ABSTRACT

Purpose: This research aims to identify a core set of clinical skills for working in a Community Based Rehabilitation (CBR) setting, and to discuss whether they are appropriate for task shifting to a new or an alternative cadre of rehabilitation workers.

Methods: The study focussed on work activities relating to the health component of the CBR Matrix. 40 health professionals working in CBR in Low and Middle Income Countries (LMIC) were surveyed to discover the clinical skills that were used most frequently during the past 3 months and to determine which of these skills were deemed most important in a CBR setting.

Results: A core set of clinical skills for health-related CBR work in LMIC were identified: advocacy and sensitisation; assessment, monitoring and reporting; behavioural and cognitive interventions; collaboration and referral; communication; continuing professional development; education; gait training; group work; home-based rehabilitation; manual therapy; neurofacilitation techniques; positioning; prescription of strengthening exercises; prescription of stretching programmes; provision of aids, assistive devices and technologies; psychosocial support; recreational therapy; self-care; sensory interventions; supervision; upper body rehabilitation; vocational rehabilitation and working with families.

Conclusions: It is possible to identify a core set of health-related CBR skills. These may be considered in the development of training programmes for new
or alternative cadres of CBR workers, using a task-shifting model including appropriate support, supervision and referral mechanisms.

**Implications:** Further research is required to establish the generalisability of the skills sets identified here, both across contexts and different client groups and their needs. The identification of core sets of skills for other areas of the CBR Matrix - livelihood, social, empowerment and education – could similarly facilitate access to these domains for people with disabilities.

**Key words:** CBR, task-shifting, disability, rehabilitation, core set, skills.

**INTRODUCTION**

Community Based Rehabilitation (CBR) is a rapidly growing field. CBR is a strategy within general community development for the rehabilitation, equalisation of opportunities and social inclusion of all people with disabilities (ILO, UNESCO & WHO, 2004). CBR provides persons with disabilities with person-centred services in their local area. The CBR guidelines published in 2010 were a landmark in the continued development of this model of service delivery and community based inclusive development. They introduced a shift towards a multi-sector and multi-stakeholder approach, mobilising all required levels to promote the full and effective participation of people with disabilities. These guidelines are also in line with realising the rights enshrined in the UN Convention on the Rights of Persons with Disabilities (UNCRPD, 2007; World Health Organisation, 2010; International Disability Development Consortium, 2012; Geiser and Boersma, 2013).

These guidelines are ambitious and encompass 5 key areas of the CBR Matrix - health, livelihood, education, social and empowerment. For professionals working in this CBR setting, it is evident that a complex skill mix is required (MacLachlan et al, 2011). The CBR guidelines are not prescriptive, with CBR programmes tailored to the needs of their particular context, with a ‘pick and mix’ approach to the CBR Matrix’s 5 components and sub-elements. In the area of health, CBR work should be guided by Articles 25 and 26 of the UNCRPD, and can make a particular contribution in providing these health services as close as possible to people’s own communities, including in rural areas (Article 25c) (UNCRPD, 2007).

There is a severe shortage of workers with appropriate CBR skills in LMIC and this contributes towards prohibiting comprehensive access to CBR in practice.
In the Human Resources for Health (HRH) crisis, the use of task-shifting to new ‘mid’ or ‘lower’ level cadres (generally with shorter and narrower training) has proven to be effective in other domains (Scheffler et al, 2009; Callaghan et al, 2010; Fulton et al, 2011; Lassi et al, 2013). The identification of the sort of skills which could be effectively shifted to a cadre whose training is shorter and less expensive, could allow for more efficient and more accessible services for persons with disabilities in both urban and rural settings. The role of the CBR professional is complex and requires a multi-faceted mix of skills and training, encompassing skills from a number of types of professionals (Mannan et al, 2012).

Although there have been calls for research into the competencies required in a CBR setting (Ojwang and Hartley, 2002, World Health Organisation, 2003), research on the clinical skills and competencies required in a CBR setting is still lacking, perhaps because of the professional sensitivities and complexities involved. For the purpose of the current research, a clinical skill is understood as an act with the aim of improving health or quality of life for an individual. This can be across any domain of examination - physical, therapeutic, communication or management (Michels et al, 2012). It can be directly with the individual or with others such as health professionals, family and/or community. A competency is a combination of knowledge and skill which is needed to achieve a task, goal or outcome (Albanese et al, 2008).

The aim of this research was to gain insight from health professionals working in CBR in LMIC into what clinical skills and/or competencies are required in health-related CBR settings. This explorative study sought to take the first steps in identifying what a core set of health-related clinical skills or competencies might incorporate.

**METHOD**

**Study Design**

An exploratory descriptive study was chosen with a cross-sectional quantitative survey design. The idea was to ask participants to name skills, rather than respond to the researchers’ preconceptions of what these skills might be. A survey was developed to ask CBR professionals what clinical skills, treatments or methods they used most frequently in the last 3 months (a relatively short time period was specified to enhance accuracy of recall) and to rank these in order of importance (Table 1).
### Table 1: Survey Instrument

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please indicate your profession</td>
<td>Nurse/Doctor/Physiotherapist/Occupational Therapist/Speech and Language Therapist/Dietician, Nutritionist/Psychologist/Orthotist, Prosthetist/Other</td>
</tr>
<tr>
<td>Years of Experience since qualification</td>
<td></td>
</tr>
<tr>
<td>Highest level of Education achieved</td>
<td>Diploma/Degree/Masters Doctorate/Other</td>
</tr>
<tr>
<td>What proportion of your time would you say is spent working with persons with disabilities and/or in the context of Community Based Rehabilitation?</td>
<td>One quarter or less/About half/Three-quarters/All of my time/None of my time</td>
</tr>
<tr>
<td>Which country are you working in</td>
<td></td>
</tr>
<tr>
<td>Please tick as many of the categories below of difficulties that apply to persons with disabilities you have worked with during the last 3 months</td>
<td>Vision/Hearing/Mobility/Communication/Self-care/Cognition/Upper Body/Other</td>
</tr>
<tr>
<td>Please list (in no particular order) 10 clinical skills, treatments or methods you have often used within the context of Community Based Rehabilitation or in a community setting (in the last 3 months)</td>
<td></td>
</tr>
<tr>
<td>Please rank these clinical skills, treatments or methods in order from 1 to 10, with 1 being the one you have used most often and 10 the least often (in the last 3 months)</td>
<td></td>
</tr>
<tr>
<td>Did you feel you had sufficient training or knowledge to carry out the clinical skills you were required to use in the last 3 months?</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Do you have any comments about the sort of skills you have used?</td>
<td></td>
</tr>
<tr>
<td>Do you have any comments about using these skills in the context of Community Based Rehabilitation?</td>
<td></td>
</tr>
</tbody>
</table>

### Sampling

A purposeful sampling method was used to target a specific group of CBR professionals, including health professionals working in this setting and CBR workers and managers. CBR networks were approached to act as gatekeepers for this study. These included networks associated with the Disability and
Rehabilitation team of the WHO and the International Disability and Development Consortium (IDDC). Within CBR networks, snowballing/respondent-driven sampling was used. This technique uses a referral system where initial respondents identify further relevant participants known to them (Atkinson and Flint, 2001).

