A close-up photograph of a woman with short dark hair, smiling warmly at the camera. She is wearing a blue apron over a light-colored top and a pearl necklace. She is seated at a wooden table, operating a sewing machine. A large, circular, glowing lamp is positioned in the foreground, partially obscuring the machine. The background is slightly blurred, showing a brick wall and some fabric.

# Supplementary evidence review

**Facilitating the economic independence  
of people with disabilities in low- and  
middle-income countries (LMICs)**

May 2016



**Sightsavers**

**Front cover image:**

Florence was born with a restricted growth disorder which affects how she moves around. She was offered supported employment training, and since finishing she has set up her own business sewing clothes and selling snacks.

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## **Executive summary**

Over one billion people in the world live with some form of disability. People with disabilities are disproportionately represented in low- and middle-income countries (LMICs) where widespread poverty, inequality and violation of human rights often prevent social and economic participation. A socially inclusive society is one in which all people enjoy the same rights and where no one experiences stigma and discrimination (Sightsavers, 2015: 4), and participation in the labour market remains a key means of empowering people with disabilities, reducing social stigma and promoting social justice.

This supplementary evidence review seeks to synthesise existing evidence on the effects of interventions designed to improve the labour market situation for adults with physical and/or sensory disabilities in LMICs. Drawing on primary data, academic analysis and practitioner commentaries, it describes the range, diversity and impact of interventions undertaken across a range of LMICs between 1990 and 2013. Such interventions are a key means of achieving the goal of a socially inclusive society, where all individuals and groups are able to claim and exercise their rights and responsibilities.

The review draws on 'pre-collected' evidence, employing research publications that were previously excluded from a traditional systematic review (Tripney et al., 2015) on methodological grounds (n=98). The aim is to widen the evidence base (beyond quantitative methodologies) to see what works regarding labour market interventions in developing country contexts, and in so doing provide a supplementary systematic review, incorporating a wider range of evidence types and providing added value to Sightsavers' ongoing work and objectives and to disability studies more widely.

To be included in this review, studies were required to meet criteria. First, studies must have evaluated (or considered) an intervention with the means to improve the labour market situation of people with disabilities. Second, studies must have investigated the outcomes for adults aged 16-65 years with physical and/or sensory impairments associated with disability. Third, studies must be related to a low- or middle-income country (LMIC). Fourth, studies must have been authored within the period 1 January 1990 to 31 December 2013. In addition, studies were evaluated for relevance to Sightsavers' work, specifically Sightsavers' 2015 Empowerment and inclusion strategic framework. Finally, studies had to pass critical appraisal to ensure that the research methodology adopted was sufficiently robust.

Similar to the traditional systematic review that sought to answer the same research question (Tripney et al., 2015), the overall finding of this supplementary review concerns the scarcity of robust evidence in this area as indicated by the small number of studies (n=8) that met the (widened) inclusion criteria. The contextual reasons for low labour force participation by people with disabilities are unsurprisingly found to be multifaceted. A significant underlying theme concerns pervasive negative attitudes and stigmatisation of disabilities, and ongoing stereotyping of people with disabilities being in some way 'unsuitable' to participation in the labour market. The consequence of such negative social attitudes and perceptions (often sustained by families, communities, educational institutions and employers) is to negate the positive effects of labour market interventions.

The findings demonstrate a need to establish, extend and deepen processes of shared learning, both vertically (ie between 'experts' and policy makers and frontline workers and communities) and predominantly horizontally (ie between actors in similar roles or positions, whether in government departments, NGOs, or communities themselves), in order to demonstrate best practice when implementing interventions. Coincidentally there appears to be a widespread need for central coordination of resources and information in order to refine practice, target resources and jump-start strategic programmes, in many country-specific contexts. While nation states and intermediary bodies such as NGOs have vital roles to play in terms of creating labour market opportunities, allocating and administering resources, and awareness-raising, a strong message from the findings is that people with disabilities should be central to the design and implementation of interventions.

## Introduction

People with disabilities, who make up an estimated 15 per cent of the world's population, are among the most marginalised people in the world. Over 80 per cent of people with disabilities live in LMICs, where they are vulnerable to discrimination and social stigma that often leads to lower a socio-economic status marked by poverty, lack of protection and disenfranchisement. Such marginalisation weakens social cohesion and underpins economic and social inequalities. Disability is a development issue, with widespread poverty, inequality and violation of human rights, while the barriers faced by people with disabilities in accessing and sustaining paid work remains a profound social challenge (Tripney et al., 2015). This supplementary systematic review synthesises research concerning interventions that seek to improve the labour market situation of people with disabilities (people with disabilities) in LMICs. Such interventions are a key means of achieving the goal of a socially inclusive society, where all individuals and groups are able to claim and exercise their rights and responsibilities.

The role of such interventions is receiving increasing attention globally, hence the need to consolidate existing research to improve and extend working solutions, maximise efficiencies, and crucially, ensure positive outcomes for people with disabilities. The purpose of this review is to appraise and synthesise existing evidence concerning the economic empowerment and independence of people with disabilities. Building on Sightsavers' 2015 Empowerment and inclusion strategic framework, this evidence review specifically considers interventions designed to improve the labour market situation of adults with physical and/or sensory disabilities in LMICs. This builds on a systematic review commissioned by Sightsavers entitled *Interventions to improve the labour market situation of adults with physical and/or sensory disabilities in low- and middle-income countries* published by Campbell Systematic Reviews (Tripney et al. 2015). The evidence in Tripney et al.'s systematic review demonstrated the positive effects of various forms of intervention, but despite a wide-ranging and comprehensive review of the literature there was an "overall scarcity of robust evidence", as indicated by only 14 studies meeting the inclusion criteria. The paucity of relevant and methodologically robust research meeting the inclusion criteria led to the authors identifying "multiple sources of heterogeneity and specific knowledge gaps" (Tripney et al. 2015: 53), while the existing body of evidence concerning the impact of labour market supports for people with disabilities is at best inconclusive (Tripney et al. 2015: 58). These findings support prior claims about the lack of

robust research in this field (Andrysek, 2010; Borg et al., 2011; Mitra and Sambamoorthi, 2006; Velema et al., 2008). A critical appraisal was conducted on Tripney et al.'s systematic review by two reviewers using a tool adopted from Supporting the Use of Research Evidence (SURE) collaboration. The tool attributed 'high confidence' to the methods used to analyse the findings relative to the primary question addressed in the systematic review. Consequently the authors' wariness of drawing strong inferences from the findings suggests that an innovative method of evidence review is required to ascertain further evidence concerning the social inclusion of people with disabilities.

### *Aims and approach*

The purpose of this supplementary review is to widen the potential evidence base to see what works regarding labour market interventions designed to support people with disabilities. To do so, it draws on publications that were excluded from the Tripney et al.'s (2015) systematic review on methodological grounds (n=98)<sup>1</sup> and reassesses them on adapted inclusion criteria to see what additional insights are available, if any. These publications may offer alternative evidence or wider recommendations, or provide evidence that is useful to Sightsavers' programme design or implementation. As per the Campbell Collaboration approach, Tripney et al.'s (2015) systematic review was restricted to experimental and quasi-experimental study designs. This supplementary review, in contrast, seeks to include alternative methodological approaches, including qualitative research, which may provide a wider and more holistic account of interventions and strategies that are being employed to support people with disabilities. The approach set out in this review has been designed specifically for this purpose, adapting validated tools and established practices where possible and designing new protocols and tools where necessary. This supplementary review adopts the approach of a systematic review in order to ensure methodological rigour and transparency. It moves beyond a traditional systematic review methodology to include of a wider range of methodological approaches and in doing so questions several implicit and explicit assumptions commonly made about the quality and utility of different forms of evidence. This contributes to an ongoing debate

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<sup>1</sup> Tripney et al., (2015) state 147 studies were excluded on the basis of ineligible study design, however only 98 studies could be recovered.

concerning systematic review methods and alternative forms of evidence synthesis, with the ultimate aim of achieving high quality primary research.

### *Review objectives*

The objectives of this supplementary review are:

- To describe the range and diversity of interventions available for improving the labour market situation of adults with physical and/or sensory disabilities in developing country contexts.
- To identify, assess, and synthesise the evidence on the effects of interventions on employment-related outcomes for disabled adults in low- and middle-income countries and to provide an explanation for the intervention effects by examining what participants in the included studies reported about why the interventions did, or did not work.
- To provide an alternative to the traditional systematic review, incorporating a wider range of evidence types and providing added value to Sightsavers' ongoing work and objectives and to disability studies more widely.

### *Types of intervention*

The scope of this review is not limited to one type of intervention but rather seeks to investigate any intervention that may help adults with disabilities enter, re-enter, or maintain employment in LMICs. Therefore interventions may take the form of a device, policy, programme, strategy, or other type of action. Following Tripney et al.'s (2015: 15) specifically developed typology of intervention types, this supplementary review recognises eight categories of intervention (see Table 1).

Table 1: Tripney et al.'s (2015) intervention categories

Category	Description (and examples)
Occupational rehabilitation	Multi-dimensional programmes encompassing multiple services designed to facilitate and support entry or re-entry to work. Likely to include assessments by medical professionals in addition to additional services such as vocational assessment and evaluation, career counselling, vocational training, and job accommodations and modifications.
Community-based rehabilitation (CBR)	Multi-dimensional programmes comprised of activities aimed at strengthening the social capacities of the target group, through attempts to combine (i) physical rehabilitation through medical care with empowerment and (ii) social inclusion through the participation of both the individual with a disability and the community in the process of rehabilitation.
Treatment/therapy	Treatment, management, and/or care of a patient to alleviate or prevent a worsening of disease or disorder, or one or more of its symptoms or manifestations. Includes specific healthcare interventions (eg medication, surgery, and cognitive/behavioural therapies), broader healthcare management programmes, and psychosocial therapeutic approaches.
Assistive devices and accommodations	<p>Devices and accommodations that target different types of accessibility issues:</p> <ul style="list-style-type: none"> <li>• Assistive devices refers to any appliance or tool designed, made, or adapted to increase, maintain, or improve the functional capabilities of people with disabilities (eg prosthetic limbs, talking calculators).</li> <li>• Assistive accommodation refers to environmental access accommodations (physical and non-physical), both in the workplace itself and the wider environment (eg modifications to workplace bathrooms, flexible work schedules, tailored transport schemes).</li> </ul>
Education	Skills development and training strategies, projects, and initiatives aimed at addressing educational deficits and developing human resources. Includes capacity-building in the following areas: professional/job-related skills; basic skills (eg literacy); transferrable/social skills (eg communication skills); functional skills (eg how to operate a Braille typewriter or wheelchair).
Regulations, legislation and policies	Initiatives aimed at enforcing behaviour change, such as reforms of labour market regulations, anti-discrimination legislation, labour market quotas, legislation supporting institutional capacity-building of the education system for disabled people, affirmative action policies, and organisational policies.

Financial	<p>Different forms of financial incentive, such as those to promote:</p> <ul style="list-style-type: none"> <li>• financial inclusion (such as business training and micro-finance).</li> <li>• educational inclusion (such as financial vouchers to facilitate access to education and training).</li> <li>• employment inclusion (such as employer subsidies, tax breaks and sanctions).</li> <li>• participation in the intervention itself (such as stipends to cover costs of attending training workshops).</li> </ul>
Awareness campaigns	<p>Different approaches for changing perceptions of disability within the community, such as advertising/advocacy campaigns, employers' forums.</p>

Source: Tripney et al. (2015: 15).

Following Tripney et al. (2015: 14), such interventions:

- encompass complex, specialised, multi-dimensional programmes that implement multiple strategies as well as much simpler interventions based on a single strategy.
- may be implemented in any setting, including the workplace, health care facility, home, or community.
- include both routine and structured/tailored interventions.
- can vary not only by type but also by intensity.
- can be delivered at various stages of the employment process (pre-employment, transition to employment, and post-employment).
- need not have the core objective of restoring capacity for work.

However, studies that focused solely on the following characteristics were not eligible for this supplementary review:

- People with mental health conditions and/or intellectual impairments
- Those with chronic illnesses that predominate in later life (eg chronic obstructive pulmonary disease (COPD), cancer, stroke, and renal disease)

- HIV/AIDS, on the grounds that these groups have different rehabilitation needs

This review focuses on long-term disability, rather than people with minor health problems, such as fractured bones or allergic rhinitis (hay fever). Consequently, evaluations of return-to-work (RTW) interventions for employees on short-term sick leave were also outside its scope.

### *Review structure*

This supplementary evidence review follows a clear, linear structure that outlines the steps taken to produce the findings, while providing transparent explanations for decisions taken and evidencing each stage of the process. Therefore the protocols employed here could be replicated if desired (including the use of the critical appraisal and data extraction tools). This review seeks to bring the same level of methodological rigour to reviewing the evidence as achieved when producing a traditional systematic review.

First, a detailed explanation of the research question is set out. Subsequently the methodology is relayed, including which publications were considered for review and how they were assessed against the eligibility criteria. This followed by an account of the critical appraisal process and the tools employed to assess bias and extract data. As this review departs from the established methodology of a traditional systematic review, particular care is taken to ensure that the logic behind each decision. This section concludes with an account of the data analysis techniques employed in this study.

Following the methodology an account of the process is relayed, showing in detail how the methodological protocols were implemented and demonstrating the ground for exclusion for studies not incorporated into this supplementary review. A full list of all studies, included and excluded, and reasons for exclusion, is provided in *Appendix ii*. The characteristics of the included studies are then set out before the findings are discussed. Finally, the review concludes with methodological discussion, contributing to the debate concerning the usefulness of systematic reviews and setting out a potential alternative approach.

## Method

This section outlines the methods used to select publications used in this review. To begin, all references of publications excluded from Tripney et al.'s (2015) systematic review on methodological grounds were collated (n=99). Eleven publications could not be recovered and two publications were found to be duplicates, so 87 publications were reviewed against the eligibility criteria relayed below. Details of the missing studies can be found in *Appendix ii*.

### *Eligibility criteria*

In order to be included in the review, studies were required to meet five eligibility criteria. The criteria for inclusion were the same as Tripney et al.'s 2015 review where appropriate. The first four criteria followed those employed in Tripney et al.'s review - the exception was made concerning methodological design where the criteria were modified.

First, studies must have evaluated or considered an intervention with the means to improve the labour market situation of adults with disabilities. Interventions could take the form of a device, policy, programme, strategy, or other type of action. Second, studies must have investigated outcomes for adults aged 16-65 years with physical and/or sensory impairments associated with disability. Third, the study setting must have been an LMIC. Fourth, the date of publication or reporting of the study must have been within the period 1 January 1990 to 31 December 2013. There were no restrictions applied based on language or form of publication and publications only considering secondary data were also eligible. These criteria are set out in more detail below:

- 1) Publication must evaluate (or consider) an intervention with the means to improve the labour market situation of adults with disabilities

The scope of this review extends to any intervention with the means to help adults with disabilities in LMICs gain or maintain employment. A broad interpretation of this criterion was taken, following Tripney et al.'s (2015: 15) typology of intervention (see above). Publications that addressed conceptual issues and broadly addressed

improving the labour market situation of adults with disabilities were also permitted (even where a distinct intervention was not evaluated).

2) Publication must investigate outcomes for adults aged 16-65 years with physical and/or sensory impairments associated with disability

3) Publication must be related to a low or middle income country (LMIC)

Publications were only included if the intervention under discussion pertained to a LMIC. In order to remain as close to the original study's eligibility criteria, the same classifications were employed, namely the World Bank's classification of the world's economies for the fiscal year ending on 30 June 2014 (based on estimates of gross national income per capita for the previous year) (*Appendix iii*). The World Bank's classifications are based on estimates of Gross National Income (GNI) per capita for the preceding year: in this case for the fiscal year starting on 1 July 2013, low income was \$1,035 or less and middle income (\$1,036 to \$12,615).

4) Publication must be authored within the period 1 January 1990 to 31 December 2013

As per the timeframe set out in Tripney et al.'s systematic review, publications had to have been published during the stipulated 23 year period.

