ACCESS TO PRIMARY HEALTH CARE SERVICES FOR PERSONS WITH PHYSICAL DISABILITIES IN RURAL GHANA

by

Ebenezer Dassah

A thesis submitted to the School of Rehabilitation Therapy

In conformity with the requirements for

the degree of Doctor of Philosophy

Queen's University

Kingston, Ontario, Canada

(January, 2019)

Abstract

Background: A growing body of evidence has shown that persons with physical disabilities experience substantial barriers in accessing primary health care (PHC) services in rural areas. Negative attitudes from health care providers and inaccessible health care facilities and equipment are common experiences that negatively affect access to quality health care for persons with physical disabilities. However, there is limited research that explores this issue in rural Ghana. **Objective:** I carried out this dissertation in three chapters to address this research gap. Chapter 3 synthesized published literature to understand the factors affecting access to PHC for persons with disabilities (PWDs) in rural areas globally. Chapter 4 explored the experiences of persons with physical disabilities in accessing PHC services in rural Ghana. Chapter 5 highlighted the perspectives of health care providers in delivering PHC services to persons with physical disabilities in rural Ghana. **Method:** I employed framework synthesis and used framework analyses to analyze existing literature (chapter 3). I also used a qualitative descriptive design to conduct semi-structured interviews with 18 persons with physical disabilities (chapter 4) and 15 health care providers (chapter 5). I used thematic analysis to guide the analysis of the interviews. **Results:** In chapter 3, I found that PWDs were unable to access PHC due to obstacles including the interplay of four major factors; availability, acceptability, geography and affordability. Chapter 4 revealed that participants shared their experiences under two overarching themes: limited facilities and lack of providers. Chapter 5 uncovered three major themes: challenges in providing health care; strategies in navigating the challenges; and positive experiences in providing health care. **Implications:** The information provided in this dissertation is potentially important to policy makers and PHC providers as it presents evidence on the barriers and facilitators to PHC access in rural settings. In particular, understanding this topic

from multiple sources (existing literature, PWDs and providers) will be critical for policy design and client-centered service delivery in rural Ghana and potentially other low- and middle-income countries.

Keywords: Ghana, primary health care, access to health care, rural health, persons with physical disabilities, disability.

Co-Authorship

The manuscripts presented in this dissertation are the work of Ebenezer Dassah. For all the manuscripts, Ebenezer was responsible for developing the research questions and the study design; developing the search strategies and interview guides; transcribing and analysing data; and writing the manuscripts. The co-authors of all the manuscripts are Dr. Heather Aldersey, Dr. Mary Ann McColl and Dr. Colleen Davison.

Chapter 3: *Factors Affecting Access to Primary Health Care Services for Persons with Disabilities in Rural Areas: A "Best-Fit" Framework Synthesis.* This manuscript has been published in Global Health Research and Policy. Dr. Heather Aldersey provided thorough input regarding review question, design, search strategy, interpretation of results and provided critical and editorial assistance on the manuscript. Dr. Mary Ann McColl provided input on search strategy, interpretation of the findings and provided critical assistance on the manuscript. Dr. Colleen Davison provided critical and editorial assistance on the manuscript.

Chapter 4: *"When I don't have money to buy the drugs, I just manage."—Exploring the lived experience of persons with physical disabilities in accessing primary health care services in rural Ghana.* This manuscript has been published in Social Science and Medicine. Dr. Heather Aldersey provided thorough input regarding the research question, study design, interview guide, and interpretation of results, and provided critical and editorial assistance on the manuscript. Dr. Mary Ann McColl provided input regarding the interpretation of the findings and critical assistance of the manuscript. Dr. Colleen Davison provided critical and editorial assistance on the manuscript.

Chapter 5: *Health care providers' perspectives of providing primary health care services to persons with physical disabilities in rural Ghana*. This manuscript has been submitted to

Primary Health Care Research & Development and it is currently under review. Dr. Heather Aldersey provided thorough input regarding the research question, study design, interview guide, and interpretation of results, and provided critical and editorial assistance on the manuscript. Dr. Mary Ann McColl provided input regarding the interpretation of the findings and critical assistance of the manuscript. Dr. Colleen Davison provided critical and editorial assistance on the manuscript.

Acknowledgement

I would like to first and foremost thank the Almighty Lord for the physical and mental strength, and divine guidance during my studies. My PhD journey has been marked with twists and turns, but the Lord was available and saw me reached this far.

I also acknowledge the immense role of my primary supervisor, Dr. Heather Aldersey. I say a BIG THANK you for all your critical feedback, support, guidance, encouragement and career building opportunities. I particularly acknowledge your constant advise and mentorship in both academic and personal life. To my co-supervisor, Dr. Mary Ann McColl, I am equally thankful for accepting me as your student when I extended the invitation to you. Your feedback is incredible; this has greatly perfected this dissertation. From you, I have acquired the skills required in the field of disability and health services research. Similarly, I acknowledge the mentoring role of my dissertation advisory committee member, Dr. Colleen Davison. Your attention to details and a blend of your skills, personality, expertise and constructive criticisms has helped shaped me into a better researcher. Thanks to Paola Durando, Queen's University Health Sciences Librarian, for her help in developing the search strategy and obtaining relevant articles for chapter three of this dissertation.

I am grateful to my research participants that generously gave their time to share their perspectives and experiences with me. Thank you to Desmond Dery and Philip Jebuni for assisting me with participants scheduling, transportation and other administrative tasks during my fieldwork in Ghana.

This dissertation would not have been possible without funding support I received from the Queen Elizabeth II Diamond Jubilee Scholarship and other financial awards and support from Queen's University. These financial supports have helped me conduct the research and

attend conferences. The assistance has also helped tremendously in relieving my financial burden and making it possible for me to finish my dissertation in time.

To my cohorts at the ICACBR and graduate students at SRT, it has been a pleasure growing, researching, and learning alongside you. I would like to extend special thanks to Christiana Okyere and Reshma Nuri for the wonderful moments, friendship, feedback and encouragement since August 2015.

Finally, thanks to all my family and friends for encouraging me in this PhD adventure. Thanks to my wife, Ivy Seutaah Tensogo, for your support throughout all the ups and the downs of this long journey. You also took over household duties to give me time and space to write this dissertation. Thanks to my little boy, Evander Yidaana Dassah, for being such a happy person! Your smile tremendously helped me to be more productive and this enable me to complete the PhD program in time.

Table of Contents

List of Figures

List of Tables

List of Abbreviations

PHC—Primary health care

PWDs—Persons with disabilities

LMICs—Low-and-Middle Income Countries

CHPS—Community-Based Health Planning and Services

OECD— Organization for Economic Cooperation and Development

UNCRPD—United Nations Convention on the Rights of Persons with Disabilities

Chapter 1 Introduction

1.1 Introduction to Problem Statement and Rationale

Access to health care is central in the performance of national health care systems (Levesque, Harris, & Russell, 2013). Global policy documents, including the United Nations Convention on the Rights of Persons with Disabilities and Sustainable Development Goals have recognized the need for persons with disabilities' (PWDs) access to quality health care. For instance, Article 25 of the United Nations Convention on the Rights of Persons with Disabilities emphasizes the right of persons with disabilities (PWDs) to enjoy the "same range, quality and standard of free or affordable health care and programs as provided to other persons…." (United Nations, 2006, p.18).

Despite these policy interventions, substantial disparities in access to health exist within and across populations. Research suggests that where disparities in access exist, specific disadvantaged subsets of the population experience greater access barriers (Sanmartin, Houle, Tremblay, & Berthelot, 2002). For instance, PWDs are more likely to experience a wide range of barriers to health care access than the general population (Kroll, Jones, Kehn, & Neri, 2006; McColl, Forster, Shortt, & Hunter, 2008; McColl, Jarzynowska, & Shortt, 2010; Vergunst, Swartz, Mji, MacLachlan, & Mannan, 2015). McColl and colleagues have revealed that four types of barriers generally hinder access to health care for PWDs (McColl et al., 2008; McColl & Jongbloed, 2006). These barriers are:

- Physical barriers including inaccessible buildings, doorways, stairs, examination tables and signage;
- Attitudes of providers and staff towards PWDs including, providers' unwillingness to provide needed services or make accommodations for their clients with disabilities;

- Providers' lack of information and expertise about the natural courses and complications associated with disability; and
- Systemic factors including lack of adequate provisions for disability issues in health care systems planning and health care policy implementations (McColl et al., 2008; McColl & Jongbloed, 2006).

These barriers are even more pronounced for persons with physical disabilities in rural areas (Vergunst et al., 2015). The barriers can lead to negative health outcomes and can widen health disparities between PWDs and the general population (Moodley & Ross, 2015). Unsurprisingly, a global survey of experts on research priorities for health of PWDs ranked the following research question as the number one research priority:

> What barriers do people with disabilities have in accessing health services at the appropriate levels? What are the barriers—e.g., at the levels of i) screening or entering primary [health] care, ii) diagnosis, iii) accessing treatment, and iv) receiving continuing support? How can these barriers be overcome?" (Tomlinson et al., 2009, p.1859)

Given this recognition, there is growing evidence of research that address primary health care (PHC) access for PWDs in rural areas of high-income countries (i.e. Australia, Canada and the United States) (Davidsson & Södergård, 2016; Di Blasi, Kendall, & Spark, 2006; Hamilton et al., 2017; Knox, Rohatinsky, Rogers, Goodridge, & Linassi, 2014). Similar studies have also been conducted recently in low-and middle-income countries (LMICs),[1] including South Africa, Malawi, Namibia, Sudan, Pakistan and Vietnam (Ahmad, 2013; Eide et al., 2015; Ngo, Brolan, Fitzgerald, Pham, & Phan, 2013). These studies mostly address barriers to PHC access for rural

[1] In this dissertation, I followed the World Bank's definition of Low and Middle-Income Countries (LMICs) that include countries with a less developed economy and with a gross national income per capita of US$12,235 or less. These countries are mostly located in Africa, Asia, Caribbean and South America (World Bank, 2017). See the link for the list of LMICs https://data.worldbank.org/income-level/low-and-middle-income

residents with disabilities (Ahmad, 2013; Eide et al., 2015; Vergunst et al., 2015). However, these experiences may not be universal and may differ across different contexts due to factors such as variations in geographical, political, socioeconomic and health care systems. For instance, Ghana is one of the emerging LMICs with a national health insurance scheme that supports health care for all residents (Akazili et al., 2017).

The majority of empirical studies on this topic in Ghana have been quantitative studies in urban settings, and studies that provide information from people with different forms of disabilities (e.g. physical, hearing and visual impairments) (Badu, Agyei-Baffour, & Opoku, 2016; Badu, Opoku, & Appiah, 2016; Badu, Opoku, Appiah, & Agyei-Okyere, 2015). These studies provide a broad overview of factors affecting access to health care for persons with disabilities that might be applicable in rural Ghana. However, the experiences of persons with physical disabilities in accessing PHC services in rural Ghana have received limited attention. To address this knowledge gap, this dissertation explores PHC access for persons with physical disabilities in the Upper West Region, a predominantly rural region of Ghana.

It is important to understand this topic from multiple perspectives (e.g. existing literature, persons with physical disabilities and health care providers) to have a comprehensive understanding of the barriers and facilitators of health care access for PWDs in rural areas. Synthesizing existing literature may provide a holistic picture of the wide range of primary studies on disability and PHC access in rural areas. Further, understanding the experiences of persons with physical disabilities and the perspectives of health care providers in providing PHC could potentially contribute to policy makers' understanding of the barriers and facilitators in accessing and providing PHC services for persons with physical disabilities in rural Ghana. Such understanding might shape decisions on the problems that need to be addressed to improve

access to health care services for PWDs. Taken together, such evidence is timely as the recent United Nations Declaration on Sustainable Development Goal 3 emphasizes universal health coverage, access to quality health and equity in health care as key to achieving the overall health goal for sustainable development (United Nations, 2015). Furthermore, this dissertation provides insight that is useful in assessing health policies, improving clinical practice and advancing knowledge on PHC access for PWDs in rural areas in Ghana in particular and other rural areas with similar contexts.

1.1.1 Research Objectives The specific objectives of this dissertation are to:

1. Examine current literature on factors affecting access to PHC for PWDs in rural areas globally;
2. Explore the lived experiences of individuals with physical disabilities in accessing PHC in rural Ghana; and
3. Investigate health care providers' perspectives and experiences in providing PHC for people with physical disabilities in rural Ghana.

1.1.2 Research Questions I sought to answer the following specific research questions within each objective:

1. What is the existing evidence regarding factors affecting access to PHC for PWDs in rural areas globally?
2. What are the lived experiences of persons with physical disabilities in accessing PHC services in rural Ghana? and
3. What are the perspectives of health care providers in providing PHC for persons with physical disabilities in rural Ghana?

1.2 Primary Health Care (PHC)

PHC became a core policy for the World Health Organization following the Alma-Ata conference Declaration in 1978. All the member states of the World Health Organization unanimously adopted PHC as the means for providing a comprehensive, universal, equitable and affordable health care service. PHC is defined as "essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination" (World Health Organization, 1978, p.2).

PHC is also an approach that encompasses health policy and service provision that is delivered at the individual level (i.e. primary care services) and population level (i.e. public health) (Muldoon, William, & Levitt, 2006). The Alma-Ata conference specified service components of PHC that have been adopted in many countries globally. These services are as follows:

- Education on prevailing health problems and how to prevent them (health education)
- Provision of adequate water and basic sanitation (environmental health)
- Adequate food supply and good nutrition (public health nutrition)
- Maternal and child health including family planning (reproductive and family health)
- Immunization against the common communicable diseases
- Control of common endemic diseases (epidemiology and disease control)
- Treatment of common diseases and injury (primary medical care)
- Provision of essential drugs (community pharmacy practice) (World Health Organization, 1978, 2003)

In this dissertation, I will focus on two core services within PHC; treatment of common diseases, and provision of essential drugs. Treatment of diseases and injuries and provision of essential drugs are the essential and urgent care needs for minority groups such as PWDs in many rural communities (Thomas, Wakerman, & Humphreys, 2014). I define these core services as basic health services/care that health care practitioners, including family physicians and nurses, provide to PWDs especially in rural areas. Thus, these primary care services are broadly the first level of contact that health consumers have with the health care system for care (Starfield, 1998).

1.3 Access to Health Care

The concept of access to health care is a crucial notion to PHC but it is a complex concept with various interpretations. Indeed, researchers have drawn attention to the lack of consensus about defining and measuring access (Berk & Schur, 1998; Levesque et al., 2013). Access is multidimensional and largely focuses on the interaction between health care systems and individuals, households and communities (McIntyre, Thiede, & Birch, 2009). However, many researchers have proposed numerous definitions of access in different academic fields. For instance, researchers in the fields of health systems and health services research emphasize access in terms of need and timely use of service based on the need (Campbell, Roland, & Buetow, 2000).

One of the earliest works conceptualized access in terms of entry into the health care system (Donabedian, 1973). Donabedian further suggested that access requires the use of a service rather than the mere presence of a facility or service. Similarly, Aday & Andersen (1974) suggested that access is more relevant to consumers of health services compared to suppliers, describing whether people can enter the health care system, either potentially or actually.

Expanding the idea of potential or actual access, service utilization or "realized access" is often used as a proxy of access, partly because realized access is easier to measure than potential access (Andersen, 1995). For instance, it is easier to determine the number of patients that actually receive medical care than those contemplating getting such services. For Andersen, the use of health care service is determined by the characteristics of the population and the characteristics of the health care delivery system (Aday and Andersen, 1974; Andersen 1995).

This provider/user interface is further expanded by other researchers. For instance, Penchansky & Thomas (1981) conceptualized access as a "fit" between health care provider/systems and their clients. This degree of "fit" encompasses five dimensions of access: *availability* (relationship of the volume and type of existing services (and resources) to the clients' volume and types of needs); *accessibility* (distance, cost, and travel time); *accommodation* (the manner in which supply resources are organized to accommodate clients (e.g., appointment systems, hours of operation)); *affordability* (relationship of prices of services to clients' income, ability to pay, and existing health insurance); and *acceptability* (relationship of clients' attitudes about personal and practice characteristics of providers to the actual characteristics of providers).

The World Health Organization in the 1978 conference on PHC posited that access encompasses four major dimensions that are parallel to Penchansky & Thomas (1981) dimensions: (a) geographical accessibility (travel time, physical distance and transportation modes); (b) financial accessibility (affordability of services to all); (c) cultural accessibility (technical and managerial methods in keeping with prevailing cultural norms in the community); and (d) functional accessibility (having the right kind of care available on a continuing basis for those who need it, when they need it) (World Health Organization, 1978). Access is thus broadly

conceptualized as a function of how well health resource (supply) fits or interacts with health care need or the ability to seek and obtain care (demand) (Frenk, 1992; Mooney, 1983).

Building on these earlier foundational works (e.g. Penchansky & Thomas, 1981), more recent reviews have either modified or identified additional dimensions that operate to conceptualize health care access (Levesque et al., 2013; Russell et al., 2013; Saurman, 2016). For instance, Levesque et al. (2013) synthesized published literature on the concept of access, and distinguished different stages in the process of identifying, seeking and obtaining care as well as benefitting from the services. These stages include five dimensions of the health care access: (1) approachability, (2) acceptability, (3) availability and accommodation, (4) affordability, and (5) appropriateness of health care. Thus, Levesque and colleagues (2013) modified Penchansky and Thomas' (1981) work by identifying location of services and providers as a component of availability; and also combined two individual dimensions (i.e. availability and accommodation) as a single dimension. In the same vein, Russell and colleagues (2013) expanded accessibility dimension by splitting it into two dimensions (i.e. geography and timeliness). Taken together, these recent scholars have identified awareness as a key dimension in conceptualizing access to health care (Levesque et al., 2013; Russell et al., 2013; Saurman, 2016). Table 1 provides the recent operational definitions and dimensions of access to health care.