Data Collection, Management and Analysis
An online survey tool was used to allow for responses across a range of regions. Data was analysed using SPSS and Microsoft Excel software. The clinical skills were put forward by respondents as words, phrases or sentences. By analysing these responses, skill categories were developed. Each of these skill categories was named and given a definition based on previous studies, guidelines and academic literature. The respondents’ words, phrases or sentences explaining their clinical skills were then placed into the relevant skills categories (Table 2).

Table 2: Categories of Clinical Skills with definitions, and the words, phrases and sentences assigned to each category

(* word, sentence or phrase assigned to more than one category)

<table>
<thead>
<tr>
<th>Clinical Skill</th>
<th>Definition</th>
<th>ICF Domain</th>
<th>Context mentioned (word, phrase or sentence as answered by respondents)</th>
</tr>
</thead>
</table>
| Activities of Daily Living (ADL) Training  | Activities focussed on improving performance and independence of activities of daily living. These can be activities related to personal care such as feeding, dressing, toileting, grooming, bathing, continence, simple mobility and transfers (Coupar et al, 2012). They can also relate to extended activities of daily living such as gardening, cooking, reading (Fletcher-Smith et al, 2013). | Activities         | ADL practice
|                                            |                                                                           |                    | ADL training                                                             |
|                                            |                                                                           |                    | How to eat                                                               |
| Advocacy and Sensitisation                | Promote issues related to disability amongst community. This can include strategies aimed to: increase knowledge and awareness of disability issues, reduce stigma, change attitudes and behaviour, reduce barriers, mobilise resources and increase participation in a community (World Health Organisation and ILEP, 2007). | Environmental Factors Personal Factors | Advocacy
<p>|                                            |                                                                           |                    | Advocacy for human rights                                                |
|                                            |                                                                           |                    | Advocacy in community                                                     |
|                                            |                                                                           |                    | Awareness                                                                |
|                                            |                                                                           |                    | Awareness raising on disability issues (x2)*                             |
|                                            |                                                                           |                    | Awareness raising*                                                        |
|                                            |                                                                           |                    | Campaign for effective inclusion of disability and development*          |
| Assessment, Monitoring and Reporting | Completion of individual person-centred assessments to identify a person’s needs, priorities and individualised rehabilitation plans. These plans should be person-centred, goal orientated, realistic, outline what services will be provided and if any referrals are recommended. This also involves the completion of assessment forms and progress notes (World Health Organisation, 2010). | All Body Functions &amp; Structures Activities Participation Environmental Factors Personal Factors | Assessment skills Case notes/filing Clinical reasoning (x2) Close supervision and monitoring Conducting surveys, questionnaires and data tabulations Developing assessment tools Filing and formatting (x2) |</p>
<table>
<thead>
<tr>
<th>Behavioural and Cognitive Interventions</th>
<th>Interventions aimed at improving memory, attention, language, visuospatial activities, processing speed and executive functioning; reasoning and problem solving (Léonie et al, 2010). This also includes behavioural interventions aimed at recognising dysfunctional thoughts and behaviours, discarding and acquiring behaviours and strategies for relapse prevention (Ayerset al, 2014; Galsworthy-Francis and Allan, 2014).</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Body Functions &amp; Structures Activities</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| Collaboration and Referral | Networking with other organisations to learn about their work areas, recognise shared interests and concerns, identify duplications and/or gaps in local services, develop referral pathways and make referrals into services, develop working relationships, to jointly identify local issues and problems and to assist in continuity of care between agencies (World Health Organisation and ILEP, 2007; World Health Organisation, 2010). | Environmental Factors | Assistive device provision*  
Assistive devices (x2)*  
Campaign for effective inclusion in disability and development*  
Causing linkages to development programmes  
Co-ordination of activities between institutions  
Co-ordination of promoter and co-ordination work  
Counselling visually impaired re: uptake mobility and orientation training*  
Demonstrated mobile physiotherapy staff how to use available infrastructure for therapeutic positioning of cerebral palsy child*  
Education – schools and universities*  
Educational activities in schools*  
Engage partner NGO supervisors  
Engaging policy makers to keep leprosy on agenda*  
Eye surgery  
Facilitate access to technical aids/crutches/canes/tricycles*  
Facilitate consultation eyepiece*  
Facilitate orthopaedic surgery*  
Facilitate the consultation in orthopaedic health*  
Facilitation mental health consult*  
Facilitation/management and disability  
Guided the mobile physiotherapy project staff to focus on active assisted exercises* |
<table>
<thead>
<tr>
<th>Communication</th>
<th>Support in development of communication skills; education to families around communication, teaching use of other forms of communication such as sign language, provision of communication devices such as hearing aids, communication boards, referral to SLT and other services, carrying out exercises to improve speech (World Health Organisation et al, 1997; World Health Organisation, 2010).</th>
</tr>
</thead>
</table>
| Body Function & Structure Activities Participation | Changing role playing and speaking (x2)  
Communication (x2)  
Communication skills  
Communication skills: Non-verbal and body language  
Communication via translator (x2)  
Correct errors in speech  
Correct mistakes in speech |