### *Relevance screening*

In addition to the eligibility criteria above, a brief questionnaire was specially designed to ensure the relevance of prospective studies. This asked whether and how each publication was relevant to Sightsavers' work, and subsequently determined what critical appraisal tool should be employed for the publication (dependent on the publication's methodology). In order to ascertain this information all eligible publications were assessed against specifically developed screening questions drawn from Sightsavers' 2015 Empowerment

and inclusion strategic framework. These broad questions were designed to ensure that publications dealt with issues pertaining directly to Sightsavers' strategic direction, and to ascertain which of the framework's objectives the publication addressed. Once this information had been collected, the publication's methodology was then carefully considered to see which critical appraisal tool was most appropriate. A copy of the relevance questionnaire is available in *Appendix iv*.

### *Critical appraisal stage*

The eligibility criteria set out no methodological requirements, meaning any primary research was potentially eligible for inclusion<sup>2</sup>. In order to ensure the methodology quality of included studies a process of critical appraisal was necessary: studies were therefore eligible for inclusion so long as a robust and justified methodological design was in evidence and deemed appropriate after the application of a specially developed critical appraisal tool. This approach ensured that the inclusion criteria were transparent and the methods for inclusion were reliable. This process was particularly important in the context of this review, as there were no methodological caveats contained in the eligibility criteria (see above). Therefore the full text of each publication was carefully considered during this stage.

Critical appraisal is the use of explicit and transparent methods to assess the relevance, validity and bias in research studies. The process involves asking questions of studies to assess whether the adopted methodology and methods are appropriate and sufficiently robust. Critical appraisal tools are commonly associated with the systematic review process, but in the context of this supplementary review the process had two core purposes:

1. To ensure that included publications employed an appropriate and robust methodology (and therefore should not be excluded)
2. To attribute the risk of bias for each publication (high, medium or low risk of bias)

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<sup>2</sup> Unlike Tripney et al.'s systematic review, publications were not excluded for the absence of randomised experimental design or some form of quasi-experimental design - similarly, publications that did not report at least one quantitative, employment-related outcome variable were also not excluded on this criterion.

While eligible studies were not required to employ a randomised experimental design or some form of quasi-experimental design, nor report at least one quantitative, employment-related outcome variable, an appropriate and robust methodological choice had to be demonstrated.

Due to the wide selection of methodologies adopted by the eligible publications, a number of critical appraisal checklists were employed. The decision was taken to develop new critical appraisal tools for the purpose of this research. This was primarily to achieve greater consistency across the tools, however validated tools were adapted and used for guidance to ensure proven and established techniques were used. There is a surfeit of quantitative critical appraisal tools available, and an increasing number of qualitative appraisal tools (Côté and Turgeon, 2005). However applying the logic of the systematic review methodology to qualitative evidence has particular implications for critical appraisal (Noyes et al., 2011), with a lack of agreement on the best approach for assessing the quality of qualitative evidence (Snilstveit et al., 2012). Questions regarding quality are markedly different between quantitative and qualitative paradigms, and it is commonly perceived that the former is not governed by explicit or commonly accepted rules. For this reason, formal appraisal processes like checklists informing 'in or out' decisions can be deemed inappropriate for qualitative research (Barbour, 2001). For instance, a publication with low methodological quality may generate new and innovative insights grounded in the data, while a methodologically robust study may suffer from poor interpretation of the data, leading to inadequate insights. For some therefore, critical appraisal tools for qualitative methodologies are better employed as part of a process of exploration and interpretation (Higgins and Green, 2011). Within the context of systematic reviews, Dixon-Woods *et al.* (2007) compared three structured appraisal methods and concluded that such approaches are unlikely to produce greater consistency of judgements about whether to include qualitative studies. Despite these limitations, checklists remain an effective and relatively transparent means of assessing bias.

As no methodological criteria were implemented during the eligibility criteria stage, it was necessary to have a system of exclusion for studies with inadequate methodologies during the critical appraisal stage. This meant studies that failed to demonstrate an appropriate methodology were excluded at this stage. However, because publications that reached this stage may still contain information and analysis pertinent to the research question, publications excluded here were analysed in a secondary findings section (see below).

Similarly, publications that contained *no* primary research (such as discussion pieces, review articles or publications that otherwise presented no primary data) were not required to demonstrate methodological choices for self-evident reasons, but were included in the secondary findings section that follows below.

Those studies that did present an adequate methodology were then appraised to determine its internal validity, ie to ascertain whether the study had been designed and conducted appropriately, minimising the risk of bias and ensure that any outcomes were likely due to the intervention being considered (rather than external factors). In the event, only three critical appraisal tools were required to appraise qualitative, questionnaire, mixed method approaches, with each tool adapted from one or more validated tools.

Each critical appraisal tool contained a metric to denote the level of bias indicated in the publications. For each question in the checklist the reviewer was asked to record a response: 'yes' if the issue was appropriately addressed, 'no' if the issue was not addressed or was inadequately addressed, or 'unsure' where it was unclear. On the completion of each section of the tool a risk of bias level was recorded (high, medium or low) dependent on the number of questions asked and varying importance of some questions. This weighting system is not an exact science, however every effort was made to ensure consistency across the tools. The use of metrics can be opaque and so the system implemented here was kept as simple as possible while seeking to maintain a robust appraisal. Individual questions were not weighted as such a process can be hard to adequately justify (Higgins and Green, 2011); rather each section was taken as a whole. These section scores were aggregated at the end of the tool and an overall risk of bias was indicated for the publication (again, high, medium or low)<sup>3</sup>. Therefore if a study was not found ineligible (ie due to an inadequate or missing methodology, compromised data, or the findings not following from data), it was categorised under one of the following risk levels:

- High risk of bias (serious doubts exist over the quality of the findings as a result of bias)

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<sup>3</sup> A similar rating system was employed by Tripney *et al.* (2015), however the ratings employed here should not be treated as synonymous given the different tools employed.

- Medium risk of bias (some doubts exist over the quality of the findings as a result of potential bias)
- Low risk of bias (where bias is present it is unlikely to have adversely affected the findings of the research)

The indicated level of bias for each publication was considered as part of the meta-analysis that follows in the subsequent section.

Critical appraisal tools were piloted (on at least three publications) and revised where necessary. During the critical appraisal process, in instances where the reviewer was unsure of an answer, a second reviewer was consulted and any uncertainty resolved by discussion between first and second reviewer. In instances where there was still uncertainty a third reviewer was consulted to adjudicate. Copies of the critical appraisal tools, including the metrics devised, are available on request.

### *Quality control*

The critical appraisal process was undertaken by one reviewer in the first instance, so a quality control process was implemented to ensure that the assessments made were consistent and sound. This was achieved by second and third reviewers repeating critical appraisals on selected publications. A simple random sample method was used to choose the publications to be re-assessed (amounting to 22.73 per cent of critically appraised studies) - weighting was used in the sample so that the quality control considered both excluded and included studies, as well as the full range of methodologies.

### *Data extraction*

Following the publication selection process, data was then extracted from the included publications. This was achieved through a specially developed data extraction coding tool that was designed to capture the following characteristics:

- Publication information
- Methodology/study design
- Sample and participant characteristics

- Intervention type
- Findings and author recommendations
- Other substantive and descriptive study features

The data extraction was conducted by a single reviewer.

### *Data analysis*

Once the data were extracted from the eligible publications, these were collated for analysis. Since traditional systematic reviews typically utilise exclusively quantitative data, a popular method is to convert the extracted data into a common metric and synthesise this using statistical meta-analysis to test a theory or question. In some instances such analysis is not feasible due to the nature of the data, and in such cases a narrative synthesis approach can be implemented (Mays et al., 2005; Snilstveit et al., 2012). The inclusion of qualitative studies in this evidence review automatically rules out such meta-analysis, but the narrative approach can be employed to synthesise both quantitative and qualitative studies. Due to the range of methodologies adopted and the heterogeneous nature of the data and findings, a narrative approach to synthesis was deemed the most appropriate method to employ in this study.

Narrative synthesis is a method that primarily relies on the use of text to summarise, explain and analyse the findings of multiple studies, creating a comprehensive account of the findings that seeks to answer the research question. There is no definitive or prescriptive set of rules on the conduct of narrative synthesis, since the most appropriate approach and the selection of specific tools and techniques for data management and manipulation depends on the nature of the particular review being conducted (Popay et al., 2006). However the absence of a definitive procedure or formal guidance can be perceived as a weakness due to a lack of methodological transparency (Dixon-Woods et al., 2005).

Methods of narrative synthesis include content analysis, critical interpretive synthesis, thematic synthesis, realist synthesis, grounded theory, case survey, qualitative comparative synthesis, meta-summary and framework synthesis (Snilstveit et al., 2012). However in reviews of the literature and examples of applications of these methods it is suggested that there are more labels describing the methods of synthesis than there are

genuine differences between their different methods (Barnett-Page and Thomas, 2009). Methodologists variously conceptualise methods as existing on a continuum from aggregative approaches at one end to interpretive synthesis methods at the other (Saini and Shlonsky, 2012, Thomas et al., 2012). In practice, the narrative approach involves moving in an iterative manner among the following four elements (Popay et al., 2006: 11):

- Developing a theory of how the intervention(s) works, why and for whom
- Developing a preliminary synthesis of findings of included studies
- Exploring relationships in the data
- Assessing the robustness of the synthesis

The approach adopted here seeks to operationalise both aggregative and interpretive approaches. The nature of the data has led to a greater emphasis on the former, however the use of a second tier of findings (synthesising pieces with no primary data) has allowed for greater interpretation of both specific interventions and the wider cultural and socio-economic contexts within which such interventions are being employed.

### **Study selection procedure**

This section provides an account of how publications passed through the methodology set out above. Publications were included in the review's findings after passing through three stages of assessment: eligibility criteria, relevance screening and critical appraisal. This process is set out in greater detail below and displayed graphically in Figure 1.

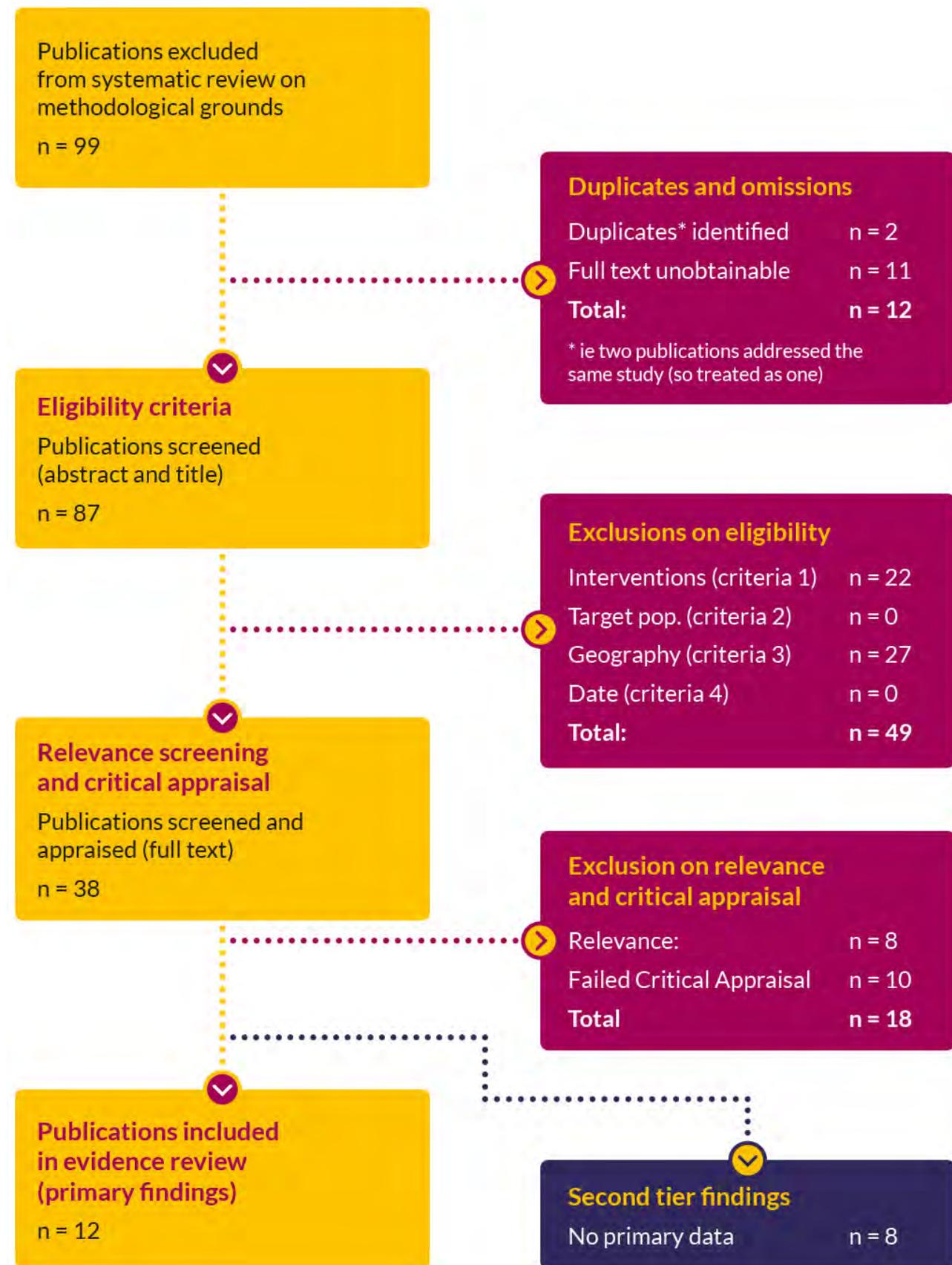
Ninety-nine publications that were excluded from the original systematic review on methodological grounds (Tripney et al., 2015: 31) were recovered and processed in this review. Two duplicates were identified (ie articles published from the same research study) and these were treated as one study, with the relevant details taken from all publications where required. Initially, the full texts of 14 publications could not be sourced (eight journal articles, two books, two book chapters, and two unknown publications)<sup>4</sup>. Contact details of several authors were found and speculative requests for access to these publications produced two further full texts. Ultimately the full text of 11 publications could not be

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<sup>4</sup> Four different University libraries were searched (University of Sheffield, Anglia Ruskin University, University of Exeter and University of Birmingham).

sourced and so these were not included in this selection procedure. Of the 99 studies that could have formed part of this review, 87 passed through to the eligibility criteria phase.

Figure 1: Study selection process



### *Eligibility criteria*

Publications were first reviewed against the eligibility criteria by a single reviewer examining the title and abstract (where applicable) of the remaining 87 publications for possible inclusion. Where the title and abstract did not contain sufficient information to determine inclusion or exclusion, the full text was obtained and scanned for relevant information. A working table was produced to record the characteristics of each publication as they pertained to the eligibility criteria.

Publications were assessed against the four criteria in order, with the effect that some studies were ineligible on multiple criteria but were officially excluded on the earliest criteria not met. Publications that did not meet the selection criteria were selected for exclusion by the reviewer. In instances where the reviewer was unsure of a publication's eligibility, a second reviewer was asked to make an assessment and the uncertainty resolved by discussion between first and second reviewer. In instances where there was still uncertainty a third reviewer was consulted. The headings below relay the process chronologically and outline the details of excluded studies.

*Criterion 1: interventions* - 22 publications were excluded on this criterion. The majority of these (n=21) were due to the publications not evaluating or considering an intervention with the means to improve the labour market situation of adults with disabilities. One study was excluded as the intervention under consideration was targeted at HIV/AIDS patients and was therefore not eligible under this criterion as such groups have different rehabilitation needs.

*Criterion 2: target population* - no publications were excluded on this criterion. All publications investigated outcomes for adults aged 16-65 years with physical and/or sensory impairments associated with disability.

*Criterion 3: geographic location* - 27 publications were excluded on this criterion. A further five studies previously excluded on criterion 1 would also have been excluded at this stage. All excluded publications were based in high income countries (HICs), with the predominance based in North America (n=20) and the remainder in a variety of European countries (n=6). One study was a report detailing data from 116 countries; due to the difficulty in extracting the relevant data from LMICs, this study was excluded on this criterion.

*Criterion 4: date of publication* - no publications were excluded on this criterion. All studies were published within the period 1 January 1990 to 31 December 2013.

