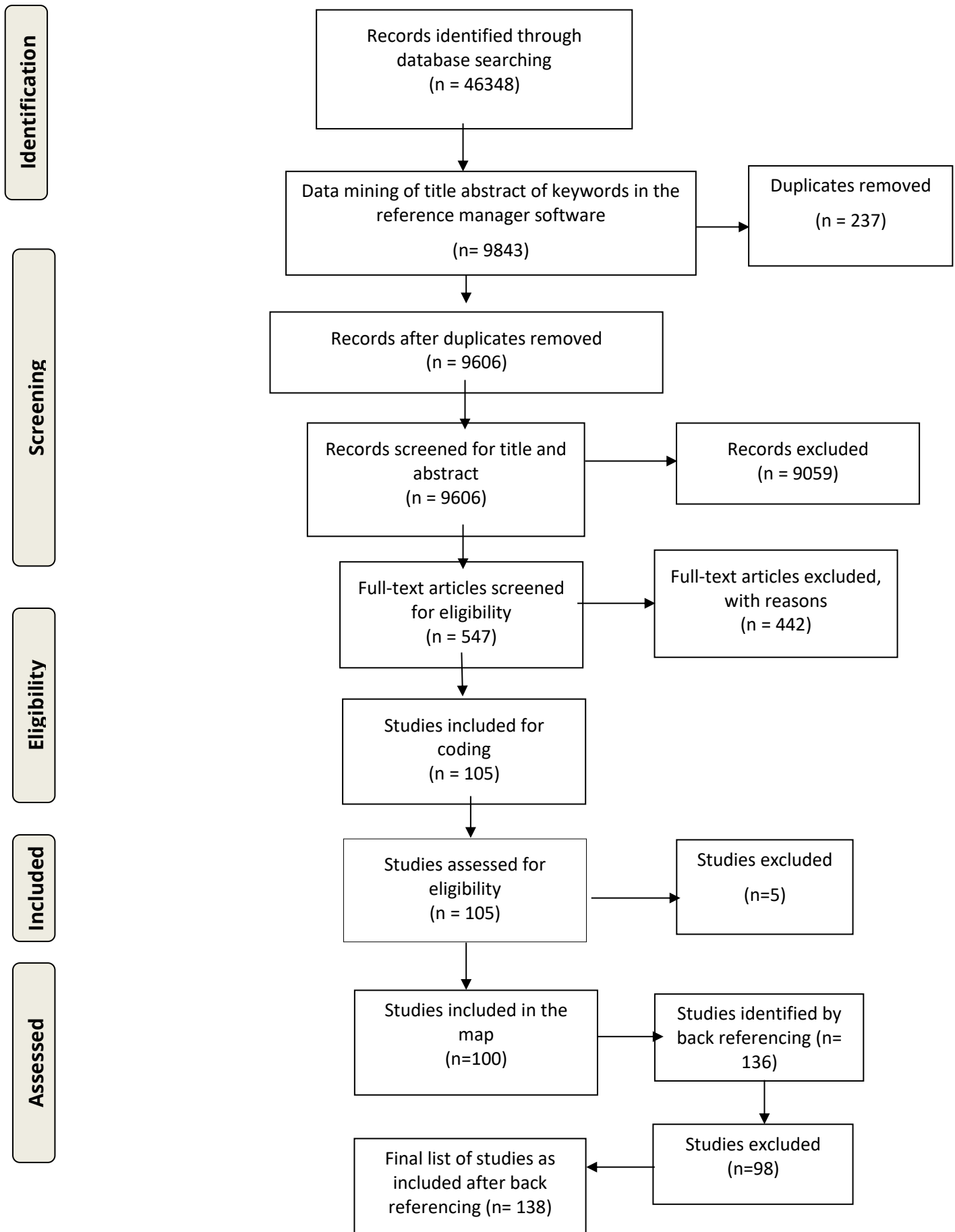
2.3 Eligibility criteria

The eligibility criteria for studies to be included in the map are based on the population, intervention, outcomes and study design. Eligible studies had to be either impact evaluations or systematic reviews, focus on people with disabilities in low- and middle-income countries, and present interventions or outcomes related to one of the five eligible domains: Health, Education, Livelihood, Social Inclusion or Empowerment. Only studies published since 2000 were eligible for inclusion in the Disability EGM. Systematic reviews were included if their own eligibility criteria included low- and middle-income countries, but they were not required to have an exclusive focus on these countries for inclusion.

