

Who are community health workers and what do they do? development of an empirically-derived reporting taxonomy

Taylor, Rebecca; Parry, Jayne; Mathers, Jonathan

DOI:
[10.1093/pubmed/fox033](https://doi.org/10.1093/pubmed/fox033)

Document Version
Peer reviewed version

Citation for published version (Harvard):
Taylor, R, Parry, J & Mathers, J 2017, 'Who are community health workers and what do they do? development of an empirically-derived reporting taxonomy', *Journal of Public Health*. <https://doi.org/10.1093/pubmed/fox033>

[Link to publication on Research at Birmingham portal](#)

Publisher Rights Statement:
Checked for eligibility: 30/03/2017
The final publication is available at Springer via [http://dx.doi.org/\[insert DOI\]](http://dx.doi.org/[insert DOI])."

General rights

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

- Users may freely distribute the URL that is used to identify this publication.
- Users may download and/or print one copy of the publication from the University of Birmingham research portal for the purpose of private study or non-commercial research.
- User may use extracts from the document in line with the concept of 'fair dealing' under the Copyright, Designs and Patents Act 1988 (?)
- Users may not further distribute the material nor use it for the purposes of commercial gain.

Where a licence is displayed above, please note the terms and conditions of the licence govern your use of this document.

When citing, please reference the published version.

Take down policy

While the University of Birmingham exercises care and attention in making items available there are rare occasions when an item has been uploaded in error or has been deemed to be commercially or otherwise sensitive.

If you believe that this is the case for this document, please contact UBIRA@lists.bham.ac.uk providing details and we will remove access to the work immediately and investigate.

<http://mc.manuscriptcentral.com/jph>

WHO ARE COMMUNITY HEALTH WORKERS AND WHAT DO THEY DO? DEVELOPMENT OF AN EMPIRICALLY-DERIVED REPORTING TAXONOMY

Journal:	<i>Journal of Public Health</i>
Manuscript ID	JPH-16-0428.R2
Manuscript Type:	Original Article
Date Submitted by the Author:	01-Mar-2017
Complete List of Authors:	Taylor, Beck; University of Birmingham, Institute of Applied Health Research Mathers, Jonathan; University of Birmingham, Institute of Applied Health Research Parry, Jayne; University of Birmingham, Institute of Applied Health Research
Keywords:	Health promotion, Health services, Socioeconomics factors

SCHOLARONE™
Manuscripts

1
2
3 **WHO ARE COMMUNITY HEALTH WORKERS AND WHAT DO THEY DO? DEVELOPMENT OF AN**
4 **EMPIRICALLY-DERIVED REPORTING TAXONOMY**
5
6
7
8
9

10
11 **Beck Taylor**

12 **Post-doctoral Clinical Research Fellow**
13

14
15
16 **Jonathan Mathers**

17 **Senior Lecturer**
18
19

20
21 **Jayne Parry**

22 **Professor**
23
24
25
26

27 **All Authors:**

Institute of Applied Health Research

University of Birmingham

Edgbaston

Birmingham

England, UK

B15 2TT
28
29
30
31
32
33
34
35
36
37
38
39

40 **Corresponding Author:**

Jayne Parry

J.M.Parry.1@bham.ac.uk

+44 (0)121 414 3191
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

ABSTRACT**OBJECTIVES:**

To develop an empirically-informed reporting taxonomy for Community Health Worker (CHW) services to address concerns about the transparency and consistency of descriptions of these interventions in the existing literature

METHODS:

We undertook in-depth interviews (n=43) with CHWs and service staff working in four case studies selected using maximum variation sampling. Interviewees were encouraged to talk about the service, how they had become involved with the service, the CHW role and relationship with clients.

RESULTS:

Thematic analysis identified recurrent cross-case observations which we classed as 'who CHW are' and 'what CHW do'. CHW's personal characteristics comprised the sub-groups Knowledge & Skills, Personal Qualities, Similarity to Client, and Voluntary/Paid Status; Role characteristics comprised Time & Continuity, Settings, limited Responsibility, Core Task, and Enacted Philosophies.

CONCLUSIONS:

We have developed a conceptual framework for reporting CHW interventions based on the existing literature and our own empirical work. Compared with existing work in the field, the taxonomy uses nomenclature that minimises current overlap and confusion, and provides a more complete description of CHW characteristics.

INTRODUCTION

Community Health Workers (CHWs) are a growing component of the health service workforces in high income countries [1]. Despite this, our understanding of the mechanism by which CHWs may act as agents of population health improvement remains limited [2]. This understanding is important to enable us to harness the 'active ingredients' of CHW programmes, and effectively design, implement, and evaluate CHW services across different client groups and settings [3].

Part of the problem in conceptualising how and why health gain may be achieved comes from the limited articulation by authors of the nature of the interventions they are developing, implementing and evaluating [1,4-7]. This is compounded by the wide range of terms used to describe CHW-type approaches (see Box 1), a challenge acknowledged by others [1,8]. In this paper we explore the concept of the CHW in its broadest sense, incorporating groups such as 'peer supporters' and 'lay workers', as have others publishing in the CHW field [9-11].

The range of nomenclature in the literature reveals overlap in interpretation and usage. Overall, the names used to describe CHWs suggest some central importance for 'who' the workers are. Generally these names indicate a degree of similarity between the worker and client; for example, 'peer', 'lay' and 'community' (Box 1). However these terms have multiple meanings and interpretations. 'Lay' could describe an ordinary person off the street, or someone with additional knowledge or training (e.g. a lay preacher). A community can be geographical, demographic, cultural, etc. A 'peer' might be defined as someone in the immediate social circle, or simply share a characteristic such as being a parent.