In total, 49 publications were excluded for failing to meet the eligibility criteria. The bibliographic details of all studies, including excluded studies with reasons for exclusion, are shown in *Appendix iv*. On completion of the eligibility criteria stage, full texts of the remaining publications were obtained for the relevance screening and critical appraisal stages.

#### *Relevance screening and critical appraisal*

Forty studies were assessed for relevance and critically appraised. This process was conducted by one reviewer, with a second and third reviewer consulted on issues of uncertainty. During this process the full texts of publications were reviewed against the relevant critical appraisal tool<sup>5</sup>. This stage ensured that all included studies were held to a high and consistent methodological standard. Seven publications were deemed irrelevant to Sightsavers' work and were therefore excluded from the findings. As stated above, the critical appraisal tools used in this review were adapted from various validated tools. Thirteen publications presented no primary data and so were not critically appraised. These form the basis of the secondary findings below. Nine publications failed the Critical Appraisal. A sample of both included and excluded studies were assessed by a second reviewer to ensure quality control. Once again, any discrepancies were resolved through discussions between first and second reviewer, and where necessary a third reviewer was consulted. In total 27 studies were excluded from the main study at this stage (including 12 studies that form the secondary findings below).

#### *Included studies*

Thirteen of the 99 publications were included in the main findings that follow. The full characteristics of the included studies can be found in *Appendix i*. The majority of these

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<sup>5</sup> Where the full text reading revealed ineligibility on the basis of the above eligibility criteria (previously publications were only reviewed using the title and abstract) the publication would be excluded - in the event no discrepancies were found.

publications were published in peer reviewed journals (n=13), with two reports and one doctoral thesis also included. The included publications adopted mixed method approaches (n=5), qualitative approaches (n=5) – predominantly interview techniques, and questionnaires (n=3). The number of participants in included publications varied significantly, ranging from 10 to 1,920, and typically covered a large age range. The majority of studies researched both male and female participants, and the type of disability under study also varied significantly. The included publications explored a range of interventions: occupational rehabilitation (n=4), community-based rehabilitation (n=3), education (n=3), financial (n=1) and assistive devices and accommodations (n=1). Studies were based in the following countries: Bangladesh (1), Botswana (1), Brazil (2), China (1), Haiti (1), India (1), Kenya (1), Malaysia (1), Nepal (1), Peru (1), and South Africa (32).

## **Findings**

The evidence gathered and assessed by this supplementary review seeks to answer the following question:

*What are the effects of interventions on the labour market situation of adults with physical and sensory disabilities in low- and middle-income countries?*

A traditional systematic review previously performed to answer this question concluded that there is a scarcity of robust evidence available (Tripney et al., 2015). This study has therefore introduced a wider number of methodological approaches in order to assess and synthesise further research evidence. Upon completion of the eligibility, relevance and critical appraisal processes outlined above, 13 studies presenting primary data were identified as appropriate to answer this question, with a further eight publications presenting no primary data, but still appropriate for discussion (presented below in the 'second tier' findings). The resultant evidence base is heterogeneous: encapsulating a range of interventions, populations and sites, in a number of contexts and from a range of disciplinary perspectives. This provides breadth to the findings that follow but also means that many findings are context dependent and marked by specificity, and so may not be suited to generalised findings.

A narrative approach to synthesis has been adopted in order to present these findings. This seeks to explain and analyse the effectiveness of the interventions described across

the available evidence. This synthesis ultimately seeks to make sense of the findings and establish of patterns within the data. This is achieved by exploring the similarities and differences between the findings of different studies, and telling a coherent 'story' of the findings of multiple studies. This approach is appropriate given the predominantly qualitative and mixed method approaches found in the eligible publications. The results reported here are initially analysed separately by impairment category, with cross-cutting issues interwoven within the narrative. The risk of bias attributed to these studies by the critical appraisal process is also reported here, and the level of risk should be considered when interpreting an individual study's findings.

### *Financial interventions*

One study considered an intervention that sought to promote social inclusion of people with disabilities through financial inclusion. Thompkins' (2011) economic study of the Indra Kranthi Patham micro lending programme in Andhra Pradesh, India, demonstrated a number of positive social outcomes for participants but no improvements in the labour market situation of people with disabilities. The programme encompasses self-help groups that seek to enhance the economic livelihood of people with disabilities and optimise their 'residual abilities', but also sensitise the community to the challenges faced by people with disabilities and bring disability issues into mainstream public policy. To do so, the programme provides managed health services, nutritional interventions, training in capacity-building as well as outreach to people with disabilities (People with disabilities). A one-time administered household survey was conducted with 1,920 participants in 2008, and a rigorous statistical analysis (including econometric techniques) was performed on the resultant dataset. But the study was deemed to have a medium risk of bias due to a lack of consideration for ethical issues and inadequate attention being paid to the potential influence of the researcher on the research process.

The findings demonstrate that the programme led to increased participation in self-help groups, leading to increased borrowing (the programme's estimated effect ranged from .08 to .28), improved education outcomes (including the estimated effect of the programme on school attendance rates from ranges from .114 to .309), and asset ownership (such as small appliances, vehicles, televisions etc) for people with disabilities. However these improvements were not accompanied by improved labour market outcomes. The result

was that the outcomes of the Indira Kranthi Patham programme demonstrated a positive impact for people with disabilities, however the long term economic wellbeing of participants in this programme remains unclear. For instance, the majority of people who secured loans through the programme are not on schedule to repay them. This may reflect an improvement in the short term economic situation for people with disabilities but result in longer term difficulties with a resultant down turn in wellbeing. This, along with other facets of the programme such as the future labour market outcomes of participants currently enrolled in school as a result of the programme, suggest that further longitudinal research is required to determine the long term wellbeing of the programme participants.

### *Assistive devices*

One study addressed an intervention concerning devices and accommodations that seek to increase, maintain, or improve the functional capabilities of people with disabilities. Borg et al. (2012) explored the relationship between the use of assistive technology (specifically hearing aids and manual wheelchairs) and human rights realisation in Bangladesh. Cross-sectional data from users and non-users of hearing aids and manual wheelchairs was employed and analysed using logistic regression. This study was deemed to be methodologically robust with a low risk of bias.

The findings provide empirical support for using assistive technology interventions to facilitate full enjoyment of human rights. Users of hearing aids were found to be more likely to report high levels of enjoyment of all studied human rights compared to non-users, with the exception of non-significant differences in work status. These outcomes included improvements in standard of living, health, education, receiving information, and movement. The author suggests that the non-significance of differences in work status requires a deeper analysis (not possible with the data employed in the study) that considers attitudes of employers and other facets of the labour market in Bangladesh. In contrast to the findings regarding the use of hearing aids, few significant differences between users and non-users of wheelchairs were found. Wheelchairs were found to fulfil their intended purpose of providing mobility, and wheelchair users were likely to report less difficulty in moving around compared to non-users and more likely to enjoy the right to work (after adjusting for physical accessibility to the working place). However the lack of significant differences in physical and mental health contradicts some existing research in

this field. This study also indicates that opportunities for education and employment are “not directly materialised”, as no significant differences due to wheelchair use alone were found. This underscores the necessity of considering physical accessibility in wheelchair services. The authors conclude that further research is required to understand the relationship between work status and assistive technology use in LMICs. As with Thompkins’ (2011) study of the micro lending programme in India, longitudinal studies are required to uncover the temporal association between the intervention, in this case assistive technology use, and positive outcomes such as human rights enjoyment.

### *Community-based rehabilitation*

Three studies investigated community-based rehabilitation (CBR) interventions, traditionally multi-dimensional programmes that are comprised of activities aimed at strengthening the social capacities of the target group, through physical rehabilitation and medical care, as well as initiatives to increase social participation and inclusion of both the individual with a disability and the community in the process of rehabilitation (Tripney et al., 2015: 15).

Coreil and Mayard’s (2006) study of illness support groups in Haiti demonstrated enthusiastic participation by local women with lymphatic filariasis over a two-year period. Despite being well situated in the wider literature, and the fieldwork being conducted over a three-year period, this study was considered at a high risk of bias, with significant concerns across various aspects of the study. Therefore, while this project successfully demonstrated that the illness-focused support group model could be adapted to the Haitian context, caution should be exercised when drawing wider inferences from these findings. Participants of the support groups established in a coastal community completed annual surveys over the course of the project. The findings demonstrate significant objective benefits of support group participation, including: a better quality of life, greater understanding of the disease, more consistent home care practices, and fewer illness symptoms. Across the two annual surveys, the most commonly cited benefit of support group participation was learning new practical skills such as floral art and sewing. However the core finding of this study was the adoption of a Western model of illness support group into the local cultural milieu.

The authors discuss that unlike most support groups in affluent settings, the Haitian women in this study showed little interest in talking about illness-related issues. Instead the groups developed a “distinctly Haitian style” to their participation with an emphasis on religion and spirituality, artistic and expressive components, and acquisition of practical skills that offer income-generating opportunities (for instance participants directed the greatest energy toward developing micro-enterprise activities). This adaptation of the support group model was successful due to its embeddedness in indigenous traditions of mutual aid. The authors conclude that their study supports the “indigenization of illness support groups” whereby “self-help groups evolve into distinct social entities as opposed to those that reproduce the ideology and practices of the source model” (Coreil and Mayard, 2006: 137), thus underscoring the importance of cultural adaptation of support groups. The authors emphasise the importance of community context from the standpoint of infrastructural support for self-help sustainability. The applicability of this study to the research question is limited: the findings indicated that ‘source models’ of a given intervention are more likely to succeed where they are appropriately integrated into the local cultural context, however the study does not extend to analysis of effects on labour market interventions as a result of such successful support groups.

A further study by Dhungana and Kusakabe’s (2010) investigated self-help groups (SHGs), specifically how such an intervention can empower women with disabilities based on research conducted in Kathmandu Valley, Nepal. The study adopted qualitative methods (in-depth interviews with women with disabilities) and was deemed to be at medium risk of bias, principally due to a lack of information provided concerning how the data was analysed. The SHGs in the study all provided broadly similar services: vocational training (eg tailoring, handicrafts, waitressing, computer and secretarial work), job placements and financial credit. In addition the groups also provide direct employment such as working within the groups to provide training or acting as group leaders, preparing plans and funding proposals, representing the group in different programmes, and visiting employers in search of job placements. After completing in-depth interviews with a total of 58 women with disabilities, the study found that for those who found employment, their financial situation was improved considerably. Earning a living had added benefits such as being recognised by their parents-in-law - an extremely important phenomenon in Nepalese society and source of considerable empowerment. The SHGs also fostered non-economic benefits for the participants, including organising awareness programmes

combatting negative superstitions such as the presence of people with disabilities at community events being inauspicious - a belief that caused many women with disabilities to stay within the home. Participants reported that such collective action enabled women to be articulate in the communities, proving an effective instrument for fostering women's social empowerment at the grassroots level. While the SHGs provided work placements and opportunities for women with disabilities, there were a number of limitations, such as scope of opportunities for employment, continuity in employment, lack of physical access to office blocks and other workplaces, and lack of transport.

The authors note that the SHGs aim to empower women economically, but while those catering to women without disabilities do so through production and access to credit, the SHGs for women with disabilities try to link them directly to the labour market. This reflects the significant social marginalisation of people with disabilities in Nepal. Self-help groups provide members (both with and without disabilities) with a reason and encouragement to get out of the home and join group meetings. They create a space for women to challenge the restrictions placed upon them, actively combatting social stigma, however evidence here suggests SHGs are failing to involve the poorest or most deprived. Much of the important work done by SHGs involves advocacy groups, organising community events to raise awareness and visibility of issues related to women with disabilities. However, these efforts have done little to expand employment opportunities beyond limited opportunities in public agencies. In sum, these SHGs have a mixed record of empowering women with disabilities, although if members can continue to work with them they do achieve a degree of empowerment – this requires psychological, financial, and physical strength on behalf of participants as well as support from their family. The author concludes that being an SHG member is useful for gaining employment that leads to better recognition in the family and society. However, employment opportunities and organisational experiences mean that the benefits are not equally shared among all members.

Lundgren-Lindquist and Nordholm (1996, 1999) conducted mixed methods research (MMR) into a community-based rehabilitation project in Moshupa, Botswana. The original study and a follow up study are reported here, with the research deemed to be of medium risk of bias, principally due to a lack of information concerning potential ethical considerations. The follow up study indicated that while participants acknowledged the benefits of the programme, there were several persistent problems such as lack of

rehabilitation education for the participants. The perceived strengths of the model were: first, knowledge and information about rehabilitation had reached the majority of the disabled persons; second, awareness about disabilities had increased; third, people with disabilities had become more integrated in their families and in the community so that “disabled persons were no longer hidden”. Four key limitations of the project were indicated by participants: first, cooperation between the CBR team and the Red Cross volunteers was ‘unsatisfactory’; second, due to the Red Cross jeep not always being available, the project suffered from issues of access and lack of transport; third, there was a lack of information about the work of the CBR team among health-post personnel and school teachers; and fourth, there was a lack of knowledge among health-post personnel in being able to diagnose children with disabilities, with the result that referrals to the CBR team did not function well. Participants proffered suggestions on how to improve the programme, and a content analysis of these answers yielded two core suggestions for improvements: first, that two family welfare educators be added to the CBR team to ensure that all People with disabilities will receive regular home visits, and second, that the nurses of the CBR team should receive further education in rehabilitation.

Further key findings concerned the CBR programme for children that promoted integration into mainstream schools for physically disabled children and referrals to special schools for those with hearing and seeing disabilities. The follow-up study showed that these recommendations had been followed to a large extent. The CBR programme for adults attempted to find jobs for the adults with disabilities. The follow up study found that 20 per cent of adults with disabilities were working despite difficulties finding jobs in a rural area such as Moshupa. While it is suggested that this is a positive state of affairs, the study does not evidence whether this is a disproportionately high level of employment for people with disabilities in this context. Taken as a whole, the study has little to say about improving the labour market situation or wider levels of social inclusion for people with disabilities. Overall a high level of satisfaction with the various aspects of life were reported by participants, however the elderly were somewhat less satisfied with health, self-care ability, friends and family life compared to the younger age group. Comparisons between male and female participants found only one discrepancy: a greater proportion of males were satisfied with their friendships. Most volunteers expressed the need for more training in CBR activities and the authors point to insufficient support structures at the intermediate level (as opposed to national or local levels) where support personnel such as

physiotherapists and occupational therapists are needed to advise, train and supervise rehabilitation personnel. The authors conclude by pointing to the relative success of the CBR programme instigated in Moshupa, and suggest that with increasing numbers of industrialised countries experiencing strains on financial resources, ageing populations and the increasing demands on health care, CBR programmes may be required more widely in the near future.

### *Education*

Three studies investigated interventions designed to address educational deficits and develop human resources through skills development and training strategies in three countries: Kenya, Malaysia and South Africa. Johnstone and Corce's (2010) study examined teacher training as possible tool for improving the employment prospects of deaf adults and improving educational opportunities for deaf students. This mixed methods study was found to be at medium risk of bias, while the findings are somewhat limited due to being only providing "preliminary data for a second future study" exploring the education effects of deaf teachers in relation to teachers with no hearing impairments. Interviews, focus group discussions and questionnaires were employed to investigate a small non-governmental organisation that provides two years of teacher training to deaf students in Kenyan secondary schools free of charge. The study sought to reveal the social and academic impacts of this innovation. The findings indicate that the training has a positive effect on the teachers themselves (both psychologically and economically), deaf students (via greater academic engagement) and teachers with no hearing impairments (pedagogically). Lessons involving the newly trained teachers indicated a philosophical shift in development assistance for people with disabilities, while development projects are more likely to be successful if they empower people with disabilities rather than simply provide charitable donations.

The authors suggest that hearing impaired teachers can act as positive role models for future generations, however the perceptions of improved academic results for deaf students as a result of this intervention cannot be verified by national testing due to the low incidence of deafness in Kenya and the geographic spread of those with hearing impairments. Nonetheless, the study concludes that deaf teachers are an inspirational

presence in the classroom and represent a significant resource to the school communities, and are overwhelmingly preferred by deaf students.