2.4 Search results

The search yielded over 46,000 hits, with over 35,000 hits from the search on the OVID database alone. Due to the large number of studies identified, text mining on abstracts was used to narrow down the search results. Text mining is a machine-learning based approach in which identified studies are ordered by relevance which speeds up the screening process. An initial screening based on the text mining results was carried out by Campbell staff. Following this process, 9,842 studies were identified for possible inclusion, of which 237 were duplicates, leaving 9,606 studies for title and abstract screening; see the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) flow chart (Figure 2) which outlines the steps in the screening process.

Figure 2.1 PRISMA Flowchart



2.5 Screening

Screening is the process of reviewing identified studies against the inclusion and exclusion criteria for the map to determine eligibility for inclusion. Screening is usually done as at least a two stage process. In the first stage just the title and abstracts are screened. The second stage is full text screening. In the case of the Disability EGM, the text mining stage was carried out first to reduce the number of studies for title and abstract screening. Screening was undertaken by two people independently with a third party arbitrator in case of disagreements.

As described above, 9,606 studies were identified for possible inclusion. These studies were subject to title and abstract screening, leaving 547 studies for full text screening. As a result a total of 100 studies were included for coding after the screening process. Of these 41 are systematic reviews (see Annex 2 for a list of included studies), and 59 primary studies.

Additional studies are identified by back referencing or snowballing; that is checking the references in the included studies. All included studies from the included reviews were screen for eligibility. This process identified 136 studies. Of these 38 were included for coding, bringing the total of number of studies included in the Disability EGM studies to 138, of which 53 are systematic reviews.

For quality assurance purposes, studies were rechecked for eligibility at the end of the process.

In the next phase, the search will be extended to grey literatures through search of relevant databases and websites, snow-balling and expert consultations.

2.6 Coding

Coding is the process of capturing the required data from the included studies such as study population, intervention and study design. Coding was carried out independently by two people.

The studies were coded by the intervention category and sub-category; indicator/outcome domain and sub-domain; treatment population, country, study design and population characteristics. Coding also includes quality assessment, which is described in section 2.8.

Many primary studies and systematic reviews include multiple intervention types and assess multiple outcomes. For example, Velema et al (2018) review of rehabilitation programmes in low- and middle-income countries included home visits by trained community workers who taught disabled persons skills to carry

out activities of daily living, encouraged disabled children to go to school, helped find employment or an income generating activity, often involving vocational training and/or micro-credit. As such this study is coded under health, education, livelihoods, empowerment and advocacy and governance interventions.

2.7 Assessing the quality of evidence

Evidence standards are applied in evidence synthesis to classify the quality of evidence provided by studies. At the time of writing of this report all the systematic reviews and only those primary studies included in the two REAs have been quality assessed.

The systematic reviews and primary studies relating to education and social inclusion and empowerment were given a rating of low, moderate or high quality.

The quality assessment for the primary studies (impact evaluations) is based on the following criteria:

1. Study design (Potential confounders taken into account): impact evaluations need either a well-designed control group, preferably based on random assignment, or an estimation technique which controls for confounding and the associated possibility of selection bias.
2. Adequate sample size: small samples generally mean that a study is underpowered, i.e. there is a high risk of not finding an effect even if the intervention works.
3. Attrition (or loss to follow-up) can be a major source of bias in studies, especially if there is differential attrition between the treatment and comparison group so that the two may no longer be balanced in pre-intervention characteristics. The US Institute of Education Sciences What Works Clearing (WWC) House has developed standards for acceptable levels of attrition, in aggregate and the differential, which are applied here.
4. Clear definition of disability: for a study to be useful the study population must be clear, which means that the type and degree of disability should be clearly defined, preferably with reference to a widely-used international standard
5. Clear definition of outcome measures is needed in order to aid interpretation and reliability of findings and comparability with other studies. Studies should clearly state the outcomes being used with a definition and the basis on which they are measured, preferably with reference to a widely-used international standard.

6. Baseline balance shows that the treatment and comparison groups are the same at baseline. Lack of balance can bias the results.