Table 1 Definitions and Dimensions of Access to Health Care

Authors	Definitions	Dimensions
Levesque et al. (2013)	"…the opportunity to identify health care needs, to seek health care services, to reach, to obtain or use health care services and to actually have the need for services fulfilled." (p.8)	1. Approachability 2. Acceptability 3. Availability and accommodation 4. Affordability 5. Appropriateness
Russell et al. (2013)	"…the potential ease with which consumers can obtain health care at times of need." (p.61)	1. Availability 2. Geography 3. Affordability 4. Accommodation 5. Timeliness 6. Acceptability 7. Awareness
Saurman (2016)	"…enabling a patient in need to receive the right care, from the right provider, at the right time, in the right place, dependent on context." (p.36)	1. Accessibility 2. Availability 3. Acceptability 4. Affordability 5. Accommodation (adequacy) 6. Awareness

For PWDs, access is defined as the ease with which PWDs can seek and obtain health services when the need arises (Iezzoni, Killeen, & O'Day, 2006; Levesque et al., 2013; Russell et al., 2013). Thus, access is not conceptualized as the presence of a facility or service, but also the ability to identify and use the service in times of need. This operationalized definition fits well into rural perspectives of access to health (Russell et al., 2013). Thus, access to health care can be divided into three stages for PWDs (Davidsson & Södergård, 2016). The first stage, gaining entry into the health care system when needed, includes issues related to knowledge about the health care system, cost of service and health insurance plans. The second stage, accessing the location of the health care, relates to accessible and affordable transportation and physical access into the health care facility. The final stage, finding a health care provider, includes rehabilitation

specialists and physicians that can help PWDs manage their conditions (Davidsson & Södergård, 2016; Iezzoni et al., 2006; Lishner, Levine, & Patrick, 1996)

In this dissertation, I conceptualized access based on the model proposed by Russell and colleagues (2013). I will focus on this model because it provides rural perspectives of access to PHC. It has also been used in rural contexts to provide a holistic and comprehensive understanding of the access issues that rural residents often experience in accessing PHC services (Ward, Humphreys, McGrail, Wakerman, & Chisholm, 2014). The authors, drawing from literature on access, proposed a model to evaluate rural residents' access to PHC. According to the authors, access can be divided into seven dimensions; availability, geography, affordability, accommodation, timeliness, acceptability and awareness. Operational definitions of these dimensions are described below in Table 2.

Table 2 Rural Primary Health Care Access Framework (Russell et al., 2013)

Dimensions	Operationalized definitions
1. Availability	relates to the volume and types of services and facilities in relation to the needs of the clients.
2. Geography	refers to the proximity of health services or providers to clients, and also the ways that clients can transcend the distance between their location and that of the services or providers.
3. Affordability	relates to clients' ability to pay the overall costs of health care services, including direct and indirect cost of care.
4. Accommodation	involves the ways PHC resources are organized in relation to the clients' ability to contact with, gain entry to and navigate the system.
5. Timeliness	reflects the extent to which care can be sought, offered or received within a time frame and which is optimal to achieve the best health outcomes.
6. Acceptability	relates to the attitudes and beliefs of consumers about the health care system to the personal and practice characteristics of health care providers.
7. Awareness	involves sharing information between health services and clients, and also enhancing clients' knowledge about the health care system.

1.4 Overview of Methods

1.4.1 Philosophical Assumptions

This dissertation is grounded ontologically in relativism, and epistemologically in constructionism (Creswell, 2014). I, thus, acknowledge that multiple realities exist depending on the individual's context and that the individual constructs knowledge based on his/her understanding of reality. In application of these assumptions to the dissertation, I sought to capture the rich experience and/or perspective of each participant in order to generate an in-depth understanding of access to PHC for persons with physical disabilities in rural Ghana. This also helped in exploring the barriers and facilitators to PHC on the participants' own terms. Although the findings were linked to access frameworks, nevertheless I included an inductive (thematic)

approach. This approach ensures that the individual's perspectives and experiences were retained and that these are recognized within the context of rural Ghana.

1.4.2 Research Design

I applied a qualitative research design to obtain an in-depth understanding of existing literature, personal experiences in accessing or perspectives of providing health care services. Qualitative research is appropriate for the dissertation as it develops a holistic picture by examining patterns or meanings that emerge from data presented in participants' own words (Creswell, 2014; Guba & Lincoln, 1994).

For the empirical studies, I applied a qualitative descriptive design (Sandelowski, 2000) to obtain an in-depth understanding of participants' perspectives and experiences of accessing PHC services, specifically access to treatment for common ailments or injuries and access to essential medications for persons with physical disabilities in rural Ghana. A qualitative descriptive design is relevant for the dissertation because it attempts to provide a rich account of participants' personal experiences and perspectives, how they interpret or construct their world, and the meaning they attribute to their experiences and perspectives (Merriam, 2009; Neergaard, Olesen, Andersen, & Sondergaard, 2009). The approach is also particularly appropriate in obtaining practical answers of importance to health care practitioners and policy makers (Sandelowski, 2000).

I adopted qualitative description to answer the research questions and conducted the study in three distinct but interconnected phases. In the first phase, I conducted a review of existing literature regarding rural PHC access for PWDs globally. This was followed by semi-structured individual interviews with persons with physical disabilities to elicit their experiences in accessing PHC in rural Ghana. Finally, I conducted interviews with health care providers.

These interviews aided in providing insights into the health care providers' perspectives of providing health care to persons with physical disabilities. The framework synthesis assisted in informing the development of both the interview guides for persons with physical disabilities and health care providers. Figure 1 below shows the entire research process.

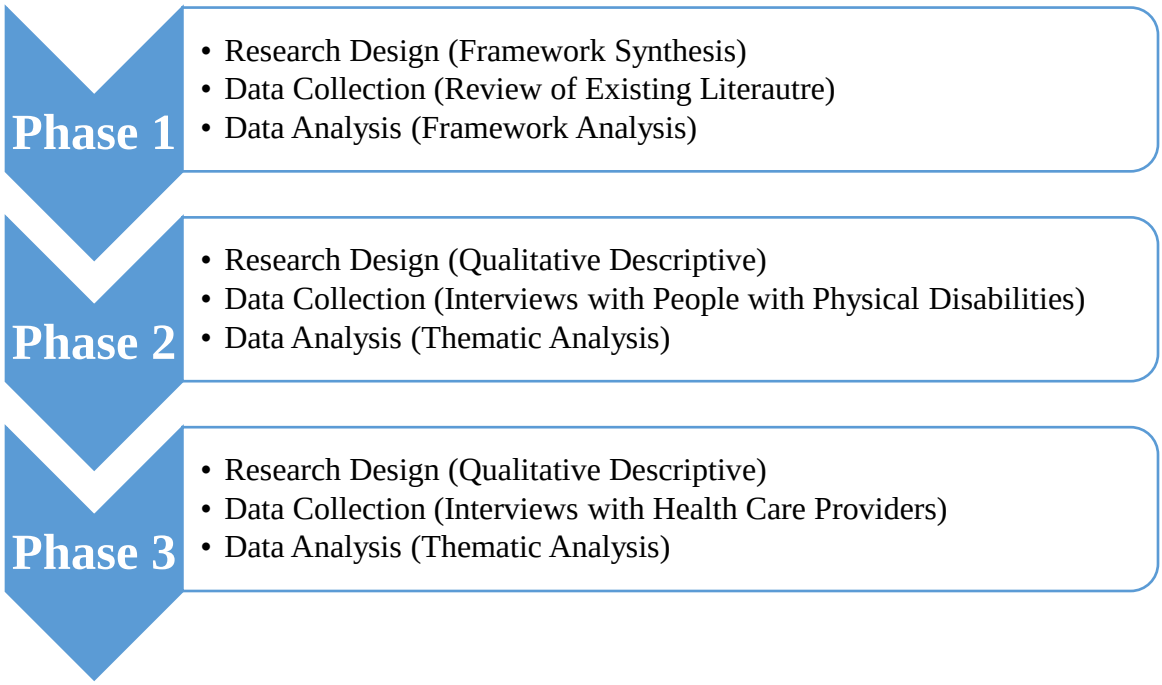

Figure 1 Research Design, Data Collection and Analysis Flow Chart

1.4.3 Research Sites

I conducted this study in the Upper West Region of Ghana. The region is the youngest and least developed of the administrative regions in the country. While poverty is pronounced in the three regions of northern Ghana, the Upper West Region is the most affected. For instance, 71% live below the poverty line of 1,314 Ghana Cedis (328.50 US Dollars) per adult per year (Cooke, Hague, & McKay, 2016; Wang, Otoo, & Dsane-Selby, 2017). With a geographical area of 18,476 km^2 (about 12.7% of the total land area of Ghana), the region has a total population of 702,110 with 3.7% PWDs, and 85% of the total population characterized as rural, compared to the national average of 49.1% (Ghana Statistical Service, 2012).

The uneven development of the region is reflected in the shortage of health care providers and facilities. For instance, with only 21 of the country's 3,061 physicians, the region has one of the lowest doctor-to-patient ratios (1: 36,000) and this sharply contrasts with the national average (1:9,043), making access to health care a major concern (Ministry of Health, 2015). The region as of December 2017 had a total of 384 health facilities comprising regional and district hospitals, clinics, polyclinics, health centers, Community-based Health Planning and Services (CHPS) compounds and some private health facilities (Nuertey, 2018). Nevertheless, the region has poor geographical access to health care primarily due to the uneven distribution of these facilities and poor nature of road networks in most rural settings (Nuertey, 2018). Against the backdrop of poverty, limited health care providers and facilities in the region, PWDs often face the greatest challenges in accessing health care in Ghana (Badu, Opoku, et al., 2016), but the magnitude of such barriers is unknown in this region.

The Upper West Region of Ghana is made up of 11 municipal and district assemblies. I conducted the research in various communities in four of these districts (Nadowli/Kaleo, Daffiama/Issa/Bussie, Wa West and Jirapa). Table 3 provides the distribution of disability and health care facilities in this study area. I selected these districts because of my familiarity with the cultural practices, values, and language which are important in obtaining rich information about participants' experiences (Johl & Renganathan, 2010).

Table 3 Population Distribution by Disability and Health Facilities

Districts	Total Population	PWDs out of Total Population (%)	Physical Disability out of PWDs (%)	Health Facilities as at December 2017
Daffiama/Bussie/Issa	32,827	1,747 (5.3%)	291 (16.7%)	18
Nadowli/Kaleo	61,561	2,824 (4.6%)	652 (23.1%)	42
Jirapa	88,402	3,390 (3.8%)	789 (23.3%)	31
Wa West	81,348	2,453 (3.0%)	615 (25.1%)	44

Sources: Ghana Statistical Service (2010 Population and Housing Census) and Nuertey (2018) Upper West Regional Health Services Annual Report 2017.

1.4.4 Positionality

With qualitative research, it is important for the researcher to reflect on his or her personal background and beliefs and identify ways that it may positively and negatively affect the study. I have spent most of my life in the Upper West Region of Ghana. While writing this dissertation, I was conscious of the fact that the practical focus and substance of this work might reflect some of my individual interests and experience growing up in a rural community in the Upper West Region. Specifically, access remains a challenge in many rural communities in my district (i.e. Nadowli/Kaleo). I have had personal experiences trying to access health services in my community. Additionally, I have witnessed and heard experiences from extended family members with disabilities about the challenges they face in their daily lives.

In trying to conduct my research, I recognized the "lens" that my own perspectives and family members with disabilities' experiences bring to the study as I asked questions, probed further, made decisions in the field and analyzed the data. For instance, my negative "lens" may have influenced me to focus more on deficit-based information rather than strength-based information from the research participants, and on access barriers rather than positive experiences. On the positive side, my familiarity with the study context (i.e. cultural practices, values and language) was instrumental in gathering rich information about the participants'

experiences and perspectives. Thus, I acknowledge that my own positionality influences what I see and how I interpret the world. I was intentional and transparent in my reflexivity. In particular, while in the field I held bi-weekly debriefing sessions with my primary supervisor (Dr. Heather Aldersey) and also kept a detailed field journal where I documented my personal reflections on the data collected and my experiences and thoughts while in the field. I also memoed while undertaking analysis, making specific notes of my reflections after each interview.

1.5 Dissertation Outline

This dissertation is organized as a collection of published or publishable manuscripts. Though all the manuscripts together form a conceptual whole, the objectives and methods employed for each paper are unique. Chapter 1 outlines the introduction and PHC conceptual framework and describes the research design and methods. Chapter 2 of the dissertation provides a literature review in relation to rural and rural health and the Ghanaian context.

Chapter 3 addresses the first research objective and provides the relevant literature in understanding access to PHC services in rural areas globally. The chapter also proposes a conceptual framework for the holistic understanding of rural health care access for PWDs. Chapter 4 addresses the second research objective and explores the lived experiences of persons with physical disabilities in accessing PHC in rural Ghana. Chapter 5 explores the perspectives of health care providers in providing PHC services to persons with physical disabilities in rural Ghana. Taken together, Chapters 3, 4 and 5 consist of three manuscript-style documents and form the substantive chapters of the thesis. Chapter 6 summarizes the main findings across the three manuscripts and provides a discussion of the key/unique findings in relation to existing literature. I also discuss the broader implications of the dissertation within the context of

research, policy and practice. This chapter finally highlights contributions of the research and concludes with directions for future research.

1.6 References

Aday, L. A., & Andersen, R. (1974). A framework for the study of access to medical care. *Health Services Research*, *9*(3), 208–220.

Ahmad, M. (2013). Health care access and barriers for the physically disabled in rural Punjab, Pakistan. *International Journal of Sociology and Social Policy*, *33*(3/4), 246–260.

Akazili, J., Ataguba, J. E., Kanmiki, E. W., Gyapong, J., Sankoh, O., Oduro, A., & Mcintyre, D. (2017). Assessing the impoverishment effects of out-of-pocket healthcare payments prior to the uptake of the national health insurance scheme in Ghana. *BMC International Health and Human Right*, *17*, 13.

Andersen, R. M. (1995). Revisiting the Behavioral Model and Access to Medical Care: Does it Matter? *Journal of Health and Social Behavior*, *36*(1), 1–10.

Badu, E., Agyei-Baffour, P., & Opoku, M. (2016). Access Barriers to Health Care among People with Disabilities in the Kumasi Metropolis of Ghana. *Canadian Journal of Disability Studies*, *5*(2), 131–151.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability*, *5*(1), 1–8.

Badu, E., Opoku, M., Appiah, S., & Agyei-Okyere, E. (2015). Financial Access to Healthcare among Persons with Disabilities in the Kumasi Metropolis, Ghana. *Disability, CBR & Inclusive Development*, *26*(2), 47–64.

Berk, M. L., & Schur, C. L. (1998). Measuring access to care: improving information for policymakers. *Health Affairs*, *17*(1), 180–186.

Campbell, S. M., Roland, M., & Buetow, S. (2000). Defining quality of care. *Social Science & Medicine*, *51*(11), 1611–1625.

Cooke, E., Hague, S., & McKay, A. (2016). *The Ghana poverty and inequality report: Using the 6th Ghana Living Standards Survey*. Retrieved on February 12, 2018 from https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. New York: Sage Publications.

Davidsson, N., & Södergård, B. (2016). Access to Healthcare among People with Physical Disabilities in Rural Louisiana. *Social Work in Public Health*, *31*(3), 188–195.

Di Blasi, A., Kendall, S., & Spark, M. J. (2006). Perspectives on the role of the community pharmacist in the provision of Healthcare to people with intellectual disabilities: Exploration of the barriers and solutions. *International Journal of Pharmacy Practice*, *14*(4), 263–269.

Donabedian, A. (1973). *Aspects of Medical Care Administration*. Cambridge: Harvard University Press.

Eide, A. H., Mannan, H., Khogali, M., Van Rooy, G., Swartz, L., Munthali, A., … Dyrstad, K. (2015). Perceived barriers for accessing health services among individuals with disability in four African countries. *PLoS ONE*, *10*(5), 1–14.

Frenk, J. (1992). The concept and measurement of accessibility. In K. White (Ed.), *Health Services Research: An Anthology*. Washington DC: Pan American Health Organization.

Ghana Health Service. (2015). *The Health Sector in Ghana: Facts and Figures 2015*. Accra. Retrieved on February 12, 2018 from http://www.moh.gov.gh/wp-content/uploads/2017/07/Facts-and-figures-2015.pdf

Ghana Statistical Service. (2012). *2010 Population & Housing Census: Summary Report of Final Results*. Accra. Retrieved on February 12, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Census2010_Summary_report_of_final_results.pdf

Hamilton, R., Driver, S., Noorani, S., Callender, L., Bennett, M., & Monden, K. (2017). Utilization and access to healthcare services among community-dwelling people living with spinal cord injury. *The Journal of Spinal Cord Medicine*, *40*(3), 321–328.

Iezzoni, L., Killeen, M., & O'Day, B. (2006). Rural residents with disabilities confront substantial barriers to obtaining primary care. *Health Services Research*, *41*(4 Pt 1), 1258–1275.

Johl, S. K., & Renganathan, S. (2010). Strategies for gaining access in doing fieldwork: Reflection of two researchers. *Electronic Journal of Business Research Methods*, *8*(1), 42–50.

Knox, K. B., Rohatinsky, N., Rogers, M., Goodridge, D., & Linassi, G. (2014). Access to traumatic spinal cord injury care in Saskatchewan, Canada: A qualitative study on community healthcare provider perspectives. *Canadian Journal of Disability Studies*, *3*(3), 83–103.

Kroll, T., Jones, G. C., Kehn, M., & Neri, M. T. (2006). Barriers and strategies affecting the utilisation of primary preventive services for people with physical disabilities: a qualitative inquiry. *Health and Social Care in the Community*, *14*(4), 284–293.

Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health, 12*(1), 18.

Lishner, D., Levine, P., & Patrick, D. (1996). Access to primary health care among persons with disabilities in rural areas: a summary of the literature. *The Journal of Rural Health*, *12*(1), 45–53.

McColl, M. A., Forster, D., Shortt, S., & Hunter, D. (2008). Physician Experiences Providing Primary Care to People with Disabilities. *Healthcare Policy*, *4*(1), 129–147.

McColl, M. A., Jarzynowska, A., & Shortt, S. E. D. (2010). Unmet health care needs of people with disabilities: population level evidence. *Disability & Society*, *25*(2), 205–218.

McColl, M. A., & Jongbloed, L. (2006). *Disability and social policy in Canada* (2nd ed.). Toronto, ON, Canada: Captus Press.

McIntyre, D., Thiede, M., & Birch, S. (2009). Access as a policy-relevant concept in low- and middle-income countries. *Health Economics, Policy and Law*, *4*(02), 179.

Merriam, S. (2009). *Qualitative Research: A Guide to Design and Implementation*. San Francisco, California: Jossey-Bass.

Ministry of Health. (2015). *Holistic Assessment of the Health Sector Program of Work 2014.* Accra. Retrieved on February 12, 2018 from http://www.moh.gov.gh/wp-content/uploads/2016/02/Holistic-Assessment-2015.pdf

Moodley, J., & Ross, E. (2015). Inequities in health outcomes and access to health care in South Africa: a comparison between persons with and without disabilities. *Disability & Society*, *30*(4), 630–644.

Mooney, G. (1983). Equity in health care: confronting the confusion. *Effective Health Care*,

1(4), 179–185.