Cramm et al.'s (2013) mixed method study (qualitative interviews and a quantitative survey) explored barriers to education among young people with disabilities in South Africa. Participants in the study were interviewed at nine sites in five South African provinces, and 989 youths took part, 52.9 per cent of whom were disabled and 47.1 per cent who identified as not having disabilities. The study was found to be at medium risk of bias. The study presents a holistic picture of South Africa's education system, concentrating on the educational opportunities for young people with disabilities, noting link between chances of employment and barriers to education for youths with disabilities. A large difference between young people with and without disabilities who currently attend or attended school in the past (99.3 per cent vs. 82.4per cent;  $p \leq 0.001$ ) was found, clearly indicating that disability limits access to education, which can lead to wider forms of exclusion. Logistic regression analyses among the young people with disabilities showed no significant relationship between financial exclusion and education. The authors' posit may be explained by the social security system in South Africa: a disability grant is available to those over 18 years who have been referred to the Department of Social Development by a medical doctor and have been deemed unable to work due to disability. A permanent grant is available to those whose disabilities last for over a year, and a temporary grant to those whose disability will last for six months to one year.

Barriers to education include a lack of access to information, admission systems that are perceived as difficult to navigate, and distances, obstacles and other issues of physical access. Negative attitudes of teachers and family were also found to be important barriers to education for young people with disabilities in South African. The findings suggest that special attention should be given to disproportionately disadvantaged vulnerable groups and the specific barriers they face may require a combination of various interventions. The South African government has for some time had dedicated policies to remove discriminatory practices and barriers to education, and provide access educational and social opportunities, however this research suggests that all learning institutions should combat both issues of accessibility and ingrained negative social attitudes both within educational institutions and more widely. The authors suggest that special attention should be given to vulnerable groups who are disproportionately disadvantaged and the specific barriers they face to education, which may require a combination of various interventions.

'Exclusion by design' could be reduced through better information regarding schools, easier admission systems, improved access, and elimination of physical obstacles.

Lee et al.'s (2011) study sought to investigate the drivers and inhibitors of employment for people with disabilities in Malaysia through semi-structured interviews with 24 teachers with visual impairments aged between 30-40 years. The study was considered to be at low risk of bias. The skills and psychological traits needed by people with disabilities in order to achieve employment were explored with academic (basic literacy, numeracy and basic computer skills) and job-related skills being perceived as prerequisites for people with disabilities to find employment. In Malaysia, people with disabilities can acquire academic skills through the special education system that is accessible from preschool up to the tertiary level. However, those with severe physical and mental disabilities are usually not recommended by medical personnel for placement into government-run schools.

Participants indicated that people with disabilities should also possess vocational skills if they want to find employment, particularly those who are not academically inclined. Such skills are available in Malaysia via various paths (mainstream schools, special education schools, vocational schools, Community-Based Rehabilitation (CBR) programmes, sheltered workshops, rehabilitation centres, welfare and NGO institutions), depending on the individual's age and type of disability. In addition to these skills, participants noted that people with disabilities should also be equipped with other job-related skills such problem-solving and community living skills. In addition to practical skills, participants noted the importance of optimism, confidence, honesty and openness (about their disabilities) in achieving employment of people with disabilities. Individuals with such traits were deemed to be psychologically empowered and possess high levels of self-awareness and self-acceptance – making them more resilient in the face of challenges. Such challenges were identified in this study. Employers' negative perceptions and treatment, "the shortcomings of people with disabilities" and negative parental attitudes were all identified by the visually impaired participants as major barriers to employment. The majority of the participants felt that employers remain reluctant to hire people with disabilities, lacking confidence in their abilities and often not possessing the necessary workplace facilities to accommodate their needs. Society's negative perceptions and prejudicial attitudes towards the competency of people with disabilities were mentioned in the study, although participants also noted that people with disabilities are equally responsible for their inability to obtain employment as

they may lack the basic skills required to perform a job. Overprotective parents, or those unwilling or unable to accept their children's disabilities, were again cited as doing "more harm than good to their children", with some hoping they can 'cure' their children through spiritual healing. It was felt that such attitudes not only impart false hopes on children but also neglect their immediate need for special intervention, which could enhance their future employability. This results in some people with disabilities remaining at home, increasing social isolation and dependence on immediate family members.

In short, the persistently high unemployment rate among people with disabilities in Malaysia, (as of 2002, less than 1 per cent of the disabled population was employed), was attributed to: employers' negative perceptions, a lack of skills among people with disabilities and associated negative psychological traits, and the negative attitude of parents. Some measures to overcome these problems were proposed by the participants across various domains. People with disabilities need to be positive about their own capabilities and potential where possible, and this can be aided by parental confidence. In addition to greater community engagement and wider job opportunities being required, employers need to ensure policies are in place that support people with disabilities in education. On a wider scale, governments need to establish clear policies on inclusion education, job quotas, and provision of supported employment services (such as job placement and skills training). Such policies should be highlighted in the media to enhance public awareness.

### *Occupational Rehabilitation*

Four studies have considered occupational rehabilitation interventions, programmes that encompass a range of services designed to facilitate and support entry or re-entry to work. The studies have been undertaken in a wide range of contexts in Brazil, China, Peru and South Africa. Bitencourt and Guimaraes' (2012) study employed a mixed methods approach to investigate the inclusion of people with disabilities (predominantly with mental impairments) into the workforce of a shoe company in Brazil. The employees with mental disabilities were assigned to assembly cells with work distributed in accordance with the rhythm appropriate for each person with disabilities, allowing for flexibility that was decisive for the inclusion process. The cell team roster was therefore able to meet the demands of production and also the individual demands arising from staff with disabilities. Throughout

the process of inclusion there were unforeseen occurrences, deviations and readjustments in the form of inclusion, with each case being dealt with individually. The results demonstrated that the inclusion of disabled workers did not adversely affect production and that there was universal agreement that the inclusion process improved the relationship of the employer with all of the staff leading to the work environment being enhanced. This study therefore reinforces the importance of meeting the demands of people with disabilities in the workplace, such as employing teams of specialists to implement and/or support the process of inclusion with a coincident commitment to inclusion by the company's board of directors.

Mandic and Heymann's (2009) qualitative study investigated an internationally recognised programme that provides early intervention services, education, and vocational training and support for individuals with developmental disabilities and their families. This particular case operated in Peru's largest and oldest bank. The researchers undertook 65 semi-structured interviews with the Chief Executive Officer, Human Resources (HR) personnel, non-HR employees, supported employees, parents, and both management and non-management level staff. The programme itself was designed to provide supported employees and their families an opportunity for greater social inclusion and self-respect while providing a secure income and vital employment-related benefits. The programme demonstrated the successful placement of individuals with significant disabilities into employment, receiving equal compensation, and contributing to economic and social wellbeing in both workplace and familial settings. The findings support claims that business leaders' willingness to hire people with disabilities may be especially influenced by the experiences of other businesses in similar contexts and successful models even in different industries. The bank undertaking the intervention also stressed the importance of the high level of support and availability from Centro Ann Sullivan del Perú (CASP), the institution administering the programme, a finding consistent with research in higher-income contexts.

Soeker et al.'s (2012) study investigated the lived experience of those with traumatic brain injury (TBI) through qualitative interviews with 10 participants (nine male and one female), exploring their experiences of rehabilitation programmes designed to enable clients to return to work. The data demonstrated multiple factors that influenced participants' ability to return to work after a brain injury. Under the first theme of enabling factors, the following were identified: participants required holistic treatment (both physical and cognitive

rehabilitation) in order to prepare them for returning to work; transparency with employers was an important factor before continuing in the workplace; some participants saw value in experimenting with different types of jobs after the brain injury in order to determine what job would fit their current functional capacity, while work screening provided a realistic indicator of whether they would cope in their new work place. Family counselling was deemed essential for the acceptance and preparation of the brain injured individual's family for the care of the participant. Most participants believed their voice and preferences should have been taken into consideration, particularly when advising return to work interventions - while fostering self-determination should be one of the main areas of focus in rehabilitation. In a similar vein, participants routinely argued that they did not want to be treated like children especially during rehabilitation: they felt that their experiences were valid and that they should be treated respectfully and with dignity. The most significant barriers encountered during return to work programmes were that many participants noted frustration at the ineffective administration systems of hospitals, with administrative delays sometimes affecting applications for disability grants. When in work, participants reported some employers not wanting to reasonably accommodate the employee in a reduced capacity, and others were not provided with alternative work arrangements before being dismissed due to their medical conditions. The authors conclude that occupational therapy practitioners (and rehabilitation personnel) should prioritise the identification and promotion of enabling factors, and seek to remove the barriers that impact on return to work intervention programmes.

Cheng et al. (2011) employed a cross-sectional survey (alongside focus group discussions and panel reviews) to analyse return to work (RTW) coordination practices in Guangdong province, China. The findings suggest that RTW activities in China were similar to those in the West, including workplace assessment and mediation, social problem solving, role and liability clarification, and medical advice. This study indicated that differences among stakeholders were observed in terms of areas of relative priority. There is a clear need for research and training in China to establish a nation-wide terminology for RTW coordination, facilitate cross-provincial studies and work toward a more integrated system addressing the diverse perspectives of stakeholders involved in the RTW process.

## *Secondary Findings*

This section seeks to answer the same research question but does so by employing insights from publications that present no primary data. While some of the publications included in this section evidence their assertions through citing prior studies (and in some cases point to ongoing research) these secondary findings cannot be considered as evidence in the same manner as the previous section. Nonetheless the insights afforded by the various authors remain worthy of consideration, not least due to established providence of the publications – included publications are published in peer reviewed journals (n=7) or published by significant institutions such as the United Nations (n=1) – and the experience of many of the authors.

In an extensive report into the employment situation of people with disabilities, the United Nations (2012) analyses relevant provisions of the Convention on the Rights of Persons with Disabilities, and identifies both good practice and the core challenges regarding the promoting employment opportunities for people with disabilities. The report is based on responses to a series of questions relating to work and employment of people with disabilities sent out by the Office of the United Nations High Commissioner for Human Rights (OHCHR) to UN Member States, the International Labour Organization (ILO), intergovernmental organisations, NGOs, national human rights institutions and the Special Rapporteur on disability of the Commission for Social Development. The reasons for low labour force participation by people with disabilities are unsurprisingly found to be multifaceted but the report argues a major challenges lies in negative attitudes, stigma and stereotypes of people with disabilities being in some way ‘unsuitable’ to participation in the labour market. This stigmatisation leads to discrimination of people with disabilities which for many results in denial of their right to work, as provided for in article 27 of the Convention on the Rights of Persons with Disabilities. The report considers a wide range of efforts undertaken to promote the employment of people with disabilities in a range of contexts, and provides a comprehensive, if broad brush, set of recommendations that nation states should adopt.

The report calls for nation states to take immediate action to enact and/or enforce legislation prohibiting disability-based discrimination in the area of work (and should inform both public and private sector employers, as well as people with disabilities, of the concept and implications of reasonable accommodation). The authors argue that it is imperative

that states move away from sheltered employment schemes and promote equal access for people with disabilities in the open labour market. More importantly, states have an obligation to raise awareness among employers of their duty to employ people with disabilities, while employers in both the public and private sectors must proactively seek to create a working environment that welcomes all potential employees. Besides ensuring that public sector workplaces are accessible to people with disabilities, states should impose accessibility requirements on private sector employers, including through informing employers about their duty to identify and eliminate barriers that hinder people with disabilities from accessing the workplace on an equal basis with others. In addition, the Convention requires nation states to adopt positive measures to increase employment of people with disabilities in the public and private sectors, including through the promotion of self-employment schemes which are non-discriminatory and fully inclusive. States should also ensure – including through legislation – equal access to vocational training and rehabilitation programmes that are non-discriminatory, accessible to and inclusive of all people with disabilities, and guarantee that reasonable accommodation is provided. In a cognate vein social protection programmes should support people with disabilities in seeking and maintaining work, and avoid creating so-called ‘benefit traps’ which discourage individuals from engaging in formal work.

Finally the report requests that relevant parties include indicators on type of disability and type of work when collecting data on employment to allow for well informed and targeted efforts to be made to improve the employment situation of people with disabilities in the future. The report also argues that relevant bodies should involve representative organisations of people with disabilities in the design, implementation, evaluation and monitoring of all policies and programmes related to the employment of people with disabilities (with an independent mechanism suggested that can aid in helping to create stronger links between social partners already engaged in employment policy and monitoring, and representative organisations of people with disabilities).

Regarding legislative and institutional measures, Sing (2012) reports that South Africa has been hailed as a model for the rest of Africa regarding interventions designed to improve the employability of people with disabilities, especially concerning assessment reports and strategic interventions. The South African Government designated that by 2010, people

with disabilities must comprise 2 per cent of total public service employment, however at the time of writing Sing (2012) noted concerns that this target is likely not to be met. The author argues that in order to achieve this target all state and non-state stakeholders need to intensify their endeavours through “analytical rigour applied to understanding and dealing with challenges and concerns” (Sing, 2012: 169). This should involve the mobilisation of civil society to support strategic interventions and clarification of conceptual challenges (particularly regarding country-specific definitions of disability) in order to facilitate informed discourse.

Chan et al.'s (2011) article examines issues related to the development and provision of occupational rehabilitation services in Singapore and Malaysia, with particular reference to how Asia's different developing societies could benefit from better alignment of occupational rehabilitation practices and sharing of expertise through international collaboration and dialogue platforms. The review argues that Singapore and Malaysia share similar obstacles in delivering occupational rehabilitation such as a lack of awareness among stakeholders about the RTW process and the extrinsic and intrinsic benefits; a lack of (central) coordination for occupational rehabilitation services; and a lack of funding, for example for multidisciplinary healthcare teams that develop comprehensive work rehabilitation processes.

Consequently, the authors argue that there is significant room for systemic improvements that require government support and action. A key recommendation is that the training of more healthcare professionals in the assessment and rehabilitation of the injured worker should be encouraged. Furthermore, establishing a better liaison between the many stakeholders, as well as additional funding being made available to develop resources and to jump-start strategic programs, would be beneficial. The overriding message of the authors is the need for greater communication and exchange of knowledge and ideas among healthcare professionals and various stakeholders of the nearby countries (particularly China and India). Since Singapore and Malaysia are witnessing rapid economic growth, more resources should be allocated to establish holistic care of the injured workers, emphasising early interventions and prevention of chronic disabilities.

Jayadevan and Balakrishnan (2002), in a letter to the editors of *Leprosy Review*, argue that leprosy is more a medico-social problem than a disease, since although leprosy is no longer a public health problem in many endemic countries, the social aspects –

predominantly stigma, discrimination, poverty, disability, deformity and loss of self-confidence – remain major hurdles to overcome. The authors argue that almost all leprosy elimination programmes fail to provide adequate emphasis on the social aspects, especially deformity care and rehabilitation. With reference to a CBR programme in Koduvayur and Nemmara, Palakkad District, Kerala State, South India, the authors argue that interventions that address social aspects of leprosy can create self-confidence among patients and strengthen them financially.

The project submitted in this CBR programme was for supplying goats, cows and residential houses to patients, along with instructions on how to protect and preserve the goats and cows and to use them as a means for their livelihood. The study reputedly shows that when an individual is given two goats, this number can be expected to increase to seven within a period of 1.5 years; the individual will then be allowed to sell four goats, keeping back two or three for his own use. This process will continue, and will produce a regular income. This small project, the authors argue, has helped participants lead a productive life with dignity while participating in family activities. The attitude of the family towards the patient was also reported as changing positively, while new enthusiasm among leprosy workers to take up more activities was indicated. As the goal of leprosy elimination becomes a reality, the authors conclude that increasing efforts should be put into the fulfilment of CBR activities and this need not be the responsibility of governments as resources at the local level can be mobilised at relatively little cost.

Stuelz (1999) article describes several attempts to implement CBR strategies in Lao People's Democratic Republic. Considering a range of government, non-government, and foreign agencies attempts at meeting the needs of people with disabilities in the country, the author concludes that: first, it is easier to integrate people with disabilities through education programmes; second, there is a need to educate health professionals in the non-medical expectations of any rehabilitation programme; third, that occupational therapists may be the preferred health professionals to be involved in CBR programmes; and fourth, that new CBR programmes are more likely to receive support if they are modelled on existing and successful programmes.