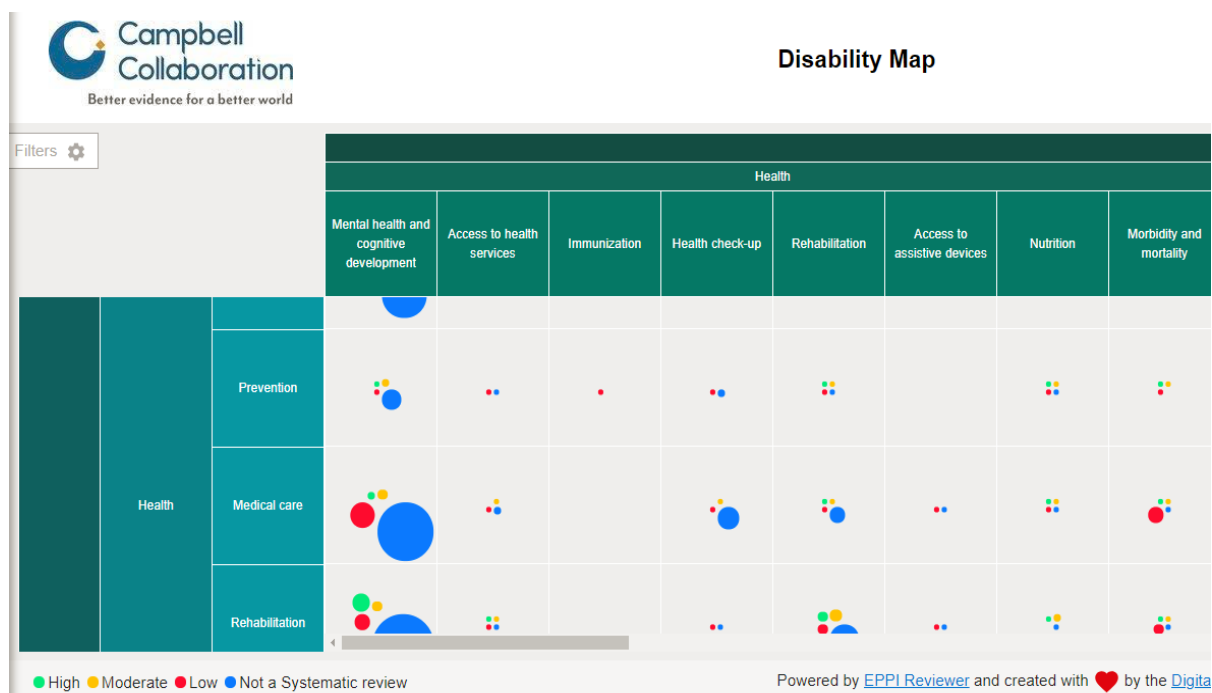
The application of the criteria is shown in Annex 5. Overall study quality is the lowest rating awarded any one of the above seven criteria.

For systematic reviews we score each study using the 16 item checklist called AMSTAR 2 ('Assessing the Methodological Quality of Systematic Reviews' version 2; Shea et al. 2017). The 16 items cover: (1) specifying the population, intervention, comparison group, outcomes and eligible study design (PICOS) in the inclusion criteria, (2) ex ante protocol, (3) rationale for included study designs, (4) comprehensive literature search, (5) duplicate screening, (6) duplicate data extraction, (7) list of excluded studies with justification, (8) adequate description of included studies, (9) adequate risk of bias assessment, (10) report sources of funding, (11) appropriate use of meta-analysis, (12) risk of bias assessment for meta-analysis, (13) allowance for risk of bias in discussing findings, (14) analysis of heterogeneity, (15) analysis of publication bias, and (16) report conflicts of interest. Items 2, 4, 7, 9, 11, 13 and 15 are termed 'critical'. Study quality is rated high if there is no more than one non-critical weakness, and moderate if there is no critical weakness but more than one non-critical weakness. Studies with one or more critical weaknesses are rated low quality.

2.8 Mapping

The map is constructed using software prepared by the EPPI Centre. As described above, studies are mapped in a table in which the rows are intervention sub-categories and the columns outcome sub-domains. The cells of the table contain a bubble whose size is proportional to the number of studies reporting that outcome for that intervention (see Figure 3). There are separate bubbles for primary studies and systematic reviews, with the reviews further divided by study quality.

Figure 2.2 Screenshot of the evidence and gap map



The map is interactive, meaning users can click on a cell to get a list of relevant studies. It is then possible to click through to the database record for any of the studies listed, which includes the URL to access the study itself.

The map includes a set of filters allowing evidence to be shown just for certain sub-populations, e.g. specific regions or countries.

Findings from the disability EGM

3.1 Overview

The map contains 138 studies, of which 53 are systematic reviews and 85 are primary studies. Of the 85 primary studies, nearly half are randomized controlled trials (41 studies of 85).

The most heavily populated areas of the map are those related to health. There are 94 studies reporting health outcomes from health interventions, of which 53 are primary studies and 41 are systematic reviews (Table 1). The next most heavily populated cells are 30 studies for education outcomes from education interventions, and 27 for social inclusion outcomes from health interventions.