Muldoon, L. K., William, E. H., & Levitt, M. (2006). Primary care (PC) and primary health care (PHC). What is the difference? *Canadian Journal of Public Health*, *97*(5), 409–411.

Neergaard, M., Olesen, F., Andersen, R., & Sondergaard, J. (2009). Qualitative description–the poor cousin of health research? *BMC Medical Research Methodology*, *9*(52), 1–5.

Ngo, A. D., Brolan, C., Fitzgerald, L., Pham, V., & Phan, H. (2013). Voices from Vietnam: experiences of children and youth with disabilities, and their families, from an Agent Orange affected rural region. *Disability & Society*, *28*(7), 955–969.

Nuertey, J.T. (2018). Upper West Regional Health Services 2017 Annual Report. Wa.

Penchansky, R., & Thomas, J. (1981). The concept of access: definition and relationship to consumer satisfaction. *Medical Care*, *19*(2), 127–140.

Russell, D. J., Humphreys, J. S., Ward, B., Chisholm, M., Buykx, P., McGrail, M., & Wakerman, J. (2013). Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*, *21*(2), 61–71.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, *23*(4), 334–340.

Sanmartin, C., Houle, C., Tremblay, S., & Berthelot, J. (2002). *Changes in unmet health care needs* (Vol. 13). Ottawa.

Saurman, E. (2016). Improving access: modifying Penchansky and Thomas's Theory of Access. *Journal of Health Services Research & Policy*, *21*(1), 36–39.

Starfield, B. (1998). *Primary care: balancing health needs, services, and technology.* New York, NY: Oxford University Press.

Thomas, S. L., Wakerman, J., & Humphreys, J. S. (2014). What core primary health care

services should be available to Australians living in rural and remote communities? *BMC Family Practice*, *15*, 143.

Tomlinson, M., Swartz, L., Officer, A., Chan, K. Y., Rudan, I., & Saxena, S. (2009). Research priorities for health of people with disabilities: an expert opinion exercise. *The Lancet*, *374*(9704), 1857–1862.

United Nations. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol*. New York. Retrieved on February 12, 2018 from http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. New York. Retrieved on February 12, 2018 from https://sustainabledevelopment.un.org/post2015/transformingourworld

Vergunst, R., Swartz, L., Mji, G., MacLachlan, M., & Mannan, H. (2015). 'You must carry your wheelchair'–barriers to accessing healthcare in a South African rural area. *Global Health Action*, *8*, 29003.

Wang, H., Otoo, N., & Dsane-Selby, L. (2017). *Ghana National Health Insurance Scheme: Improving Financial Sustainability Based on Expenditure Review*. Washington, DC. Retrieved on February 12, 2018 from https://openknowledge.worldbank.org/bitstream/handle/10986/27658/9781464811173.pdf?sequence=2

Ward, B., Humphreys, J., McGrail, M., Wakerman, J., & Chisholm, M. (2014). Which dimensions of access are most important when rural residents decide to visit a general practitioner for non-emergency care? *Australian Health Review*, *39*(2), 121–126.

World Bank. (2017). How does the World Bank classify countries? Retrieved on February 12,

2018 from https://data.worldbank.org/income-level/low-and-middle-income

World Health Organization. (1978). *Declaration of Alma-Ata International Conference on Primary Health Care, Alma-Ata, USSR,*. Retrieved on February 12, 2018 from http://www.who.int/publications/almaata_declaration_en.pdf

World Health Organization. (2003). *A Global Review of Primary Health Care: Emerging Messages*. Geneva. Retrieved on February 12, 2018 from http://apps.who.int/iris/bitstream/10665/70199/1/WHO_MNC_OSD_03.01_eng.pdf

Chapter 2 Literature Review

2.1 Introduction to "Rural"

The issue of the term "rural" has become the subject of debates at meetings, conferences and other forums globally (Couper, 2003; Kulig & Williams, 2011). It is usually difficult to reach consensus and as a result different groups in different countries have come up with and use different definitions of "rural" (Couper, 2003). Thus, there is no universally accepted definition of the term *rural* (Kulig et al., 2008; Lourenço, 2012; Muula, 2007; Pitblado, 2005; Strasser, 2016). However, attempts in defining rural mostly emanate from countries such as Australia, Canada and the United States, where there is a long tradition in rural health care research. Therefore, in discussing rural and rural health, most of my prior grounding in the topic comes from literature from these contexts. As understanding of rural is subjective (Bourke, Taylor, Humphreys, & Wakerman, 2013), rural health researchers have been urged to define rural in different ways and select the one that fits into the focus of their research (Halfacree, 1993; Racher, Vollman, & Annis, 2004).

It is worthy to note that some researchers usually differentiate between the terms 'rural', meaning a particular kind of geographical milieu, and 'rurality', which refers to a particular behavior style associated with such areas (Hoggart, 1990), while many do not (Humphreys, 1998; Kulig et al., 2008; Kulig & Williams, 2011; Racher et al., 2004). For the purpose of this dissertation, I make no differentiation in meaning between these two terms.

2.1.1 Conceptualization of Rural

There are variations in the conceptualization of rural as earlier noted. The complexity in conceptualizing rural is noted by researchers highlighting that the term "is a bit like the hippopotamus – difficult to describe but you recognize it when you see it." (Racher & Guernsey,

2002, p.7). In a similar fashion, Couper (2003) suggested that "'rurality' is like beauty, which is in the eye of the beholder" (p.2).

Researchers generally conceptualized rural in terms of dichotomies, typologies, descriptions and indices (Halfacree, 1993; Racher et al., 2004). Dichotomies essentially distinguish rural from urban. Thus, it is necessary to define 'urban' first because the standard definition of 'rural' is essentially everything that is not 'urban' (du Plessis, Beshiri, Bollman, & Clemenson, 2001; Racher et al., 2004). Thus, researchers generically use the term "rural" to mean a place other than urban, or non-metropolitan (Racher et al., 2004; Wong & Regan, 2009). Typologies are based on the size, density and locality among primary geographical units. Such typologies culminated in the definition of rural by institutions such as the Organization for Economic Cooperation and Development (OECD)[2] to classify member countries. Thus, according to the OECD, rural regions have population densities of fewer than 150 people per square kilometer and more than 50% of the population lives in areas classified as rural communities (OECD, 1994).

With regard to descriptions, Bealer, Willits, & Kuvlesky (1965) historically highlighted three primary components of rural that are central to the understanding of rural, namely: ecological, occupational and socio-cultural. The ecological component refers to the spatial distribution of rural population. This mostly signifies the demarcation of a geographical area that is characterized by low and relatively sparse population, with a degree of isolation from large metropolitan areas. The occupation component is defined in a narrower sense to imply the abundance of primary economic activities. That is, abundance of agricultural production and

[2] The OECD comprises 36 member-states across the globe. Its overarching mission is to promote policies that will improve the economic and social well-being of people globally (see details at http://www.oecd.org/).

large employment in the extractive industries including mining, fishing and forestry. The socio-cultural component is defined based on rural values, behavior norms or shared ideals that shape interactions in rural areas (Bealer et al., 1965).

The rural indices category is recognized by rural health researchers and policy makers as the focus for defining rural and measuring the differences in the degree of rurality for the overarching purpose of health care planning (Humphreys, 1998; Kulig et al., 2008; Racher et al., 2004). These indices included Procedural Skills rurality Index for the medical community and the General Practice Rurality Index that are specific to health services delivery especially within North American context (Muula, 2007). Thus, Muula (2007) argues that these indices may not be useful to an African context where health care delivery is mostly limited to major tertiary hospital centers.

Given this complexity, evidence points to the need for researchers to focus on the meaning of rurality shared by the specific rural dwellers in question (Kulig et al., 2008). Further, other researchers suggest a multi-faceted conceptualization of rural that is to be based upon socio-cultural characteristics (i.e. the cultural aspects of a geographical area) and descriptive features that can be measured (i.e. land use, demographic structure), and local understanding of rural (Williams & Cutchin, 2002). Similarly, Couper (2003) noted that rural definition should consider issues such as services, access and distance. Therefore, the meaning behind the term "rural" is constructed for a particular purpose and across different disciplines to address research topics in different settings (Kulig & Williams, 2011; Racher et al., 2004). For instance, Lourenço (2012) argues that most countries construct rural for health and political purposes, and this could result in different criteria in classifying rural within the same country. Despite this, rural researchers and practitioners have broadly categorized rural into technical and social approaches

within the context of rural health (Kulig, 2006; Pitblado, 2005). Technical definitions relate to geographic distances and availability of infrastructure such as hospitals, whereas social definitions emphasize issues such as relationships or connections one experiences (Kulig, 2006).

Generally speaking, rural encompasses both quantitative (i.e. distance and population size) and qualitative approaches (community relationships, environmental 'attractiveness', individuals attitudes and characteristics such as stoicism, independence, self-sufficiency and resourcefulness) (Gessert et al., 2015; Humphreys, 1998). In Ghana, rural areas are classified primarily using a quantitative approach (i.e. population size). Thus, rural areas consist of localities with 5000 people or less (Ghana Statistical Service, 2012). A locality has a distinct population cluster (i.e. inhabited place, population center or settlement) with a name or legally recognized status. This locality included fishing hamlets, mining camps, ranches, farms and villages. The Ghana Statistical Service estimates show that almost half of Ghana's population (i.e. 49.1%) live in these rural areas or localities (Ghana Statistical Service, 2012).

2.2 Rural Health

Rural health encompasses researchers and practitioners working together around the health experiences, care provision and outcomes of people living in rural areas (Malatzky & Bourke, 2016). Rural health is also conceptualized as "the organizational, social, and cultural arrangements that create the health of individuals and communities in rural and remote areas." (Bourke, Humphreys, Wakerman, & Taylor, 2012b, p.437). Thus, rural residents view rural health beyond the absence of disease and refer also to health based on functional aspects, especially the ability to work and perform social roles (Gessert et al., 2015).

Hays (1999) has noted that rural residents have poorer health status, providers are professionally isolated, providers' families are socially and culturally isolated and providers may

have particular personal attributes and require broader knowledge and skills (Hays, 1999). These nuances of rural health forms what rural health researchers recently termed as the deficit discourse (Malatzky & Bourke, 2016). I describe this deficit discourse in the next section.

2.2.1 Rural Health Discourse (The Deficit Discourse)

In recent times, researchers have constructed rural health within a deficit discourse (Bourke, Humphreys, Wakerman, & Taylor, 2010; Bourke et al., 2013; Malatzky & Bourke, 2016). The deficit discourse refers to the deficiencies of rural health when compared to urban health (Bourke et al., 2010). For instance, researchers have noted that access to health care is a major issue around rural health globally (Farmer, Clark, & Munoz, 2010; Strasser, 2003). As a result, they believe rural residents have poorer health outcomes when compared to their counterparts in the urban areas (Bourke et al., 2010; Malatzky & Bourke, 2016; Smith, Humphreys, & Wilson, 2008). Hence the prevailing view, especially among policymakers, is to 'fix' the 'deficit' in rural health in order to equalize it with that of urban areas (Bourke et al., 2010; Malatzky & Bourke, 2016). As a result, policymakers may attach a sense of urgency to compensate the deficit by rolling out programs that overcome the failures inherent in health systems (Bourke et al., 2010).

Rural workforce is a central issue that is considered by researchers as deficient in comparison to urban, and as a problem that needs to be 'fixed' (Bourke et al., 2010; Malatzky & Bourke, 2016; Wilson et al., 2009). Rural workforce may include health professionals and those that contribute to PHC as well as public and population health (Strasser, Kam, & Regalado, 2016). Within the deficit discourse the assumption is that ratios between rural workforce and population size should be at par with urban ratios (Hart, Larson, & Lishner, 2005; Malatzky & Bourke, 2016; Shi, 1993; Stratton, Dunkin, & Juhl, 1995). Due to this priority in matching, there

is emphasis on the shortage of rural workforce to the detriment of the oversupply of workforce in urban areas. In Australia for instance, Malatzky & Bourke (2016) recently problematized the issue of maldistribution by noting that health professionals are choosing to work in urban areas despite the need and incentives to work in rural areas. They further pointed out that the persistent focus on workforce shortage in rural areas relative to urban areas undermines the recruitment of new health professionals to rural areas (Malatzky & Bourke, 2016). Not surprisingly, documentation of high workloads and burnout restrict opportunities for professional development and career advancement and contribute to the notion that working in rural areas is undesirable for health professionals (Bourke et al., 2010; Farmer et al., 2010; McGrail, Humphreys, Joyce, Scott, & Kalb, 2012; Strasser et al., 2016; Strasser, 2003; Wilson et al., 2009).

The 'deficit' discourse is commonly constructed among rural health policy makers, medical professionals and medical students. In particular health care professionals tend to reinforce the 'deficit model' by placing emphasis on the burden of disease and measurement of health outcomes as the variables of health (Bourke et al., 2010). In most cases, rural health planning has focused exclusively on program and service needs rather than assessing the strengths of rural health systems (Patterson, 2000). For instance, budget can be devoted in health promotion and disease prevention activities in order to fix measurable problems rather than the promotion of good health (Bourke, 2010). Further, the deficit model is entrenched in medical schools and thus influences the career choices of some students. For instance, reiterating the problems in rural areas tend to discourage some students from pursuing a rural career (Malatzky & Bourke, 2016). A study by Eley and colleagues (2007) in Australia noted stigma attached being a medical doctor in rural area. The authors especially described an 'us' versus 'them'

mentality, suggesting that rural doctors have less skills when compared to their urban counterparts (Eley et al., 2007). This perspective is also framed in Australia as a competition over attempts by rural schools to challenge urban schools (Harding & Pilotto, 2010). This deficit way of thinking, as Malatzky & Bourke (2016) argue, "privileges the position of the urban university as medical educator in this power struggle and assigns rural schools and their students the challenge of matching urban students' exam results, clinical skills and rankings for internships" (p. 159).

Finally, rural health researchers have reinforced the deficit discourse. Bourke and colleagues (2013) argue that researchers have focused on highlighting the many issues, problems and challenges faced by health professionals, rural residents and rural health policy makers (Bourke et al., 2013). Theoretically, rural health researchers have adopted a positivist framework, and dissected rural health and compared each component to similar issues in urban areas (Malatzky & Bourke, 2016). The bulk of research has reinforced the deficiencies of rural health services relative to urban health services that are considered normative (Bourke et al., 2013; Bushy, 2002; Mitura & Bollman, 2003; Sibley & Weiner, 2011; Smith et al., 2008). Thus, the deficit discourse uses the assumptions of urban health as normative health to measure, judge and try to fix rural health (Bourke et al., 2013). Such approaches may, however, fail to achieve the desired results without taking the rural context into an account, which is critical to the understanding of rural health (Bourke et al., 2012b; Bourke, Humphreys, Wakerman, & Taylor, 2012a).

In a nutshell, there is a persistent emphasis on the deficient discourse that rural health is inherently problematic and deficient in comparison to urban health (Malatzky & Bourke, 2016). However, in reinforcing the rural deficits, other ways of conceptualizing rural health are often

ignored. In particular there are unique and/or positive attributes of rural areas including potentially rewarding, enriching and challenging careers (Malatzky & Bourke, 2016; Waite & Bourke, 2015). Rural health researchers have therefore been urged to acknowledge these advantages and "build on the strength of rural and remote public health infrastructure, ingenuity and practice" (Wakerman, 2008, p.52).

2.3 Ghana's Context

The Republic of Ghana is a sub-Saharan African nation that lies along the Gulf of Guinea. The country is made up of over 100 different ethnic groups, and has three major religious affiliations, namely Christian, Islam and Indigenous beliefs. With a total land area of 238,537 square kilometers, the country has a population of about 25 million as of 2010 (Ghana Statistical Service, 2012). Ghana has 10 administrative regions with Accra as the national capital where most disability rights movements are located. The regional capitals are the hubs of major health facilities such as hospitals. Below the regions are 254 metropolitan (population over 250,000), municipal (population over 95,000) or district (population 75,000 and over) assemblies that have mostly PHC facilities.

2.3.1 Ghana's Health Care System

Ghana has a multifaceted and pluralistic health delivery system, in which 'conventional' public and private (private-for-profit and private-not-for-profit) sectors alongside traditional and faith-based healing systems provide health care to citizens (Tenkorang, 2016).The public or government-run health care system has the major health care facilities and providers followed by the private sector. There is a legislation regarding the incorporation of traditional/indigenous practice into educational curricula and 'conventional' practice (Tenkorang, 2016). The faith

healing system is mostly based on religious powers that include prayers, fasting and the sprinkling of holy water as the major means of providing services (Ae-Ngibise et al., 2010).

The public sector/government managed health care is the largest provider of health care services to both rural and urban areas (Tenkorang, 2016). For instance, it provides two-thirds of all health services in Ghana (Institute for Health Metrics and Evaluation, 2015). In this sector, the Ministry of Health manages and executes health care policies, while the Ghana Health Service monitors, evaluates and develops policies that ensure the general health and well-being of citizens. The health care system is hierarchically organized into 5 different levels; national (teaching hospitals) at the apex, followed by regional (regional hospitals), district (district hospitals), sub-district (health centers), and community (Community Health Planning Services (CHPS) compounds) (Ministry of Health, 2015).

These levels are organized into three tiers (Fenny et al., 2016; Fenny, Asante, Enemark, & Hansen, 2014). The first tier comprises teaching hospitals that provide tertiary services including specialized clinical care (e.g. rehabilitation service). The second tier are the regional and district hospitals that provide secondary curative health care as well as PHC. They also handle complex referrals from the lower level care providers. Further, these hospitals are staffed with qualified medical doctors, nurses, pharmacists, laboratory technicians, auxiliary nurses and other support personnel.

The third tier are the health centers (polyclinics and clinics) and CHPS compounds that provide PHC services. The health centers are mostly staffed with registered general nurses while CHPS compounds comprise primarily community health nurses/community health officers. Both health centers and CHPS compounds are mostly located in rural areas and serve as the first point of contact between patients and the health care system especially for most people living in the

rural areas (Awoonor-Williams, Tindana, Dalinjong, Nartey, & Akazili, 2016; Fenny et al., 2016, 2014). Health centers and CHPS compounds are necessary in improving health care access to essential PHC in rural areas (Awoonor-Williams et al., 2016; Nyonator, Awoonor-Williams, Phillips, Jones, & Miller, 2005). The PHC at this level mostly includes treatment of common ailments (i.e. malaria, typhoid, fever) and injuries and provision of essential drugs (i.e. antimalarial drugs, paracetamol, diclofenac, amoxicillin) (Ministry of Health, 2010).