Miles (1996) argues that unless CBR programmes enter into genuine consultation with the disability rights movement they are in danger of repeating the mistakes of institution-based rehabilitation. The long-term goal of all CBR programmes should be to facilitate people

with disabilities to take control of their own lives and to play a decisive role in any services that are created; the cultural bias in Africa towards collective, rather than individual, needs and responsibilities should therefore be fully exploited by CBR activities. Miles (1996) attests that partnerships between CBR programmes and disabled people's organisations in southern Africa has led to the development of a more consumer focused approach to CBR. Where people with disabilities have been fully involved in the design and implementation of programmes, CBR workers have a clearer understanding of disability as a development issue, with the result that education, employment and poverty alleviation have been given a higher priority than medical rehabilitation in these programmes. Community-based rehabilitation workers therefore are seen to have a key role in the development and capacity building of disabled peoples' organisations, especially at community level as they have access to information and resources which need to be shared. Their role also extends to feeding information about disability work at community level to national level policymakers, providing an essential link between local and national issues. Miles (1996) argues that the western model of resource-driven service provision is unsustainable and of questionable value. In place of this, people with disabilities require access to mainstream services and to appropriate information in an accessible form; CBR has the potential to unlock and validate existing indigenous knowledge and information systems while facilitating access to relevant information and ideas outside the community. The argument put forward is that this should be done with the active participation of the 'consumers' themselves and with an understanding of disability as a development issue.

Van Olmen et al. (2011) attest that people suffering with chronic conditions have a crucial role in the management of their condition and therefore should be empowered so that they become the centre of management of their condition. The authors argue that people with chronic life-long conditions need to 'rebalance' their life in order to combine the needs related to their chronic condition with other elements of their life; however present provider-centred models of chronic care do not allow this adequately. In place of this 'full self-management' is proposed as an alternative for low-income countries, facilitated by expert patient networks and smartphone technology. In full self-management, patients become the hub of management of their own care and take full responsibility for their condition, supported by peers, professionals and information and communication tools. Van Olmen et al. (2011) suggest that the shift from provider-centred to patient-centred models can be achieved through peer support and expert-patient networks, and the

development and distribution of smartphone technology (for instance social media and communication tools, information sites for low bandwidth, peer patient platforms at Facebook, text messages and Twitter options for acute questions). The authors conclude that their 'working hypothesis' merits field testing, and should be evaluated on its effect on empowerment and on health outcomes. Various models should be explored depending on context variables, such as the burden of disease, the availability of professional health staff, the capacity and quality of health services, the availability of tools and infrastructure, the spread of technologies, social transitions and other factors. The funding to develop and distribute these applications may come from both public sources and private companies envisaging future markets. The governance challenge is to bring the different medical, social and technical developments together, but there is not one uniform model or blueprint. In the view of the authors, the ultimate goal of adequate chronic care should be to empower people so that they become experts in managing their lives, using all dimensions of support, networks and tools when necessary.

Vindigni et al. (2009) introduce the STTEP (Sustainable Training, Treatment, Employment Program) model, which provides conceptual framework for policymakers, practitioners, and educators involved in musculoskeletal health care, with the particular goal of creating ongoing employment opportunities to empower marginalised people. The model evolved from a need to promote sustainable musculoskeletal health care in marginalised communities that endure a substantial burden of painful and disabling conditions. This is compounded by limited access to affordable and accessible health care services, particularly in developing countries. Central to the model is the establishment of accredited training programs or an affiliation with existing accredited training institutes that are linked to ongoing employment opportunities.

Figure 2: STTEP (Sustainable Training, Treatment, Employment Program) model

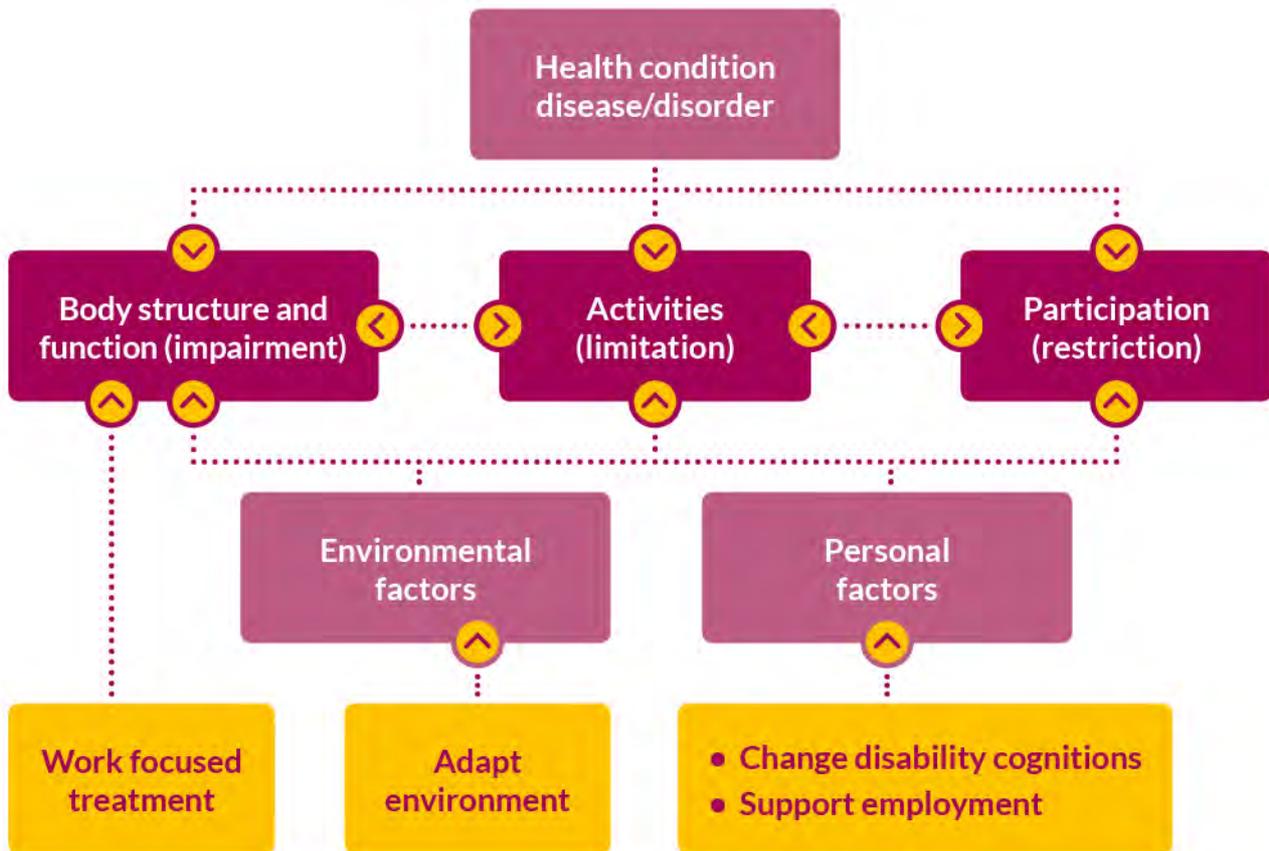


Source: Vindigni et al. (2009: 88)

The author's discuss the STTEP model in light of the inclusion of a nationally accredited Australian qualification and suggest that the model has the potential to be adapted by communities dependent on the effective, affordable, and sustainable management of musculoskeletal conditions by providing a framework for establishing similar programs with impoverished communities. The model also supports training for community members and collaborates with community leaders to promote employment opportunities for graduates and in so doing an ethos of cultural sensitivity, corporate responsibility, and sustainability.

Verbeek (2006) discusses the World Health Organisation's Model of Functioning, Disability, and Health that seeks to help doctors understanding the problem of returning to work.

Figure 3: The WHO Model of Functioning, Disability, and Health



Source: Verbeek (2006: 0312)

The model considers the influence of disease and its intermediaries on an individual’s participation in society, or more specifically: ‘body structure and function’, ‘activities’, and ‘participation’, which lead to either disability or no disability depending on important conditional factors of environmental origin (such as heavy physical work) and personal origin (such as personal ideas about disability). The model offers three opportunities for intervention. First is better treatment – for instance in the 1970s and 1980s, a change in the treatment of heart disease greatly influenced its related disability. Verbeek (2006) notes that when work issues are addressed as part of treatment, return to work is often more successful. Second, the environmental factors provide an opportunity for intervention by adapting the environment to workers. This can provide a strong incentive for occupational physicians to advocate workplace adaptations to prevent disability; for instance special arrangements made by the employer such as gradual return to work, which all doctors can recommend. Third, opportunities are provided by person-related factors: while improving or learning skills has long been the focus of rehabilitation,

Crowther et al.'s (2001) Cochrane review demonstrates that supported employment is more effective than prevocational training – this emphasises rapid job placement for the patient and ongoing support after placement. Notably it has been found that, for a wide variety of diseases, the expectations of the patient about recovery best predict the time taken to return to work (Cole et al., 2002).

## **Conclusion**

As with Tripney et al.'s (2015) systematic review, the overall finding of this supplementary review is the scarcity of robust evidence in this area as indicated by the small number of studies that met the (widened) inclusion criteria. Furthermore only three studies researched interventions in countries where Sightsavers presently operates (India, Kenya and Bangladesh). Despite the evidence demonstrating generally positive outcomes from the range of interventions, we have to remain cautious about drawing strong inferences from the findings of this body of literature, due both to nature of the research (where establishing causality is not feasible), and the heterogeneity of the evidence base. Whether the circumspect nature of these findings is truly reflective of the evidence available, or it is a failure of systematic reviews, remains a matter of debate. For instance, it is notable that interventions are widely treated as discrete projects and there is a lack of regulatory or policy-heavy approaches being evaluated. This may be due to practical issues of research, as wide ranging policy programmes are harder to conceptualise and therefore research, or it may be due to a lack of 'joined up thinking' in the development field. Perhaps inevitably therefore, this report must reinforce Tripney et al.'s (2015: 9) original overarching finding that:

Our assessment of the evidence does not allow us to develop practical suggestions on what interventions are likely to work, for whom, and when. Clearly, there is an urgent need for investment in high quality impact evaluations of interventions to support people with disabilities in accessing the labour market in low- and middle- income settings. To build the evidence base further, it is therefore important that many more of the interventions currently in existence in low- and middle-income countries are rigorously evaluated, and the results are reported and disseminated widely.

This message bears repeating: a brief consideration of what a future research agenda might look like is provided below. While the assessment of the evidence in this supplementary review does not allow for generalised suggestions on what interventions will work in any given contexts, it is possible to distill nuanced themes from the findings and seek to establish trends within evidence. The widened selection criteria for evidence in this supplementary review lends some credibility to such themes given the breadth of evidence considered.

A wide range of interventions have been considered with no single type of intervention displaying unqualified success in altering the labour market situation of people with disabilities. While the contextual reasons for low labour force participation by people with disabilities are unsurprisingly found to be multifaceted, a significant underlying theme has been noted concerning pervasive negative attitudes and stigmatisation of disabilities, and ongoing stereotyping of people with disabilities being in some way 'unsuitable' to participation in the labour market (United Nations, 2012). At the highest level, the United Nations (2012) suggests that a stronger role for national governments in enacting and/or enforce legislation prohibiting disability-based discrimination is a necessity in both concrete terms (facilitating, funding and monitoring interventions) and in terms of awareness and combatting prejudice.

While nation states and intermediary bodies such as NGOs have vital roles to play in terms of creating labour market opportunities, allocating and administering resources, and awareness-raising, a strong message from the findings is that people with disabilities should be central to the design and implementation of interventions. Such arrangements have the dual effect of tailoring interventions to the specific needs of people with disabilities (particularly on otherwise invisible issues and wider support networks) but also directly addresses wider perceptions and stereotypes regarding the capabilities of people with disabilities. There is a generally positive direction of effect displayed across the range of interventions with positive developments in social awareness and attitudes noted, while the evidence here suggests that visibility of disability issues are increasing globally. However many of the included studies noted interventions had positive social impacts but failed to improve the labour market situation of people with disabilities, as demonstrated by Thompkins' (2011) study concerning a micro lending programme in Andhra Pradesh, India. The social elements of the lived experience of disease has been brought to the fore in various scenarios: from adapting CBR initiatives to the cultural contexts (Coreil and

Mayard, 2006) to promoting patients' self-management of chronic diseases to allow people with disabilities to 'rebalance' their lives (Van Olmen et al., 2011) and emphasising the importance of listening to the preferences of people with disabilities when designing RTW interventions (Soeker et al., 2012). The second prevalent theme across the interventions is the need to establish, extend and deepen processes of shared learning (both vertically and horizontally but predominantly the latter). This has been highlighted in several contexts from information sharing between practitioners and NGOs (Lundgren-Lindquist and Nordholm, 1996, 1999), learning lessons from prior and existing successful intervention programmes (Stuelz, 1999; Lundgren-Lindquist and Nordholm, 1996, 1999), information sharing between business leaders with experience of integrating people with disabilities into the workforce (Mandic and Heymann, 2009) and sharing occupational rehabilitation expertise through international collaboration and dialogue platforms (Chan et al., 2011).

The three cases of community-based rehabilitation (CBR) interventions analysed in this review emphasis the importance of cultural adaption for source models (Coreil and Mayard, 2006), consistent and more in-depth training for volunteers undertaking CBR activities (Lundgren-Lindquist and Nordholm, 1996, 1999), and encouraging people with disabilities to persist in their participation with interventions such as self-help groups (SHGs) for sufficient time to reap the benefits (Dhungana and Kusakabe, 2010). Initiatives such as CBRs evidently help combat wider negative opinions of people with disabilities, but lack of physical access can undermine such efforts (Dhungana and Kusakabe, 2010), suggesting that a holistic oversight of such initiatives is required. This is reinforced by the need, as noted above, to share information between practitioners and NGOs (Lundgren-Lindquist and Nordholm, 1996, 1999).

The findings indicate that CBR programmes can have positive effects on a wide range of outcomes, principally awareness of people with disabilities, quality of life and social participation; however positive impacts of social inclusion and increased labour market participation remain both circumspect and, where evident, uneven. Jayadevan and Balakrishan (2002) found that interventions that address social aspects of leprosy can create self-confidence among patients as well as strengthening them financially – arguably placing CBR as best placed to address social aspects of disability given its community setting. Concerning implementation, as with many policies Stuelz (1999) found that new

CBR programmes are more likely to receive support if they are modelled on existing and successful programmes, while in a cognate vein, Miles (1996) argues that unless CBR programmes enter into genuine consultation with the disability rights movement they are in danger of repeating the mistakes of institution-based rehabilitation. The recurrent message therefore is for a considered process of engaging with relevant partners, placing participant experiences central to project design, and frontloading information sharing. As Miles (1996) notes, CBR is arguably uniquely positioned to unlock and validate existing indigenous knowledge(s) and information systems while facilitating access to relevant information and ideas from across and outside the community.

A worrying cross-cutting finding from educational interventions was that negative social attitudes and perceptions, emitting variously from families, communities, educational institutions and employers, were apparent in both Malaysia (Lee et al., 2011) and South Africa (Cramm et al., 2013). However, these studies suggest that increased public awareness, and the practice of employing people with disabilities in schools can, in some contexts, lead to improved outcomes and greater social participation of people with disabilities in educational programmes - as demonstrated by Johnstone and Corce's (2010) study of deaf teachers in Kenya. While the link between overcoming barriers to education and improved employment prospects is explicitly referred to and implicitly assumed across the above research, no findings demonstrably prove a link between levels of education and improved labour market situations for people with disabilities.

Nonetheless, as demonstrated by Johnstone and Corce (2010), interventions such as placing hearing impaired teachers into schools with pupils with disabilities can have wider positive effects, not least as positive role models for future generations.

