Review of the equity of services provided by community health workers
Rosalind McCollum, Miriam Taegtmeyer, Martina Mchenga

Citation

Review question(s)
1. What evidence is there of (in)equity?

2. What influences how equitable Community Health Worker (CHW) services are globally (high, middle and low income countries)?
   a. What influences the accessibility of CHW services?
   b. What influences the utilisation of CHW services?
   c. What influences the quality of CHW services?

Searches
We will search the following search engines to identify suitable studies for inclusion.

• Cochrane Central Register of Controlled Trials (CENTRAL)
• PubMed
• SCOPUS
• Science Direct
• Global Health
• Social Science Citation Index
• CINAHL
• POPLINE

The search strategy terms to identify relevant studies includes community health worker terms, health equity terms (including specific search for terms relating to socioeconomic position, gender and place of residence from the PROGRESS plus terms) and outcome terms. Delimiters are English language and studies from 2004 onwards.

A search strategy will be developed for use with PubMed, which will be translated and modified for use in the other databases, using controlled vocabulary as appropriate. Advice will be sought from a search strategy specialist for appropriate translation of terms between databases and for checking of the final search strategy prior to running the search.

In addition to the above, we will also

• Search the reference list of included papers for potential relevant papers
• Collect relevant grey literature, including evaluations and intervention studies from Government and NGO reports by contacting key stakeholders for CHW interventions.

Types of study to be included
For the two research questions there will be two different sets of inclusion criteria. To be considered for inclusion the study must meet the following criteria.

Question 1 inclusion criteria

• An original study

• A CHW intervention study (randomised controlled trial, case control trial, before-after trial) which provides an analysis of CHW intervention according to Place of residence, Race, Occupation, Gender, Religion, Education, Socioeconomic status, Social capital, plus – disability, age, sexual orientation (PROGRESS plus).

• A study where CHW intervention being studied adopts a universal approach, i.e. services are provided for an entire population. Eligibility and access are based simply on being part of a defined population, such as all women, all children under 6 years or all people living in a particular geographic area, without any further qualifiers such as income, class, race, health status (National Collaborating Centre for Determinants of Health n.d.).

• Intervention is provided at primary or community level.

Question 2 inclusion criteria

• An original research quantitative or qualitative study or a systematic review

• A study or review which provides an explanation of how a CHW intervention influences equity, in terms of access, utilisation, acceptability, quality or community empowerment.

• A study where CHW services are provided using a universal or targeted approach.

• Intervention is provided at primary or community level.

Exclusion criteria

• Narratives, opinion pieces and commentaries will be excluded

• Non-English language studies

• Studies published prior to 2004

Condition or domain being studied
This study will seek to explore the equity of CHW service provision for primary and community health services globally. An equitable CHW programme is one where CHW services contribute towards eliminating unnecessary and avoidable differences in health, where the whole population has equal access to CHW services with appropriate referral to health facility for their available need, equal utilisation for equal need and equal quality of CHW services for all, (Whitehead 1990) so that everyone can attain their full health potential.

Participants/ population
There were no restrictions on the types of recipients or beneficiaries. However, given the equity focus of this review it is necessary to define disadvantage and for whom interventions are intended.

For review question1

• A study where CHW intervention being studied adopts a universal approach, i.e. services are provided for an entire population. Eligibility and access are based simply on being part of a defined population, such as all women, all children under 6 years or all people living in a particular geographic area, without any further qualifiers such as
income, class, race, health status

For review question 2

- A study where CHW services are provided using a universal approach (as described above) or targeted approach

**Intervention(s), exposure(s)**

Any intervention delivered by community health workers and intended to improve health (this can include health promotion, disease prevention and curative activities). Interventions will be included where the description establishes that it was a CHW intervention. The inclusion and exclusion criteria for CHWs are based on those described by Lewin et al. (2010) for lay health workers.