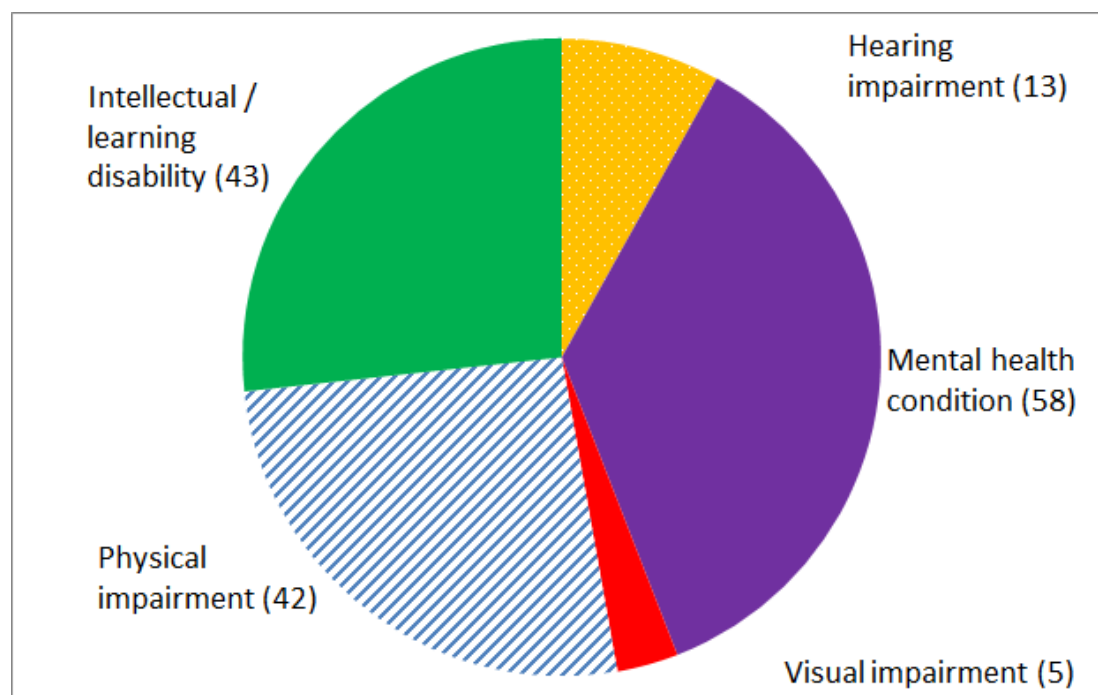
Most of the rest of the map is sparsely populated, most notably the cells related to empowerment and advocacy interventions and outcomes.

Table 3.1 Aggregate map: number of studies by intervention category and outcome (primary studies/reviews)

		Interventions						Total
		Health	Education	Livelihood	Social inclusion	Empowerment	Advocacy and governance	
Outcomes	Health	53/41	8/10	5/5	7/12	1/3	1/3	149
	Education	6/7	20/10	1/2	2/6	1/2	0/2	59
	Livelihood	4/5	0/2	5/7	1/1	0/2	0/1	28
	Social inclusion	12/15	8/7	3/1	10/9	2/4	0/2	73
	Empowerment	1/3	1/2	0/2	0/1	1/2	0/2	15
	Total	147	68	31	49	18	11	324

Nearly two-thirds of the studies (63 per cent) relate to interventions for people with mental health or psychosocial disabilities, 42 per cent to people with physical disabilities, with a small number identified as relating to hearing and visual impairments (see Figure 4). Note that some studies may refer to more than one disability/impairment type.

Figure 3.1 Number of studies relating to type of impairment



Source: Campbell-ICED Disability evidence and gap map database

3.2 Findings by intervention category

Nearly three-quarters of all studies (101 out of 138) refer to interventions in the health sector (Table 2 and Table A.3 in Annex 3). Forty per cent (41) of these studies are systematic reviews, which is 80 per cent of all reviews.

There are approximately equal number of studies for education (37 studies) and social inclusion (34 studies). There are a moderate number of studies for livelihood interventions (17), only five for advocacy and governance and one for empowerment.

Table 3.2 Number of studies by intervention category and study quality

	Systematic Reviews				
	Low quality	Moderate quality	High quality	Research protocol	Primary studies
Health	18	10	13	1	59
Education	7	2	3	0	25
Social inclusion	5	4	8		17
Livelihoods	3	1	3	1	8
Advocacy and Governance	2	0	1	1	0
Empowerment	0	0	0	0	1

3.3 Findings by indicators/outcomes

Health-related outcomes are reported in the largest number of studies (108 studies which is 78 percent of the total number of studies); see Table 3 and Table A.5. This is followed by education (36), social (35) and livelihoods (16 studies). Only one study reported empowerment-related outcomes. As for interventions, a single study may report outcomes across different sub-domains, or even domains.