The findings concerning occupational rehabilitation emphasised the importance of horizontal learning, with business leaders displaying a willingness to hire people with disabilities when exposed to the positive experiences of other businesses (Mandic and Heymann, 2009). For the employed people with disabilities themselves, the importance of meeting specific workplace demands (such as employing specialists to support the process of inclusion) was considered imperative (Bitencourt and Guimaraes, 2012), while participants in Soeker et al.'s (2012) study emphasised the importance of listening to the preferences of people with disabilities when designing RTW interventions, with the fostering of self-determination considered a central goal of any such programme. Bitencourt and Guimaraes' (2012) study of the inclusion of people with disabilities

(predominantly with mental impairments) into the workforce of a shoe company in Brazil demonstrated that the inclusion of workers with disabilities improved the relationships between *all* employees and the employer. The study reinforced the importance of flexibility in meeting the demands of people with disabilities in the workplace as well as commitments to inclusion made by company directors. Crucially the 'exposure' of businesses to employees with disabilities did not adversely affect production while the presence of people with disabilities in the workforce enhanced the work environment, presumably reinforcing positive attitudes towards the participation of people with disabilities.

On a wider footing, Chan et al.'s (2011) study of occupational rehabilitation services in Singapore and Malaysia noted a lack of (central) coordination and thus advocated greater communication between the many stakeholders, as well as additional funding being made available to develop resources and to jump-start strategic programs. Chan et al.'s (2011) discussion reinforced the need for international information sharing, contributing to greater expertise and best practice through global collaboration and dialogue platforms (Chan et al. 2011). Echoing this sentiment at the local level, Sing's (2012) discussion of legislative and institutional measures in South Africa notes that specific strategic interventions should be underpinned by a mobilised civil society that participates in informed discourse regarding disability (for instance through addressing conceptual challenges such as country-specific definitions of disability). While operating at different scales, these studies reinforce the need for a shared language regarding disability while retaining contextual and cultural specificities; such informed discourses can act as a solid bedrock for information sharing and ongoing communication concerning what works regarding labour market interventions.

One way that such a scenario can be manufactured is through combating unequal power relationships and a recalibration of knowledge pertaining to the lived experience of disability. For instance, Van Olmen et al. (2011) discuss the need for people with disabilities with chronic life-long conditions to 'rebalance' their lives in order to combine the needs related to their chronic condition with other elements of their life, and advocate patient-centred approaches to achieve this. The ultimate goal of adequate chronic care should be to empower people so that they become experts in managing their lives, using all dimensions of support, networks and tools (for instance peer patient platforms utilising smartphone technology) when necessary. Such a power shift would embed the cultural

sensitivity required when designing interventions and act as a 'bottom up' mechanism for finessing interventions and complement top down strategies such as upholding corporate responsibility (Vindigni et al., 2009).

### *Directions for Future Research*

As indicated by the limited findings of this supplementary review and that of Tripney et al. (2015), there is a need for further research regarding the labour market situation of people with disabilities. This supplementary review has attempted to broaden the inclusion criteria of potential studies addressing the research question which has facilitated a broader debate concerning interventions. Due to the wide range of academic disciplines interested in this area (development, disability studies, sociology, geography, medical studies and so on) greater uniformity in methodologies and research outputs is unlikely. Therefore there is a need for greater flexibility in the gathering and analysis of research evidence. This review has added greater flexibility to traditional systematic review methods. The intricacies of this approach will be considered in further publication, however there are some limitations beyond the source data that should be noted. While the process has allowed for greater input to the discussion, the selection criteria including the need for critical appraisal has meant that some articles were excluded due to not having a relevant intervention (but did provide primary data) while discussion articles with no primary data were not subject to the same levels of appraisal. As a result some consequential analysis may have been excluded from the discussion because particular publications did not explicitly consider a relevant intervention. A finessed (although likely time consuming) process would incorporate such evidence perhaps through tools used during scoping studies (Arksey and O'Malley, 2005) in order to capture this evidence more effectively.

A number of included studies in this review have highlighted the need for longitudinal research to uncover the longer term effects of interventions (Thompkins, 2011; Borg et al., 2012). Furthermore, there is a desire that relevant parties subscribe to widely accepted indicators on types of disability (and forms of employment) when collecting data to allow for a well-informed, nuanced analysis leading to targeted efforts to improve the employment situation of people with disabilities in the future (United Nations, 2012).

## **List of Abbreviations**

CASP	Critical Appraisal Skills Programme
CBR	Community-based rehabilitation
HIC	High income country
HR	Human resources
ILO	International Labour Organization
LMIC	Low- and middle- income country
LIC	Low income country
MMR	Mixed methods research
NGO	Non-governmental organisation
OHCHR	Office of the United Nations High Commissioner for Human Rights
PwD	People with disabilities
RTW	Return to work
TBI	Traumatic brain injury

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## Appendices

### Appendix i - Included Studies

<b>Study ID</b>	Borg et al. (2012)
<b>Study Details</b>	
Full Citation	Borg et al (2012) 'Assistive technology use and human rights enjoyment: a cross-sectional study in Bangladesh', <i>MC International Health and Human Rights</i> , 12:18. Available: <a href="http://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/1472-698X-12-18">http://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/1472-698X-12-18</a> (accessed: 03/04/16).
Year of publication(s)	2012
Author(s)	Johan Borg, J., Larsson, S., Östergren, P.O., Rahman, ASM.A., Bari, N. and Khan, AHM.N
Lead author contact details	johan@propempo.se
Publication type	Peer-reviewed journal
Study funding	Swedish International Development Cooperation Agency
Conflicts of interest	None identified
<b>Study Summary</b>	
Geographical location	Bangladesh
Income classification	LMIC
Period covered	6 November 2009 - 1 February 2010
Intervention classification	Assistive devices & accommodations
Intervention	Assistive technology
Methodology	Questionnaire
Overall Risk of Bias	Low
<b>Sample/Participants</b>	
Number of participants	583
Disability	Ambulatory impairments
Age range	15 - 55
Sex	Mixed

<b>Study ID</b>	Dhungana and Kusakabe (2010)
<b>Study Details</b>	
Full Citation	Dhungana B.M. and Kusakabe, K. (2010) 'The role of self-help groups in empowering disabled women: a case study in Kathmandu Valley, Nepal', <i>Development in Practice</i> , 20 (7), 855-865.
Year of publication(s)	2010
Author(s)	Dhungana B.M. and Kusakabe, K.
Lead author contact details	st101095@ait.ac.th
Publication type	Peer-reviewed journal
Study funding	Not stated
Conflicts of interest	None identified
<b>Study Summary</b>	
Geographical location	Nepal
Income classification	LIC
Period covered	January - June 2006
Intervention classification	Community based rehabilitation
Intervention	Self-help groups
Methodology	Qualitative (in-depth, unstructured interviews)
Overall Risk of Bias	Medium
<b>Sample/Participants</b>	
Number of participants	58
Disability	Mixed (15 congenital disabilities, 43 had acquired a disability; 12 hearing impairment, 5 visual impairments, and 41 had physical impairments)
Age range	19 - 47
Sex	Female

<b>Study ID</b>	Lundgren-Lindquist and Nordholm (1996, 1999)
<b>Study Details</b>	
Full Citation	Lundgren-Lindquist, B. and Nordholm, L.A. (1996) 'The impact of community-based rehabilitation as perceived by disabled people in a village in Botswana', Disability and Rehabilitation, 18 (7), 329-34.  Lundgren-Lindquist, B. and Nordholm, L.A. (1999) 'Community-based rehabilitation in Moshupa village, Botswana', Disability and Rehabilitation, 21(10-11), 515-521.
Year of publication(s)	1996, 1999
Author(s)	Lundgren-Lindquist, B. and Nordholm, L.A.
Lead author contact details	Not stated.
Publication type	Peer-reviewed journal
Study funding	Not stated
Conflicts of interest	None identified
<b>Study Summary</b>	
Geographical location	Botswana
Income classification	UMIC
Period covered	November -December 1993 and 1995
Intervention classification	Community based rehabilitation
Intervention	Moshupa Community Based Rehabilitation (CBR) project
Methodology	MMR (questionnaire and interviews)
Overall Risk of Bias	Medium
<b>Sample/Participants</b>	
Number of participants	First follow up study n=132. Second follow up study n=20
Disability	Mixed - 65% mobility difficulties, 33% mental retardation, seeing, hearing and speech difficulties were rare.
Age range	0 - 75+
Sex	Mixed (47% female and 53% male)

<b>Study ID</b>	Coreil and Mayard (2006)
<b>Study Details</b>	
Citation	Coreil, J. and Mayard, G. (2006) 'Indigenization of Illness Support Groups in Haiti', Human Organization, 65 (2), 128-139.
Year of publication(s)	2006
Author(s)	Coreil, J. and Mayard, G.
Lead author contact details	Not stated
Publication type	Peer-reviewed journal
Study funding	Tropical Diseases Research, World Health Organization
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	Haiti
Country income classification	LIC
Period covered	1998 - 2001
Intervention category	Community based rehabilitation
Intervention	Peer support groups
Design/Methodology	Questionnaire (semi-structured)
Risk of Bias	High
<b>Sample/Participants</b>	
Number of study participants	340 (including control groups)
Disability	Lymphatic filariasis (most participants had been living with condition for 10-20 years)
Age	Not stated
Sex	Female

<b>Study ID</b>	Cramm et al. (2013)
<b>Study Details</b>	
Citation	Cramm, J.M., Nieboer, A.P., Finkenflügel, H. and Lorenzo, T. (2013) 'Disabled youth in South Africa: Barriers to education', International Journal on Disability and Human Development, 12 (1), 31-35.
Year of publication(s)	2013
Author(s)	Cramm, J.M., Nieboer, A.P., Finkenflügel, H. and Lorenzo, T.
Lead author contact details	Theresa.Lorenzo@uct.ac.za
Publication type	Peer-reviewed journal
Study funding	South Africa Netherlands research Programme on Alternatives in Development, the national Research Foundation, South Africa and the University Research Committee, UCT
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	South Africa
Country income classification	UMIC
Period covered	2009
Intervention category	Education
Intervention	Practice learning placement for occupational therapy students.
Design/Methodology	MMR - qualitative study and quantitative survey
Risk of Bias	Medium
<b>Sample/Participants</b>	
Number of study participants	989
Disability	Mixed - physical disability n=231, mild intellectual disability n=169 and others.
Age	18 - 35
Sex	Mixed (62% female and 38% male)

<b>Study ID</b>	Johnstone and Corce (2010)
<b>Study Details</b>	
Citation	Johnstone C. and Corce H. (2010) "I Have Been Given the Power to Teach. The Children Understand Me Very Well." The Social and Academic Impact of Deaf Teacher Training in Kenya', International Review of Education, 56 (1): 149-165.
Year of publication(s)	2010
Author(s)	Johnstone and Corce (2010)
Lead author contact details	john4810@umn.edu
Publication type	Peer-reviewed journal
Study funding	Not stated
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	Kenya
Country income classification	LMIC
Period covered	2006
Intervention category	Education
Intervention	Deaf teaching training
Design/Methodology	MMR - interviews and questionnaire
Risk of Bias	Medium
<b>Sample/Participants</b>	
Number of study participants	Interviews n=7. Questionnaire n=140). Focus groups n=21.
Disability	Hearing impairments
Age	Not stated
Sex	Mixed

<b>Study ID</b>	Thompkins (2011)
<b>Study Details</b>	
Citation	Thompkins, A.V. (2011) Essays on Disability and Employment, thesis submitted to Massachusetts Institute of Technology, June, 2011.
Year of publication(s)	2011
Author(s)	Thompkins, A.V.
Lead author contact details	Not stated
Publication type	Doctoral thesis
Study funding	Not stated
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	India
Country income classification	LMIC
Period covered	2008
Intervention category	Financial
Intervention	Micro lending programme
Design/Methodology	Questionnaire (structured)
Risk of Bias	Medium
<b>Sample/Participants</b>	
Number of study participants	1,920
Disability	Mixed
Age	Mixed
Sex	Mixed

<b>Study ID</b>	Lee et al. (2011)
<b>Study Details</b>	
Citation	Lee, M. N., Abdullah, Y. and Mey, S.C. (2011) 'Employment of People with Disabilities in Malaysia: Drivers and Inhibitors', International Journal of Special Education, 26 (1), 112-124.
Year of publication(s)	2011
Author(s)	Lee, M. N., Abdullah, Y. and Mey, S.C.
Lead author contact details	Not stated
Publication type	Peer-reviewed journal
Study funding	Research University Grant, Universiti Sains Malaysia
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	Malaysia
Country income classification	UMIC
Period covered	Not stated
Intervention category	Education
Intervention	Drivers and inhibitors of employment for people with disabilities in Malaysia
Design/Methodology	Qualitative (semi-structured interviews)
Risk of Bias	Low
<b>Sample/Participants</b>	
Number of study participants	24
Disability	Visual impairments
Age	30 - 40
Sex	Mixed (majority male)

<b>Study ID</b>	Cheng et al. (2011)
<b>Study Details</b>	
Citation	Cheng, A.S.K., Loisel, P. and Feuerstein M. (2011) 'Return-to-work activities in a Chinese cultural context', Journal of Occupational Rehabilitation, 21 (S1), 44–54.
Year of publication(s)	2011
Author(s)	Cheng, A.S.K., Loisel, P. and Feuerstein M.
Lead author contact details	andy.cheng@polyu.edu.hk
Publication type	Peer-reviewed journal
Study funding	Work Disability Prevention CIHR Strategic Training Program, through the Canadian Institutes of Health Research (CIHR) grant(s) FRN: 53909.
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	China
Country income classification	UMIC
Period covered	Not stated
Intervention category	Occupational rehabilitation
Intervention	Guangdong Provincial Work Injury Rehabilitation Centre
Design/Methodology	MMR
Risk of Bias	Low
<b>Sample/Participants</b>	
Number of study participants	43
Disability	Mixed
Age	26 to 48
Sex	Mixed (15 female and 28 male)

<b>Study ID</b>	Soeker et al. (2012)
<b>Study Details</b>	
Citation	Soeker, M S., Van Rensburg V., and Travill, A. (2012) 'Are rehabilitation programmes enabling clients to return to work? Return to work perspectives of individuals with mild to moderate brain injury in South Africa', Work, 43 (2), 171-182.
Year of publication(s)	2012
Author(s)	Soeker, M S., Van Rensburg V., and Travill, A.
Lead author contact details	msoeker@uwc.ac.za
Publication type	Peer-reviewed journal
Study funding	(Supported by) The University of the Western Cape and the Cannon Collins Educational trust of South Africa
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	South Africa
Country income classification	UMIC
Period covered	January 2008 - December 2009
Intervention category	Occupational rehabilitation
Intervention	Rehabilitation programmes
Design/Methodology	Qualitative (in-depth interviews)
Risk of Bias	Low
<b>Sample/Participants</b>	
Number of study participants	10
Disability	Brain injury (either mild or moderate on the Glasgow Coma Scale)
Age	18+
Sex	Mixed (9 male, 1 female)

<b>Study ID</b>	Mandic and Heymann (2009)
<b>Study Details</b>	
Citation	Mandic, C.G. and Heymann, J. (2009) 'Supported Employment in a Lower Income Context: The Case of Banco de Crédito del Perú and Centro Ann Sullivan del Perú', International Journal of Disability, Community & Rehabilitation. 8(1), no page. Available: <a href="http://www.ijdcr.ca/VOL08_01/articles/mandic.shtml">http://www.ijdcr.ca/VOL08_01/articles/mandic.shtml</a> (accessed: 07/01/16).
Year of publication(s)	2009
Author(s)	Mandic, C.G. and Heymann, J.
Lead author contact details	Not stated
Publication type	Peer-reviewed journal
Study funding	Ford Foundation
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	Peru
Country income classification	UMIC
Period covered	Not stated
Intervention category	Occupational rehabilitation
Intervention	Supported employment program
Design/Methodology	Qualitative (semi-structured interviews)
Risk of Bias	Low
<b>Sample/Participants</b>	
Number of study participants	65
Disability	Not stated
Age	Not stated
Sex	Not stated