Health clinics  
Inter-institutional co-ordination (x3)  
Internal activity co-ordination  
Lobbying partnerships with relevant stakeholders  
Mobility aids provision  
Multi-disciplinary team (MDT)  
Multi-sectorial involvement  
Onward referral  
Operation  
Ortho therapy  
Physiotherapy (x3)  
Promoting inclusive education*  
Prosthetic provision  
 Provision of aids: crutches, chairs, parallel bars, prosthetic limbs etc.  
 Provision of protective devices  
Referral  
 Referred persons with physical impairment to receive appropriate mobility aid from government*  
 Sensitisation in institutions (x7)*  
 Speech and language therapy (x2)*  
 Synchronisation with community setting: Making use of the existing infrastructure facility
<p>| Continuing Professional Development (CPD) | Ongoing learning based on the professionals’ needs which improve their competency of practice. This may include increasing technical knowledge, personal skills and reflective practice (Gutenbrunner et al, 2011). |
| Education | The ability to carry out activities which facilitate the learning, transfer and development of: knowledge, skills and attitudes related to disability and related fields which can be theoretical or practical in nature (World Health Organisation and JHPIEGO, 2005). |
| Personal Factors | Capacity building* Improve learning and skills (x4)* MDT (Multi-disciplinary team)* Self-development (x7) Skill acquisition Training colleagues* Training in calculations and development quotients |
| Activities | Awareness* Awareness raising of disability issues* Awareness raising* Capacity building* Demonstrate exercises |
| Participation | Demonstrated mobile physiotherapy staff how to use available infrastructure for therapeutic positioning of cerebral palsy child* Educating family members* |
| Environmental Factors | Education Education – schools and universities Educational activities (x3) |
| Personal Factors | |</p>
<table>
<thead>
<tr>
<th>Educational activities in schools*</th>
<th>Educational reinforcement (x2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educational support (x3)</td>
<td>Educational support in the home</td>
</tr>
<tr>
<td>Engaging community volunteers as counsellors</td>
<td>Facilitate training to persons affected by leprosy in self-care practice*</td>
</tr>
<tr>
<td>Facilitated home-based training for caregivers of persons with cerebral palsy / intellectual disability*</td>
<td>Family Education*</td>
</tr>
<tr>
<td>Feedback*</td>
<td>Guide mobile physiotherapy project staff – active assisted exercises*</td>
</tr>
<tr>
<td>Health education</td>
<td>Improve learning and skills (x4)*</td>
</tr>
<tr>
<td>Individual patient exercise booklets put together*</td>
<td>Issue information leaflets*</td>
</tr>
<tr>
<td>Nutrition</td>
<td>Organise educational talks to promote positive image of people in situation of disability*</td>
</tr>
<tr>
<td>Parents and community training*</td>
<td>Patient education</td>
</tr>
<tr>
<td>Portage guide to early education</td>
<td>Postural re-education</td>
</tr>
<tr>
<td>Promoting inclusive education*</td>
<td>Promoting inclusive education*</td>
</tr>
<tr>
<td>Raise awareness with parents re: enrolment education*</td>
<td>Remedial teaching</td>
</tr>
<tr>
<td>Resettlement and inclusive development/education</td>
<td></td>
</tr>
<tr>
<td>Sustainable agriculture skills</td>
<td>Teaching reinforcement</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Teaching staff position of cerebral palsy child*</td>
<td>Therapeutic skill: Use physiotherapy and psychology knowledge to guide the CBR workers*</td>
</tr>
<tr>
<td>Train mum in home exercise programme*</td>
<td>Training (formal/informal), skill transfer, education</td>
</tr>
<tr>
<td>Training colleagues*</td>
<td>Training of CBR workers</td>
</tr>
<tr>
<td>Train persons with disabilities in activities of income generation*</td>
<td>Training techniques for raising poultry*</td>
</tr>
<tr>
<td>Training/orientation on income generating activities*</td>
<td>Training self-care activities</td>
</tr>
<tr>
<td>Training to carers*</td>
<td>Walking aid education*</td>
</tr>
<tr>
<td>Workshops with families (x2)*</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environmental Modifications</th>
<th>Environmental Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitate the adaptation and modification of individual environments such as the home, e.g. ramps, accessible toilet facilities, handrails, and/or in a community setting such as access in schools, public areas (World Health Organisation, 2010).</td>
<td>Advice on home modifications*</td>
</tr>
<tr>
<td>Environmental adaptations e.g. ramps*</td>
<td>Home adaptation*</td>
</tr>
<tr>
<td>Housing repairs*</td>
<td>Modifications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fine Motor Rehabilitation</th>
<th>Body Functions &amp; Structures Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fine motor skills involve small precise movements. These are usually of the extremities such as: fingers, hand and wrist. Examples of fine motor skills include: writing, colouring in, pinching (Marret al, 2003; Kimmel and Ratliff-Schaub, 2011).</td>
<td>Colouring in the frame (x4)</td>
</tr>
<tr>
<td>Dissemble cubes (x3)</td>
<td>Paint and draw*</td>
</tr>
<tr>
<td>How to paint/draw*</td>
<td>Writing</td>
</tr>
</tbody>
</table>
| Gait Training | Interventions which aim to improve the functional ability of walking (States et al, 2009). This can include task orientated training, strengthening exercises, cardiovascular fitness, weight transfer practice, dual task performance (van de Port et al, 2007; States et al, 2009). | Body Functions & Structures Activities | Balance*  
Gait re-education (x2)  
Global functional conditioning exercises*  
Hand and leg exercises*  
How to stand and walk  
How to stand and walk in balance bars (x2)  
Leg exercises*  
Mobility skills  
Postural re-education*  
Standing exercises  
Transfer practice  
Transfer techniques  
Walk exercises  
Walking aid education* |
| Group Work | The planning, development, facilitation and capacity building of groups. These can involve self-help groups and/or rehabilitation groups (World Health Organisation, 2010). | Participation | Group activities  
Group conformation (x2)  
Interact/communication with other children*  
Micro-endevour workshops (x4)*  
Micro-endevour workshops for families (x2)*  
Workshops with families (x2)* |
| Home-based Rehabilitation | Rehabilitation provided in the home setting (Cook et al, 2013). This can include home visits, use and adaptation of the home environment and encouragement of persons and their caregivers to continue rehabilitation in the home setting (Couparet al, 2012). | Body Functions & Structures Activities Participation Environmental Factors | Carrying out therapy in home environment  
Educational support in the home*  
Encourage mum to do home exercise*  
Environmental adaptations e.g. ramps  
Facilitated home-based training to caregivers of persons with cerebral palsy and intellectual disabilities*  
Facilitative therapy - home based*  
Home adaptation*  
Home visits (x5)  
Rehab therapy in the home (x2) |
| Manual Therapy | Involves the movement of the neuromusculoskeletal system through joint mobilisation, joint manipulation, soft tissue release and/or neurodynamics (Farrell and Jensen, 1992; Bialosky et al, 2009). | Body Functions & Structure | Joint mobilisations  
Manual handling  
Manual therapy  
Manual work (x2) |
|----------------|-------------------------------------------------------------------------------------------------|--------------------------|----------------|
| Miscellaneous  | Words, sentences or phrases that were unsuitable to be categorised as: too general, unsure of meaning or were not a clinical skill. | N/A                      | Correct mistakes  
Multiple disabilities therapy  
Project elaboration  
Recording daily accounts, incomes/expenditures  
Rehabilitation therapy (x4)  
Rehabilitation therapy in rehab room  
Rehabilitative care |
| Neurofacilitation Techniques | Techniques which promote and facilitate normal movement and inhibit abnormal movement (Schaechter, 2004). This may include facilitation of key points and normal movements, postural control, techniques to reduce muscle tone such as weight-bearing through affected limbs, and proprioceptive techniques. Bobath neurodevelopmental approach falls under the heading of neurofacilitation (Butler and Darragh, 2001; Schaechter, 2004; Hafsteinsdóttir et al, 2005; Shepherd, 2014). | Body Functions & Structure | Bobath  
Facilitated sitting and reaching – hemiparesis*  
Facilitation of normal movement pattern  
Facilitative therapy - home based*  
Facilitative therapy (x5)  
General developmental therapy  
Neurofacilitation techniques, key points, Bobath, facilitation - developmental delay |