A CHW is defined as any health worker who:

- Performed functions related to healthcare delivery
- Was trained in some way in the context of the intervention, but
- Had received no formal professional or paraprofessional certificate or tertiary education degree

**Exclusion**

- Formally trained nurse aides, medical assistants, physicians assistants, paramedical workers in emergency and fire services, other self-defined health professionals or health paraprofessionals and trainee health professionals
- CHW with tertiary education
- Interventions in which a healthcare function was performed as an extension of a participant’s profession, such as teachers providing health promotion in schools.
- Patient support groups
- Peer counselling programmes in schools
- Interventions in which the CHW is only trained to deliver care and provide support to members of his/her own family
- CHWs in non-primary level facilities (e.g. CHWs based at referral hospital)
- Interventions where the CHW component cannot be disentangled from wider health systems strengthening for primary care intervention
- Short term campaigns, such as outreach campaigns which recruit and train volunteers for a short duration only (for example vaccination campaigns where volunteers are recruited for a short 2 week campaign)
- Self-help programmes
- Untrained TBA/traditional healer/informal provider

**Comparator(s)/ control**

The study will aim to search the evidence systematically. As recommended for equity related reviews studies will be selected based on “fitness for purpose” rather than following a hierarchy of evidence. (Tugwell et al. 2010; Welch et al. 2012; World Health Organisation & Health 2008) Since many population level interventions have “not yet been subject to controlled studies.” Other study designs (non-controlled and qualitative studies) will therefore be considered as these studies can provide an evidence base for informing policy and practice. (Tugwell et al. 2010)
CHW service provision for primary and community health services globally.

**Outcome(s)**

**Primary outcomes**

**Question 1**

Studies will be included where they provide an analysis of factors, according to social position groups, which influence the:

- Accessibility of CHW services
- Utilisation of CHW services
- CHW service quality
- Community empowerment

**Question 2**

Studies will be included where they provide an explanation of factors, according to social position groups, which influence the:

- Accessibility of CHW services
- Utilisation of CHW services
- CHW service quality
- Community empowerment

**Secondary outcomes**

**Health seeking behaviours**

**Community governance**

**Coverage of health services**

**Acceptability of CHW services**

**Data extraction, (selection and coding)**

One review author will assess the potential relevance of all titles and abstracts from the electronic searches. Full text copies of articles will then be retrieved following the identification of a potentially relevant paper and assessed against the inclusion criteria by completion of an inclusion criteria checklist. A selection of 10-20% of full text papers will then be assessed independently by a second review author. Any disagreements will be resolved through discussion or where required by seeking a third author's opinion.

Data extraction: A coding framework will be developed to code all data, below shows the preliminary version of this framework. The coding framework will be piloted and then adapted prior to use. Data extraction will be completed by a single review author using Nvivo 10 software.

Data extraction draft coding framework.

A. Existing situation (pre-intervention)

**Setting Country**

Geographical setting (rural/urban including slums/non-slum)

Healthcare setting (home, primary care facility, community, other)
Health system (e.g. decentralized, public/private)

CHW Name of CHW

Characteristics (social, cultural, economic, demographic)

Tasks (preventive, promotion, curative, single/multiple)

Selection and recruitment process

Other requirements (like education level)

Other

Clients Characteristics (social, cultural, economic, demographic)

Other

Other stakeholders involved or influencing CHW (e.g. community, other health care providers, policy makers etc.) Characteristics (social, cultural, economic, demographic)

Other (for example: role)

B. Intervention

General description intervention Objective of intervention

Theory/ hypothesis (if available)

Health issue(s) addressed (single or multiple focus)

General description of the intervention (mode of delivery)

Other

C. Equity stratifiers

Social position Place of Residence

Race/ ethnicity

Occupation

Other

Gender

Religion

Education

Socio economic status

Social capital

+ Age, sexual orientation, disability

D. Equity Outcomes
Equity outcomes Access
Utilisation
Acceptability
Health seeking behaviour
Adoption of healthy practices
Community empowerment
Community governance
Coverage
Other
Mortality
Morbidity
Incidence
Health status/ wellbeing

E. The study
Study design (qualitative or quantitative and specify)
Study objective
Short description of the study
Identified research gaps

Risk of bias (quality) assessment
For qualitative studies, the quality will be assessed by applying the Critical Appraisal Skills Programme (CASP) quality assessment checklist for qualitative studies.