To address this confusion, South and colleagues have proposed that a distinction should be made between 'non-professional', 'peer' or 'embedded' workers [12]. In their work, 'non-professional' workers are not "*necessarily*" similar to clients whereas 'peer' workers are matched to clients on the basis of "*peeriness* – age, social status, gender, shared experience etc." 'Embedded' refers to workers who are "*known and working in their own community; this can include both peers and community leaders.*" While South's approach goes some way to providing greater specificity in terms of identifying the key personal characteristics of the CHWs, there is still scope for confusion. For example, are non-professionals sometimes matched to clients; what are the boundaries of 'peeriness' and 'community leaders'?

1
2
3 Alongside the difficulties in describing 'who workers are', identifying common, important elements
4 in the work CHWs undertake with clients - their role characteristics - presents similar challenges.
5
6 The settings, tasks, populations and issues addressed, and approaches to engagement vary widely
7
8 between CHW services [2]. A number of studies have explored roles but their observations suggest
9
10 that (as with attempts to describe the characteristics of CHWs as individuals) the terms used to
11
12 describe roles are difficult to interpret, with overlap between the role characteristics defined, and
13
14 with inconsistency across studies [4,5,13,14].
15
16
17

18 **Study Objective**

19 In this paper, we take the first steps towards understanding the mechanism of action by which
20
21 CHWs may bring about health gain in England by developing a taxonomy for use in describing fully
22
23 the components of CHW interventions (i.e. *who* CHWs are and *what* they do).
24
25
26

27 **METHODS**

28 **In-depth Case Studies of Community Health Worker Services**

29 The work was approved by South Birmingham ethics committee, reference 10/H1207/74. Case
30
31 studies were purposively selected to capture a range of CHW models and client populations
32
33 operating in England. In terms of CHW model, particular areas of interest were; whether workers
34
35 were paid or volunteers, group and individual interventions, National Health Service (NHS) and non-
36
37 NHS providers, single (e.g. breastfeeding) and complex (e.g. multiple pregnancy outcomes) issues.
38
39 With respect to the target population we sought urban and rural/non-urban, deprived and affluent,
40
41 diverse and homogeneous populations. The summary characteristics of the four case studies
42
43 selected are presented in Table 1.
44

45 **Data Collection**

46 BT conducted in-depth individual interviews with workers and service managers within the selected
47
48 services. Up to 10 CHW participants were interviewed in each case study, though in some services
49
50 fewer were available (see Table 2). All available managers were interviewed in each service, plus a
51
52 small number of stakeholders in partner organisations. The initial part of each interview was
53
54 deliberately unstructured in order to allow the interviewee to 'tell their story'. Interviewees were
55
56 encouraged to talk about the service, how they had become involved with the service, and the CHW
57
58 role and relationship with clients. Direct questions were avoided until the near end of an interview
59
60

1
2
3 and only introduced then if a key point of interest had not been volunteered or addressed. The
4 interviews were conducted between November 2011 and September 2012.
5
6

7 8 **Analysis of Interviews**

9 Interviews were audio-recorded and transcribed verbatim for analysis. BT conducted the initial
10 thematic analysis of their content based on the Framework analytic approach [15]. After initial
11 familiarisation, coding, indexing and thematic development proceeded iteratively with on-going
12 discussion among all authors. The analyses presented here focus on our comparative findings
13 across the individual case study services, including recurrent cross-case observations and themes.
14
15
16
17

18 19 20 21 **FINDINGS**

22 The interviews and subsequent analysis revealed two overarching groupings to describe the
23 characteristics of CHWs which were reported to impact on the mechanism of health improvement:
24 who workers are, or 'person characteristics', and what workers do, or the 'role characteristics' of
25 CHWs. These are described below. The taxonomy of CHW characteristics informed by the empirical
26 work is presented in Box 2. Throughout the text characteristics are italicised.
27
28
29
30
31

32 **Who CHWs are: 'person characteristics'**

33 The person characteristics that emerged from the interview data and which were common across
34 the four case studies comprised four domains: *knowledge and skills*, *personal qualities*, *similarity to*
35 *client*, and *volunteer/paid status*.
36
37
38
39

40 *Knowledge and Skills*

41 *Knowledge* consisted of 'population', 'specialist' and 'service' knowledge. *Population knowledge*
42 encompassed any kind of knowledge about the target groups and communities (people, daily lives,
43 sociocultural norms, values and behaviours). *Specialist knowledge* described knowledge which
44 ordinary members of the public would not be expected to have, e.g. mother and infant behaviour.
45 *Service knowledge* referred to the workers' understanding of local facilities, organisations, staff and
46 other resources. This knowledge could be acquired through CHW membership of particular
47 population, through training or experience in the CHW role. In the following example, a M&T
48 Worker indicates her knowledge about the educational level of her clients.
49
50
51
52
53
54
55
56
57
58
59
60

1
2
3 “A lot of the people we work with possibly left school at 15 and 16, may or may not have
4 qualifications, so the last thing they want is that school type environment.”

5 M&T Worker 1
6
7

8
9 *Skills* included communication skills, community language skills, and specific skills such as
10 counselling or breastfeeding. Mode of skill acquisition varied; for example Breastfeeding could
11 only be acquired through direct life experience:
12

13
14 “The one common denominator is that they have breastfed. That’s all we need.”