2.3.2 The Ghana National Health Insurance Scheme

The government of Ghana established the National Health Insurance Scheme (hereafter referred to as the "Scheme") Act 650 in 2003 (Revised to Act 852 in 2012). The Scheme is a universal pro-poor health policy to overcome financial barriers to accessing basic health care for all residents (Agyepong & Adjei, 2008). This initiative was established to replace the hitherto "cash and carry system" (i.e. out of pocket payment) that limited the ability many people to receive affordable and quality health care services. Under the scheme, an individual must pay an annual subscription fee of 14 Ghana Cedis ($3.50 US Dollars as at October 2018) per annum in order to be enrolled. Premium financial contribution is charged to clients and is renewable on annual basis. Alongside premiums, the Scheme is financed through a 2.5% levy on goods and services, donor funding, Government of Ghana funding, and profits from investments made by the Scheme (Awoonor-Williams et al., 2016). Premium exceptions are provided for the indigent (people classified as extremely poor and marginalized within criteria set out in a livelihood empowerment against poverty program). Other categories eligible for exceptions comprise pregnant women, children below the age of 18 years, the elderly above 70 years of age, retirees of the Social Security and National Insurance Trust, and more recently, persons with mental disorders (Awoonor-Williams et al., 2016; Dixon, Tenkorang, & Luginaah, 2011).

Within the Scheme all the public-sector health care facilities are automatically given accreditation, whereas facilities in the private sector apply for accreditation for their participation. This arrangement allows clients under the Scheme to access health care at either public or private accredited health facilities available in their respective geographical locations (Fenny et al., 2014). A unique feature of the Scheme is that it covers approximately 95% of the health conditions that affect many of the citizens (Awoonor-Williams et al., 2016). Nevertheless, the Scheme is bedeviled with challenges, including lack of premium payments by clients and the Scheme's lack of reimbursement to service providers especially in the private and faith-based health sectors. Despite these challenges, the Scheme is regarded by researchers as an ideal model for the promotion of universal health care especially in other LMIC contexts (Awoonor-Williams et al., 2016).

2.3.3 Persons with Disabilities in Rural Ghana

Ghana has approximately 3% of people living with disabilities (Ghana Statistical Service, 2012). This figure is lower when compared to global estimates of 10% to 15% for countries in LMICs, including Ghana (World Health Organization, 2013). The difference in the estimation may be due to how disability was operationalized and/or perceived by the researchers during the data collection process. For instance, most data collection in LMICs largely excludes persons with "invisible" impairments, such as persons with intellectual and developmental disabilities, HIV/AIDS or mental health issues (Yeo & Moore, 2003). There is lack of precise numbers in terms of rural-urban distributions of PWDs in Ghana. However, estimations has shown that the majority of them live in rural areas (Ghana Statistical Service, 2014).

Ghana signed and ratified the United Nations Convention on the Rights of Persons with Disabilities in 2006. The country has also enacted the Persons with Disability Act, 2006 (Act

715) to protect the rights of PWDs (Persons with Disability Act of 2006). The Act has many provisions that aim to improve health care access for people with disabilities. For instance, it guarantees PWDs' right to access to the same quality and standard of health care as provided to other persons. Furthermore, the Act emphasizes free medical treatment and rehabilitation services. Aside from access to health care, PWDs' rights to access public spaces and services through the design of disability friendly facilities are enshrined in the Act (Persons with Disability Act of 2006).

Nevertheless, traditional beliefs and practices can significantly influence attitudes of people towards PWDs in rural Ghana. For instance, many people conceptualize disability as a result of evil spirits or curse from the gods (Avoke, 2002; Kuyini, Alhassan, & Mahama, 2011). In some cases, PWDs are confined to prayer camps and traditional shrines where they face abuses such as chaining and forced fasting (Ae-Ngibise et al., 2010). Stigma towards PWDs is more pronounced in the rural areas (Kassah, 1998). As a result of this, PWDs may feel reluctant to access health care services although they may have serious health issues that may require urgent health service intervention. This is because of their previous experiences in their attempt to access health care, particularly discrimination (e.g. the use of derogatory remarks) from health care providers (Badu, Opoku, & Appiah, 2016; Iezzoni, Killeen, & O'Day, 2006). Paying attention to the experiences of PWDs within the rural context of Ghana is an important step that may provide recommendations for health care system change and improve the health of PWDs. This can also identify gaps and areas for future research.

In view of the importance of conducting research on access to PHC services for PWDs in rural Ghana, I provide an in-depth review of global literature on this topic in the next chapter (i.e. Chapter 3). This review provides a comprehensive understanding of access barriers and

facilitators for rural residents with disabilities globally. It also serves as a foundation, through the identification of research gaps, for conducting the qualitative studies (i.e. chapters 4 and 5).

2.4 References

Ae-Ngibise, K., Cooper, S., Adiibokah, E., Akpalu, B., Lund, C., Doku, V., & The MHaPP Research Programme Consor. (2010). 'Whether you like it or not people with mental problems are going to go to them': A qualitative exploration into the widespread use of traditional and faith healers in the provision of mental health care in Ghana. *International Review of Psychiatry*, *22*(6), 558–567.

Agyepong, I. A., & Adjei, S. (2008). Public social policy development and implementation : a case study of the Ghana National Health Insurance scheme. *Health Policy and Planning*, (February), 150–160.

Avoke, M. (2002). Models of disability in the labelling and attitudinal discourse in Ghana. *Disability & Society*, *17*(7), 769–777.

Awoonor-Williams, J. K., Tindana, P., Dalinjong, P. A., Nartey, H., & Akazili, J. (2016). Does the operations of the National Health Insurance Scheme (NHIS) in Ghana align with the goals of Primary Health Care? Perspectives of key stakeholders in northern Ghana. *BMC International Health and Human Rights*, *16*(1), 21.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability*, *5*(1), 1–8.

Bealer, R., Willits, F., & Kuvlesky, W. (1965). The meaning of "rurality" in American society: some implications of alternative definitions. *Rural Sociology*, *30*(3), 255–266.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2010). From "problem-describing" to "problem-solving": Challenging the "deficit" view of remote and rural health. *Australian Journal of Rural Health*, *18*(5), 205–209.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2012a). Understanding drivers of rural and remote health outcomes: A conceptual framework in action. *Australian Journal of Rural Health, 20*(6), 318–323.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2012b). Understanding rural and remote health: A framework for analysis in Australia. *Health and Place*, *18*(3), 496–503.

Bourke, L., Taylor, J., Humphreys, J. S., & Wakerman, J. (2013). "Rural health is subjective, everyone sees it differently": Understandings of rural health among Australian stakeholders. *Health and Place*, *24*, 65–72.

Bushy, A. (2002). International perspectives on rural nursing: Australia, Canada, USA. *Australian Journal of Rural Health*, *10*(2), 104–111.

Couper, I. D. (2003). Rural hospital focus: defining rural. *Rural And Remote Health*, *3*, 205.

Dixon, J., Tenkorang, E., & Luginaah, I. (2011). Ghana's National Health Insurance Scheme: helping the poor or leaving them behind? *Environment and Planning C: Government and Policy*, *29*(6), 1102–1115.

du Plessis, V., Beshiri, R., Bollman, R. D., & Clemenson, H. (2001). Definitions of rural. *Rural and Small Town Canada Analysis Bulletin*, *3*(3), 1–17.

Eley, D., Young, L., Shrapnel, M., Wilkinson, D., Baker, P., & Hegney, D. (2007). Medical students and rural general practitioners: Congruent views on the reality of recruitment into rural medicine. *Australian Journal of Rural Health*, *15*(1), 12–20.

Farmer, J., Clark, A., & Munoz, S. A. (2010). Is a global rural and remote health research agenda desirable or is context supreme? *Australian Journal of Rural Health*, *18*(3), 96–101.

Fenny, A. P., Asante, F. A., Arhinful, D. K., Kusi, A., Parmar, D., & Williams, G. (2016). Who uses outpatient healthcare services under Ghana's health protection scheme and why? *BMC*

Health Services Research, *16*(1), 174.

Fenny, A. P., Asante, F. A., Enemark, U., & Hansen, K. S. (2014). Treatment-seeking Behaviour and Social Health Insurance in Africa: the Case of Ghana under the National Health Insurance Scheme. *Global Journal of Health Science*, *7*(1), p296.

Gessert, C., Waring, S., Bailey-Davis, L., Conway, P., Roberts, M., & VanWormer, J. (2015). Rural definition of health: a systematic literature review. *BMC Public Health*, *15*, 378.

Ghana Statistical Service. (2012). *2010 Population & Housing Census: Summary Report of Final Results*. Accra. Retrieved on February 12, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Census2010_Summary_report_of_final_results.pdf

Ghana Statistical Service. (2014). *2010 Population and Housing Census Report: Disability in Ghana*. Accra. Retrieved on February 12, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Mono/Disability in Ghana.pdf

Halfacree, K. H. (1993). Locality and social representation: space, discourse and alternative defintions of the rural. *Journal of Rural Studies*, *9*(1), 23–37.

Harding, C., & Pilotto, L. (2010). Rural student doctors top city colleagues: Representation of a rural clinical school in the rural press. *Australian Journal of Rural Health*, *18*(4), 143–147.

Hart, L. G., Larson, E. H., & Lishner, D. M. (2005). Rural definitions for health policy and research. *American Journal of Public Health*, *95*(7), 1149–1155.

Hays, R. B. (1999). Common international themes in rural medicine. *The Australian Journal of Rural Health, 7*(3), 191–194.

Hoggart, K. (1990). Let's do away with rural. *Journal of Rural Studies, 6*(3), 245–257.

Humphreys, J. S. (1998). Delimiting 'Rural': Implications of an Agreed 'Rurality' Index for

Healthcare Planning and Resource Allocation. *Australian Journal of Rural Health*, *6*(4), 212–216.

Iezzoni, L., Killeen, M., & O'Day, B. (2006). Rural residents with disabilities confront substantial barriers to obtaining primary care. *Health Services Research*, *41*(4 Pt 1), 1258–1275.

Institute for Health Metrics and Evaluation. (2015). *Health Service Provision in Ghana: Assessing Facility Capacity and Costs of Care*. Seattle, Washington. Retrieved on February 12, 2018 from http://www.healthdata.org/sites/default/files/files/policy_report/2015/ABCE_Ghana_finalreport_Jan2015.pdf

Kassah, A. K. (1998). Community-Based Rehabilitation and stigma management by physically disabled people in Ghana. *Disability and Rehabilitation*, *20*(2), 66–73.

Kulig, J. C. (2006). Commentary by Kulig. *Western Journal of Nursing Research*, *28*(7), 855–857.

Kulig, J. C., Andrews, M. E., Stewart, N. L., Pitblado, R., Macleod, M. L. P., Bentham, D., … Smith, B. (2008). How do registered nurses define rurality? *Australian Journal of Rural Health*, *16*(1), 28–32.

Kulig, J. C., & Williams, A. . (2011). *Health in Rural Canada*. Toronto, Vancouver: UBC Press.

Kuyini, A. B., Alhassan, A.-R. K., & Mahama, F. K. (2011). The Ghana Community-Based Rehabilitation Program for People With Disabilities: What Happened at the End of Donor Support? *Journal of Social Work in Disability & Rehabilitation*, *10*(4), 247–267.

Lourenço, A. E. P. (2012). The meaning of "rural" in rural health: a review and case study from Brazil. *Global Public Health*, *7*(1), 1–13.

Malatzky, C., & Bourke, L. (2016). Re-producing rural health: Challenging dominant discourses and the manifestation of power. *Journal of Rural Studies, 45*, 157–164.

McGrail, M. R., Humphreys, J. S., Joyce, C. M., Scott, A., & Kalb, G. (2012). How do rural GPs' workloads and work activities differ with community size compared with metropolitan practice? *Australian Journal of Primary Health*, *18*(3), 228–233.

Ministry of Health. (2010). *Ghana Essential Medicines List*. Accra. Retrieved on February 12, 2018 from www.ghndp.org

Mitura, V., & Bollman, R. D. (2003). The health of rural Canadians: A rural-urban comparison of health indicators. *Rural and Small Town Canada Analysis Bulletin*, *4*(6), 1–23.

Muula, A. (2007). How do we define "rurality" in the teaching on medical demography? *Rural and Remote Health*, *7*(1), 653.

Nyonator, F. K., Awoonor-Williams, J. K., Phillips, J. F., Jones, T. C., & Miller, R. A. (2005). The Ghana community-based health planning and services initiative for scaling up service delivery innovation. *Health Policy and Planning*, *20*(1), 25–34.

OECD. (1994). *Creating Rural Indicators for Shaping Territorial Policies*. Paris.

Patterson, C. (2000). Systematic overview of rural health research in Australia published in the serial literature. *The Australian Journal of Rural Health*, *8*(5), 286–293.

Persons with Disability Act, Act 715 (2006).

Pitblado, J. R. (2005). So , What Do We Mean by " Rural ," " Remote ," and " Northern "? *Canadian Journal of Nursing Research, 37*(1), 163–168.

Racher, F. E., & Guernsey, J. R. (2002). *Defining 'Rural' and 'Rurality' for Health and Health Services Research*.

Racher, F. E., Vollman, A. R., & Annis, R. C. (2004). Conceptualisations of "rural": Challenges

and implications for nursing research. *Online Journal of Rural Nursing and Health Care*, *4*(2), 61–77.

Shi, L. (1993). Health care in China: A rural-urban comparison after the socioeconomic reforms. *Bulletin of the World Health Organization*, *71*(6), 723–736.

Sibley, L. M., & Weiner, J. P. (2011). An evaluation of access to health care services along the rural-urban continuum in Canada. *BMC Health Services Research*, *11*, 20.

Smith, K. B., Humphreys, J. S., & Wilson, M. G. A. (2008). Addressing the health disadvantage of rural populations: How does epidemiological evidence inform rural health policies and research? *Australian Journal of Rural Health*, *16*(2), 56–66.

Strasser, R. (2003). Rural health around the world: Challenges and solutions. *Family Practice*, *20*(4), 457–463.

Strasser, R. (2016). Learning in context: education for remote rural health care. *Rural and Remote Health*, *16*(4033), 1–6.

Strasser, R., Kam, S. M., & Regalado, S. M. (2016). Rural Health Care Access and Policy in Developing Countries. *Annual Review of Public Health*, *37*, 395–412.

Stratton, T. D., Dunkin, J. W., & Juhl, N. (1995). Redefining the nursing shortage: A rural perspective. *Nursing Outlook*, *43*(2), 71–77.

Tenkorang, E. Y. (2016). Health Provider Characteristics and Choice of Health Care Facility among Ghanaian Health Seekers. *Health Systems & Reform*, *2*(2), 160–170.

Waite, C. J., & Bourke, L. (2015). Rural young people's perspectives on online sociality: Crossing geography and exhibiting self through Facebook. *Rural Society*, *24*(2), 200–218.

Wakerman, J. (2008). Rural and remote public health in Australia: Building on our strengths. *Australian Journal of Rural Health*, *16*, 52–55.

Williams, A. M., & Cutchin, M. P. (2002). The rural context of health care provision. *Journal of Interprofessional Care*, *16*(2), 107–115.

Wilson, N. W., Couper, I. D., De Vries, E., Reid, S., Fish, T., & Marais, B. J. (2009). A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural and Remote Health*, *9*(2), 1–21.

Wong, S. T., & Regan, S. (2009). Patient perspectives on primary health care in rural communities: effects of geography on access, continuity and efficiency. *Rural and Remote Health*, *9*(1), 1142.

Yeo, R., & Moore, K. (2003). Including Disabled People in Poverty Reduction Work: "Nothing About Us, Without Us." *World Development*, *31*(3), 571–590.

Chapter 3 Factors Affecting Access to Primary Health Care Services for Persons with Disabilities in Rural Areas: A "Best-Fit" Framework Synthesis

Citation: Dassah, E., Aldersey, H.M., McColl, M., & Davison, C. (2018). Factors Affecting Access to Primary Health Care Services for Persons with Disabilities in Rural Areas: A "Best-Fit" Framework Synthesis. *Global Health Research and Policy,3,36.*

***There are some variations between the content in this chapter and that of the published manuscript**

The Fit of Manuscript 1 within the Dissertation

This manuscript contributes to the purpose of the dissertation by examining factors affecting access to primary health care services for persons with disabilities in rural areas globally. This review provided the foundation and identified knowledge gaps for further exploration in the second and third manuscripts.

3.1 Abstract

Background: Access to primary health care (PHC) is central in the performance of health care systems, however persons with disabilities (PWDs) generally experience greater barriers in accessing PHC than the general population. These problems are further exacerbated for those with disabilities in rural areas. Understanding PHC access for PWDs is particularly important as such knowledge can inform policies, clinical practice and future research in rural settings.

Methods: We conducted a synthesis of published literature to explore the factors affecting access to PHC for PWDs in rural areas globally. Using an adapted keyword search string we searched five databases (CINAHL, EMBASE, Global Health, Medline and Web of Science), key journals and the reference lists of included articles. We imported the articles into NVivo and conducted deductive (framework) analysis by charting the data into a rural PHC access framework. We subsequently conducted inductive (thematic) analysis.

Results: We identified 36 studies that met our inclusion criteria. A majority (n=26) of the studies were conducted in low-and middle-income countries. We found that PWDs were unable to access PHC due to obstacles including the interplay of four major factors; availability, acceptability, geography and affordability. In particular, limited availability of health care facilities and services and perceived low quality of care meant those in need of health care services had to travel for care. The barrier of geographic distance was worsened by transportation problems. We also observed that where health services were available most people could not afford the cost.

Conclusion: Our synthesis made recommendations for policy development, practice consideration and future research that could lead to more equitable access to health care. Importantly, there is the need for health policies that address rural health problems to consider all

the dimensions. In terms of practice, the review also highlights the need to provide in-service training to health care providers on how to enhance their communication skills with PWDs. Future research should focus on exploring access in geographical contexts with different health care systems, the perspectives of health care providers and how PWDs respond to access problems in rural settings.

Keywords: Primary Health Care, Access, Rural, Disability, Review

3.2 Background

Equitable access to health care is a major principle of national health systems globally (Levesque, Harris, & Russell, 2013; Russell et al., 2013). Persons with disabilities (PWDs) generally experience greater barriers in accessing PHC than the general population, and these problems are further exacerbated for those with disabilities in rural areas (Lishner, Richardson, Levine, & Patrick, 1996). PWDs in rural settings confront a wide range of informational, geographical and financial barriers to health care access (Lishner et al., 1996; Neille & Penn, 2015). These barriers can lead to negative health outcomes and widen rural health disparities between PWDs and the general population (Moodley & Ross, 2015). In the past decade there has been a growing interest in the study of health care access for rural residents, particularly in Australia, Canada and United States, where there is a long tradition in rural health care research. Similar studies have also been conducted recently in low-and middle-income countries (LMICs) (Ruano, Hernández, Kjerstin, Hurtig, & Sebastián, 2012; Strasser, Kam, & Regalado, 2016). This review seeks to identify and synthesize evidence regarding factors affecting access to primary health care (PHC) for PWDs in rural areas globally.