<b>Study ID</b>	Bitencourt and Guimarães (2012)
<b>Study Details</b>	
Citation	Bitencourt, R. S. and Guimarães, L. B. de M. (2012) Inclusion of people with disabilities in the production system of a footwear industry', Work, 41 (S1), 4767-4774.
Year of publication(s)	2012
Author(s)	Bitencourt, R. S. and Guimarães, L. B. de M.
Lead author contact details	rosisb@ig.com.br
Publication type	Peer-reviewed journal
Study funding	(Part funded by) Brazilian Federal Agency for the Support and Evaluation of Graduate Education
Conflicts of interest	None indicated
<b>Study Summary</b>	
Geographical location	Brazil
Country income classification	UMIC
Period covered	August 2005 - May 2006
Intervention category	Occupational rehabilitation
Intervention	Organisational policies (relating to inclusion of PwD in a shoe company)
Design/Methodology	MMR (direct and indirect observations, interviews and questionnaire)
Risk of Bias	Low
<b>Sample/Participants</b>	
Number of study participants	Questionnaire n=552. Interviews n=63.
Disability	Mixed (mainly mental impairment)
Age	36 - 57
Sex	Female

Appendix ii - All Studies

Reference	Included	Reason for exclusion
Adams J. H. and Williams A. C. de C. (2003) What affects return to work for graduates of a pain management program with chronic upper limb pain?', <i>Journal of Occupational Rehabilitation</i> , 13 (2): 91-106.	No	Failed Eligibility (Criteria 3)
Agboola, I.O. (2006) 'A Comparative Investigation of Entrepreneurship among Deaf Populations in Developed and Developing Countries', in Goodstein, H. (ed.), <i>The Deaf Way II Reader Perspectives from the Second International Conference on Deaf Culture</i> , Washington, Gallaudet University Press, 73-77.	No	Full text unobtainable
Barr, J.K. (1995) 'Case Management: Is It "Cost" Management for Employee Health Benefits?', <i>Advances in Medical Sociology</i> , 6, 135-158.	No	Full text unobtainable
Bianchi Bandinelli, R R, Saba A A; (1998) Proposals and solutions for autonomy of the disabled and elderly', <i>Studies in Health Technology and Informatics</i> , 48, 140-144.	No	Full text unobtainable
Bitencourt, R. S. and Guimarães, L. B. de M. (2012) Inclusion of people with disabilities in the production system of a footwear industry', <i>Work</i> , 41 (S1), 4767-4774.	Yes	N/A
Borg et al (2012) 'Assistive technology use and human rights enjoyment: a cross-sectional study in Bangladesh', <i>MC International Health and Human Rights</i> , 12:18, no page. Available: <a href="http://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/1472-698X-12-18">http://bmcinthealthhumrights.biomedcentral.com/articles/10.1186/1472-698X-12-18</a> (accessed: 03/04/16).	Yes	N/A
Borhan Uddin, F.M. (Year unknown) A research Report On "Mainstreaming of Disability into Society",	No	Failed Sightsavers screening
Briand, C., Durand, M-J., St-Arnaud L. and Corbière M. (2007) 'Work and mental health: Learning from return-to-work rehabilitation programs designed for workers with musculoskeletal disorders', <i>International Journal of Law and Psychiatry</i> , 30 (4-5), 444-457.	No	Failed Eligibility (Criteria 3)
Bucgūnienze, I. and Kazlauskaitze R. (2010) 'Integrating people with disability into the workforce: the case of a retail chain', <i>Equality, Diversity &amp; Inclusion</i> , 29 (5), 534-538.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Bulgaria (Year unknown) Health for Everyone [incomplete reference provided]	No	Full text unobtainable
Burger, H. Marincnek, C and Jaeger R. J. (2004) 'Prosthetic device provision to landmine survivors in Bosnia and Herzegovina: outcomes in 3 ethnic groups', <i>Archives of Physical Medicine and Rehabilitation</i> , 85 (1), 19-28.	No	Failed Eligibility (Criteria 1)
Candela, A.R, and Wolffe, K. (2001) 'The employment consortium: An innovative approach to assisting blind and visually impaired people to find jobs', <i>Journal of Visual Impairment &amp; Blindness</i> , 95 (8), 494-497.	No	Failed Eligibility (Criteria 3)
Candela, A.R. and Wolffe, K.E. (2002) 'Strength in Numbers: Creating Employment Consortia To Assist People Who Are Blind and Visually Impaired To Secure Jobs', <i>RE:view</i> , 34 (1), 5-11.	No	Failed Eligibility (Criteria 3)
Chan, K.-F., Tan, C.W.C., Yeo, D.S.C., Tan, H.S.K., Tan, F.L., Tan, E.W., Szeto, G.P.Y and Cheng, A.S.K. (2011) 'Occupational Rehabilitation in Singapore and Malaysia', <i>Journal of Occupational Rehabilitation</i> , 21 (S1), 69-76.	Yes (secondary findings)	N/A
Chapin M.H. and Holbert, D. (2010) 'Employment at Closure Is Associated with Enhanced Quality of Life and Subjective Well-Being for Persons with Spinal Cord Injuries', <i>Rehabilitation Counseling Bulletin</i> , 54 (1), 6-14.	No	Failed Eligibility (Criteria 3)
Cheng A.S.K., Loisel, P. and Feuerstein M. (2011) 'Return-to-work activities in a Chinese cultural context', <i>Journal of Occupational Rehabilitation</i> , 21 (S1), 44-54.	Yes	N/A
Christy, B., Keeffe, J.E., Nirmalan, P.K. and Rao, G.N. (2010) 'A randomized controlled trial Assessing the Effectiveness of Strategies delivering Low Vision rehabilitation: design and Baseline characteristics of Study Participants', <i>Ophthalmic Epidemiology</i> , 17(4), 203-210.	No	Failed Eligibility (Criteria 1)
Claussen, J., Kandyomunda, B. and Jareg, P. (2005) Evaluation of the community based rehabilitation programme in Uganda, Norwegian Association of the Disabled', 3 June 2005, Norwegian Association of the Disabled, Nordic Consulting Group.	No	Failed Critical Appraisal
Coreil, J. and Mayard, G. (2006) 'Indigenization of Illness Support Groups in Haiti', <i>Human Organization</i> , 65 (2), 128-139.	Yes	N/A

Reference	Included	Reason for exclusion
Cramm, J.M., Nieboer, A.P., and Lorenzo, T. (2012) 'Comparison of resources (education, employment and social support) and well-being among disabled and non-disabled young adults in South Africa' [incomplete reference provided]	No	Failed Eligibility (Criteria 1)
Cramm, J.M., Nieboer, A.P., Finkenflügel, H. and Lorenzo, T. (2013) 'Disabled youth in South Africa: Barriers to education', <i>International journal on disability and human development</i> , 12 (1), 31-35.	Yes	N/A
Cullen, L.A. and Barlow, J.H. (1998) 'Mentoring in the context of a training programme for young unemployed adults with physical disability', <i>International Journal of Rehabilitation Research</i> , 21 (4), 389-391.	No	Full text unobtainable
de Carvalho-Freitas, M. N. (2009) 'Inserção e Gestão do Trabalho de Pessoas com Deficiência: um Estudo de Caso. (Portuguese). <i>RAC - Revista de Administração Contemporânea</i> , 13 (8), 121-138.	No	Failed Eligibility (Criteria 1)
de Klerk, T. (2008) 'Funding for self-employment of people with disabilities. Grants, loans, revolving funds or linkage with microfinance programmes', <i>Leprosy Review</i> , 79 (1), 92-109.	No	Failed Critical Appraisal
De Rijk, A., Nijhuis F., Alexanderson K. (2009) 'Gender differences in work modifications and changed job characteristics during the return-to-work process: A prospective cohort study', <i>Journal of Occupational Rehabilitation</i> , 19 (2), 185-193.	No	Failed Eligibility (Criteria 3)
Dhungana B.M. and Kusakabe, K.(2010) 'The role of self-help groups in empowering disabled women: a case study in Kathmandu Valley, Nepal', <i>Development in Practice</i> , 20 (7), 855-865.	Yes	N/A
Eget, L.A. (2009) <i>Siblings of those with Developmental Disabilities: Career exploration and Likelihood of Choosing a Helping Profession</i> , thesis submitted to Indiana University of Pennsylvania, May 2009.	No	Failed Eligibility (Criteria 1 and 3)
Elksnin, N. and Elksnin, L. K. (1991) 'Facilitating the Vocational Success of Students with Mild Handicaps. The Need for Job-Related Social Skills Training', <i>Journal for Vocational Special Needs Education</i> , 13 (2), 5-11.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Fay, B.T. (1998) 'Evaluation of Individuals with Visual Impairment for Educational and Vocational Applications of Assistive Technology', paper presented at the <i>California State University Northridge Annual Conference</i> , March 1998.	No	Failed Eligibility (Criteria 3)
Fembek, M., Butcher, T.H. Heindorf, I. and Wallner-Mikl, C. (2012) <i>International Study on the Implementation of the UN Convention of the Rights of Persons with Disabilities</i> , Zero Project Report 2013.	No	Failed Eligibility (Criteria 3)
Fisher K., Hanspal R.S., and Marks, L. (2003) 'Return to work after lower limb amputation', <i>International Journal of Rehabilitation Research</i> , 26 (1), 51-56.	No	Failed Eligibility (Criteria 1 and 3)
Flannery K.B., Benz M.R., Yovanoff, P., Kato, M.M., and Lindstrom L. (2011) 'Predicting Employment Outcomes for Consumers in Community College Short-Term Training Programs', <i>Rehabilitation Counseling Bulletin</i> , 54 (2), 106-117.	No	Failed Eligibility (Criteria 3)
Foley D. and Chowdhury J. (2007) 'Poverty, Social Exclusion and the Politics of Disability: Care as a Social Good and the Expenditure of Social Capital in Chuadanga, Bangladesh', <i>Social Policy &amp; Administration</i> , 41 (4), 372-385.	No	Failed Critical Appraisal
Franulic, A., Carbonell, C.G., Pinto, P. and Sepulveda, I. (2004) 'Psychosocial adjustment and employment outcome 2, 5 and 10 years after TBI', <i>Brain Injury</i> , 18 (2), 119-129.	No	Failed Eligibility (Criteria 1 and 3)
Habyarimana, J., Mbakile, B. and Pop-Eleches, C. (2010) The Impact of HIV/AIDS and ARV Treatment on Worker Absenteeism: Implications for African Firms, <i>Journal of Human Resources</i> , 45 (4), 809-839.	No	Failed Eligibility (Criteria 1 - Aids related)
Haque, S. (year unknown) <i>Prevalence of Disability and Rickets survey in Chakaria</i> , Bangladesh, SARPV.	No	Failed Sightsavers screening
Hayward B.J. and Schmidt-Davis H. (2003) <i>Longitudinal Study of the Vocational Rehabilitation Services Program: Final Report 1: How Consumer Characteristics Affect Access to, Receipt of, and Outcomes of VR Services</i> , Rehabilitation Services Administration U.S. Department of Education.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Herse, P. and Yapp M. (1999) 'Workplace-Based Management of Retinitis Pigmentosa: A Case Report', <i>Journal of Visual Impairment &amp; Blindness</i> , 93 (1), 38-40.	No	Failed Critical Appraisal
Hodges, L.C., Hall-Barrow, J.C. and Satkowski, T.C. (1998) 'Chronic disease management offers new career opportunities', <i>Medsurg Nursing</i> , 7 (4), 228-234.	No	Failed Eligibility (Criteria 1 and 3)
Howard, K.J., Mayer T.G. and Gatchel, R.J. (2009) 'Effects of presenteeism in chronic occupational musculoskeletal disorders: stay at work is validated', <i>Journal of Occupational and Environmental Medicine</i> , 51 (6), 724-731.	No	Failed Eligibility (Criteria 3)
Hutchinson, N.L., Versnel J., Chin, P. and Munby, H. (2008) 'Negotiating accommodations so that work-based education facilitates career development for youth with disabilities', <i>Work</i> , 30 (2), 123-136.	No	Failed Eligibility (Criteria 3)
Jang, Y., Li W., Hwang M.-T., and Chang W.-Y. (1998) 'Factors related to returning to work following a work-oriented occupational therapy program for individuals with physical disabilities', <i>Journal of Occupational Rehabilitation</i> , 8 (2), 141-151.	No	Failed Critical Appraisal
Jayadevan, P. and Balakrishnan, R. (2002) 'Socio-economic rehabilitation in leprosy - an example', <i>Leprosy Review</i> , 73 (1), 88-89.	Yes (secondary findings)	N/A
Jensen, J.S. and Raab, W. (2007) 'Clinical Field Testing of Vulcanized Jaipur Rubber Feet for Trans-Tibial Amputees in Low-Income Countries', <i>Prosthetics and Orthotics International</i> , 31( 1): 105–115.	No	Failed Eligibility (Criteria 1)
Johnstone C. and Corce H. (2010) "'I Have Been Given the Power to Teach. The Children Understand Me Very Well.'" The Social and Academic Impact of Deaf Teacher Training in Kenya', <i>International Review of Education</i> , 56 (1): 149-165.	Yes	N/A
Kabir M., Bin Majid, F. and Rahman, S.M.M. (2009) <i>Disability in Mainstream Development: A Replicable Instance</i> , Bangladesh, SARPV.	No	Failed Eligibility (Criteria 1)
Kaye, H.S. (2003) 'Employment and the Changing Disability Population', in Stapleton D.C and Burkhauser, R.V. (eds.), <i>The Decline in Employment of People with Disabilities: A Policy Puzzle</i> , W. E. Upjohn Institute for Employment Research, 217-258.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Khemsurov, M. (2005) 'Opening Doors With Data Entry', <i>Business 2.0</i> . 6 (8), 38-38.	No	Failed Eligibility (Criteria 1)
Kleinová Renata (year) Pracovné perspektívy očami mládeže so zmenenou pracovnou schopnosťou. TT-Employment opportunities in eyes of youth with reduced work ability (RWA). [incomplete reference provided]	No	Full text unobtainable
Kraushar M.F., DeSantis, V. J., Kutsch, J.A., Kraushar G.I. and Ruffalo, J.J. (2010) 'Enabling blind and visually impaired patients to achieve maximal personal and occupational goals: the importance of nonvisual skills', <i>American Journal of Ophthalmology</i> , 149 (5), 695-696.	No	Failed Eligibility (Criteria 3)
Kubheka, B.A. and Uys, L.R. (1995) 'Amputation history and rehabilitation of black men living in the greater Durban area who have had traumatic amputations of the lower limb', <i>Curationis</i> , 18 (1), 44-48.	No	Failed Sightsavers screening
Lansingh, V.C., Resnikoff, S., Tingley-Kelley, K., Nano, M.E; Martens, M., Silva, J.C., Duerksen, R. and Carter, M.J. (2010) 'Cataract surgery rates in latin america: a four-year longitudinal study of 19 countries', <i>Ophthalmic epidemiology</i> , 17 (2), 75-81.	No	Failed Sightsavers screening
Lee, M. N., Abdullah, Y. and Mey, S.C. (2011) 'Employment of People with Disabilities in Malaysia: Drivers and Inhibitors', <i>International Journal of Special Education</i> , 26 (1), 112-124.	Yes	N/A
Leonard, R. (2002) Predictors of Job-Seeking Behavior among Persons with Visual Impairments', <i>Journal of Visual Impairment &amp; Blindness</i> , 96 (9), 635-644.	No	Failed Eligibility (Criteria 3)
Lorenzo, L., Mokgoloboto, C., Cois, A. and Nwanze, I. (2012a) <i>Disabled Youth in Rural Areas: A Profile of the Northern Cape, South Africa</i> , DYRA Northern Cape Report 14 November 2012.	No	Failed Eligibility (Criteria 1)
Lorenzo, L., Mokgoloboto, C., Cois, A. and Nwanze, I. (2012b) <i>Disabled Youth in Rural Areas: A Profile of the Eastern Cape Province, South Africa</i> , DYRA Eastern Cape Report 11 December 2012.	No	Failed Eligibility (Criteria 1)
Lorenzo, T. and Cramm, J.M. (2012) 'Access to livelihood assets among youth with and without disabilities in South Africa: Implications for health professional education', <i>South African Medical Journal</i> , 102 (5), 578-581.	No	Failed Eligibility (Criteria 1)