15 Peer Supporter Manager 2
16
17

18 19 20 21 *Personal Qualities*

22 Participants reported CHWs as having a range of what we have defined as ‘*personal qualities*’, which
23 had a positive impact on their ability to support clients. In short, these qualities are what one might
24 consider positive attributes, associated with being a ‘nice’ or ‘good’ person. These included: being
25 *empathic, compassionate, and a ‘people person’*. Interviewees also emphasised the importance of
26 workers being *persistent* (*i.e.* not giving up when it is difficult to provide client support) and of being
27 willing to ‘*go the extra mile*’ and to work beyond expectations for their clients. Being non-
28 judgmental was also considered an important personal quality:
29
30
31
32
33
34
35
36
37

38 “I would never ever get into where my opinions are, and my judgement, or what I think would
39 never ever influence how I deal with my clients...No matter what you think or what you say, you've
40 come to support these people, and if you can't deal with them then you shouldn't be in this job”.

41 POW 5
42
43
44
45
46
47

48 *Similarity to the Client Group*

49 Interviewees surfaced the importance of CHW ‘*similarity to the client group*’, and described it in
50 terms of *shared demographics, shared experiences and shared non-professional status*. *Shared*
51 *demographic characteristics* (see Box 2) were reported to be associated with the effectiveness of
52 CHW work when shared between worker and client.
53
54
55
56
57
58
59
60

1
2
3 “If I went to work in a, say if I went to work in a very, somewhere like [another area], I could do it, it
4 wouldn’t be a problem, but because it’s predominantly Asian families and we get a lot of people
5 new into the country and extended family issues, I can’t relate to that. I can learn and I can try and
6 understand it, but it’s not natural to me, so it’s, I don’t think I’d be as effective, because I can’t...I
7 think for me as a person, I prefer...to work somewhere where I can get it.”
8
9

POW 6

10
11 However the interview data suggested the need to differentiate between *shared demographics* and
12 *shared experience*. Demographic groups can be described as having *shared experience*, for example
13 a CHW knows what it is like to live in a deprived area, to be female, black or poor. However
14 interviewees were clear that some experiences are not dependent on current *shared demographics*.
15
16 For example, where a client is a teenage parent, her CHW might be older than her, but may also
17 have become a mother during her teens. Participants discussed the relevance of their own
18 *experiences* to the impact of the services, with some also reflecting on their ‘*service experience*’ (i.e.
19 having been a client of the service).
20
21
22
23
24

25
26 “[Because all Slimming World Consultants have been Members] we all know exactly how everybody
27 else feels and we’re not perfect Consultants, and not perfect.”

28 Slimming World Consultant 3
29
30

31 “...Being a mum yeah I think it helps a little bit...”

32 M&T Worker 2
33
34
35
36

37 *Volunteer or Paid Workers*

38 The services adopted a wide range of payment strategies for workers, ranging from no
39 remuneration whatsoever, to regular salaried positions. In particular, volunteer status was reported
40 by some to impact on the support given.
41
42
43
44

45 I: “Would being a paid worker make the role different?”

46 IV: “Yes, it would. Because I’m such a goody two shoes when it comes to work, I want
47 to do a really, really good job and if that meant I had to ensure that someone kept
48 breastfeeding because that was what it was all about then I would maybe feel more
49 pressured to say or not say, ‘don’t worry if you want to use a formula.’ I would try
50 maybe more of an encouragement on that side. Yes, I think it would affect me,
51 actually.”
52

53 Peer Supporter 3
54
55
56
57
58
59
60

What CHWs do: 'role characteristics'

The data suggests a set of role characteristics common to the four services with regard to working effectively with clients. These were *time and continuity, settings, limited responsibility, core tasks* and *enacted philosophy*.

Time and Continuity

Many interviewees related the importance of '*continuity*' of CHW throughout a client's journey; that is the client continues to see the same worker throughout their support relationship.

"She knew I was going every week, I was the only thing that happened regularly in her life."
POW 7

This 'relational' continuity was reported to be distinct from management continuity (where there is a consistent support, but not necessarily from the same person), and informational continuity (where existing client information is available and used to inform care) which also occur in professionalised health services. Linked but separate to the concept of continuity of care was '*time*' where interviewees spoke of the importance to clients of the regularity, duration, flexibility and frequency of contact.

"[Peer Supporters] seem to have more information or perhaps more time I think it is, you know, it's their time whereas they're not you know waiting to go and see someone else."
Peer Supporter 2

Settings

Services '*settings*' were described in three ways. *Geographical location* refers to the proximity to the client's own home. Participants also described the *physical venue* as important in terms of the building or environment in which CHW support occurs, including clients' homes, health clinics, out on the street, and in local venues such as church halls.

"Meeting people in a community venue is one thing; that makes us different, perhaps that's where we, that's why the relationship with us is different, because we do go into people's houses and you see...a very different person, because you see, you get a bigger picture."
POW 6

In some of the services, a *group setting* which facilitated support from other clients supplemented the CHW support, e.g. in a Slimming World group meeting.

Limited Responsibility

The concept of '*limited responsibility*' captures participants' beliefs that their services focused on relatively discrete aspects of client support compared with traditional healthcare professionals. For example, a midwife has to take care of the clinical assessment and care of patients and infants, along with health promotion, wellbeing, data collection, child protection and other duties. In contrast, a Breastfeeding Peer Supporter only supports breastfeeding, and has no conflicting priorities.

"I think as well that it is just, they are there just for breastfeeding... So I think that they can really just focus on that."

Peer Supporter Manager 1

Limited responsibility was not a binary characteristic, but operated along a spectrum, with some CHWs having broader responsibilities than others. For example, Pregnancy Outreach Workers described a range of responsibilities; to 'help' in any way that would make things better for the pregnant woman, including supporting other members of the family, and practical help to address a range of health issues and social issues (finances, housing, food and clothing, domestic violence etc.), but they still had limited responsibility in that they did not have the clinical or statutory responsibilities of their midwife colleagues.