| Oedema control | Techniques to reduce oedema which is the collection of excess fluid in the interstitium. This can include positioning, exercises, medication, manual techniques (Artzberger, 2014). | Body Functions & Structure | Oedema control methods  
Oedema management* |
| Positioning | Encouraging optimal body positioning and postural alignment to: reduce pressure areas, prevent secondary deformities (e.g. joint contractures), and increase functional abilities and comfort. This can include the use of aids, appliances and devices such as seating, standing frames, wedges, wheelchairs, footrests and cushioning (World Health | Body Functions & Structure | Casting*  
Demonstrated mobile physiotherapy staff how to use available infrastructure for therapeutic positioning of cerebral palsy child*  
Feeding and positioning Ponsetti treatment for TEV (Clubfoot)  
Pressure sore management and wound care* |
| Psychosocial support | Support aiming to promote and protect psychosocial well-being (Inter-Agency Standing Committee - IASC, 2007). | Participation Personal Factors | Active listening  
Coaching/counselling*  
Cognitive behavioural therapy*  
DBT (Dialectical behavioural therapy)*  
Listening*  
Listening skills*  
Mental health awareness*  
Facilitation mental health consult* |
|---|---|---|---|
| Provision of Aids, Assistive Devices and Technologies | The provision of or facilitation of referral for mobility devices, prosthetics, orthotics, splints, hearing aids, specialised computer soft and hardware that assist a person in function and participation (World Health Organisation, 2010). | Body Functions & Structure  
Activities  
Participation  
Environmental Factors | Assistive device provision*  
Assistive devices (x2)*  
Casting*  
Set in chair/seating (x2) *  
Environmental adaptations e.g. ramps*  
Equipment provision  
Equipment provision - bath lifts/seats/commodes  
Facilitate access to aids, crutches, tricycles*  
Facilitate consultation eyepiece*  
Home adaptation*  
Housing repairs*  
Mobility aids provision  
Ponsetti treatment for TEV  
Prosthetic provision  
 Provision of protective devices  
 Provision of aids: crutches, parallel bars, prosthetic limbs  
 Referral to government for mobility aids*  
 Splinting (x6)*  
 Use of local materials  
 Walking aid education*  
 Wheelchair adaptations and measurements* |
| Organisation et al, 2008; World Health Organisation, 2010). | Set in chair/seating (x2)*  
Splinting (x6)*  
Wheelchair adaptations/measurements* |
<table>
<thead>
<tr>
<th>Mental psychological support</th>
<th>Psychological support (x2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological/emotional support</td>
<td>Relaxation</td>
</tr>
<tr>
<td>Repeated positive motivation</td>
<td>Social skill: Establishing relationship with the client</td>
</tr>
<tr>
<td>Speaking about situation*</td>
<td>Speaking with persons (x2)*</td>
</tr>
<tr>
<td>Talking with families and persons with disabilities*</td>
<td><strong>Understanding</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recreational Therapy</th>
<th>A holistic process using a range of play or recreation activities to address physical, emotional, cognitive, and social needs of a person to maintain and improve health, functional abilities, participation in society and quality of life (Carter and Van Andel, 2011; American Therapeutic Recreation Association, 2014). This will often involve incorporating a person’s individual interests and community environment into the therapy programme.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>Adaptive/creative skills</td>
</tr>
<tr>
<td></td>
<td>Colouring in the frame (x4)*</td>
</tr>
<tr>
<td></td>
<td>How to paint and draw*</td>
</tr>
<tr>
<td></td>
<td>Interact/communication with other children*</td>
</tr>
<tr>
<td></td>
<td>Music and dance</td>
</tr>
<tr>
<td></td>
<td>Paint and draw</td>
</tr>
<tr>
<td></td>
<td>Play exercises</td>
</tr>
<tr>
<td></td>
<td>Play therapy</td>
</tr>
<tr>
<td></td>
<td>Play with children</td>
</tr>
<tr>
<td></td>
<td>Recreational activities (x4)</td>
</tr>
<tr>
<td></td>
<td>Recreational activities on beach</td>
</tr>
<tr>
<td></td>
<td>Recreational activity: accessible beach</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-care</th>
<th>“Self-care is what people do for themselves to establish and maintain health, prevent and deal with illness” (World Health Organisation, 1998). This can be through maintaining healthy lifestyle with exercise, reducing stress etc., diet and nutrition, environmental factors such as housing and social habits, socioeconomic factors, managing medication and exercise programmes. Skills to promote self-care include providing information, motivation and linking in with support groups where appropriate (World Health Organisation, 2010).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation</td>
<td>Personal Factors</td>
</tr>
<tr>
<td></td>
<td>Facilitate training to persons affected by leprosy in self-care practice</td>
</tr>
<tr>
<td></td>
<td>Health education*</td>
</tr>
<tr>
<td></td>
<td>Lecture self-care*</td>
</tr>
<tr>
<td></td>
<td>Self-care (x6)</td>
</tr>
<tr>
<td></td>
<td>Training in self-care activities*</td>
</tr>
<tr>
<td>Sensory Interventions</td>
<td>Techniques used to affect change on the sensory system. This can include strategies focusing on: touch, proprioception, vision, hearing, vibration, balance, desensitisation, pain, sensory processing, adaptation and substitution (Doyle et al, 2010; Merabet and Pascual-Leone, 2010; Collignon et al, 2011).</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Prescription of Strengthening Exercises</td>
<td>A systematic programme of exercises designed to increase an individual’s ability to exert or resist force (Garber et al, 2011; Shepherd, 2014). This can also include stabilisation exercises such as those for the muscles of spine and trunk (Akuthota and Nadler, 2004).</td>
</tr>
<tr>
<td>Prescription of Stretching Programmes</td>
<td>Movement of a joint and surrounding tissue to increase range of motion or prevent loss of motion (Garber et al, 2011). Stretching can be static (stretch is held for a set period of time) or dynamic (continual movement). It can be an active (by the person), active assisted (with assistance of another person) or passive (full effort of stretch carried out by another person).</td>
</tr>
</tbody>
</table>
| Supervision | Provide support and promote: reflection, inquiry, collaboration and professional development in recipients of supervision (Zepeda, 2012). | Environmental Factors | Supervision / Evaluation*  
Supervision of coordinators  
Supervision of promoters/community workers  
Therapeutic skill: Use physiotherapy and psychology knowledge to guide the CBR workers* |
| Upper Body Rehabilitation | Activities focussed on improving functional use of the upper limb. These may include strategies to increase strength, movement, coordination, dexterity, manipulation, grasping, pinching or gripping and/or reducing muscle tone (Coupar et al, 2012). | Body Functions & Structure Activities | Facilitated sitting and reach: hemiparesis*  
Hand and leg exercises*  
Hand exercises (x3)  
Splint (x6) |
| Vocational Rehabilitation | Training of skills and knowledge specific to an activity for participation in employment, micro finance or self-employment (World Health Organisation, 2013). | Participation | Income generating projects (x2)  
Micro-endeavour (Business/endeavour)  
Micro-endeavour workshops (x4)*  
Micro-endeavour workshops with families (x2)*  
Occupational performance model  
Productivity  
Sustainable agriculture skills*  
Train persons with disabilities in activities of income generation*  
Training techniques for raising poultry*  
Training/orientation on income generating activities*  
Vocational skills training |
| Working with Families | Working with families to: sensitise on disability issues, training to assist with caregiving and/or rehabilitation programmes where required. This can include primary family members along with extended family members, relatives and friends (World Health Organisation and Alzheimer’s Disease International, 2012). | Environmental Factors | Educating family members*  
Encourage mum in home exercise programme*  
Family education*  
Facilitated home-based training to caregivers of persons with cerebral palsy and intellectual disabilities* |
Improve quality of life empowering children, families, carers, communities*
Interview with parents and translator*
Micro-endeavour workshops to families (x2)*
Monitoring with family about child situation*
Parents and community training*
Raise awareness with parents re: enrolment in education*
Sensitisation of families (x2)*
Sensitisation of families and communities (x3)*
Strong familial support
Supporting parents
Train mum in home exercise programme*
Talking with families and persons with disabilities*
Training to carers
Workshops with families (x2)*