PHC is an approach that encompasses health policy and service provision that is delivered at the individual level (i.e. primary care services) and population level (public health) (Muldoon, William, & Levitt, 2006). Within the health services delivery domain, PHC is broadly regarded as the first level of contact that health consumers have with the health care system (Starfield, 1998). Care services under PHC may include: health education; environmental health; public health nutrition; reproductive and family health; immunization against common communicable diseases; epidemiological investigation and disease control; appropriate treatment of common ailments and injuries; and provision of essential drugs (World Health Organization, 1978, 2003).

We use Russell and colleagues' (2013) conceptual framework for evaluating access to PHC in rural communities, particularly for PWDs, in conceptualizing the review. In this framework, access is conceptualized as the "fit" between the characteristics of the individual/client (i.e. PWD) and the characteristics of the health care system. Access is thus defined as the ease with which PWDs can seek and obtain health services when the need arises (Levesque et al., 2013; Russell et al., 2013). According to Russell and colleagues' (2013) framework, access to PHC is achieved through the following seven dimensions; availability, geography, affordability, accommodation, timeliness, acceptability and awareness.

Most of the existing reviews on disability and health care access to date have been mostly focused on the following PHC services: preventive, screening and oral health for PWDs (Gibson & O'Connor, 2010); water and sanitation for PWDs (Groce, Bailey, Lang, Trani, & Kett, 2011); oral health care among persons with intellectual and learning disabilities (Anders & Davis, 2010; Naseem et al., 2016); maternity services for women with physical disabilities (Breckenridge et al., 2014; Lawler, Lalor, & Begley, 2013); health care access for PWDs who are members of underserved racial/ethnic groups in the United States (Peterson-Besse, Walsh, Horner-Johnson, Goode, & Wheeler, 2014) and persons with hearing impairments (Kuenburg, Fellinger, & Fellinger, 2016). These studies are mostly urban centric and focus mainly on the barriers to health care services for PWDs. Though a review by Lishner and colleagues (1996) delved into the perspectives of rural residents with disabilities about access to health care, the authors mainly focused on rural care in the United States, and only examined studies published up to 1996.

Evidence suggests that access to health care and services is the major concern for rural populations globally (Farmer, Clark, & Munoz, 2010; Strasser, 2003). Further, researchers have identified access to appropriate health care services as the number one research priority for

PWDs (Tomlinson et al., 2009), including those in rural areas. To date primary empirical studies, with diverse and sometimes contradictory findings, from a wide range of countries have provided insights into PHC access for PWDs in rural areas. Our goal in conducting a synthesis of these studies is to provide a holistic and comprehensive understanding of this wide range of primary research studies.

This review therefore seeks to identify existing evidence regarding factors affecting access to PHC services in rural areas worldwide. A global picture of such evidence is timely as the recent United Nations Declaration on Sustainable Development Goal 3 emphasizes universal health coverage, access to quality health and equity in health care as key to achieving the overall health goal for sustainable development (United Nations, 2015). Furthermore, this review provides insight that is useful in assessing health policies, improving clinical practice and advancing knowledge on PHC access for PWDs in rural areas globally.

3.3 Method

3.3.1 Review Design

The methodological approach for this review is based on framework synthesis (Ritchie & Spencer, 1994). We specifically adopted the "best fit" framework synthesis (Carroll, Booth, & Cooper, 2011; Carroll, Booth, Leaviss, & Rick, 2013). The "best fit" approach is a recent development, adapted from framework analysis, which involves systematically organizing data into a prior conceptual framework (Carroll et al., 2011, 2013; Dixon-Woods, 2011). We used this approach for three reasons. First, there is a prior framework (i.e. rural centred PHC access framework) that can inform sorting and charting of the data. Second, the approach increases coding transparency and fosters teamwork in analysing the data (Dixon-Woods, 2011). Finally, although the approach is largely deductive (testing a framework), it also includes inductive

(thematic) analysis that is useful in understanding a phenomenon (Carroll et al., 2011, 2013), especially rural health access for PWDs. Thus, the "best fit" approach capitalizes on the strengths of both framework synthesis and thematic synthesis (Carroll et al., 2013; Dixon-Woods, 2011).

3.3.2 Search Strategy

We comprehensively searched for relevant literature using five electronic databases—CINAHL, EMBASE, Global Health, Medline and Web of Science. The first author in collaboration with a health sciences librarian developed the search strategy. We included all possible key words for three main areas relevant to the review: PWDs, PHC and rural (See details in Table 4). We conducted the search using a combination of medical subject headings (MeSH) key terms and free text adapting the syntax required for each database.

Table 4 Detailed Search Terms

	CINAHL(Via EBSCOhost)	EMBASE (Via Ovid)	Global Health (Via Ovid)	Medline (Via Ovid)	Web of Science
Persons with disabilities	(MH“Disabled+”) OR Disab*	exp disability/OR exp disabled person/OR disab*.mp.	exp disabilities/ OR exp people with mental disabilities/ OR exp children with disabilities/ OR exp people with disabilities/ OR exp learning disabilities/ OR exp people with physical disabilities/ OR disab*.mp	exp Disabled Persons/ OR disab*.mp.	Disability
Primary Health Care	(MH “Primary health Care”) OR (MH "Medical Care") OR (MH "Health Services Accessibility+")	Exp primary health care/ OR exp primary medical care/ OR exp "health care cost"/ OR exp health care delivery/ OR exp health care quality/ OR exp health care access/ OR exp health service/ OR exp health care/ OR exp health care system/ OR exp health care utilization/	exp primary health care/ OR (community health OR health care OR health services OR Community health services OR medical services).sh.	exp Primary Health Care/ OR exp Health care Disparities/ OR exp "Delivery of Health Care"/ OR exp Health Services Accessibility/ OR exp "Health Services Needs and Demand"/	Primary health care
Rural or Remote	(MH "Rural Areas") OR (MH "Rural Health Personnel") OR (MH "Rural Health Centers") OR (MH "Rural Health Services”) OR (MH "Rural Population") OR (MH "Hospitals, Rural") OR “rural*” OR "remote health"	exp rural area/ OR exp rural population/ exp OR rural health care/ OR exp rural urban difference/ OR rural*.mp OR remote health.mp. OR	exp rural environment/ or exp rural communities/ or exp rural society/ or exp rural areas/ or exp rural health/ or exp rural settlement/ OR exp rural population/ OR rural*.mp.	exp Rural Health/ OR exp Hospitals, Rural/ OR exp Rural Population/ OR exp Rural Health Services/ OR exp Telemedicine/ OR rural*.mp. OR remote health.mp.	Rural

3.3.3 Study Selection

We exported the search results into Refworks (a reference management software) and selected relevant studies based on the following inclusion/exclusion criteria:

a) **Study design.** We included quantitative, qualitative and mixed methods primary empirical studies that explored at least one of the dimensions in the rural access framework (Russell et al., 2013). We excluded review articles, dissertations/theses, commentaries, letters to editors, case reports, book reviews and chapters or articles that did not report a primary study.

b) **Language, source and time period.** We included English language, peer reviewed articles published between 2006 and early November 2017. We chose 2006 as the cut-off point because it was the year in which the United Nations adopted the Convention on the Rights of Persons with Disabilities (CRPD), which guarantees access to health care for PWDs as a fundamental human right (United Nations, 2006). As such, various countries have ratified the CRPD and set out policies that are in line with its principles. We also adopted November 2017 as the end date as it was the month prior to when we conducted the review. We excluded non-English articles because we could not immediately access translation services.

c) **Study participants.** We included articles that focused on any type of disability (e.g. physical, mental, vision, hearing, intellectual and developmental disabilities). We also included studies that compared PWDs and those without disabilities provided it was feasible to identify and separate the perspectives of those with disabilities. We did not include disabilities associated with HIV/AIDS. Although this condition is recognized as a form of disability and included in a rural health review (Lishner et al., 1996), the complexity and uniqueness of this population in recent times may require its own study. As a result of this, we excluded all the articles that explored disability and HIV/AIDS related access to health

care (especially anti-retroviral drugs) or those articles that explored the perspectives of PWDs who also have HIV/AIDS.

d) **Phenomenon of interest.** We included PHC that relates to primary medical care including: (a) treatment of diseases and injuries; and (b) provision of essential drugs. We included these two primary core services because they are the urgent care needs for minority groups such as PWDs in many rural communities (Thomas, Wakerman, & Humphreys, 2014). We define these core services as basic health services/care that health care practitioners, including family physicians and nurses, provide to PWDs especially in rural areas. We excluded studies that focused on access to secondary or tertiary health care.

e) **Research setting.** We adopted "rural" as defined within each of the article rather than choosing a definition. We took this decision because evidence suggests that there is no universally accepted definition of *rural* (Kulig et al., 2008; Lourenço, 2012; Muula, 2007; Pitblado, 2005). We also included studies that involved rural and urban areas provided it was feasible to extract the rural portions of such studies.

3.3.4 Screening of Articles

Two authors independently screened the titles and abstracts of the studies using exclusion criteria relating to publication type and language, research topic and study population and year of publication. We resolved discrepancies through discussion. We retrieved the full-text articles of the remaining studies and then read and independently screened the full text articles to identify eligible studies. At this stage, we resolved discrepancies through discussion, and if required we involved a third reviewer. We also conducted a manual search of disability, health and rural-related journals—*Disability and Rehabilitation; Disability and Health; Disability, CBR and Inclusive Development; Journal of Rural Health; and Rural and Remote Health*. We also

searched the reference lists of eligible papers for additional studies. Finally, we used the titles of all eligible articles on Google Scholar's "cited by" and "related articles" to identify potential articles.

3.3.5 Data Extraction and Synthesis

We imported the included studies into NVivo 11, a software program for managing data. Two reviewers extracted and coded the findings/results sections of the included studies into the seven dimensions of the rural PHC access framework (Russell et al., 2013). Table 5 provides the operationalized definitions of each of these dimensions.

Table 5 Rural Primary Health Care Access Framework

Dimensions	Operationalized definitions
1. Availability	relates to the volume and types of services and facilities in relation to the needs of the clients.
2. Geography	refers to the proximity of health services or providers to clients, and also the ways that clients' can transcend the distance between their location and that of the services or providers.
3. Affordability	relates to clients' ability to pay the overall costs of health care services, including direct and indirect cost of care.
4. Accommodation	involves the ways PHC resources are organized in relation to the clients' ability to contact with, gain entry to and navigate the system.
5. Timeliness	reflects the extent to which care can be sought, offered or received within a time frame and which is optimal to achieve the best health outcomes.
6. Acceptability	relates to the attitudes and beliefs of consumers about the health care system to the personal and practice characteristics of health care providers.
7. Awareness	involves sharing information between health services and clients, and also enhancing clients' knowledge about the health care system.

We used each dimension of the framework as a theme for deductive analysis. The framework has alternative terms to each of the access dimensions (i.e., the themes). We used those alternative terms that are relevant to the review as sub-themes. We also inductively analyzed the data that did not fit into the themes or sub-themes of the framework. We followed this process in order to generate new themes and/or sub-themes and understand the phenomenon of study (access to PHC for PWDs in rural areas). For instance, through inductive analysis, we found "Operation Hours" as a new sub-theme within the "Accommodation" theme. This process has recently been successfully used in similar reviews (Coxon, Chisholm, Malouf, Rowe, & Hollowell, 2017; Houghton, Murphy, Brooker, & Casey, 2016).

3.4 Results

3.4.1 Search Results

We screened 386 records after the removal of duplicates from the databases and hand search of key journals. Of the 386 records, we selected 83 full-text articles based on title and abstract. We further screened the 83 articles by reading the full text and reducing the number to 32 relevant articles based on the inclusion/criteria outlined earlier. We then searched the reference lists of the remaining 32 articles, and also used the titles of the articles to search on Google Scholar features "cited by" and "related articles". This led to the identification of 4 additional articles that met our inclusion criteria for a total of 36 empirical articles. The flowchart summary of literature search is presented in the PRISMA diagram (Figure 2) (Moher, Liberati, Tetzlaff, Altman, & The PRISMA Group, 2009).

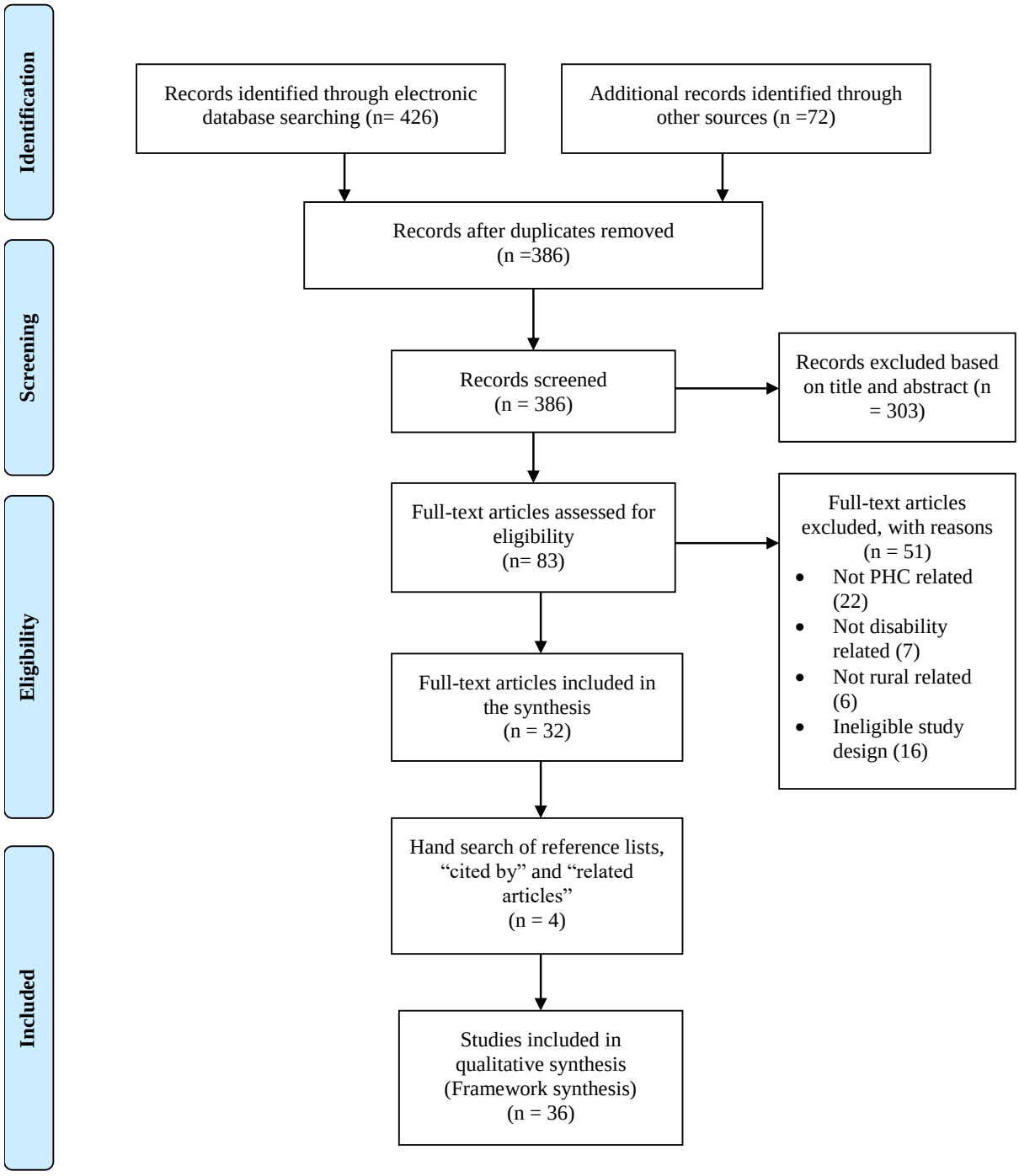

Figure 2 PRISMA Flow Diagram

3.4.2 Characteristics of Included Studies

Most of the articles (n=33) in this synthesis were published in the last five years 2012-2017, thus indicating a recent interest on this topic. Of the 36 studies, 10 were conducted in high income countries, including Australia (Burton & Walters, 2013; Di Blasi, Kendall, & Spark, 2006; Hussain & Tait, 2015; Wark et al., 2015), United States (Davidsson & Södergård, 2016; Hamilton et al., 2017; Iezzoni, Killeen, & O'Day, 2006; Walker, Alfonso, Colquitt, Weeks, & Telfair, 2016) and Canada (Goodridge et al., 2015; Knox, Rohatinsky, Rogers, Goodridge, & Linassi, 2014). The remaining 26 studies originated from LMICs primarily from Ethiopia (Asher et al., 2017; Banks et al., 2016; Hailemariam et al., 2016; Hailemariam, Fekadu, Prince, & Hanlon, 2017; Hanlon et al., 2017; Tilahun et al., 2017; Tora, Davey, & Tadele, 2012; Tsegay et al., 2015), South Africa (Braathen, Vergunst, Mji, Mannan, & Swartz, 2013; Grut, Mji, Braathen, & Ingstad, 2012; Mji et al., 2017; Vergunst et al., 2017; Vergunst, Swartz, Mji, MacLachlan, & Mannan, 2015), India (Reddy et al., 2014; Varghese, Grills, & Mathias, 2015), Nepal (Järnhammer, Andersson, Wagle, & Magnusson, 2017; Van Hees, Cornielje, Wagle, & Veldman, 2015), Malawi (Grut, Sanudi, Braathen, Jürgens, & Eide, 2015), Mexico (Loyola-Sanchez et al., 2016), Namibia (Van Rooy et al., 2012), Pakistan (Ahmad, 2013), Tanzania (Mshana, Dotchin, & Walker, 2011), Thailand (Nualnetr & Sakhornkhan, 2012; Wongkongdech & Laohasiriwong, 2015) and Vietnam (Ngo, Brolan, Fitzgerald, Pham, & Phan, 2013). One article reported studies from four different African countries—Malawi, Namibia, South Africa and Sudan (Eide et al., 2015).