"I think [midwives have] got a hell of a lot more responsibilities just from a health point of view."

POW 4

Core Tasks

Related to the discussions of '*limited responsibility*' emerged a theme describing how services had at their heart an explicit and often unique set of '*core tasks*' which paralleled but were very different from the tasks required from professional healthcare workers. These included but were not limited to activities such as providing information on welfare entitlements, helping source cheap baby clothes, assisting with transport to appointments, assisting with evaluating options, confidence building and so on. We conceptualised this group of core tasks under the banner of social support, although it is important to highlight that participants did not use this term. In all case studies the CHWs were officially sanctioned to devote their time and efforts to providing this '*core task*'; it is their job to deliver these explicit activities, rather than it being an '*add on*' or extra task as it was often reported to be for professional healthcare staff.

1
2
3 “To emotionally, physically and socially, financially - how can you put that in just one word,
4 because.....because the purpose of them is to support and empower.”

5 POW Manager 2
6
7
8
9

10 11 *Enacted Philosophies*

12 Participants in all case studies identified ‘empowerment’ and ‘client-focused’ support as key
13 elements of their approaches. These were articulated as explicit concepts underpinning the
14 services.
15

16
17 “Being there, really just to support the members, for them, to empower them to work it out for
18 themselves.”

19 Slimming World Consultant 2
20
21

22 “I think possibly some of the people that we work with, the client groups we work with, not
23 exclusively but some, perhaps possibly have got low self esteem and I think really, it’s sort of
24 developing them as a person.”

25 M&T Worker 1
26
27

28 Activities undertaken with the client may be a route to ‘enact the philosophy’, but the philosophies
29 are the desired ‘ends’ rather than the ‘means’. For example, Breastfeeding Peer Supporters related
30 how a midwife might be more breastfeeding- and problem-focused, rather than a more client-
31 focused approach which explores the context, thoughts and feelings of her client.
32
33

34
35
36 “And sometimes it might not even be really talking; it's just listening. It's just about, I think,
37 assessing that mum and finding out ultimately what she wants to get out from that situation. So
38 she comes and she says, 'X, Y, Z,' and you'll say, 'Well, what do you want to achieve?’”

39 Peer Supporter 5
40
41

42 “And there is, I feel, quite a lot of pressure [on midwives] because they’ve got targets to
43 meet and all the rest of it, there is pressure that oh, you know, you must
44 breastfeed, you must breastfeed.”

45 Peer Supporter 3
46
47

48 “It wasn’t all about breast feeding it was more about me... it didn’t feel like going to talk to
49 some...talk to a professional.”

50 Peer Supporter 1, speaking about her previous experience as a client of the service
51
52

53 It is important to highlight that the client-focused philosophy is not necessarily exclusive to CHWs,
54 that professionals may share it, though professionals who share it may not be able to ‘enact’ it due
55 to lack of time and other constraints.
56
57
58
59
60

DISCUSSION

Main Findings of this study

Using data collected across four CHW case studies selected using maximum variation sampling we have constructed empirically-derived descriptions of person ('who CHWs are') and role ('what CHWs do') characteristics. This has enabled us to develop a reporting taxonomy for the detailed description of CHW interventions which addresses the need to bring greater clarity to the literature.

What is already known on this topic

Within the literature, descriptions of 'who CHWs are' are often partial or absent, particularly in terms of similarity to the client group [16]. Demographic and social characteristics are often reported, but frequently without the degree of 'matching' with the client group. Loose terms such as 'peer', 'lay' and 'of the community' are used to capture something of the essence of the CHWs, rather than specific detail regarding characteristics which are shared between worker and client, though there are some exceptions, and in particular areas, such as breastfeeding support, shared experiences (e.g. breastfeeding) are explicit.

Knowledge and skills are often described in the context of the training CHWs require to acquire them, though some authors also refer to existing knowledge and skills. As far as skills are concerned, general communication skills such as listening are frequently reported to be relevant, as we found in our own study [13, 17-19]. In addition, skills are often described in terms of the tasks CHWs are required to provide, e.g. 'advocacy skills' [14]. Others have also identified a number of these same characteristics. [20,21].

CHWs are frequently cited as being able to devote more time to their clients compared with traditional healthcare professionals [17, 22, 23]. As in our case studies, others have reported CHW services to be delivered in a variety of settings; convenience, accessibility, familiarity, privacy and safety of service locations have been reported as important. [18].

The provision of social support was the 'core task' identified in our case studies and is one of the key activities associated with CHWs in the literature [19, 24-26]. Indeed, on reading the social support literature we posit that a much wider range of CHW activities described in the literature can be badged as social support. For example, 'system navigation', and interpretation tasks could be

1
2
3 classified as instrumental social support, and health education and information could be classified
4 as informational social support.
5
6

7
8 A comprehensive literature review conducted alongside our empiric work suggests five other 'core
9 tasks' may be common to international CHW services but which were not evident in our case
10 studies: clinical care, service development, community development, research and activism. CHW
11 models in low income countries are often implemented to address shortcomings in health service
12 provision and as such, they frequently provide clinical care [27]. CHWs do undertake clinical duties
13 in some high income countries, however, most notably in the US. Here, some CHWs provide
14 medication counselling, first aid, and take basic observations such as blood pressure [28]. However
15 the sense from the literature is that these activities are not core tasks for CHWs in England with the
16 focus being more on prevention, health education, and assistance to navigate and access the health
17 system [1,6].
18
19
20
21
22
23