Reference	Included	Reason for exclusion
Luckner, J.L., Slike S.B., Johnson, H. (2012) 'Helping Students Who Are Deaf or Hard of Hearing Succeed', <i>Teaching Exceptional Children</i> , 44 (4), 58-67.	No	Failed Eligibility (Criteria 3)
Majoor, H., Manders, J., Wahab, A. and Akhter, S. (2012) <i>Independent Mid-Term Evaluation Gaibandha Food Security for the Ultra-Poor Women (GFSUPW) Project in North-West Bangladesh</i> , Draft Report.	No	Failed Eligibility (Criteria 1 and 3)
Mandic, C.G. and Heymann, J. (2009) 'Supported Employment in a Lower Income Context: The Case of Banco de Crédito del Perú and Centro Ann Sullivan del Perú', <i>International Journal of Disability, Community &amp; Rehabilitation</i> . 8 (1), no page. Available: <a href="http://www.ijdc.ca/VOL08_01/articles/mandic.shtml">http://www.ijdc.ca/VOL08_01/articles/mandic.shtml</a> (accessed: 07/01/16).	Yes	N/A
Marois, E. and Durand, M.J. (2009) 'Does participation in interdisciplinary work rehabilitation programme influence return to work obstacles and predictive factors?', <i>Disability and Rehabilitation</i> , 31 (12), 994-1007.	No	Failed Eligibility (Criteria 3)
Marshall, C.A. and Juarez L.G. (2002) 'Learning from Our Neighbor: Women with Disabilities in Oaxaca, Mexico', <i>Journal of Rehabilitation</i> , 68 (4), 12-19.	No	Failed Critical Appraisal
May-Teerink, T. (1999) 'A survey of rehabilitative services and people coping with physical disabilities in Uganda, East Africa', <i>International Journal of Rehabilitation Research</i> [incomplete reference provided]	No	Full text unobtainable
McDonnall, M.C. and Crudden, A. (2009) 'Factors Affecting the Successful Employment of Transition-Age Youths with Visual Impairments', <i>Journal of Visual Impairment &amp; Blindness</i> , 103 (6), 329-341.	No	Failed Eligibility (Criteria 3)
McQuinn, B. (2011) <i>Impact Assessment Youth employment programmes in Sierra Leone (2007–2009)</i> , UNDP.	No	Failed Eligibility (Criteria 1)
Melrose, S. (1994) 'Can technology provide the primary solution to the unemployment and underemployment of persons who are blind or visually-impaired - more than technology', <i>Journal of Visual Impairment &amp; Blindness</i> , 88 (5), 388-388.	No	Full text unobtainable

Reference	Included	Reason for exclusion
Miles, S. (1996) 'Engaging with the Disability Rights Movement: The Experience of Community-Based Rehabilitation in Southern Africa', <i>Disability &amp; Society</i> , 11 (4), 501-517.	Yes (secondary findings)	N/A
Mitra, S. (2011) 'Programs, Policies and Employment Outcomes in Low- and Middle-Income Countries', in Stein, M., Heymann, J. and G. Moreno (eds), <i>Disability and Equality at Work</i> , New York: Oxford University Press.	No	Full text unobtainable
Mji, G., Gcaza, S., Swartz, L., MacLachlan, M. and Hutton, B. (2011) 'An African way of networking around disability', <i>Disability &amp; Society</i> , 26 (3), 365-368.	No	Failed Sightsavers screening
Nardi S.M.T., Paschoal, V.D. and Zanetta D.M.T., (2011) 'Social participation of people affected by leprosy after discontinuation of multidrug therapy', <i>Leprosy review</i> , 82 (1), 55-64.	No	Failed Eligibility (Criteria 1)
Ned-Matiwane, L. and Lorenzo, T. (2013a) <i>Disabled Youth in Rural Areas: A Profile of South Africa's Eastern Cape Province</i> , South Africa, Disability Innovations Africa.	No	Failed Eligibility (Criteria 1)
Ned-Matiwane, L. and Lorenzo, T. (2013a) <i>Disabled Youth in Rural Areas: A Profile of South Africa's Northern Cape Province</i> , South Africa, Disability Innovations Africa.	No	Failed Eligibility (Criteria 1)
Noman Khan, A.H.M., Choudhuri, M.A., Alam, K.J., Ahsan, M.T. Rahman, N., Khan, R.S., Bari, N. and Hasan, R. (2012) <i>Employment Situation of People with Disabilities in Bangladesh</i> , Bangladesh, Centre for Services and Information on Disability.	No	Failed Eligibility (Criteria 1)
O'Donnell, S. (2005) 'IT Education and Training for Disadvantaged Students: Lessons from Europe', <i>IEEE Technology &amp; Society Magazine</i> , 24 (3): 23-31.	No	Failed Eligibility (Criteria 3)
PAIRED Lundgren-Lindquist, B. and Nordholm, L.A. (1996) 'The impact of community-based rehabilitation as perceived by disabled people in a village in Botswana', <i>Disability and Rehabilitation</i> , 18 (7), 329-34.	Yes	N/A
Papakonstantinou, D. and Papadopoulos, K. (2010) 'Forms of social support in the workplace for individuals with visual impairments', <i>Journal of Visual Impairment &amp; Blindness</i> , 104 (3), 183-187.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Punani, B. (Year unknown) 'Enumerating and Identifying gaps in Promotion of Livelihood for Persons with Disabilities - From NGO perspective', Blind People's Association.	No	Failed Sightsavers screening
Reidy, A., Mehra, V., Minassian D and Mahashabde, S. (1991) 'Outcome of cataract surgery in central India: a longitudinal follow-up study', <i>The British Journal of Ophthalmology</i> , 75 (2), 102-105.	No	Failed Sightsavers screening
Robertson, D. (2011) 'Individualized functional work evaluation and vision: A case study in reasonable accommodation', <i>Work</i> , 39 (1), 31-35.	No	Failed Eligibility (Criteria 3)
Sams, G.C. and Saxon, J.P. (1997) 'PROEMDIS: Cuba's new program for professional rehabilitation', <i>Journal of Rehabilitation</i> , 63 (2), 31-35.	No	Failed Sightsavers screening
Sartawi, A.A.M., Abu-Hilal, M.M. and Qaryouti, I. (1999) 'The Causal Relationship Between the Efficacy of Training Programs and the Work Environment for Workers with Disabilities', <i>International Journal of Disability, Development and Education</i> , 46 (1), 109-115.	No	Failed Critical Appraisal
Sharma, E.K. (2011) 'No Different from the Best', <i>Business Today</i> , 20 (3), 82-82.	No	Failed Eligibility (Criteria 1)
Sing, D. (2012) 'Promoting the Employability and Employment of People with Disabilities in the South African Public Service', <i>Public Personnel Management</i> . 41 (1), 161-171.	Yes (secondary findings)	N/A
Sitzman, K. (2005) 'Supporting visually impaired adults in the workplace', <i>AAOHN Journal</i> , 53 (7), 328-328.	No	Failed Eligibility (Criteria 3)
Social Assistance and Rehabilitation for Physically Vulnerable (SARPV) (2011) <i>Impact of Mainstreaming Children and People with Disability through People's Organisations</i> , Bangladesh, SARPV.	No	Failed Critical Appraisal
Soeker, M S., Van Rensburg V., and Travill, A. (2012) 'Are rehabilitation programmes enabling clients to return to work? Return to work perspectives of individuals with mild to moderate brain injury in South Africa', <i>Work</i> , 43 (2), 171-182.	Yes	N/A
Staff from the United Kingdom National Audit Office (2008) Auditing Programs for Integrating People with Disabilities into the Workforce', <i>International Journal of Government Auditing</i> , 35 (3), 13-17.	No	Failed Eligibility (Criteria 3)

Reference	Included	Reason for exclusion
Stuelz, A. (1999) 'Community-based rehabilitation in Lao - comparison of needs and services', <i>Disability and Rehabilitation</i> , 21 (10-11), 508-514.	Yes (secondary findings)	N/A
Thompkins, A.V. (2011) <i>Essays on Disability and Employment</i> , thesis submitted to Massachusetts Institute of Technology, June, 2011.	Yes	N/A
Tugman-Swanson, K. Brimrose, H. (2011) 'Transitional return to work: it works, but how?', <i>Professional Case Management</i> , 16 (2), 97-99.	No	Failed Eligibility (Criteria 3)
Turco, D. (1993) 'Youth with Visual Disabilities - transition from school to work technical report', <i>Journal of Visual Impairment &amp; Blindness</i> , 87 (2), 35-36.	No	Full text unobtainable
United Nations (2012) <i>Thematic study on the work and employment of persons with disabilities</i> , Report of the Office of the United Nations High Commissioner for Human Rights.	Yes (secondary findings)	N/A
Uys L.R., Phillips N. and Zulu R.N. (1997) 'Vocational Rehabilitation in Rural South Africa', <i>Psychiatric Rehabilitation Journal</i> , 21 (1), 31-39.	No	Failed Critical Appraisal
van Olmen, J., Ku, G.M., Bermejo, R., Kegels, G., Hermann, K., Van Damme, W. (2011) 'The growing caseload of chronic life-long conditions calls for a move towards full self-management in low-income countries', <i>Globalization and Health</i> , 7 (1), article 38.	Yes (secondary findings)	N/A
Varekamp I., Krol, B., and van Dijk, F.J.H. (2011) 'Empowering employees with chronic diseases: process evaluation of an intervention aimed at job retention', <i>International Archives of Occupational and Environmental Health</i> , 84 (1): 35-43.	No	Failed Eligibility (Criteria 3)
Verbeek, J.H. (2006) 'How can doctors help their patients to return to work?' <i>PLoS Medicine</i> , 3 (3), 312-315.	No	Failed Eligibility (Criteria 1)
Vindigni D.R., Polus, B.I., Edgecombe, G., Howard, M., van Rotterdam, J., Redpath, F. and Ellen, E. (2009) 'The STTEP: A model for musculoskeletal health care in marginalized communities', <i>The Journal of Alternative and Complementary Medicine</i> , 15 (8), 885-890.	Yes (secondary findings)	N/A

<b>Reference</b>	<b>Included</b>	<b>Reason for exclusion</b>
Zakrison, T.L., Armada F., Rai, N. and Muntaner C. (2012) 'The politics of avoidable blindness in Latin America - surgery, solidarity, and solutions: the case of Mision Milagro', <i>International journal of Health Services</i> , 42 (3), 425-437.	No	Full text unobtainable

Appendix iii - World Bank LMIC Classification Table

Fiscal year 2013-2014, ending on June 30th 2014.

	<b>Low-income economies</b>	<b>Lower-middle income</b>	<b>Upper-middle income economies</b>
<b>Europe and Central Asia</b>	Kyrgyz Republic, Tajikistan	Armenia, Georgia, Kosovo, Moldova, Ukraine, Uzbekistan	Albania, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Hungary, Kazakhstan, Macedonia FYR, Montenegro, Romania, Serbia, Turkey, Turkmenistan
<b>South Asia</b>	Afghanistan, Bangladesh, Nepal	Bhutan, India, Pakistan, Sri Lanka	Maldives
<b>Middle East and North Africa</b>		Djibouti, Egypt, Morocco, Syrian Arab Republic, West Bank and Gaza, Yemen	Algeria, Iran, Iraq, Jordan, Lebanon, Libya, Tunisia
<b>East Asia and Pacific</b>	Cambodia, Democratic Republic of Korea, Myanmar	Indonesia, Kiribati, Lao PDR, Micronesia, Mongolia, Papua New Guinea, Philippines, Samoa, Solomon Islands, Timor- Leste, Vanuatu, Vietnam	American Samoa, China, Fiji, Malaysia, Marshall Islands, Palau, Thailand, Tonga, Tuvalu
<b>Sub Saharan Africa</b>	Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of Congo, Eritrea, Ethiopia, The Gambia, Guinea, Guinea-Bissau, Kenya, Liberia, Madagascar, Malawi, Mali, Mozambique, Niger, Rwanda, Sierra Leone, Somalia, South Sudan, Tanzania, Togo, Uganda, Zimbabwe	Cameroon, Cape Verde, Republic of Congo, Côte d'Ivoire (Ivory Coast), Ghana, Lesotho, Mauritania, Nigeria, São Tomé and Príncipe, Senegal, Sudan, Swaziland, Zambia	Angola, Botswana, Gabon, Mauritius, Namibia, Seychelles, South Africa

<b>Latin America and Caribbean</b>	Haiti	Bolivia, El Salvador, Guatemala, Guyana, Honduras, Nicaragua, Paraguay	Argentina, Belize, Brazil, Colombia, Costa Rica, Cuba, Dominica, Dominican Republic, Ecuador, Grenada, Jamaica, Mexico, Panama, Peru, St. Lucia, St. Vincent and the Grenadines, Suriname, Venezuela
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Appendix iv - Sightsavers' Relevance Screening Tool

<b>Sightsavers' Relevance Screening Tool</b>		
<b>1</b>	Does the publication address an issue or intervention that could feasibly inform Sightsavers' existing or future work?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>2</b>	Does the publication address issues in a country that Sightsavers' currently works? <i>If 'Yes', please state which country or countries:</i>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>3</b>	Does the publication address economic empowerment (broadly conceived) of people with disabilities?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>4</b>	Which objective from the Empowerment and Inclusion Strategic Framework 2015 does this publication consider? <i>n.b. Objective 5 should be met as per question 1, but more than one objective may be selected.</i>  <i>Objective 1 - Mainstream disability inclusion in our health programmes</i>  <i>Objective 2 - Develop demonstrable models of effective inclusive education</i>  <i>Objective 3 - Scale up efforts to achieve diversity in the workplace</i>  <i>Objective 4 - Support people with disabilities to realise their potential through determining, advocating for and claiming their rights</i>  <i>Objective 5 - Facilitate economic independence of people with disabilities</i>	Objective 1 <input type="checkbox"/>  Objective 2 <input type="checkbox"/>  Objective 3 <input type="checkbox"/>  Objective 4 <input type="checkbox"/>  Objective 5 <input type="checkbox"/>
<b>5</b>	Does the publication address either cross-cutting objective contained in the Empowerment and Inclusion Strategic Framework 2015?  <i>Objective A - Address gender inequalities and women's empowerment</i>	Objective A <input type="checkbox"/>

	<i>Objective B - Developing effective influencing interventions/approaches</i>	Objective B <input type="checkbox"/>
<b>6a</b>	Is it worth continuing? <i>If the answer to Questions 1 or 3 is 'No', the publication must be excluded due to lack of relevance.</i>	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>6b</b>	Comments:	
<b>7a</b>	Does the publication provide sufficient evidence of a clear methodology that can be appraised?	Yes <input type="checkbox"/> No <input type="checkbox"/>
<b>7b</b>	<p>Based on the publications stated methodology, which critical appraisal tool should be employed?</p> <p>Qualitative study <input type="checkbox"/></p> <p>Randomised Control Trial (RCT) <input type="checkbox"/></p> <p>Cohort study <input type="checkbox"/></p> <p>Case control study <input type="checkbox"/></p> <p>Questionnaire-based survey <input type="checkbox"/></p> <p>Mixed Method Research (MMR) <input type="checkbox"/></p> <p>Descriptive/cross-sectional study <input type="checkbox"/></p> <p>Other (please state): _____</p>	

## Appendix v - Data Extraction Tool

### Reviewer guidance

- Be consistent in the order and style you use to describe the information for each included study.
- Record any missing information as unclear, not described, or not applicable.
- Second and third reviewers should be consulted regarding any uncertainties.

<b>Study ID</b>	
<b>Study Details</b>	
Full Citation	
Year of publication(s)	
Author(s)	
Lead author contact details	
Publication type	
Study funding	
Conflicts of interest	
<b>Study Summary</b>	
Geographical location	
Income classification	
Period covered	
Intervention classification	
Intervention	
Methodology	
Overall Risk of Bias	
<b>Sample/Participants</b>	
Number of participants	
Disability	
Age range	

Sex	
<b>Findings</b>	
Key conclusions (summary)	
In-depth findings (include outcome measures etc. if applicable)	
Author recommendations (note if these do not follow from data)	
<b>Further information (other substantive and descriptive features)</b>	

We work with partners  
in developing countries to  
eliminate avoidable blindness  
and promote equal opportunities  
for people with disabilities

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