Most of the studies (n=30) employed qualitative design, four were quantitative and the remaining two were mixed method design. While most of the qualitative studies adopted generic qualitative approaches, five employed specific qualitative traditions including phenomenology

(Goodridge et al., 2015; Hailemariam et al., 2017), grounded theory (Braathen et al., 2013), ethnography (Loyola-Sanchez et al., 2016) and participatory action research (Ngo et al., 2013). The 4 quantitative articles were cross-sectional studies (Hamilton et al., 2017; Vergunst et al., 2017; Wongkongdech & Laohasiriwong, 2015) and a population based household survey (Eide et al., 2015). Twelve of the studies were aimed at rural health care access for PWDs in general. The remaining studies focused on specific disabilities such as physical (n=12), mental (n=7), and intellectual and developmental (n=5). Research participants were mostly adults aged 18 years and above and included PWDs and their carers (support workers and family members), health care providers (mainstream health practitioners, traditional and faith healers), community members/leaders and policy makers. The sample size of the studies ranged from one participant to as high as 9307 participants. Interviews and focus group discussions were the main data collection sources, while content, framework, thematic analysis, descriptive and inferential statistics constituted the data analysis approaches (See Appendix A for detailed description of the included articles).

3.4.3 Synthesis of Findings

We presented the findings deductively using the seven dimensions as the main themes. The sub-themes we found through inductive analysis are embedded within each of the dimensions (or themes). We also organized the findings in each of the themes.

3.4.3.1 Availability

Of the 36 papers, 23 of them addressed availability as a factor affecting access to health services in rural areas. The sub-theme was resources.

Resources. The papers highlighted that availability of resources are critical to health care access. This sub-theme has three facets: human resource, health care infrastructure and health services. First, with regard to human resource, the articles noted that health care delivery was hampered by the lack of health care providers (Ahmad, 2013; Asher et al., 2017; Di Blasi et al., 2006; Grut et al., 2015; Hanlon et al., 2017; Hussain & Tait, 2015; Van Rooy et al., 2012). For instance, a study indicated that PWDs in rural Malawi were turned away in health facilities because they were no health care personnel to attend to their health conditions (Grut et al., 2015). A paper noted that the limited number of providers in rural areas was sometimes attributed to the difficulties in recruiting personnel due to low salaries (Hanlon et al., 2017). Papers also reported that frequent turnover of staff was experienced in rural communities (Hanlon et al., 2017; Hussain & Tait, 2015). Second, some of the papers highlighted that lack of health infrastructure like drugstores and laboratories as well as limited health centers hindered health access (Loyola-Sanchez et al., 2016; Tilahun et al., 2017). Third, limited supply of drugs and medical equipment were concerns reported in the papers (Eide et al., 2015; Grut et al., 2015; Loyola-Sanchez et al., 2016; Mji et al., 2017; Mshana et al., 2011; Van Rooy et al., 2012; Vergunst et al., 2017).

The papers also stressed the importance of resource availability to clients (Hailemariam et al., 2016; Mji et al., 2017). One paper particularly indicated that making mental health services available in a community can enhance the quality of life, functioning and productivity of people with severe mental disorders (Hailemariam et al., 2016).

3.4.3.2 Geography

Twenty-eight of the 36 papers addressed how geography determined health care access. Within this theme, we identified two sub-themes, and these were distance and transportation to a facility, and terrain and climate.

Distance and transportation to a facility. The proximity of clients to health care facilities was highlighted in the papers as a major concern. Articles specifically reported that due to resource constraints, most health care facilities were located in urban areas (Asher et al., 2017; Knox et al., 2014; Van Hees et al., 2015). Given this, many articles reported that clients had to travel long distances to reach a facility. In addition to distance, the poor nature of roads in most rural areas was highlighted in some of the papers (Braathen et al., 2013; Eide et al., 2015; Hussain & Tait, 2015; Mji et al., 2017; Reddy et al., 2014; Vergunst et al., 2017, 2015). These road networks especially posed a major challenge in travelling to access health care services (Reddy et al., 2014).

Given the location of facilities, the articles also highlighted different modes of transportation that clients used to reach health care service centers. In some of the studies participants discussed walking long distance to reach a health care facility (Grut et al., 2012; Järnhammer et al., 2017; Tora et al., 2012; Tsegay et al., 2015; Van Rooy et al., 2012; Vergunst et al., 2015; Wongkongdech & Laohasiriwong, 2015). The use of a wheelchair was the major mode of transportation for those with physical disabilities in a few studies (Ahmad, 2013; Davidsson &

Södergård, 2016; Iezzoni et al., 2006; Van Hees et al., 2015; Vergunst et al., 2015; Wongkongdech & Laohasiriwong, 2015). For instance, a paper reporting on a study in rural Thailand indicated that about 57% (n=462) of people with a mobility impairment use wheelchairs to reach to a health care facility (Wongkongdech & Laohasiriwong, 2015). A paper in South Africa also demonstrated that in one instance a parent use a wheelbarrow to transport their son with intellectual and physical disability (Grut et al., 2012).

The articles also stressed that the provision of public transportation is paramount to health care access (Davidsson & Södergård, 2016; Knox et al., 2014; Loyola-Sanchez et al., 2016; Mji et al., 2017; Van Hees et al., 2015; Vergunst et al., 2017, 2015; Walker et al., 2016). Despite this, some of the papers noted that limited public transportation hampered clients' access to health centers and pharmacies (Davidsson & Södergård, 2016; Knox et al., 2014; Loyola-Sanchez et al., 2016; Mji et al., 2017; Walker et al., 2016). For instance, one article recounted that 16% (n=322) of their study participants with disabilities experienced lack of transport to reach health care facilities (Vergunst et al., 2017). Limited ambulance services also compounded health access challenges in some rural communities (Braathen et al., 2013; Grut et al., 2012). As a result, some papers elaborated how clients have to book transport in advance or pay for private transport services in order to access health (Davidsson & Södergård, 2016; Mji et al., 2017; Van Rooy et al., 2012; Vergunst et al., 2015; Walker et al., 2016).

Terrain and climate. Given the long distance and limited transportation, papers also recounted the experiences of participants in navigating geographical features as they try to seek care. In particular, persons using wheelchairs in rural South Africa had to navigate mud and gravel (Vergunst et al., 2015). This situation was exacerbated during the rainy season when people had to use their wheelchairs in wet conditions in hilly areas to a facility (Van Hees et al., 2015).

Additionally, heavy rains and floods in rural Thailand serve as obstacles to health care providers in providing services to PWDs (Nualnetr & Sakhornkhan, 2012). Papers also reported that participants encountered rivers, forests, mountains hills and valleys that posed barriers (Grut et al., 2012; Tsegay et al., 2015; Van Hees et al., 2015; Vergunst et al., 2015). In one extreme instance, authors noted that people have drowned in water bodies as they attempt to seek care (Vergunst et al., 2015).

3.4.3.3 Affordability

Of the 36 papers, 27 of them focussed on affordability as a factor affecting health care access. In this theme we noted two sub-themes which were cost of service and indirect cost of care.

Cost of medical service. The provision of affordable health care is critical to clients. More particularly, providers in some of the articles noted that the provision of low cost or free health services will ensure equitable access. However, the papers raised concerns about the high cost of medical drugs and other services to clients (Eide et al., 2015; Hanlon et al., 2017; Mshana et al., 2011; Van Rooy et al., 2012). Some papers reported that due to poverty among individuals with disabilities, they could not afford drugs and other medical services (Ahmad, 2013; Hailemariam et al., 2017; Iezzoni et al., 2006; Mshana et al., 2011). In order to address the high cost of care, a few of the papers suggested policy strategies such as health insurance schemes (Hanlon et al., 2017; Iezzoni et al., 2006) and disability grants (Grut et al., 2012; Mji et al., 2017). Although insurance schemes potentially subsidize cost, in some instances, clients said their coverage has limitations including insurance companies deciding what should be covered (Davidsson & Södergård, 2016; Iezzoni et al., 2006).

Indirect cost of care. The papers also reported associated cost to the individuals in seeking care. The cost of transportation to obtain health care was particularly noted in some of the papers. In

Ethiopia, although medication for podoconiosis was free, two papers elaborated that cost of transportation deterred people from seeking care (Tora et al., 2012; Tsegay et al., 2015). One article also indicated that 11% (n=322) of their study participants with disabilities could not afford the cost of transportation to reach health care facilities (Vergunst et al., 2017). Interestingly, some articles reported that participants had to pay extra cost for their wheelchairs and accompanied caregivers (Grut et al., 2012; Vergunst et al., 2015). Other associated costs reported in the retrieved articles included accommodation and meals for the duration of seeking care in a nearby facility (Hailemariam et al., 2016; Tsegay et al., 2015).

3.4.3.4 Accommodation

There were 13 of the 36 papers that addressed accommodation as a determinant of health access. The sub-themes were operation hours and architectural designs.

Operation hours. A few of the papers discussed the importance of hours of operation of health care facilities in accessing health care services (Goodridge et al., 2015; Knox et al., 2014; Mji et al., 2017; Van Rooy et al., 2012). A study in South Africa reported that most public health care services in rural areas only operated 5 days a week commencing from 7:30am until 4:30 pm (Mji et al., 2017). These hours could not therefore accommodate the needs with those who rely on others to access health care facilities (Van Rooy et al., 2012). In view of the operation hours, emergency services outside of these operation days and hours had to be taken to the nearest health centre that was far away. In addition to operation hours, the flexibility or ability of health care providers to forgo some of the bureaucratic procedure was as paramount in ensuring health care services for persons with traumatic spinal cord injuries (Goodridge et al., 2015).

Architectural designs. This sub-theme focussed on the designs of health care facilities and transport services. Many articles reported that this was especially important for persons with

mobility impairments. Some of the papers discussed the arrangement of health care facilities that could not accommodate persons with physical disabilities (Ahmad, 2013; Goodridge et al., 2015; Hamilton et al., 2017; Iezzoni et al., 2006; Mji et al., 2017; Van Hees et al., 2015; Van Rooy et al., 2012; Vergunst et al., 2017, 2015). In particular, the lack of ramps at entrances hampered physical access to health facilities. Even when persons with physical disabilities were able to navigate these physical features, barriers in accessing exam tables, consulting rooms and washrooms within health care facilities were reported (Ahmad, 2013; Hamilton et al., 2017; Iezzoni et al., 2006; Vergunst et al., 2015).

3.4.3.5 Timeliness

Thirteen of the 36 papers addressed timeliness as a factor affecting health care access. The sub-themes focussed on wait time to deliver care and consequences of wait time.

Wait time to deliver care. The papers identified the time frame that care can be provided to clients as an important determinant of health care access. There were conflicting reports on time in receiving health care. For instance, two studies noted that preferential treatment was offered to clients with disabilities at health care facilities (Grut et al., 2015; Mji et al., 2017). In some studies authors noted that health care providers specifically served clients with disabilities before others, regardless of their position in a queue. In some of the studies however, timely access to care was reported as a major challenge (Burton & Walters, 2013; Di Blasi et al., 2006; Goodridge et al., 2015; Vergunst et al., 2015). One paper particularly highlighted that waiting time can take over half a day on average (Vergunst et al., 2015).

Wait time consequences. The papers also reported the consequences of timely access to care. One study noted that timely access to treatment for persons with mental disorder will yield better health outcomes and consequently reduce stigma (Hanlon et al., 2017). However, some of the

papers indicated that delays in receiving care can increase clients' risk of secondary conditions (Ahmad, 2013; Mji et al., 2017). One other study also reported negative consequences of wait times for the individual client and colleagues in a health care facility including fatigue (Ahmad, 2013).

3.4.3.6 Acceptability

Twenty-six (26) of the 36 papers addressed acceptability as a major determinant of health care access. This theme has two sub-themes which were attitudes of health care providers and perceived quality of care.

Attitudes of health care providers. A majority of the studies revealed both positive and negative attitudes that affect health care access among PWDs. On the positive side, papers indicated that providers were kind, helpful and willing to treat their clients' health conditions (Grut et al., 2015; Järnhammer et al., 2017; Mji et al., 2017; Van Rooy et al., 2012; Varghese et al., 2015). At the same time, some providers built a strong relationship/rapport with their clients that supported quality health care delivery (Di Blasi et al., 2006; Iezzoni et al., 2006). These positive attitudes as indicated by one paper, were partly due to rigorous campaigns in strengthening providers' attentiveness in meeting the health needs of clients with disabilities (Grut et al., 2015). Nevertheless, some of the studies indicated that negative attitudes, including discrimination and stigmatization from providers posed a major barrier in health care access (Ahmad, 2013; Hanlon et al., 2017; Loyola-Sanchez et al., 2016; Van Rooy et al., 2012; Vergunst et al., 2015). For instance, a paper recounted how providers did not usually provide the same level of care as they would to non-disabled clients (Ahmad, 2013). Other papers noted that discrimination emanated as a result of cultural differences between users and health professionals (Loyola-Sanchez et al., 2016; Van Rooy et al., 2012). One article reported that clients' low self-esteem prevented the

provision of appropriate care, this is because clients refused to speak or explain their health conditions to health care providers in Nepal (Van Hees et al., 2015).

Perceived quality of care. Clients' perceptions about the care was discussed in some papers. For persons with mental disorders, their decisions to seek care were largely influenced by those with previous experiences at health facilities (Hailemariam et al., 2016). In general, clients expressed low satisfaction with care at facilities. More especially, some clients complained that they stopped receiving care at health facilities due to lack of improvements in their health conditions (Loyola-Sanchez et al., 2016; Tora et al., 2012). Due to the perceived low quality of services, some clients resorted to alternative care, including traditional and faith based healers (Hailemariam et al., 2016, 2017; Tilahun et al., 2017; Tora et al., 2012). Interestingly, a paper stressed that when patients exhausted traditional treatments, Western medical clinics became their last resort (Banks et al., 2016). One article also reported that others also rely on medical shops or travel to major cities to seek care (Van Hees et al., 2015).

3.4.3.7 Awareness

Twenty-three (23) of the 36 articles addressed awareness as a factor affecting health care access. Within this theme, we identified two sub-themes which were knowledge and information and communication.

Knowledge. Some of the papers stressed that clients' and carers' limited knowledge about services impeded access. For instance, one paper recounted that community members could not recognize people with a mental disorder (Braathen et al., 2013). Additionally, some articles reported that health care providers and policy makers' knowledge about services is critical in making services accessible. However, in some cases the articles reported that providers and policy makers exhibited limited knowledge about services (Hanlon et al., 2017). Providers' lack

of knowledge about diagnoses and treatment of disability related health problems was another concern raised in papers (Ahmad, 2013; Iezzoni et al., 2006; Loyola-Sanchez et al., 2016). On the contrary, one article reported that 66% (n=142) of study participants with spinal cord injuries indicated that health care providers were knowledgeable about their health conditions (Hamilton et al., 2017).

Information and communication. Given clients' limited knowledge, the papers recognized that the provision of information about services could promote health care access. Relatedly, some articles stated that providers' ability to communicate the kind of health care services readily available can lead to effective health care delivery (Di Blasi et al., 2006; Hussain & Tait, 2015; Iezzoni et al., 2006; Mji et al., 2017; Ngo et al., 2013; Van Rooy et al., 2012; Varghese et al., 2015). Nevertheless, in some cases, health care providers had difficulties in communicating with clients with intellectual and hearing impairments (Burton & Walters, 2013; Di Blasi et al., 2006; Van Hees et al., 2015; Van Rooy et al., 2012). The inability of providers to comprehend the level of understanding of clients with intellectual impairments was raised in a paper as a barrier to health care delivery (Di Blasi et al., 2006). Another paper indicated that providers could not also convey information to or and communicate in sign language with persons with hearing impairments (Van Rooy et al., 2012). Because of this, two papers recounted that providers relied on carers to report clients' health conditions (Di Blasi et al., 2006; Van Hees et al., 2015).

3.5 Discussion and Recommendations

This framework synthesis sought to understand the factors affecting health care access for PWDs in rural areas globally. We identified and mapped literature onto a rural health framework (Russell et al., 2013). The articles show that PWDs face many barriers in accessing PHC services in rural areas. We particularly found that PWDs were unable to access PHC due to obstacles

including the interplay of four major factors; availability, acceptability, geography and affordability. For instance, limited availability of health care facilities and services and perceived low quality of care meant that those in need of health care services frequently had to travel for care. The barrier of geographic distance is worsened by transportation problems. We also observed that where health services were available most people could not afford the cost. This confirms a previous review on this issue (Lishner et al., 1996) and indicates these barriers have not been resolved since the United Nations adopted the CRPD or the Sustainable Development Goals.

Additionally, we identified similarities in access barriers for PWDs in both high-income countries and LMICs. This pattern is consistent with previous evidence which shows that access to health care is a major concern for rural populations globally, regardless of the country's gross national income per capita (Farmer et al., 2010; Tomlinson et al., 2009). It is worthy to note, however, that most of the articles were based on qualitative evidence, and as a result do not provide information on the breadth of access barriers to make generalizations. Future studies should seek to conduct quantitative research about access in order to understand the barriers within a larger population of PWDs in rural areas. It would also be interesting for future studies to explore how PWDs reacted and responded to access barriers especially in resource poor settings.

The review also identified recent growing interest in disability and PHC access in LMICs. Specifically, out of the 36 retrieved articles, 26 were studies conducted in LMICs. Given this growing interest, more investment into research in other LMICs may reveal insights about the experiences of PWDs in accessing rural PHC services. It will be particularly interesting to understand this topic from health care systems with different models of governance or health

care funding structures (Knox et al., 2014). We thus suggest strengthening research capacity in other LMICs through appropriately targeted funding.

A prominent barrier was the inability of PWDs to afford health care. This financial barrier was due to the high cost of medical services and transportation to facilities—effectively deterring PWDs from seeking care, especially in LMICs. The finding suggests the need for governments to provide social safety nets to protect PWDs, including rolling out health insurance schemes that would ensure universal access to quality PHC services

We also identified geography as a key feature of access to health care. In particular, our findings also indicated that PWDs in rural areas had to travel long distance to access health care. Racher and Vollman (2002) have urged rural health researchers to pay attention to the characteristics of physical environment, including distance to health care facilities and services and the influence of road and weather conditions. The authors further made a clarion call for researchers to study aspects of the social environment and the political environment in relation to access because these factors are paramount to rural residents' access to health care (Racher & Vollman, 2002). We found that most of the studies in the review utilized generic qualitative approaches as their study design, and adopted interviews and focus group discussions to articulate the experiences of how PWDs navigate the environment. We argue that future research could employ alternative qualitative approaches such as phenomenology and arts based methods (e.g. photographs and drawings). These approaches may provide a better understanding of key aspects of the physical, social and political environment and how they influence health care access for PWDs in rural areas in particular.