24
25
26 Our research did not uncover examples of how CHWs can contribute to service development and
27 quality, but others have found that they can act as a conduit of information about populations,
28 health needs, and the suitability of other services [29]. Community development activities are
29 integral to many CHW programmes in the literature [21, 25, 32] However South's work in the UK
30 suggested that community development activities were additional, rather than core, common roles,
31 and they were notably absent from our own case studies [11]. This perhaps reflects that the
32 architects of UK services predominantly focus on tangible health problems and health behaviours,
33 rather than the upstream determinants of health which community development approaches might
34 address (for example environment, housing, employment, education) [11].
35
36
37
38
39
40

41
42 In some circumstances, CHWs undertake community activist or advocacy roles, championing the
43 rights of particular groups [25, 31, 33]. This is distinct from advocacy for individual clients. This
44 activism can relate to healthcare access, or the broader plight of specific groups. In our own case
45 studies, advocacy was an 'add on', with a few ad hoc examples of advocacy for breastfeeding or
46 vulnerable groups, but this was not a key aspect (or 'core task') of the CHW role. Similarly,
47 advocacy for community needs appears in the US CHW competency framework [8] but these
48 activities are rarely the primary focus of CHWs in the literature where it appears that CHWs engage
49 in activism as a natural response to the structural societal challenges they see in practice rather
50 than as part of their job, *per se*. Finally, we note that one CHW characteristic which appears in the
51 literature but not our own work is 'embeddedness' in the target population, that is workers are
52
53
54
55
56
57
58
59
60

1
2
3 recruited to work within their own social network (e.g. family, workplace) [32]. This form of
4 recruitment was not a feature of any of our case studies.
5
6

7 8 *What this study adds*

9 Compared with existing work in the field, the taxonomy uses nomenclature that (we hope)
10 minimises current overlap and confusion, and provides a more complete description of CHW
11 characteristics. It highlights the importance of the multifaceted nature of who workers are and
12 what they do, beyond simple demographic and task-based definitions.
13
14
15

16 17 *Limitations of this study*

18 Rather than attempt a re-interpretation of existing over-arching terms (e.g. lay, peer), this work
19 uses the descriptions provided by CHWs themselves to develop a reporting taxonomy for CHW
20 services. The views of clients were not sought in this project, and we recognise that this is an area
21 where further work is required in order to complement the observations made here, as it is possible
22 that they will diverge from workers' perceptions of themselves, and their practice (34) . The field
23 work was conducted in only one country (England), and while the use of maximum variation
24 sampling attempted to ensure a wide range of services were included, we cannot be certain that all
25 possible service types were present in our study. The mapping of the empiric data to the existing
26 literature suggests our observations are concordant with studies from other high income countries.
27 Potential users of the taxonomy might wish to consider, depending on aims and context for service
28 development, the addition of the 'literature identified' characteristics to those we surfaced
29 empirically in the case studies.
30
31
32
33
34
35
36
37
38
39
40
41

42 *Conclusion*

43 Threats to high income countries' public health have changed markedly in recent decades. 'Lifestyle
44 choices' and individual agency are often prioritised as drivers of an increasing chronic disease
45 burden, though there are significant wider structural determinants of health inequality that
46 communities face.(35) Meeting these challenges may require a new and wider public health and
47 healthcare workforce of which CHWs may have a part to play (36). However, they can only be part
48 of the solution, as part of a multilevel societal approach to address the complex determinants of
49 health inequalities. This work reported in this paper is intended to provide a framework to
50 understand and maximise the opportunities and possibilities for health and wellbeing improvement
51 by the CHW workforce. It has the potential to facilitate the design, implementation, evaluation and
52
53
54
55
56
57
58
59
60

1
2
3 communication of CHW service activity. It is a work in progress, and we invite feedback on the
4 structure and content of the taxonomy.
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

For Peer Review

REFERENCES

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60

1Kim K, Choi J, Choi E et al. Effects of Community-Based Health Worker Interventions to Improve Chronic Disease Management and Care among Vulnerable populations: A Systematic Review. *Am J Public Health* 2016; 106 (4): e3-e28

2Arvey SR, Fernandez ME. Identifying the core elements of effective community health worker programs: a research agenda. *Am J Public Health*. 2012;102(9):1633-7.

3Medical Research Council. Developing and evaluating complex interventions: new guidance. London: 2008.

4Ingram M, Reinschmidt K, Schachter K, Davidson C, Sabo S, De Zapien J, et al. Establishing a Professional Profile of Community Health Workers: Results from a National Study of Roles, Activities and Training. *J Community Health*. 2012;37(2):529-37.

5Rhodes SD, Foley KL, Zometa CS, Bloom FR. Lay Health Advisor Interventions Among Hispanics/Latinos: A Qualitative Systematic Review. *American Journal of Preventive Medicine*. 2007;33(5):418-27

6Martinez J, Ro M, Villa NW, Powell W, Knickman JR. Transforming the delivery of care in the post-health reform era: what role will community health workers play? *Am J Public Health*. 2011;101(12):e1-5.

7Swider SM. Outcome effectiveness of community health workers: an integrative literature review. *Public Health Nurs*. 2004;19(1):11-20.

8Rosenthal EL, Wiggins N, Ingram M, Mayfield-Johnson S, De Zapien JG. Community Health Workers Then and Now: An Overview of National Studies Aimed at Defining the Field. *The Journal of Ambulatory Care Management*. 2011;34(3):247-59.

9Lewin SA, Dick J, Pond P, Zwarenstein M, Aja G, van Wyk B, et al. Lay health workers in primary and community health care. *Cochrane Database Syst Rev*. 2005(1):CD004015.