| Wound Care | Prevention, assessment and management of acute and chronic wounds (Lazarus et al, 1994). | Body Functions & Structure | Pressure sore management and wound care*
Scar treatment (x2)* |

For example, there was agreement on a skill category of “gait training”, with a definition of “Interventions which aim to improve the functional ability of walking. This can include task orientated training, stretching exercises, cardiovascular fitness, weight transfer practice, dual task performance” (van de Port et al, 2007; States et al, 2009). A sample of answers which were categorised under this heading included: “gait re-education”, “how to stand and walk”, “walking aid education”, and “mobility skills”. Some words, phrases and sentences put forward to explain clinical skills, treatments or methods could be placed in more than one category. For example, “educating families” was placed under the skill categories of “education” and “working with families”. This was completed for all skills (seen in Table 2).

An inter-rater comparison was completed to reduce risk of bias with categorisation of skills. A 95% agreement was achieved between raters for
placement of skills into the skill categories shown in Table 2.

The International Classification of Functioning, Disability and Health (ICF) was used as a framework to classify the categories of skills in terms of their target. Each category was analysed as to whether its aim was to address body structure or functions, activities, participation, environmental factors or personal factors, or whether the target was a combination of these elements. The advantage of using the ICF is that it encapsulates the social model of disability, which is core to CBR values. It also allows for continuity of use in further research into the core set of skills for other non-health elements of the CBR Matrix (livelihood, education, social, and empowerment).

The International Classification of Interventions (ICHI) was also considered for use as a framework. Madden (2012) describes this framework as focussing on what was done, to whom and how. However, it does not encompass the contextual issues of who completed the intervention (the human resource elements), where the intervention took place, or why the intervention was used. While the ICHI approach undoubtedly has value, the context in which tasks are performed and who performed them were in fact, from a task-shifting perspective, of particular interest to the researchers of the current study. Contextual factors and professional politics may be critical considerations as to how certain tasks are integrated into a wider systems perspective (MacLachlan et al, 2014).

The frequency of use of a skill was calculated as the percentage of respondents who reported this skill. The skills were then grouped into the top 10 most frequent skills (these were regarded as high frequency); skills from top 11 to 20 used most frequently (these were regarded as medium frequency) and top 20 onwards (regarded as low frequency).

In order to ascertain the importance of each skill, the mean ranking was identified along with the standard deviation from the mean. Skills which ranked a mean of 1(most important) to 3 out of 10 (least important) were deemed to be of high importance, 4 to 6 out of 10 were deemed of medium importance, and 7 or higher out of 10 were deemed of lower importance. The significant mean rankings (with a Standard Deviation or SD of less than or equal to +/-2, Confidence Interval or CI95%) were reported. A skill ranking with a SD of greater than +/-2 was deemed not to have sufficient agreement between raters.

The data was then analysed to make comparisons by geographic regions, and for the two larger professional groups of physiotherapists and occupational
therapists. A clinical skill was determined to be ‘core’ if a skill was rated to be of medium or high frequency, or ranked as being of medium or high importance.

Ethical approval for this study was received by Trinity College Dublin.

RESULTS
A total of 40 respondents completed this survey (n=40). All respondents had worked within a CBR setting or in a community setting with persons with disabilities in the last 3 months.

Regions
Respondents were working in a range of low and middle income countries and regions.

40% of the respondents were working in Sub-Saharan Africa (SSA) (total n=16) including Uganda (n=5), Sudan (n=8), Burkina Faso (n=1) and South Africa (n=2). 35% of them were working in the Americas (total n=14) including Ecuador (n=11), Bolivia (n=1), Columbia (n=1) and Dominican Republic (n=1). 22% were working in Asia (total n=9) including India (n=5), Sri Lanka (n=1), Indonesia (n=1), Bangladesh (n=1) and Pakistan (n=1). 3% of the respondents were working in Europe.

Types of Professionals
CBR professionals who participated in the survey came from a range of professional backgrounds: physiotherapists (n=12), occupational therapists (n=10), social workers (n=5), nurse (n=1), psychologist (n=1), CBR practitioner (n=1), nursing assistant (n=1), and others/did not specify (n=9). For each region, a minimum of 4 different professional types responded.

Case Mix: Types of Disabilities Dealt with
Professionals reported working with persons who had different types of disabilities, during the last three months. 97.5% (n=39) had worked with persons with mobility issues, 80% (n=32) with persons with communication difficulties, 75% (n=30) with persons with cognitive difficulties, 65% (n=26) with persons with self-care difficulties, 62.5% (n=25) with persons with visual difficulties, 55% (n=22) with persons with hearing difficulties, and 52.5% (n=21) with persons with upper body difficulties. A wide case mix was also seen across all geographical regions.
Skills Identification
Respondents described clinical skills or competencies with a total of 363 words or sentences. These open responses were content analysed to identify similar words/themes, and 29 categories of clinical skills or competencies were established. The categories reported were as follows: Activities of Daily Living (ADL) training; advocacy and sensitisation; assessment, monitoring and reporting; behavioural and cognitive interventions; collaboration and referral; communication; Continuing Professional Development (CPD); education; environmental modifications, fine motor rehabilitation; gait training; group work; home-based rehabilitation; manual therapy; neurofacilitation techniques; oedema control methods; positioning; prescription of strengthening exercises; prescription of stretching programmes; provision of aids, assistive technologies and devices; psychosocial support; recreational therapy; self-care; supervision; upper body rehabilitation; vocational rehabilitation; working with families; and, wound care. The definitions and words and sentences which were allocated to each category can be seen in Table 2.