As it relates to availability as a major factor that affected clients' access to PHC in rural areas, we revealed a general shortage of health care providers in rural areas our review. This

corroborates previous reviews (Lishner et al., 1996; Strasser et al., 2016). High turnover of providers in rural areas can be expensive to health care systems and also negatively affects clients' ability to receive quality health care (Buykx, Humphreys, Wakerman, & Pashen, 2010). For clients with disabilities, the shortage of providers in rural areas can lead to difficulties in fostering relationships and rapport that may enhance continuity of care (Burton & Walters, 2013; Di Blasi et al., 2006). Malatzky and Bourke (2016) noted that health care providers are choosing to work in urban areas despite the need and incentives to work in rural areas. They further argued that the persistent focus on workforce shortage in rural areas relative to urban areas undermines the recruitment of new health care providers to rural areas (Malatzky & Bourke, 2016). Given this, high workloads, burnouts, and restriction of opportunities for professional development and career advancement, have been documented to contribute to the notion among health care providers that working in rural areas is undesirable (Bourke, Humphreys, Wakerman, & Taylor, 2010; Farmer et al., 2010; Strasser et al., 2016). The shortage of providers may hamper efforts in achieving the 2030 Agenda for Sustainable Development Goal that reiterates equity, universality and quality of care. While attracting and retaining providers has been a major problem for rural areas globally, researchers have suggested interventions that could be effective and beneficial in guiding rural health policy and clinical practice. These include a well-defined selection criteria of students into medical training programs as well as education strategies that optimize medical training programs for rural clinical practice (Wilson et al., 2009).

Furthermore, this review demonstrates that acceptability of services was a recurring theme in most of the studies. For instance, stigmatization compounded access barriers for PWDs and as a result PWDs often felt reluctant to access health care services although they may have serious health conditions that may require urgent health service intervention. Given these

experiences, there is the need to factor disability issues in the design of medical education curricula, and also provide in-service training to PHC providers on how to improve their communication skills and ultimately deliver quality service to their clients with disabilities. It should be emphasized, however, that most of the studies sought the perspectives of PWDs and were fairly homogenous in highlighting negative attitudes of health care providers, particularly stigmatization and discrimination. Our findings echoes other previous literature indicating that PWDs' perspectives about interactions with health care providers often cast health care providers in a bad image (Badu, Opoku, & Appiah, 2016; Vergunst et al., 2015). To gain a more holistic picture of these interactions, it will be important to conduct future research to explore the perspectives of health care providers in providing care to PWDs in rural areas.

Finally, the consequences of access barriers were revealed in the studies reviewed. Specifically, some articles in our review reported that due to the lack of health care providers and perceived quality of care in medical facilities in rural settings, some residents with disabilities and their carers resort to alternative care, including traditional and faith based healers. Importantly, we noted that rural residents with disabilities opted for Western medical facilities after exhausting the traditional healing system. This pluralistic approach is a common health seeking behaviour of many rural residents (Banks et al., 2016). Indeed, there have been calls on integrating traditional healing system into modern medical practices (Banks et al., 2016; Oliver, 2013). However, the role of traditional and faith-based practitioners is unclear from this review. We recommend further research into the role of these faith based and traditional healing systems.

3.6 Limitations of the Review

This review have some limitations that should be acknowledged. First, there is the possibility of not identifying all potential articles despite the systematic and transparent manner used in

searching for relevant articles. This is because the main terms of this review (i.e., access to PHC, PWDs and rural) have many different interpretations and the language use around each is not yet precise. Second, the review is based on the findings reported in the various studies. As such it could be that details about the various dimensions of health care access may have been omitted due to the journals' word limitations. Third, as we excluded peer-reviewed articles not published in English due to resource constraints, there is the possibility that we omitted relevant publications on this topic that were not published in English. Finally, publication bias may result in a wide range of studies presented in conference settings or related contexts that remain unpublished (Petticrew et al., 2008); as such, there is the possibility of publication bias as we excluded grey literature. In view of these limitations, our findings may not be generalizable to rural health care access for PWDs. Nevertheless, they provide insights into rural experiences that are useful in future research, policy development and clinical practice.

3.7 Conclusion

This review contributes to the growing body of knowledge around access to PHC for persons with disabilities in rural settings. Specifically, we illustrated how the interplay of factors such as availability, acceptability, affordability and geography affect the ability of clients with disabilities' access to PHC services in rural settings. Importantly, we also proposed changes to Russell and colleagues' conceptual framework (Russell et al., 2013) to capture the complex interactions of these factors in order to better conceptualize PHC access challenges and opportunities in rural settings. In view of this, we underscored the need for health policies that address rural access problems to consider all the dimensions of access and how they interact with one another rather than viewing the dimensions as distinct features. Finally, we identified knowledge gaps and provided recommendations for future research on this topic. In particular,

we recommend more investment in research to explore the following areas in greater depth: (a) geographical contexts with health care systems different from the included studies; (b) the perspectives of health care providers; and (c) how PWDs react and respond to access barriers in rural settings, especially in resource poor settings.

3.8 References

Ahmad, M. (2013). Health care access and barriers for the physically disabled in rural Punjab, Pakistan. *International Journal of Sociology and Social Policy*, *33*(3/4), 246–260.

Anders, P. L., & Davis, E. L. (2010). Oral health of patients with intellectual disabilities: A systematic review. *Special Care in Dentistry*, *30*(3), 110–117.

Asher, L., Fekadu, A., Teferra, S., De Silva, M., Pathare, S., & Hanlon, C. (2017). "I cry every day and night, I have my son tied in chains": physical restraint of people with schizophrenia in community settings in Ethiopia. *Globalization and Health*, *13*, 47.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability*, *5*(1), 1–8.

Banks, H. S., Tsegay, G., Wubie, M., Tamiru, A., Davey, G., & Cooper, M. (2016). Using Qualitative Methods to Explore Lay Explanatory Models, Health-Seeking Behaviours and Self-Care Practices of Podoconiosis Patients in North-West Ethiopia. *PLoS Neglected Tropical Diseases*, *10*(8), 1–11.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2010). From "problem-describing" to "problem-solving": Challenging the "deficit" view of remote and rural health. *Australian Journal of Rural Health*, *18*(5), 205–209.

Braathen, S. H., Vergunst, R., Mji, G., Mannan, H., & Swartz, L. (2013). Understanding the local context for the application of global mental health: A rural South African experience. *International Health*, *5*(1), 38–42.

Breckenridge, J. P., Devaney, J., Kroll, T., Lazenbatt, A., Taylor, J., & Bradbury-Jones, C. (2014). Access and utilisation of maternity care for disabled women who experience

domestic abuse: a systematic review. *BMC Pregnancy and Childbirth*, *14*, 234.

Burton, H., & Walters, L. (2013). Access to Medicare-funded annual comprehensive health assessments for rural people with intellectual disability. *Rural & Remote Health*, *13*(3), 1–15.

Buykx, P., Humphreys, J., Wakerman, J., & Pashen, D. (2010). Systematic review of effective retention incentives for health workers in rural and remote areas: towards evidence-based policy. *The Australian Journal of Rural Health*, *18*(3), 102–109.

Carroll, C., Booth, A., & Cooper, K. (2011). A worked example of "best fit" framework synthesis: A systematic review of views concerning the taking of some potential chemopreventive agents. *BMC Medical Research Methodology*, *11*(1), 29.

Carroll, C., Booth, A., Leaviss, J., & Rick, J. (2013). "Best fit" framework synthesis: refining the method. *BMC Medical Research Methodology*, *13*(1), 37.

Coxon, K., Chisholm, A., Malouf, R., Rowe, R., & Hollowell, J. (2017). What influences birth place preferences, choices and decision-making amongst healthy women with straightforward pregnancies in the UK? A qualitative evidence synthesis using a "best fit" framework approach. *BMC Pregnancy and Childbirth*, *17*(1), 103.

Davidsson, N., & Södergård, B. (2016). Access to Healthcare among People with Physical Disabilities in Rural Louisiana. *Social Work in Public Health*, *31*(3), 188–195.

Di Blasi, A., Kendall, S., & Spark, M. J. (2006). Perspectives on the role of the community pharmacist in the provision of Healthcare to people with intellectual disabilities: Exploration of the barriers and solutions. *International Journal of Pharmacy Practice*, *14*(4), 263–269.

Dixon-Woods, M. (2011). Using framework-based synthesis for conducting reviews of

qualitative studies. *BMC Medicine*, *9*(1), 39.

Eide, A. H., Mannan, H., Khogali, M., Van Rooy, G., Swartz, L., Munthali, A., … Dyrstad, K. (2015). Perceived barriers for accessing health services among individuals with disability in four African countries. *PLoS ONE*, *10*(5), 1–14.

Farmer, J., Clark, A., & Munoz, S. A. (2010). Is a global rural and remote health research agenda desirable or is context supreme? *Australian Journal of Rural Health*, *18*(3), 96–101.

Gibson, J. C., & O'Connor, R. J. (2010). Access to health care for disabled people: a systematic review. *Social Care and Neurodisability*, *1*(3), 21–31.

Goodridge, D., Rogers, M., Klassen, L., Jeffery, B., Knox, K., Rohatinsky, N., & Linassi, G. (2015). Access to health and support services: perspectives of people living with a long-term traumatic spinal cord injury in rural and urban areas. *Disability and Rehabilitation*, *37*(16), 1401–1410.

Groce, N., Bailey, N., Lang, R., Trani, J. F., & Kett, M. (2011). Water and sanitation issues for persons with disabilities in low- and middle-income countries: a literature review and discussion of implications for global health and international development. *Journal of Water and Health*, *9*(4), 617–627.

Grut, L., Mji, G., Braathen, S. H., & Ingstad, B. (2012). Accessing community health services: challenges faced by poor people with disabilities in a rural community in South Africa. *African Journal of Disability*, *1*(1), 1–7.

Grut, L., Sanudi, L., Braathen, S. H., Jürgens, T., & Eide, A. H. (2015). Access to tuberculosis services for individuals with disability in Rural Malawi, a qualitative study. *PLoS ONE*, *10*(4), 1–9.

Hailemariam, M., Fekadu, A., Prince, M., & Hanlon, C. (2017). Engaging and staying engaged: a

phenomenological study of barriers to equitable access to mental healthcare for people with severe mental disorders in a rural African setting. *International Journal for Equity in Health, 16,* 156.

Hailemariam, M., Fekadu, A., Selamu, M., Medhin, G., Prince, M., & Hanlon, C. (2016). Equitable access to integrated primary mental healthcare for people with severe mental disorders in Ethiopia: a formative study. *International Journal for Equity in Health, 15*(1), 121.

Hamilton, R., Driver, S., Noorani, S., Callender, L., Bennett, M., & Monden, K. (2017). Utilization and access to healthcare services among community-dwelling people living with spinal cord injury. *The Journal of Spinal Cord Medicine, 40*(3), 321–328.

Hanlon, C., Eshetu, T., Alemayehu, D., Fekadu, A., Semrau, M., Thornicroft, G., … Alem, A. (2017). Health system governance to support scale up of mental health care in Ethiopia: a qualitative study. *International Journal of Mental Health Systems, 11*(1), 38.

Houghton, C., Murphy, K., Brooker, D., & Casey, D. (2016). Healthcare staffs' experiences and perceptions of caring for people with dementia in the acute setting: Qualitative evidence synthesis. *International Journal of Nursing Studies, 61,* 104–116.

Hussain, R., & Tait, K. (2015). Parental perceptions of information needs and service provision for children with developmental disabilities in rural Australia. *Disability and Rehabilitation, 37*(18), 1609–1616.

Iezzoni, L., Killeen, M., & O'Day, B. (2006). Rural residents with disabilities confront substantial barriers to obtaining primary care. *Health Services Research, 41*(4 Pt 1), 1258–1275.

Järnhammer, A., Andersson, B., Wagle, P. R., & Magnusson, L. (2017). Living as a person using

a lower-limb prosthesis in Nepal. *Disability and Rehabilitation*, *0*(0), 1–8.

Knox, K. B., Rohatinsky, N., Rogers, M., Goodridge, D., & Linassi, G. (2014). Access to traumatic spinal cord injury care in Saskatchewan, Canada: A qualitative study on community healthcare provider perspectives. *Canadian Journal of Disability Studies*, *3*(3), 83–103.

Kuenburg, A., Fellinger, P., & Fellinger, J. (2016). Health Care Access Among Deaf People. *Journal of Deaf Studies and Deaf Education*, *21*(1), 1–10.

Kulig, J. C., Andrews, M. E., Stewart, N. L., Pitblado, R., Macleod, M. L. P., Bentham, D., … Smith, B. (2008). How do registered nurses define rurality? *Australian Journal of Rural Health*, *16*(1), 28–32.

Lawler, D., Lalor, J., & Begley, C. (2013). Access to Maternity Services for Women With a Physical Disability: A Systematic Review of the Literature. *International Journal of Childbirth*, *3*(4), 203–217.

Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health*, *12*(1), 18.

Lishner, D., Richardson, M., Levine, P., & Patrick, D. (1996). Access to primary health care among persons with disabilities in rural areas: a summary of the literature. *The Journal of Rural Health*, *12*(1), 45–53.

Lourenço, A. E. P. (2012). The meaning of "rural" in rural health: a review and case study from Brazil. *Global Public Health*, *7*(1), 1–13.

Loyola-Sanchez, A., Richardson, J., Wilkins, S., Lavis, J. N., Wilson, M. G., Alvarez-Nemegyei, J., & Pelaez-Ballestas, I. (2016). Barriers to accessing the culturally sensitive healthcare that

could decrease the disabling effects of arthritis in a rural Mayan community: a qualitative inquiry. *Clinical Rheumatology*, *35*(5), 1287–1298.

Malatzky, C., & Bourke, L. (2016). Re-producing rural health: Challenging dominant discourses and the manifestation of power. *Journal of Rural Studies*, *45*, 157–164.

Mji, G., Braathen, S. H., Vergunst, R., Scheffler, E., Kritzinger, J., Mannan, H., … Visagie, S. (2017). Exploring the interaction of activity limitations with context, systems, community and personal factors in accessing public health care services: A presentation of South African case studies. *African Journal of Primary Health Care and Family Medicine*, *9*(1), 1–9.

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & The PRISMA Group. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLoS Medicine*, *6*(7), e1000097.

Moodley, J., & Ross, E. (2015). Inequities in health outcomes and access to health care in South Africa: a comparison between persons with and without disabilities. *Disability & Society, 30*(4), 630–644.

Mshana, G., Dotchin, C. L., & Walker, R. W. (2011). "We call it the shaking illness": perceptions and experiences of Parkinson's disease in rural northern Tanzania. *BMC Public Health, 11*, 219.

Muldoon, L. K., William, E. H., & Levitt, M. (2006). Primary care (PC) and primary health care (PHC). What is the difference? *Canadian Journal of Public Health, 97*(5), 409–411.

Muula, A. (2007). How do we define "rurality" in the teaching on medical demography? *Rural and Remote Health, 7*(1), 653.

Naseem, M., Shah, A. H., Khiyani, M. F., Khurshid, Z., Zafar, M. S., Gulzar, S., … Khalil, H. S.

(2016). Access to oral health care services among adults with learning disabilities: a scoping review. *Annali Di Stomatologia*, *7*(3), 52–59.

Neille, J., & Penn, C. (2015). Beyond physical access: a qualitative analysis into the barriers to policy implementation and service provision experienced by persons with disabilities living. *Rural and Remote Health*, *15*, 3332.

Ngo, A. D., Brolan, C., Fitzgerald, L., Pham, V., & Phan, H. (2013). Voices from Vietnam: experiences of children and youth with disabilities, and their families, from an Agent Orange affected rural region. *Disability & Society*, *28*(7), 955–969.

Nualnetr, N., & Sakhornkhan, A. (2012). Improving Accessibility to Medical Services for Persons with Disabilities in Thailand. *Disability, CBR & Inclusive Development*, *23*(1), 34–49.

Oliver, S. J. (2013). The role of traditional medicine practice in primary health care within Aboriginal Australia: a review of the literature. *Journal of Ethnobiology and Ethnomedicine*, *9*, 46.

Peterson-Besse, J., Walsh, E., Horner-Johnson, W., Goode, T., & Wheeler, B. (2014). Barriers to Health Care Among People With Disabilities Who are Members of Underserved Racial/Ethnic Groups: A Scoping Review of the Literature. *Medical Care*, *52*, S51–S63.

Petticrew, M., Egan, M., Thomson, H., Hamilton, V., Kunkler, R., & Roberts, H. (2008). Publication bias in qualitative research: what becomes of qualitative research presented at conferences? *Journal of Epidemiology Community Health*, *62*(6), 552–554.

Pitblado, J. R. (2005). So , What Do We Mean by " Rural ," " Remote ," and " Northern "? *Canadian Journal of Nursing Research*, *37*(1), 163–168.

Racher, F. E., & Vollman, A. R. (2002). Exploring the Dimensions of Access to Health Services:

Implications for Nursing Research and Practice. *Research and Theory for Nursing Practice*, *16*(2), 77–90.

Reddy, S. K., Thirthalli, J., Channaveerachari, N. K., Reddy, K. N., Ramareddy, R. N., Rawat, V. S., … Gangadhar, B. N. (2014). Factors influencing access to psychiatric treatment in persons with schizophrenia: A qualitative study in a rural community. *Indian Journal of Psychiatry*, *56*(1), 54–60.

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In R. G. Burgess & A. Bryman (Eds.), *Analyzing qualitative data* (pp. 173–194). London: Routledge.

Ruano, A. L., Hernández, A., Kjerstin, D., Hurtig, A. K., & Sebastián, M. S. (2012). "It"s the sense of responsibility that keeps you going': stories and experiences of participation from rural community health workers in Guatemala. *Archives of Public Health*, *70*, 18.

Russell, D. J., Humphreys, J. S., Ward, B., Chisholm, M., Buykx, P., McGrail, M., & Wakerman, J. (2013). Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*, *21*(2), 61–71.

Starfield, B. (1998). *Primary care: balancing health needs, services, and technology.* New York, NY: Oxford University Press.

Strasser, R. (2003). Rural health around the world: Challenges and solutions. *Family Practice*, *20*(4), 457–463.

Strasser, R., Kam, S. M., & Regalado, S. M. (2016). Rural Health Care Access and Policy in Developing Countries. *Annual Review of Public Health*, *37*, 395–412.

Thomas, S. L., Wakerman, J., & Humphreys, J. S. (2014). What core primary health care services should be available to Australians living in rural and remote communities? *BMC*

Family Practice, *15*, 143.

Tilahun, D., Hanlon, C., Araya, M., Davey, B., Hoekstra, R. A., & Fekadu, A. (2017). Training needs and perspectives of community health workers in relation to integrating child mental health care into primary health care in a rural setting in sub-Saharan Africa: a mixed methods study. *International Journal of Mental Health Systems*, *11*(1), 15.