1
2
3 10Carr S, Lhussier M, Forster N, Geddes L, Deane N, Pennington M, et al. An evidence synthesis of
4 qualitative and quantitative research on component intervention techniques, effectiveness, cost-
5 effectiveness, equity and acceptability of different versions of health-related lifestyle advisor role in
6 improving health. Health Technology Assessment. 2011;15(9)
7
8

9
10
11 11South J, Meah A, Bagnall A, Kinsella K, Branney P, White J, et al. People in public health - a study
12 of approaches to develop and support people in public health roles. London: National Institute for
13 Health Research Service Delivery and Organisation, 2010.
14
15

16
17
18 12South J, Meah A, Bagnall A-M, Jones R. Dimensions of lay health worker programmes: results of a
19 scoping study and production of a descriptive framework. Global Health Promotion. 2013;20(1):5-
20 15.
21
22

23
24 13Community Health Worker National Workforce Study. Health Resources and Services
25 Administration, Bureau of Health Professions. (2007). [http://bhpr.hrsa.gov/healthworkforce/
26 reports/chwstudy2007.pdf](http://bhpr.hrsa.gov/healthworkforce/reports/chwstudy2007.pdf).
27
28

29
30 14Wiggins N, Borbon A. Core roles and competencies of community health advisors. In: A summary
31 of the National Community Health Advisor Study (Director: E.L. Rosenthal). Mel and Enid
32 Zuckerman College of Public Health; University of Arizona: June 1998.
33
34 <http://crh.arizona.edu/publications/studies-reports/cha>
35
36

37
38 15Ritchie J, Lewis J, McNaughton-Nicholls C, Ormston R. Qualitative Research Practice: A Guide for
39 Social Science Students and Researchers. 2 ed. London: SAGE; 2013.
40
41

42
43 16O'Brien MJ, Squires AP, Bixby RA, Larson SC. Role Development of Community Health Workers:
44 An Examination of Selection and Training Processes in the Intervention Literature. American Journal
45 of Preventive Medicine. 2009;37(6, Supplement 1):S262-S9.
46
47

48
49
50 17Boutin-Foster C, George KS, Samuel T, Fraser-White M, Brown H. Training community health
51 workers to be advocates for health promotion: efforts taken by a community-based organization to
52 reduce health disparities in cardiovascular disease. J Community Health. 2008;33(2):61-8.
53
54
55

- 1
2
3 18Liu J, Davidson E, Bhopal R, White M, Johnson M, Netto G, et al. Adapting Health Promotion
4 Interventions to Meet the Needs of Ethnic Minority Groups: Mixed-Methods Evidence Synthesis.
5 Southampton (UK): NIHR Journals Library, 2012.
6
7
8
9 19Dennis C-L. Peer support within a health care context: a concept analysis. International Journal of
10 Nursing Studies. 2003;40(3):321-32
11
12
13
14 20South J White J, Gamsu M. People-centred Public Health. Bristol: Policy Press; 2013
15
16
17
18 21Ingram M, Reinschmidt K, Schachter K, Davidson C, Sabo S, De Zapien J, et al. Establishing a
19 Professional Profile of Community Health Workers: Results from a National Study of Roles, Activities
20 and Training. Journal of Community Health. 2012;37(2):529-37
21
22
23
24 22Lewin S, Munabi BS, Glenton C, Daniels K, Bosch C, X, van-Wyk BE, et al. Lay health workers in
25 primary and community health care for maternal and child health and the management of
26 infectious diseases
27
28
29
30 23Beake S, McCourt C, Rowan C, Taylor J. Evaluation of the use of health care assistants to support
31 disadvantaged women breastfeeding in the community. Maternal & Child Nutrition. 2005;1(1):32-
32 43.
33
34
35
36
37 24South J, Kinsella K, Meah A. Lay perspectives on lay health worker roles, boundaries and
38 participation within three UK community-based health promotion projects. Health Education
39 Research. 2012;27(4):656-70.
40
41
42
43 25Eng E, Young R. Lay health advisors as community change agents. Family & Community Health.
44 1992;15(1):24-40.
45
46
47
48 26Cohen S, Underwood L, Gottlieb B. Social Support Measurement and Intervention. Oxford: Oxford
49 University Press; 2000
50
51
52
53 27World Health Organisation. Task shifting to tackle health worker shortages. Geneva: World Health
54 Organisation, 2007.
55
56
57
58
59
60

1
2
3 28Health Resources and Services Administration Office of Rural Health Policy. Community Health
4 Workers Evidence Based Models Toolbox. United States Department of Health and Human Services,
5 2011.
6
7

8
9 29Friedman AR, Butterfoss FD, Krieger JW, Peterson JW, Dwyer M, Wicklund K, et al. Allies
10 community health workers: Bridging the gap. Health Promot Pract. 2006;7(2 Suppl):96S-107S.
11
12

13
14 30Hohl S, Thompson B, Krok-Schoen et al. Characterizing Community Health Workers on Research
15 Teams: Results from the Centres of Population Health and Health Disparities. Am J Public Health
16 2016; 106: 664-670
17
18

19
20 31Perez LM, Martinez J. Community health workers: social justice and policy advocates for
21 community health and well-being. Am J Public Health. 2008;98(1):11-4
22
23

24
25 32Eng E, Parker E, Harlan C. Lay Health Advisor Intervention Strategies: A Continuum from Natural
26 Helping to Paraprofessional Helping. Health Education & Behavior. 1997;24(4):413-7.
27
28

29
30 33Love MB, Gardner K, Legion V. Community Health Workers: Who they are and What they do.
31 Health Education & Behavior. 1997;24(4):510-22.
32
33