Table 3.3 Number of studies by outcome quality and study quality

	Systematic Reviews				
	Low quality	Moderate quality	High quality	Research protocol	Primary studies
Health	19	10	13	3	63
Education	5	2	2	1	26
Social inclusion	5	5	7	1	17
Livelihoods	3	1	3	1	8
Advocacy and Governance					
Empowerment	0	0	0	0	1

Within health, mental health and cognitive development account for the largest number of studies (91 studies) followed by rehabilitation (32). Full details by outcome sub-domain are in Annex 3.

3.4 Geographical distribution of the evidence

Over half the primary studies come from upper-middle-income countries (Table 4). These are concentrated in three countries: China with 11 studies and Iran and Turkey with 10 studies each. There are just five studies from three low-income countries (Congo, Ethiopia and Uganda). So an absence of studies from low-income countries is a clear evidence gap.

The other country with a large number of primary studies is India (12). Bangladesh, Brazil, and South Africa each have four studies. The presence of Bangladesh and India in this list means that South Asia is relatively well covered by studies, as is East Asia. There is far weaker coverage from sub-Saharan Africa.

Table 3.4 Countries in primary studies by income group

Low Income	Lower-middle income	Upper-middle income
N=5	N=32	N=48
Congo	Armenia	Brazil-4
Ethiopia-2	Bangladesh-4	China-11
Uganda-2	Egypt-3	Iran-10
	India-12	Lebanon
	Indonesia	Malaysia-2
	Kenya-3	Peru
	Nigeria-3	Romania
	Pakistan	Russian Federation
	Ukraine	South Africa-4
	Vietnam - 2	Thailand-3
	Zambia	Turkey-10

All reviews including studies from LMICs were eligible for inclusion in the EGM. However, only 10 of the 53 identified reviews actually included eligible studies from LMICs. Of the other 43 reviews, 21 only had included studies from high-income countries, 14 had studies from LMIC which were not eligible as primary studies for reasons of date (published pre 2000) or study design (not impact evaluation), five of the reviews had no included studies and three are ongoing (i.e. not yet published).

Forty seven studies concerned Fragile and Conflicted Affected States which are identified using DFID's fragile state index. Of these 49 studies 14 were systematic reviews and 33 were impact evaluations (Table 5).

Table 3.5 Studies from Fragile and Conflicted Affected States (N=47)

High Fragility	14
Libya	1
Pakistan	7
Nigeria	6
Moderate Fragility	22
Zimbabwe	3
Lebanon	1
Congo, Rep	1
Iran	14
Egypt	3
Low Fragility	22
Ethiopia	4
Bangladesh	9
Kenya	6
Nepal	3
Neighbours	15
Zambia	1
Uganda	6
Rwanda	1
Thailand	7

3.5 The quality of the evidence

The large majority of primary studies which have been assessed are low quality. Systematic reviews are of higher average quality, but less than one-third is high quality.

Of the 53 systematic reviews included in the EGM, 20 were assessed as low quality, 15 moderate and 15 high quality (Figure 5). The remaining three are ongoing studies for which quality assessment is not made.

Assessment of study quality of primary studies was undertaken for the accompanying REAs on education and social inclusion. For social and empowerment, 14 studies were included of which 12 were low quality and two moderate quality (White et al., 2018). For education there were 26 included studies of which all but one were assessed as being of low quality (Kuper et al., 2018).

3.6 EGM findings by thematic area: further detail

Health

Mental health is prominent amongst health studies: 91 studies report outcomes for mental health and cognitive development. Indeed, mental health dominates the map with the three most heavily populated cells being for studies of health interventions – medical care, rehabilitation and promotion – reporting a mental health outcome measure.

Also in the health domain, other heavily populated cells are the rehabilitation outcomes from rehabilitation interventions, with an additional five reporting rehabilitation outcomes from health promotion interventions. Morbidity and mortality outcomes are also quite well represented with 18 studies, mainly from medical care and rehabilitation interventions.

Health interventions are generally the most heavily represented across non-health outcomes (i.e. health interventions often feature as part of broader interventions covering other outcomes). Most notably there are 11 studies of rehabilitation interventions included under the 'social outcome' indicator of interpersonal interaction and relationships.

Education

Whilst 37 studies are classified in the intervention category and 36 studies have education-related outcomes, closer analysis of these figures is needed to appreciate the content of these studies.

These studies classified under education largely do not refer to participation of children with disabilities in formal education. The most commonly reported education outcome is 'social and life skills development' (28 studies) with effects reported from health interventions (rehabilitation and promotion), as well as early child development interventions, and non-formal education. Across all outcomes there are nearly as many studies reporting education outcomes for each of non-formal education and early child development as there are for primary and secondary education. On the intervention side there are an equal number of studies for non-formal education (19 studies) and primary or secondary education (19 studies). Of the 19 studies for primary or secondary education, 10 exclusively refer to primary age students and one to preschool. Three of the studies are reviews covering both primary and secondary, as does one impact evaluation (primary study). And four refer exclusively to secondary age students.