For systematic reviews the quality will be assessed by applying ‘assessment of multiple systematic reviews’ AMSTAR tool.

The GRADE (Grading of Recommendations Assessment, Development and Evaluation) approach will be used to assess the quality of quantitative studies.

Strategy for data synthesis
Since this study will adopt a qualitative thematic analysis the purpose of the synthesis is therefore interpretive rather than predictive (Doyle 2003 cited Glenton, 2013). The study will therefore seek a purposive rather than an exhaustive sample, similar to the approach adopted by Glenton et al. (2013). It is expected that purposive sampling will result in the inclusion of studies from wide geographical coverage and it is hoped this will ensure greater variation between contexts leading to the development of a greater degree of diversity of concepts. (Glenton et al. 2013).

Analysis will use thematic analysis adopting an iterative approach to identify and synthesise concepts found in the studies. A theoretical framework for use in analysis will be adapted, based upon the table above and modified through an iterative process following familiarisation with the data. Once the framework has been developed this will then be applied and data will be coded accordingly using Nvivo version 10 software. Following this narratives will be
developed and comparisons will be carried out to explore similarities and differences as appropriate. This will then be used to define concepts and search for explanations for findings. (Glenton et al. 2013)

**Analysis of subgroups or subsets**
Dependent upon data collected, sub-group analyses will be carried out to explore heterogeneity according to selected equity stratifiers, for example socioeconomic position. Additional analyses will also be carried out between contexts e.g. high income versus low income as appropriate.

**Dissemination plans**
This review forms part of PhD studies for a student linked with the REACHOUT consortium (a research consortium involving partners across 8 countries researching equity, effectiveness and efficiency of close-to-community services). Findings will be shared with REACHOUT partners. It is planned that findings will be published in a peer reviewed journal.

**Contact details for further information**
Rosalind McCollum

c/o Department of International Public Health

Liverpool School of Tropical Medicine

Pembroke Place

Liverpool L35QA

UK

r.mccollum@liverpool.ac.uk

**Organisational affiliation of the review**
Liverpool School of Tropical Medicine

http://www.lstmliverpool.ac.uk/

**Review team**
Dr Rosalind McCollum, Liverpool School of Tropical Medicine
Dr Miriam Taegtmeyer, Liverpool School of Tropical Medicine
Ms Martina Mchenga, REACH trust

**Anticipated or actual start date**
26 May 2014

**Anticipated completion date**
31 October 2014

**Funding sources/sponsors**
Not applicable.

**Conflicts of interest**
None known

**Language**
English

**Country**
England
Subject index terms status
Subject indexing assigned by CRD

Subject index terms
Community Health Workers; Health Services Accessibility; Humans

Stage of review
Ongoing

Date of registration in PROSPERO
05 August 2014

Date of publication of this revision
05 August 2014

DOI
10.15124/CRD42014013067

Stage of review at time of this submission

<table>
<thead>
<tr>
<th>Stage of review at time of this submission</th>
<th>Started</th>
<th>Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preliminary searches</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Piloting of the study selection process</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Formal screening of search results against eligibility criteria</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Data extraction</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Risk of bias (quality) assessment</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Data analysis</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

PROSPERO
International prospective register of systematic reviews

The information in this record has been provided by the named contact for this review. CRD has accepted this information in good faith and registered the review in PROSPERO. CRD bears no responsibility or liability for the content of this registration record, any associated files or external websites.