34
35 34 Hamelin AM, Mercier C, Bedard A: Discrepancies in households and other stakeholders
36 viewpoints on the food security experience: a gap to address. Health Educ Res. 2010, 25: 401-412.
37
38

39
40 35 Sabo S, Ingram M, Reinschmidt KM, Schachter K, Jacobs L, Guernsey de Zapien J, et al. Predictors
41 and a Framework for Fostering Community Advocacy as a Community Health Worker Core Function
42 to Eliminate Health Disparities. American Journal of Public Health. 2013;103(7):e67-e73.
43
44

45
46 36 Fit for the Future - Public Health People: A review of the public health workforce. Public Health
47 England; May 2016
48
49

1
2
3
4 **Box 1: Terms used to describe CHWs in the literature**
5
6

7 Abuelas	Health Aides	Peer dads
8 Allied health personnel	Health education aides	Peer educators
9 Anganwadi workers	Health Education Workers	Peer group leaders
10 Aunties and Uncles	Health Mentor	Peer health advocates
11 Baabas	Health Promotion Volunteers	Peer health coaches
12 Barefoot doctors	Health Support Workers	Peer health educators
13 Befriender Facilitator	Health Trainers	Peer health workers
14 Breastfeeding supporters/peer supporters	Hidden volunteers	Peer informants
15 Bilingual health advocates	Indigenous outreach workers	Peer leaders
16 Birth companion	Indigenous workers	Peer nutrition educators
17 Buddies	Informal leaders	Peer outreach educators
18 Community champion	Informal medical practitioners	Peer outreach workers
19 Community development worker	Inmate peer educator	Peer researchers
20 Community Food Worker	Labour coaches	Peer supporter
21 Community Health Advisor	Lady Health Workers	Peer support volunteer
22 Community Health Advocate	Lay advisors	Peer volunteer
23 Community Health Agent	Lay (breastfeeding) counsellors	Personal coach
24 Community health champion	Lay carers	Popular opinion leaders
25 Community Health Educators	Lay food and health workers	Portera
26 Community Health Outreach Worker	Lay health advisors	Prisoners
27 Community Health Provider	Lay health educators	Professional outreach workers
28 Community Health Representative	Lay health home visitors	Promoter
29 Community Health Support Workers	Lay health leaders	Promotores
30 Community Health Volunteer	Lay health promoters	Public health aides
31 Community Health Worker	Lay health volunteers	Relais
32 Community Mother	Lay Health Workers	Support workers
33 Community lay health leader	Lay helpers	Street outreach worker
34 Community lay health worker	Lay home visitors	Therapeutic assistants
35 Community mentor	Lay navigators	Village family planning volunteers
36 Community nutrition assistants	Lay patient navigator	Village health volunteer
37 Community outreach worker	Lay supporters	Village Health Worker
38 Community Reproductive Health Workers	Link workers	Voluntary lay leaders
39 Community researchers	Listeners	Volunteers
40 Community Support Workers	Local people	Volunteer befriending
41 Conserjeras	Natural helpers	Volunteer educators
42 Doulas	Non-paid community development workers	Voluntary lay leaders
43 Family Health Worker/Advisor	Non-professionals	Volunteer outreach workers
44 Family outreach worker	Outreach workers	Volunteer peer health educators
45 Family support centre workers	Paid community development workers	Volunteer workers
46 Family Support Workers	Paraeducators	Vocational Education and Training workers
47 Female health workers	Paraprofessionals	Voluntary Trained Community Health Activist
48 Grandmothers	Patient Navigators	Young latino promotora
49 Group counsellors	Peer coach	Youth peer educators
50 Health advisors	Peer counsellor	

Table 1: Description of Case Studies

	Staff	Client group	Venue	Nature of support
Pregnancy Outreach Worker (POW) Service	Salaried staff with 'community experience'	Pregnant women at high social risk Predominantly referred by health professionals.	Flexible: homes, health and social care settings, community settings	1:1 support until 8 weeks post-birth, tailored to client, includes benefits advice, lifestyle support, liaising with professional, providing transport
Breastfeeding Peer Supporter (BFPS) Service	Volunteers All have breastfed/are breastfeeding	Pregnant and breastfeeding women Professional and self-referral	Breastfeeding 'cafés' in children's centres* and community venues	Primarily drop-in group based advice and support, plus antenatal breastfeeding classes and promotional work
Make & Taste (M&T) Service	Sessional workers (paid per session) Some existing cooking and nutrition skill	Parents with young children in low income community Some work with socially excluded adults Mixture of professional and self-referral	Children's centres*	Nutrition and cookery groups for parents and vulnerable adults 6 weekly sessions Childcare provided
Slimming World (SW)	Independent franchise holders All have been clients in the past	Overweight or obese individuals Mostly self-referral with some referred by health service using vouchers	Community venues e.g. church halls	Group based weight loss support Measuring weight, providing advice and resources, leading group

*Government-funded centres which give help and advice on child and family health, parenting, money, training and employment, and which are open to all parents, carers and children

Table 2: Interviewee recruitment

Case study	Type of participant	Number recruited	Number available	Notes
Pregnancy Outreach Worker (POW) Service	Salaried worker	10	34	
	Manager	5	5	
	Other	2	N/A	2 commissioners
Breastfeeding Peer Supporter (BFPS) Service	Volunteer worker	10	Total volunteer pool unknown	
	Manager	2	2	
	Other	2	N/A	Other stakeholder
Make & Taste (M&T) Service	Sessional worker	4	3	1 also a manager
	Manager	2	2	
	Other	1	N/A	Other stakeholder
Slimming World	Self-employed worker	3	7	
	Manager	2	2	
	Other	-	N/A	
Total	Workers	27		
	Manager	11		
	Other	3*	N/A	
Grand total		43		