Skill Frequency
The skills used most often in the last three months are reported in Figure 1.

Eleven words and/or sentences put forward by respondents were categorised as ‘miscellaneous’ as it was not possible to assign them to any category. The details are under the ‘miscellaneous’ heading in Table 2.

Figure 1: Skills used Most Frequently in the last three months in a CBR setting
Skill Frequency - Geographic Differences
There were differences in the skills reported as having been used most frequently in the geographic regions of Asia, Sub-Saharan Africa and the South Americas, over the last three months. As there was only one response from Europe, this was not included in the geographic analysis (Figure 2).

![Geographic Differences Between Skills](image)

**Figure 2:** Differences in Most Frequent Skills reported in Asia, the Americas and Sub-Saharan Africa

Skill Frequency - Professional Differences
The skills used were analysed for the larger professional groups of physiotherapists (n=12) and occupational therapists (n=10). A skill was reported if it was among the top 10 skills for this group (Figures 3 and 4).

Skill Frequency relating to the ICF Domains
Of the 29 categories of clinical skills and competencies, 17 targeted only one of the ICF domains: body functions and structure, activities, participation, or contextual factors of environment or personal. 12 targeted more than one ICF domain. Body functions and structure was the target of 16 clinical skills or competencies, activities was the target of 10, participation was the target of 10, environmental factors was the target of 9, and personal factors was the target of 7 (Table 2).
Figure 3: Skills reported Frequently by Physiotherapists

Figure 4: Skills reported Frequently by Occupational Therapists
Importance of Skills
The respondents could rank their skills according to level of importance, with 1 being most important to 10 being least important. Overall, few skills reached a statistically significant consensus on level of importance (agreed as standard deviation of +/-2 from the mean). As shown in Figure 5, the following were consistently deemed to be of higher importance: home-based rehabilitation with a mean ranking of 2 out of 10 (SD 1.61, CI 95%), prescription of strengthening exercises with a mean ranking of 2.7 out of 10 (SD 1.9, CI 95%), and supervision with a mean ranking of 2.5 out of 10 (SD 1, CI 95%). A few skills were also consistently ranked as being of medium importance: behavioural and cognitive interventions scored a mean ranking of 3.6 out of 10 (SD 1.43, CI 95%), manual therapy scored a mean ranking of 4 (SD 2, CI 95%), and neurofacilitation techniques scored a mean ranking of 6.1 out of 10 (SD 1.6, CI 95%). Vocational rehabilitation was consistently ranked as being of lower importance, with a mean ranking of 7.8 out of 10 (SD 1.65, CI 95%).

Figure 5: Mean Skill Rankings from 1 to 10

Importance of Skills – Geographic Regions
When the skills were grouped by geographic region, agreement of importance was achieved on some further skills within the regions of Sub-Saharan Africa and Americas (Figures 5, 6 and 7).

www.dcidj.org
Figure 6: Mean Skill Rankings for the Americas region

Figure 7: Mean Skill Rankings for SSA region
**Importance of Skills – Professional Groups**

Within the larger professional groups of physiotherapists (n=12) some agreement on the importance of skills can be seen. Prescription of strengthening exercises was agreed by the physiotherapists who used this skill to be of higher importance with a mean rank of 2 out of 10 (SD 1.8, CI 95%), along with collaboration and referral with a mean rank of 3 (SD 1.7, CI 95%). Positioning was deemed to be of lower importance, with a mean rank of 9.2 out of 10 (SD 1.7, CI 95%). Among the occupational therapists, no consensus was reached on the importance of skills.

The above findings have been synthesised in Table 3, which gives for each clinical skill: frequency mentioned overall, a ranking (if achieved) overall, notable frequency by professional group or region, and whether a ranking was agreed by professional group or by region.

**Table 3: Summary of Skills with Overall Frequency, Ranking, ICF Domain, Professional and Regional differences**

<table>
<thead>
<tr>
<th>Skill</th>
<th>ICF Domain</th>
<th>Overall Frequency</th>
<th>Overall Ranking</th>
<th>In Top 10 PT and/or OT Frequency of Skills</th>
<th>PT/OT Ranking</th>
<th>Ranked of high or low frequency in specific Geographic Regions</th>
<th>Geographic Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaboration and Referral</td>
<td>Environmental Factors</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>PT High</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Education</td>
<td>Activities Participation</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>-</td>
<td>-</td>
<td>Americas High</td>
</tr>
<tr>
<td></td>
<td>Environmental Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Personal Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advocacy and Sensitisation</td>
<td>Environmental Factors</td>
<td>High</td>
<td>-</td>
<td>OT</td>
<td></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Personal Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>Body Functions &amp; Structure</td>
<td>High</td>
<td>-</td>
<td>OT</td>
<td></td>
<td>SSA and Americas High Asia Lower</td>
<td>SSA and Americas Lower</td>
</tr>
<tr>
<td></td>
<td>Activities Participation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working with Families</td>
<td>Environmental Factors</td>
<td>High</td>
<td>-</td>
<td>PT</td>
<td></td>
<td>Americas and Asia High SSA Lower</td>
<td>-</td>
</tr>
<tr>
<td>Provision of aids, assistive devices and technologies</td>
<td>Body Functions &amp; Structure</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>-</td>
<td>SSA and Asia High Americas Lower</td>
<td>-</td>
</tr>
<tr>
<td>------------------------------------------------------</td>
<td>---------------------------</td>
<td>------</td>
<td>---</td>
<td>--------</td>
<td>---</td>
<td>---------------------------------</td>
<td>---</td>
</tr>
<tr>
<td>Continuing Professional Development (CPD)</td>
<td>Personal Factors</td>
<td>High</td>
<td>-</td>
<td>PT</td>
<td>-</td>
<td>Americas High</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Participation</td>
<td>High</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>SSA Lower</td>
</tr>
<tr>
<td>Vocational Rehabilitation</td>
<td>Participation</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>-</td>
<td>Asia High</td>
<td>-</td>
</tr>
<tr>
<td>Psychosocial Support</td>
<td>Participation</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>PT Lower</td>
<td>Asia and SSA High Americas Lower</td>
<td>-</td>
</tr>
<tr>
<td>Positioning</td>
<td>Body Functions &amp; Structure</td>
<td>High</td>
<td>-</td>
<td>PT &amp; OT</td>
<td>PT Lower</td>
<td>Asia and SSA High Americas Lower</td>
<td>-</td>
</tr>
<tr>
<td>Recreational Therapy</td>
<td>Participation</td>
<td>High</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Assessment, Monitoring and Reporting</td>
<td>All Domains</td>
<td>High</td>
<td>-</td>
<td>OT</td>
<td>-</td>
<td>-</td>
<td>SSA High</td>
</tr>
<tr>
<td>Home-based Rehabilitation</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>High</td>
<td>-</td>
<td>-</td>
<td>Americas High SSA and Asia Lower</td>
<td>Americas High SSA High</td>
</tr>
<tr>
<td>Behavioural and Cognitive Interventions</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>Medium</td>
<td>OT</td>
<td>-</td>
<td>-</td>
<td>Americas and SSA Medium</td>
</tr>
<tr>
<td>Prescription of Strengthening Exercises</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>High</td>
<td>PT</td>
<td>PT High</td>
<td>-</td>
<td>SSA High</td>
</tr>
<tr>
<td>Neurofacilitation Techniques</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>Medium</td>
<td>PT</td>
<td>-</td>
<td>-</td>
<td>Americas Medium</td>
</tr>
<tr>
<td>Group Work</td>
<td>Participation</td>
<td>Medium</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Americas High SSA and Asia Lower</td>
<td>-</td>
</tr>
<tr>
<td>Sensory Interventions</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>-</td>
<td>OT</td>
<td>-</td>
<td>Asia High SSA and Americas Lower</td>
<td>-</td>
</tr>
<tr>
<td>Upper body Rehabilitation</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>-</td>
<td>OT</td>
<td>-</td>
<td>-</td>
<td>Asia Lower SSA High</td>
</tr>
<tr>
<td>Prescription of Stretching Programmes</td>
<td>Body Functions &amp; Structures</td>
<td>Medium</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Asia Medium</td>
</tr>
</tbody>
</table>
To be considered a core skill or competency it had to be rated to be of medium or high frequency, or ranked as being of medium or high importance. Table 4 below shows a list of the core set of skills and competencies identified.