The rapid evidence assessment based on the education studies included in the map found that: - 'There were no areas of strong evidence given the extremely limited evidence in this category, in terms of number of studies, their focus, and the impairment/disability type considered. However there was 'promising' evidence that interventions (e.g. computer-based interventions) can be effective in improving the educational skills of primary-school-aged children with disabilities, and that school-level changes can be impactful. Evidence was 'insufficient' on what works to improve educational outcomes in early child development and secondary education, and was not available with respect to lifelong and non-formal learning. It is clear that more and better quality evidence is needed on 'what works' for other stages of education, as well as for promoting the inclusive nature of schools, before specific approaches or programmes can be recommended. There were also important evidence gaps – in particular – more and better quality studies are needed, that explore system- and school-level interventions, rather than solely focusing on improving skills of individual children. Furthermore, evidence was lacking exploring the difference in the interventions by gender, from humanitarian settings, or assessing holistic outcomes, including educational outcomes, social inclusion and stigma.' (Kuper et al., 2018: 3).

Livelihoods

Seventeen studies reporting the impact of livelihood interventions on health and livelihood outcomes. These studies predominately related to skills development

(13 studies), followed by social protection (four studies) and financial services (three studies) (Table A.5).

There are 16 studies analysing the impact of health interventions on livelihood outcomes.

Within livelihood outcomes the most commonly reported is employment (nine studies) followed by access to the job market (five studies) (Table A.6).

Social inclusion and empowerment

Social inclusion outcomes and empowerment are the most poorly populated areas of the map, especially with respect to empowerment (one study).

However, there are 35 studies which report social inclusion outcomes of which 31 relate to interpersonal relationships (Table A.6). But, given the disparate nature and lack of quality of these studies, the rapid evidence assessment of social inclusion concluded that 'There were no areas of strong evidence given the small number of studies, their limited focus, and narrow range in the impairment/disability type considered. There was however some 'promising evidence' that interventions are effective at improving relationships for people with disabilities. Overall, the outcomes considered by the studies identified mostly related to social skills, rather than social inclusion, and only two studies explored outcomes related to stigma or discrimination. As with studies looking at education interventions, most focused on the person with disabilities, rather than addressing societal reasons for their exclusion and lack of empowerment. As such there were important evidence gaps exploring system- and community-level interventions, rather than solely focusing on improving skills of individual people with disabilities. Furthermore, evidence was lacking exploring the difference in the interventions by gender, from humanitarian settings, or assessing holistic outcomes, including broader aspects of social inclusion and empowerment' (White et al., 2018: 4).

3.7 Evidence gaps

Many areas of the map are sparsely populated, with the most evident gaps in relation to empowerment and advocacy interventions and empowerment outcomes. Even where there are pockets of evidence, more evidence would be useful to strengthen the evidence base, especially considering the low quality of many of the included studies. There are also very few studies from low-income countries (most are from middle-income countries) and there is a particular absence of evidence from sub-Saharan Africa.

The quality of studies was assessed in relation to education and social inclusion and empowerment for the REAs. There is mostly low or moderate confidence in study findings. So another gap is the absence of high quality studies in the field. Reviews are of higher quality overall, though less than one-third qualified as high quality and the studies they draw on tend to be of low quality.

Drawing on emerging findings from the two REAs, the available evidence in these areas is focused on individual level interventions, addressing people with specific impairment types of health conditions and attempting to improve their skills or behaviour. Fewer studies evaluate institutional or systemic interventions, which attempt to address the barriers to inclusion and underlying drivers of disability. This is a very notable gap in the evidence base. The future research agenda should explicitly consider the possibility for analysing rights-based approaches. A variety of evaluation designs might be appropriate: such as cluster randomization for community-based approaches, and encouragement designs for national initiatives to promote inclusiveness.

Next steps



The evidence map provides a valuable snapshot of the available evidence on the effectiveness of interventions for people with disabilities. However, it does not offer an overview of what that evidence says.

As mentioned in previous sections of the report, DFID commissioned Campbell and ICED to produce two REAs summarizing the studies identified by the EGM in relation to education and social inclusion and empowerment ahead of the Global Disability Summit in July 2018. These synthesis reports will be published on the Summit website, and used to inform and encourage evidence based discussion at the Summit and beyond.