**One 'other' interviewee was associated with two services and thus although interviewed only once, provided information about two case studies.*

1
2
3 **Box 2: Proposed Taxonomy of Community Health Worker Person and Role Characteristics**
4
5
6

TAXONOMY OF COMMUNITY HEALTH WORKER CHARACTERISTICS	
PERSON CHARACTERISTICS	‘WHO WORKERS ARE’
(1) KNOWLEDGE AND SKILLS	
(1.1) Knowledge	<i>What knowledge do workers possess?</i>
Population knowledge	Local people and their lives and experiences Note ‘local’ people may be highly heterogeneous
Specialist knowledge	The local area (geography, facilities etc) Health (e.g. diabetes, pregnancy) Social care (e.g. domestic violence, child protection) Behaviour (e.g. breastfeeding, smoking)
Service knowledge	Local public, private and third sector service provision and access, including previous personal use of the CHW service as a client
(1.2) Skills	<i>What skills do workers possess?</i>
Communication	Listening, explaining etc.
Community language	e.g. Urdu, this could be the worker’s own community language or a language they have learned later
Specific skills	e.g. breastfeeding, cookery
(2) PERSONAL QUALITIES	<i>WHAT SORT OF PERSON IS SUITABLE FOR THIS ROLE?</i>
People person	Enjoys working with people
Empathic and compassionate	Able to see the world from others’ viewpoint Caring
Values and attitudes	Values may influence support, e.g. if pro-breastfeeding worker may withhold information on formula feeding. Need to be clear what is/is not acceptable.
Non-judgmental	Accepts and respects clients regardless of their characteristics or behaviour
Persistent	Pursues tasks in the face of barriers
Goes the extra mile	Willing to make additional effort to help clients, goes further than obligated to by employer (e.g. stays until job is done)
Appropriate disposition	Is friendly, warm, positive etc.
(3) SIMILARITY TO THE CLIENT GROUP	DOES THE WORKER NEED TO BE SIMILAR TO CLIENTS?

(3.1) Shared demographic characteristics	
Gender	Self-explanatory
Age	Defining a specific age range may be challenging Note that individuals experience different life events at different ages
Locality of residence	Definitions can be administrative, or neighbourhood-based (i.e. client-defined) Individuals who live in the same area may not identify as belonging to the same community
Socioeconomic status	May be defined along economic, educational, occupational or 'class' lines. Note that these characteristics are not fixed and workers may change e.g. through social mobility
Ethnicity	Note that administrative definitions of ethnicity which may be broad, or may not match individuals' self-defined ethnicity. Ethnic 'communities' may be diverse Note that migrant and locally-born individuals may differ despite ethnic similarity
Religion	Note broad definitions may not account for differences within faiths, e.g. Shia and Sunni Muslims
(3.2) Shared experience	
Note that 'experience' has many dimensions, e.g. some find breastfeeding easy while others face huge challenges Note that it may be important whether or not experience is recent	
(3.3) Shared non-professional status	
The term 'lay' is not used as many CHWs have acquired knowledge and skills above lay people Note that clients may still view workers as 'outsiders' from official organisations, even if they are not professionals	
(4) VOLUNTEER OR PAID	SHOULD WORKERS BE VOLUNTEERS OR PAID? Workers may be volunteers, salaried workers, paid a sessional fee, or self-employed franchise holders
ROLE CHARACTERISTICS	'WHAT WORKERS DO'
(5) TIME AND CONTINUITY OF WORKER	DO CLIENTS NEED TO SEE THE SAME WORKER AT EACH CONTACT AND WHEN IS THE WORKER AVAILABLE? Contact outside of ordinary working hours may be of benefit Flexible session times may be of benefit Consider frequency (number of contacts), regularity (how often contacts occur), duration (how long contact sessions last), and duration of relationship (how long CHW is involved in client's life)
(6) SETTINGS	WHERE AND WHEN IS THE SERVICE BEST PROVIDED?
(6.1) Geographical location	Proximity to the client's location

(6.2) Physical venue	Clients homes, community venues, etc. Venues may provide other services e.g. childcare
(6.3) Group settings	Group or one-to-one contact may be appropriate
(7) LIMITED RESPONSIBILITY	DO WORKERS HAVE A DISCRETE AND WELL-DEFINED REMIT? This may contrast with professionals who are involved in the clients' care, with multiple responsibilities e.g. clinical and statutory responsibilities in addition to a social support function
(8) CORE TASKS	WHAT IS THE SERVICE INTENDED TO DO?
(8.1) Social Support	Social support, with separate domains of informational, instrumental, appraisal and emotional support for the individual client
(8.2) Clinical Care*	Clinical tasks, e.g. observations such as blood pressure
(8.3) Service Development*	Gathering information from clients/the community and giving feedback to improve services
(8.4) Community Development*	Specific efforts to empower and build communities
(8.5) Research*	Conducting research activities in the community
(8.6) Activism*	Activism and advocacy for a community e.g. regarding health care access, or raising awareness of the plight and the needs of specific groups
(9) ENACTED PHILOSOPHY (EMPOWERMENT AND CLIENT-FOCUSED CARE)	WHAT IS THE AIM OF THE SERVICE? Is primacy given to the client's own needs and desires rather than epidemiological or service objectives: e.g. 'to support the client to identify and achieve goals regardless of what they may be,' versus 'supporting clients to breastfeed'?

*Core tasks found in the literature, not surfaced by the primary research