**Table 4: Core set of Clinical Skills and Competencies for CBR Professionals**

<table>
<thead>
<tr>
<th></th>
<th>Participation</th>
<th>Medium</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
<th>-</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-care</td>
<td>Personal Factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gait Training</td>
<td>Body Functions &amp; Structures Activities</td>
<td>Medium</td>
<td>-</td>
<td>PT</td>
<td>-</td>
<td>Americas Lower</td>
<td>-</td>
</tr>
<tr>
<td>Fine motor Rehabilitation</td>
<td>Body Functions &amp; Structures Activities</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Manual Therapy</td>
<td>Body Functions &amp; Structures</td>
<td>Lower</td>
<td>Medium</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Supervision</td>
<td>Environmental Factors Personal Factors</td>
<td>Lower</td>
<td>High</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>Americas High</td>
</tr>
<tr>
<td>Environmental Adaptations</td>
<td>Environmental Factors</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Wound Care</td>
<td>Body Functions &amp; Structures</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Oedema Control</td>
<td>Body Functions &amp; Structures</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>ADL Training</td>
<td>Activities</td>
<td>Lower</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

**Core Set of Clinical Skills and Competencies for CBR Professionals working in LMIC**

- Advocacy and Sensitisation
- Assessment, Monitoring and Reporting
- Behavioural and Cognitive Interventions
- Collaboration and Referral
- Communication
- Continuing Professional Development
- Education
- Gait Training
- Group Work
<table>
<thead>
<tr>
<th>Home-based Rehabilitation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual Therapy</td>
</tr>
<tr>
<td>Neurofacilitation Techniques</td>
</tr>
<tr>
<td>Positioning</td>
</tr>
<tr>
<td>Prescription of Strengthening Exercises</td>
</tr>
<tr>
<td>Prescription of Stretching Programmes</td>
</tr>
<tr>
<td>Provision of Aids, Assistive devices and Technologies</td>
</tr>
<tr>
<td>Psychosocial Support</td>
</tr>
<tr>
<td>Recreational Therapy</td>
</tr>
<tr>
<td>Self-care</td>
</tr>
<tr>
<td>Sensory Interventions</td>
</tr>
<tr>
<td>Supervision</td>
</tr>
<tr>
<td>Upper body Rehabilitation</td>
</tr>
<tr>
<td>Vocational Rehabilitation</td>
</tr>
<tr>
<td>Working with Families</td>
</tr>
</tbody>
</table>

**Additional Skills for further research and consultation**

- ADL training
- Environmental adaptations
- Fine motor rehabilitation
- Oedema control
- Wound care

**DISCUSSION**

The researchers set out to establish whether it is possible to identify a core set of health-related CBR skills. The results suggest that patterning of clinical skills can be seen between CBR professionals, and a core set of clinical skills can be defined and described. A clinical skill was understood as an act with an aim to improve health or quality of life for an individual. This can be across any domain of examination, physical, therapeutic, communication or management, and can be directly with the individual or with others such as health professionals, family and/or community (Michels et al, 2012). A competency is a combination of
knowledge and skill which is needed to achieve a task, goal or outcome (Albanese et al, 2008).

The respondents provided open responses to the survey questions as to the skills they used most frequently, and the same and similar skills were frequently put forward (see Table 1 for copy of survey instrument). From these responses, a total of 29 clinical skills have been identified as being used most frequently in a CBR setting. Within these skills, some are used more frequently and deemed to be of higher importance than others. These could be prioritised when developing training programmes for CBR professionals.

Many of the top 10 skills used most frequently tended to be of a generalised nature and were less discipline-specific. For example, within the top 10 skills are included: collaboration and referral; education; advocacy and sensitisation; communication; working with families; Continuing Professional Development (CPD); psychosocial support and assessment, monitoring and reporting. It could be argued that these skills are naturally interdisciplinary, occurring across professional boundaries. These findings could also be argued to support the need within CBR programmes for facilitating access and reducing barriers to society. Within the top 10 skills, using the ICF framework, 6 skills are related to targeting contextual factors of the environment and 5 are related to targeting personal factors. For example, collaboration and referral indicates mobilising and assisting access and use of existing stakeholders, and advocacy and sensitisation may reflect the emphasis placed on changing attitudes and stigma within the local community. The frequent use of these skills - over more traditional health and rehabilitation-related skills - may require the programmes to reflect the higher need for agents of change within the community.

However, a number of skills in the top 10 scoring were more specific, such as: provision of aids, assistive devices and technologies; vocational rehabilitation; positioning; and recreational therapy. These skills can be argued to be specific to certain sets of professionals; however, a trend of frequent use was seen within a CBR setting and across a range of professionals. It could also be noted that these frequently reported skills such as vocational rehabilitation and provision of aids, assistive devices and technologies focussed on participation rather than on impairment-based methods and skills. This supports the inclusion of these skills in training programmes for CBR workers, where task-shifting is being used. However, the practice of skills themselves, while desirable, must also be built into a system that provides a high standard of clinical care. Thus, if these core skills
were to be considered in a task-shifting model of service provision, it would also be important to ensure adequate support and supervision, as well as knowledge of when and how to refer on cases that required interventions beyond these skills (MacLachlan et al, 2011), and to offer longer-term professional development opportunities for such a cadre.