It is recommended that:

- The EGM be completed with an additional search for grey literature.
-
- The EGM be updated annually, in accordance with Campbell's EGM Guidelines.
- The EGM be used as the basis for sourcing evidence for an online Disability and Development evidence portal, of the sort produced by the What Works movement in the UK and the US.¹
- DFID assist in active dissemination of the EGM to promote discussion of the evidence agenda for disability in development.

¹ See for example <https://educationendowmentfoundation.org.uk/evidence-summaries/teaching-learning-toolkit/>

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Annex 1 List of databases searched

International Organizations

- ILO
- DFID (including Research for Development (R4D))
- UNESCO
- WHO
- Disability Programme of the United Nations Economic and Social Commission for Asia and the Pacific (UNSCAP)
- United States Agency for International Development (USAID)

Evidence and gap map database

- 3ie Evidence and gap map repository
- Swedish Agency For Health Technology Assessment and Assessment of Social Services
- Collaboration for Environmental Evidence
- Global Evidence Mapping Initiative
- Evidence based Synthesis Program (Department of Veteran affairs)
- Cochrane
- Evidence based policing matrix
- EPPI Centre Evaluation Database of Education Research

Systematic review database

- Cochrane
- Campbell
- 3ie Systematic Review Database
- Research for Development
- Epistemonikos

Academic databases

- Econlit
- The National Bureau of Economic Research (NBER)
- Social Science Research Network (SSRN)
- International Bibliography of Social Sciences (IBSS)
- Applied Social Sciences Index and Abstracts (ASSIA)
- Embase
- PsycINFO
- MEDLINE
- WHO's Global Health Library
- CABI's Global Health
- ERIC
- CINHALL

- SCOPUS
- Web of Science

Annex 2 List of included studies in alphabetical order

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Annex 3 Intervention categories and sub-categories in the Disability evidence and gap map

CBR Pillar (Intervention Category)	Component (Intervention sub-category)	Examples of interventions in this sub-category
Health	Promotion	Parent/Family training and education,
	Prevention	Prenatal and postnatal care; proper health care instruction, including patient and physician education; legislation and regulations; modification of life-styles; education regarding environmental hazards; and the fostering of better informed and strengthened families and communities, periodic health screening, evaluation of traumatic injuries.
	Medical Care	Treatment of health conditions.
	Rehabilitation	Cognitive Behaviour Therapy, physiotherapy, psychosocial support, Speech and language therapy
	Assistive devices	Provision of appliances (orthoses, prostheses, hearing aids, etc.), devices such as day calendars with symbol pictures for people with cognitive impairment, communication boards and speech synthesizers for people with speech impairment
Education	Early child development	Early stimulation programmes, Inclusive early childhood education
	Primary Secondary and higher	Provision of learning material and special equipment (Braille, audio cassettes, sign language, etc.), Recruitment and training of specialized teachers, Resource rooms, physically accessible schools
	Non-formal	Community based-sports program, faith-based schools, home-based learning, play groups
	Life-long	Explicit social skills interventions

	learning	
Livelihood	Skills development	Training opportunities for jobs
	Self-employment	Income generation program
	Waged employment	Realistic quota legislation in jobs and Participation in labour intensive public works programs
	Financial services	Access to credit
	Social protection	Social insurance schemes, social assistance intervention, health insurance schemes
Social inclusion	Relationship, marriage & family	Relationship counselling, family support programmes
	Personal assistance	Personal assistant to help with tasks of daily living
	Culture, religion and arts	Promoting use of art for social change like positive portrayal, silent theatres, complementary therapy in the form of art, music. Inclusive art education, diversity trainings, Encouraging inclusion in mainstream cultural programmes, Work with spiritual and religious leaders and groups
	Sports, recreation and leisure	Provision of adapted sports equipment, organization of inclusive sports events, linking people with disabilities to mainstream recreation and sporting clubs/associations, positive media coverage of disability recreation, Using recreation and sport to raise awareness about inclusion, advocate alongside disabled people's organizations, appropriate training
	Access to justice	Legal awareness, Identification of available resources like local leaders, legal centres, legal aid. Promoting legal rights and empowerment, inheritance right, community or legal aid centre
Empowerment	Social mobilisation	Creating joint resources like training material, community directories, advocating rights of persons with disability
	Political participation	Reservation of Position in public and political institution

	Language & communication	Speech and language therapy, Interventions removing communication barriers
	Self-help groups & Disabled People's Organizations	Establishment of self-help groups or DPOs to advocate for the rights of persons with disabilities
Advocacy and Governance		National prevention programs against certain illnesses (polio, leprosy), Establishment/Reinforcement of a Special Education Service in the Ministry of Education, Establishment/Reinforcement of medical rehabilitation centres, Legislative reforms: elimination of all forms of discrimination, Mandating healthy behaviour as Childhood immunization/seat belts etc., Raising awareness on human rights through media, Appropriate budgetary allocation

Table A.1 Number of studies by study design

Study design	Studies (n=138)
Systematic reviews	53
RCT	41
Quasi-experimental study	15
Case-control	5
Cohort	19
Controlled trial	5

Table A.2 Geographical distribution of studies

World Bank Regions	Distribution of studies across regions (n=138)
South Asia	52
Sub-Saharan Africa	42
East Asia and Pacific	57
Europe and Central Asia	46
Latin America and Caribbean	32
Middle East and North Africa	36
North America	30

Table A.3 Intervention categories: total no. of studies

Intervention categories	Number of studies (n=138)
Health	101
Education	37
Livelihood	17
Social	34
Empowerment	1
Advocacy and Governance	5

Table A.4 Outcome domains: total no. of studies

Outcome categories	Number of studies (n=138)
Health	108
Education	37
Livelihood	16
Social	35
Empowerment	1

Table A.5 No. of studies by intervention category

Health		Education		Livelihoods	
	Total number of studies (n=101)		Total number of studies (n=37)		Total number of studies (n=17)
Promotion	39	Early child development	12	Skills development	13
Prevention	17	Non-formal	19	Self-employment	1
Medical care	49			Waged employment	2
Rehabilitation	56	Primary and secondary	19	Financial services	3
Assistive devices	8	Lifelong learning	6	Social protection	4
Social				Empowerment	
	Total number of studies (n=34)				Total number of studies (n=1)
Relationship, Marriage and Family	17			Social Mobilization	0
Personal assistance	16			Political participation	0
Sports, recreation and leisure	5			Language and communication	0
Access to Justice	3			Self Help groups and Disabled People's Organization	1

Table A.6 No. of studies by outcome domain

Health		Education		Livelihoods	
	Total number of studies (n=108)		Total number of studies (n=37)		Total number of studies (n=16)
Mental health and cognitive development	91	Enrolment to primary, secondary and tertiary education	2	Employment in formal and informal sector	9
Access to health services	10	Attendance	6	Access to job market	5
Health check-up	15	Social and life skill development	28	Control over own money	1
Rehabilitation	33	Access to educational services	1	Access to financial services such as grants and loans	3
Access to assistive devices	3	Education in mainstream education	4	Poverty and out-of-pocket payment	1
Nutrition	10	facilities/inclusive education		Access to social protection programs	3
Morbidity and mortality	18			Participation in development of inclusive policies	1

Social	Total number of studies (n=35)	Social ctd.	Total number of studies (n=35)
Stigma and discrimination	5	Participation in cultural and religious activities	1
Safety	4	Interpersonal interaction and relationships	31
Participation in recreation activities	2	Social Identity and responsibilities	11
Legal rights	2		
Access to justice	2		

Table A.7 No. of studies by intervention and study design

	Health	Education	Livelihood	Social	Empowerment	Advocacy and Governance
Systematic reviews	42	13	8	17	0	4
RCT	30	12	2	8	0	0
Quasi-experimental study	10	4	2	2	0	1
Case-control	4	1	1	2	1	0
Cohort	12	4	4	4	0	0
Controlled trial	2	3	0	1	0	0

Annex 5 Impact evaluation study quality assessment criteria

Criterion	Low	Moderate	High
1 Study design (potential confounders taken into account)	Before versus after. Naïve matching	Instrumental Variable, Regression Discontinuity Design (RDD), Propensity Score Matching (PSM), double difference	RCT, natural experiment
2 Adequate sample size	≤30 (or fewer than eight clusters)	31–49 (or 8–12 clusters)	50 or more (or 13 or more clusters)
3 Attrition or losses to follow-up are presented and acceptable	Attrition not reported, OR falls well outside WWC acceptable combined levels	Overall and differential attrition close to WWC combined levels	Overall and differential attrition within WWC combined levels
4 Disability measure is clearly defined and reliable	No definition OR overall attrition >50%	Unclear definition OR single question item only (e.g. are you disabled?)	Clear definition, e.g. Washington Group questions, detailed measure of impairment
5 Outcome measures are clearly defined and reliable	No definition	Unclear definition	Clear definition using existing measure where possible
6 Baseline balance (n.a. for before versus after)	No baseline balance test (except RCT) OR reported and significant differences on more than five measures. PSM without common support	Baseline balance test, imbalance on five or fewer measures	RCT, RDD
Overall confidence in study findings	Low on any item	Moderate or high confidence on all items	RCT with high confidence on all items

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