Interestingly, among the skills mentioned frequently, there was consensus in ranking only a few as being of high importance. The skill of prescription of strengthening exercises was mentioned as being of medium frequency and also ranked as being of high importance. Thus, it can be suggested that prescription of strengthening exercises is used frequently and is of high importance to clinicians in this setting. Additionally, the skill of home-based rehabilitation was reported as being of medium frequency and ranked as being of high importance in a CBR setting. The skill of behavioural and cognitive interventions was mentioned with medium frequency and ranked as medium importance, showing that it is also an important skill for CBR professionals.

The skill of psychosocial support which was rated as being of high frequency was also advocated by UNDP, UNFPA, WHO and World Bank (2003) in the context of community support for persons living with HIV, with the suggestion that it should be regarded not as an “add-on” skill but as an integral skill for persons working in communities. The high frequency of use among professionals working in CBR suggests that this skill should be an integral part of CBR training programmes.

The skill of advocacy and sensitisation scores the highest in frequency of use by professionals and suggests the importance of context by addressing environmental and personal factors. This skill focusses on changing mindsets, behaviours and attitudes to create an environment conducive to full and effective participation of people with disabilities. This aligns with IDDC recommendations for CRPD-compliant CBR programmes, enhancing accountability and change at both individual and systemic levels (International Disability Development Consortium, 2012).

Among the clinical skills mentioned as being of medium frequency, there were mainly specific skills such as: behavioural and cognitive interventions; prescription of strengthening exercises; neurofacilitation techniques; sensory interventions; upper body rehabilitation; prescription of stretching programmes; self-care and gait training. These skills all require specific learning, knowledge
and training. More general skills within the medium frequency category include: group work and home-based rehabilitation. These skills could be considered to be traditionally used across professional boundaries.

Among the clinical skills reported as being of lower frequency, most were specific skills. These included: fine motor rehabilitation; manual therapy; environmental adaptations; wound care; oedema control methods and ADL training. Many of these would be specific to one discipline only, which could explain their lower frequency. However they should not necessarily be ruled out of a core set of skills as, within the professions that mentioned them, they were in the top 10 skills most used in the last 3 months. The question here is whether these skills could be taught to CBR professionals or whether they should involve referral to more specialised professionals.

It is also important to note that although these are the skills currently being used in CBR settings, it does not mean that they are best practice or evidence-based. This issue arose during a study of interdisciplinary skills in community rehabilitation in Australia (Kendall et al, 2011). Within this study for example, the clinical skill of neurofacilitation techniques was noted as being of medium frequency and ranked of medium importance. Neurofacilitation is debated for its efficacy as there is lack of a clear evidence base for its use. Within the academic literature, it supports a shift towards task-orientated training for neurological rehabilitation, in particular for persons with cerebral palsy and post stroke (Butler and Darragh, 2001; Richards and Malouin, 2013). The evidence-base of skills is another aspect to be considered when developing training programmes.

This evidence-base for skills is particularly important in the context of CBR evolving towards a holistic response to people with disabilities’ needs and priorities, with participation as a goal. The right combination of skills, among the many skills CBR workers could be equipped with to perform their roles across the different components of the CBR Matrix, is a fine balance that should be determined on the basis of the best available evidence and a contextual analysis. These skills should include an appropriate mix of cross-cutting skills (such as advocacy or referral) and those more specific to the areas of health, education, livelihoods, social and empowerment.

There were regional differences in the frequencies of skills used and mentioned, despite the similarity of case mix in the regions. This may be due to social, cultural and contextual factors influencing the presentation of and response to problems
treated in CBR (MacLachlan, 2006). It also may be related to current training programmes in the respective countries and regions.

For example, within the Americas an emphasis on group work was seen. This may be a skill that could be further emphasised within other regions, as in many cases group rehabilitation has been shown to be as effective and less resource intensive than individual therapy (Aprile et al, 2011). In Asia and SSA a high frequency of provision of aids, assistive devices and technologies was seen. This could be due to more access to aids for these regional programmes by public, private or NGO funding, or due to environmental factors such as difficult terrain which make walking without aids difficult for persons with mobility problems. In the Americas and Asia a high frequency of working with families was seen. This may be due to the social and cultural contexts of family units within this region. All these regional differences could be explored in future research for the development of more context-specific sets of skills, and for programmes from different regions to learn from each other.

Analysing clinical skills by a professional group was important, as new or alternative cadres of CBR professionals will need to take a multi-faceted mix of skills from a number of professions; hence, from the perspective of services planning it is important to know what skills can be offered by whom. In this study, the only professional groups who were analysed were the physiotherapists and occupational therapists, as there were insufficient numbers of other professions to undertake meaningful group analysis.

While the internet-based survey of only 40 CBR workers necessarily represents a self-selected sample with access to the internet, the respondents were drawn from a range of professions and locations. It is hoped that this study is a useful step towards identifying a core set of clinical skills for working in health-related CBR settings. However, although the survey was open to all types of health professionals working in CBR, among the respondents there were no doctors, prosthetists, orthotists or speech and language therapists, and so skills from these professions may not be present. It is therefore recommended that future research undertake further skills identification by using similar methods with these types of professionals working in CBR in LMIC settings, and other stakeholders such as persons with disabilities.

Another aspect for further consideration would be to define ‘what’s good enough’ according to the high standards set by the UNCRPD. With the aim of improving
the contribution of CBR in achieving the provisions of the Convention, attention should be paid to developing skills that address the priorities expressed by people with disabilities. For meaningful change to occur, the needs expressed by persons with disabilities must be paramount to any CBR programme. Contextual issues affecting the individual, relating to environmental and personal factors, are of particular importance for consideration in low resource settings. This may be achieved by quipping CBR professionals involved in the health sector with skills, know-how and attitudes that truly enact the UNCRPD principles and obligations. This mindset could be considered a skill in itself for professionals working in CBR and would be integral to effective practice. To complement the findings of this work, assessment could be done of the extent to which people with disabilities are satisfied with the support received from CBR professionals; and, along with more specialised professionals, the skills that best respond to these rights and priorities can be determined.

CONCLUSION
These 29 clinical skills categories that have been identified can be shortlisted based on the inclusion of skills which respondents mentioned as being of high or medium frequency, in addition to the inclusion of skills which were ranked as being of medium to high importance to respondents (see Table 4). While the researchers do not envisage a single unchanging set of skills across all health-related CBR settings, it is believed that empirical evidence identifying core skills across many settings may be helpful in identifying which skills should to be a priority for a particular cadre in a particular context. This would be especially useful where task-shifting models of service provision are being considered or strengthened.

REFERENCES


Lazarus GS, Cooper DM, Knighton DR, Margolis DJ, Pecoraro RE, Rodeheaver G, Robson MC(1994). Definitions and guidelines for assessment of wounds and evaluation of

www.dcidj.org Vol. 26, No.3, 2015; doi 10.5463/DCID.v26i3.449