Tomlinson, M., Swartz, L., Officer, A., Chan, K. Y., Rudan, I., & Saxena, S. (2009). Research priorities for health of people with disabilities: an expert opinion exercise. *The Lancet*, *374*(9704), 1857–1862.

Tora, A., Davey, G., & Tadele, G. (2012). Factors related to discontinued clinic attendance by patients with podoconiosis in southern Ethiopia: a qualitative study. *BMC Public Health*, *12*(1), 902.

Tsegay, G., Wubie, M., Degu, G., Tamiru, A., Cooper, M., & Davey, G. (2015). Barriers to access and re-attendance for treatment of podoconiosis: A qualitative study in northern Ethiopia. *International Health*, *7*(4), 285–292.

United Nations. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol*. New York.

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. New York.

Van Hees, S., Cornielje, H., Wagle, P., & Veldman, E. (2015). Disability Inclusion in Primary Health Care in Nepal: An Explorative Study of Perceived Barriers to Access Governmental Health Services. *Disability, CBR & Inclusive Development*, *25*(4), 99–118.

Van Rooy, G., Amadhila, E. M., Mufune, P., Swartz, L., Mannan, H., & MacLachlan, M. (2012). Perceived barriers to accessing health services among people with disabilities in rural

northern Namibia. *Disability & Society*, *27*(6), 761–775.

Varghese, J., Grills, N., & Mathias, K. (2015). Barriers in health care access faced by children with intellectual disabilities living in rural Uttar Pradesh. *Journal of Social Inclusion*, *6*(1), 55–70.

Vergunst, R., Swartz, L., Hem, K. G., Eide, A. H., Mannan, H., MacLachlan, M., … Schneider, M. (2017). Access to health care for persons with disabilities in rural South Africa. *BMC Health Services Research*, *17*, 741.

Vergunst, R., Swartz, L., Mji, G., MacLachlan, M., & Mannan, H. (2015). "You must carry your wheelchair"–barriers to accessing healthcare in a South African rural area. *Global Health Action*, *8*, 29003.

Walker, A., Alfonso, M. L., Colquitt, G., Weeks, K., & Telfair, J. (2016). "When everything changes:" Parent perspectives on the challenges of accessing care for a child with a disability. *Disability and Health Journal*, *9*(1), 157–161.

Wark, S., Canon-Vanry, M., Ryan, P., Hussain, R., Knox, M., Edwards, M., … Leggatt-Cook, C. (2015). Ageing-related experiences of adults with learning disability resident in rural areas: One Australian perspective. *British Journal of Learning Disabilities*, *43*(4), 293–301.

Wilson, N. W., Couper, I. D., De Vries, E., Reid, S., Fish, T., & Marais, B. J. (2009). A critical review of interventions to redress the inequitable distribution of healthcare professionals to rural and remote areas. *Rural and Remote Health*, *9*(2), 1–21.

Wongkongdech, A., & Laohasiriwong, W. (2015). Movement Disability: Situations and Factors Influencing Access to Health Services in the Northeast of Thailand. *Kathmandu University Medical Journal*, *12*(3), 168–174.

World Health Organization. (1978). *Declaration of Alma-Ata International Conference on*

Primary Health Care, Alma-Ata, USSR,.

World Health Organization. (2003). *A Global Review of Primary Health Care: Emerging Messages*. Geneva.

Chapter 4 Exploring the Lived Experience of Persons with Physical Disabilities in Accessing Primary Health Care Services in Rural Ghana

Citation: Dassah, E., Aldersey, H.M., McColl, M., & Davison, C. (2018). 'When I don't have money to buy the drugs, I just manage.'—Exploring the lived experience of persons with physical disabilities in accessing primary health care services in rural Ghana. *Social Science and Medicine, 214*, 83-90.

***There are some variations between the content in this chapter and that of the published manuscript**

The Fit of Manuscript 2 within the Dissertation

This manuscript advances knowledge on access to primary health care service for persons with physical disability in rural Ghana. As there was no existing literature that explored this topic in the context of rural Ghana as shown in chapter 3, this study fills this gap. Ultimately, this manuscript contributes to this dissertation by addressing the core aim of the dissertation, which is to explore access to PHC services for persons with physical disabilities in rural Ghana.

4.1 Abstract

The United Nations Convention on the Rights of Persons with Disabilities recognizes the right of persons with disabilities' have access to health care, including primary health care (PHC). Growing evidence, however, indicates that individuals in rural areas generally experience health access issues, and these issues are even worse for those with physical disabilities. Knowledge about such experiences is critical for policy design and clinical practice to promote PHC access for persons with physical disabilities in rural areas. This study seeks to explore the experiences of persons with physical disabilities in accessing PHC services in the predominantly rural Upper West Region of Ghana. We conducted semi-structured interviews with 18 participants living with physical disabilities and thematically analyzed the data. We subsequently mapped emergent themes deductively using the seven dimensions of access to PHC framework: availability, geography, affordability, accommodation, timeliness, acceptability and awareness. Participants shared their experiences across the access dimensions that can be grouped into two overarching themes: limited facilities (e.g. insufficiency and uneven distribution) and personnel (e.g. attitudes). The information provided in this study is potentially important to policy makers and PHC providers as it presents evidence on the barriers and facilitators to PHC access in a rural setting. In particular, understanding individual experiences will be critical for policy design and client-centered service delivery in rural Ghana and potentially other low- and middle-income countries.

Keywords: Ghana, Physical disability, Rural, Health care access, Health system, Primary health care

4.2 Introduction

Article 25 of the United Nations Convention on the Rights of Persons with Disabilities recognizes the right of persons with disabilities to have access to health care, including primary health care (PHC) (United Nations, 2006). The United Nations Declaration on Sustainable Development Goal 3 also emphasizes the importance of "leaving no one behind" in achieving access to quality health and equity in health care (United Nations, 2015). Persons with disabilities are more likely to experience physical, knowledge, attitudinal and systemic barriers in accessing care than the general population (McColl and Jongbloed, 2006; Vergunst et al., 2015). These barriers are further pronounced for persons with physical disabilities in rural areas (Ahmad, 2013; Davidsson and Södergård, 2016; Vergunst et al., 2015).

Access to health care is also a key indicator of the performance of health care systems (Levesque et al., 2013; Russell et al., 2013). Access is a complex concept with different interpretations. Indeed, researchers have drawn attention to the lack of consensus about defining and measuring access (Berk and Schur, 1998; Levesque et al., 2013). Early research conceptualized access in terms of entry into the health care system, suggesting that access requires the use of a service rather than the mere presence of a facility (Donabedian, 1973). Similarly, access is theorized in terms of potential or actual entry into the health system (Aday and Andersen, 1974; Andersen, 1995). Andersen further considers service utilization or realized access as a proxy of access partly because it is easier to measure realized access than potential access (Andersen, 1995). As such, the use of health care service is determined by the characteristics of the population (predisposing, enabling, need) and the characteristics of the health care delivery system (policy, resources, organization) (Aday and Andersen,

1974; Andersen, 1995). This provider/user interface was further expanded by Penchansky and Thomas (1981) to include the degree of "fit" between health provider/systems and their clients. Expanding on these foundational works, Russell et al. (2013) recently developed a framework for understanding PHC in rural areas. They defined access to PHC as "the potential ease with which consumers can obtain health care at times of need" (Russell et al., 2013, p.62). Russell and colleagues conceptualize access as a multidimensional construct that incorporates the "fit" between the characteristics of the individual (demand) and the health care system (supply) across seven dimensions; availability, geography, affordability, accommodation, timeliness, acceptability and awareness (Russell et al., 2013).

Access has often been used to measure quality, equity and health outcomes (Campbell et al., 2000). Therefore, designing health care systems to meet the needs of clients and broadly assessing the clients' experiences have become the focus of health services researchers, practitioners and policy makers (Ho et al., 2017). A recent review has shown growing evidence from some low- and middle-income country (LMIC) contexts pertaining to the experiences of clients with disabilities and the barriers they face in accessing PHC services in rural areas (Dassah, Aldersey, McColl, & Davison, in press). In particular, persons with physical disabilities in rural areas commonly experience barriers including physically inaccessible health care facilities and equipment, inaccessible transport options and stigmatization, and discrimination from health care providers (Ahmad, 2013; Davidsson and Södergård, 2016; Mactaggart et al., 2016; Vergunst et al., 2015). These experiences may not be universal and may differ across LMICs due to factors such as context variations in geographical, political, socio economic and health care systems. For instance, Ghana is one of the few LMICs with a national health insurance scheme that supports health care for all residents (Akazili et al., 2017). The majority of

empirical studies on this topic in Ghana have been quantitative-based studies in urban settings, and studies that provide information from people with different forms of disabilities (Badu et al., 2016; Badu et al., 2016; Badu et al., 2015). These studies provide a broad overview of factors affecting access to health care for persons with disabilities that might be applicable in rural Ghana; however, they are unable to offer in depth insights into experiences of persons with physical disabilities in accessing PHC services in rural Ghana specifically.

The aim of this study, therefore, is to understand the experiences of health care access for persons with physical disabilities in accessing PHC in the Upper West Region, the most predominant rural region of Ghana. In Ghana, PHC includes the following components: health education; environmental health; public health nutrition; reproductive and family health; immunization against common communicable diseases; epidemiology and disease control; treatment of common ailments and injuries; and provision of essential drugs (Ghana Health Service, 2005). This study focuses specifically on treatment of common ailments and injuries (e.g. malaria, typhoid, fever) and provision of essential drugs (e.g. antimalarial drugs, paracetamol, diclofenac, amoxicillin) (Ministry of Health, 2010). These focuses have been used because research has shown that persons with physical disabilities are relatively high users of such health services as a result of secondary complications they often develop (Donnelly et al., 2007; Guilcher et al., 2013), yet their experiences in accessing PHC services in rural Ghana have received limited attention. Understanding their lived experiences with the health care system can provide recommendations to inform policy developments and improve clinical practices in rural Ghana.

4.3 Ghanaian Context

The Republic of Ghana is a sub-Saharan African nation that lies along the Gulf of Guinea. The country is made up of three major religious affiliations, namely Christian, Islam and Indigenous beliefs. The country has a population of about 25 million as of 2010 (Ghana Statistical Service, 2012). Ghana has 10 administrative regions with the regional capitals as major hubs. Below the regions are 254 metropolitan (population over 250,000), municipal (population over 95,000) or district (population over 75,000) assemblies.

4.3.1 Ghana's Health Care System

Ghana has a multifaceted and pluralistic health delivery system, in which "conventional" public and private sectors alongside traditional and faith-based healing systems provide health care to citizens. The public or government-run health care system has the major health care facilities and providers, and is also the largest provider of health care services (Tenkorang, 2016). Further, this health care system is hierarchically organized into five different levels; national (teaching hospitals) at the apex, followed by regional (regional hospitals), district (hospitals and polyclinics), sub-district (health centers), and community (Community Health Planning Services (CHPS) compounds) (Ministry of Health, 2015). Our study focuses on the district, sub-district and community levels because they mostly provide health services to rural communities in Ghana. The district facilities provide secondary curative health care and PHC. The sub-district and community health facilities provide basic PHC services, and are thus the first point of contact between clients and the health care system for most rural residents.

Health care is mostly financed through the establishment of a National Health Insurance Scheme, Act 650 in 2003 (Revised to Act 852 in 2012). The scheme is regarded as a universal pro-poor health policy to overcome financial barriers to accessing basic health care for all

residents (Agyepong and Adjei, 2008). This initiative was established to replace the hitherto "cash and carry system" (i.e. out of pocket payment) that limited the ability of many people to receive affordable and quality health care services (Dixon et al., 2011). Detailed information about the scheme is explained elsewhere (Agyepong and Adjei, 2008; Awoonor-Williams et al., 2016; Dixon et al., 2011). Under the scheme, an individual needs to pay an annual subscription fee in order to be enrolled on an annual basis. Payment exceptions are provided for persons with disabilities classified as extremely poor and marginalized within criteria set out by the government. However, identifying this group for exemption premium payment has not been successful, partly due to the lack of clarity about the guidelines in determining poverty (Dixon et al., 2011). As a result of this, persons with disabilities continue to experience financial barriers to health care access (Badu et al., 2015).

4.3.2 Persons with Disabilities in Rural Ghana and Access to Health Care

In Ghana, rural areas are classified primarily on population size. Thus, rural areas consist of localities with 5000 people or less (Ghana Statistical Service, 2012). Almost half of Ghana's population (49.1%) live in rural areas. Ghana also has approximately 3% of persons with disabilities (Ghana Statistical Service, 2012). However, the WHO report on disability estimates the prevalence of disability between 7% and 12% (World Health Organization, 2011). The difference in the estimation may be due to how disability was operationalized and/or perceived by the researchers during the data collection process. For instance, most data collection in LMICs largely excludes persons with "invisible" impairments, such as persons with intellectual and developmental disabilities, HIV/AIDS or mental health issues (Yeo & Moore, 2003). Estimations have also shown that a majority of persons with disabilities reside in rural areas (Ghana Statistical Service, 2014).

Ghana signed and ratified the United Nations Convention on the Rights of Persons with Disabilities in 2006. The country has also enacted the Persons With Disability Act, 2006 (Act 715) that guarantees the rights of persons with disabilities' access to health services (Persons with Disability Act of 2006). However, stigma towards persons with disabilities is more pronounced, especially in rural areas (Kassah, 1998). As a result of this, persons with disabilities may feel reluctant to access health care services although they may have serious health issues that require urgent health service intervention. Their hesitation to access care may be because of their previous experiences, particularly past experience of discrimination from health care providers (Badu et al., 2016).

4.4 Methods

4.4.1 Research Design

We applied a qualitative descriptive design to obtain an in-depth understanding of personal experiences of persons with physical disabilities in accessing rural PHC services, specifically access to treatment for common ailments or injuries and access to essential medications. A qualitative descriptive design is appropriate for the study because it attempts to provide a rich account of how persons with physical disabilities interpret their personal experiences, construct their worlds, and the meaning they attribute to their experiences (Neergaard et al., 2009). The approach is thus particularly appropriate in obtaining practical answers of importance to health care practitioners and policy makers (Sandelowski, 2000).

4.4.2 Ethics

The interviews were conducted by the first author who is from the study region. We obtained written or thumbprint consents from all research participants. To protect the identities and confidentiality of participants, we did not use name identifiers in the analysis and

presentation of data. Participants were provided with refreshments during the interview but did not receive any other compensation for their participation. We obtained approvals from Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board and the Ghana Health Services.

4.4.3 Research Settings

We conducted this study in the Upper West Region of Ghana. The region has a total population of 702,110 with 3.7% persons with disabilities, and 83.7% of the total population characterized as rural (Ghana Statistical Service, 2012). The region is the least developed of the administrative regions of the country. While poverty is pronounced in the three regions that constitute northern Ghana, the Upper West Region is the most affected (Atuoye et al., 2015). For instance, 71% of the regional residents live below the annual poverty line of 1314 Ghana Cedis (328.50 US Dollars) (Cooke et al., 2016). This uneven development of the region, as compared to other regions in Ghana, is also reflected in the shortage of health care providers and facilities. For instance, with only 21 of the country's 3061 physicians, the region has one of the lowest doctor-to-patient ratios (1:36,000). This sharply contrasts with the national average (1:9,043), making access to health care a major concern in the Upper West Region (Ministry of Health, 2015). As of 2015, the region has a total of 278 health facilities comprising regional and district hospitals, clinics, polyclinics, health centers, CHPS compounds and private health facilities (Ghana Health Service, 2015). Nevertheless the region has poor geographical access to health care generally due to the uneven distribution of these facilities and poor nature of road networks in most rural settings (Ministry of Health, 2015).

The Upper West Region of Ghana is currently made up of 4 municipalities and 7 district assemblies. We conducted the research in local communities in four of these assemblies

(Daffiama/Bussie/Issa/, Jirapa, Nadowli/Kaleo and Wa West). We selected these assemblies because of the first author's familiarity with the cultural practices, values and language which are important in obtaining rich information about participants' experiences (Johl & Renganathan, 2010).

4.4.4 Participants and Recruitment

The population of this study was persons with physical disabilities. For the purpose of this study, we operationalized physical disabilities as any person(s) who, regardless of the reason, (a) cannot walk, and requires the use of a mobility aid device, such as a tricycle, wheelchair or walking stick; (b) can walk with difficulty, and needs support (i.e., crutches or hand rail); or (c) can walk, but experiences other physical weakness or lack of coordination, such as weak or erratic grip, or limited arm/hand movements (Jones et al., 2002). We excluded otherwise eligible participants who also had visual impairments because they are a category that may have their own unique experiences. We used purposive sampling to recruit the participants. Purposive sampling is often used to identify and select participants to provide information-rich narratives of a phenomenon (Patton, 2002).

Prior to recruitment, invitation letters were sent to heads of disabled people's organizations in the study locations. The heads circulated the study information to their members and those willing to participate contacted them. The heads shared the contact details of potential participants to the first author, thus providing access to the participants. The researcher made initial face-to-face contact with the participants in an introductory meeting. The researcher also facilitated the recruitment of the participants based on the following inclusion criteria: (a) adults (18–64 years) with physical disabilities, (b) able to communicate in English and/or Dagaare (widely spoken language in the Upper West Region of Ghana) and (c) willing to participate.

After the inclusion criteria were met, the researcher then purposively selected participants from those who met the inclusion criteria based on their gender, occupation, level of education and geographical location in order to ensure diverse perspectives and opinions. Individual interviews were then scheduled and conducted in a place and time convenient to both the participant and the researcher.

4.4.5 Data Collection

The research team developed an interview guide based on extensive literature on the topic (Levesque et al., 2013; Penchansky & Thomas, 1981; Russell et al., 2013). The guide was pilot-tested with three participants that were not part of the final study, in order to obtain comments about the questions. The final guide consisted of three main sections. The first part delved into the history of how the participant became disabled as an ice breaker for participants to share their experiences. The second part centered on the participants' past and present experiences in accessing health care services in their communities. The final part concentrated on questions about their health-seeking behaviors when they encounter access barriers.

The first author conducted one-on-one semi structured interviews in Dagaare. Five participants who were proficient in English and Dagaare decided to respond in both languages. The interviews were conducted in the form of open ended questions and this allowed the participants to freely and openly elaborate on the most important aspects of their experiences. The researcher asked follow up questions for clarification and examples. Interviews were conducted at various venues including disability resource centers, participants' homes and health centers. Interviews were audio recorded with permission from participants and lasted between 45 and 60 min. The recordings were supplemented with note taking of possible non-verbal cues (e.g., facial expressions) during the interviews and reflections (e.g. reflections on how

participants' settings and contexts shaped their experiences and how the interviewer's own knowledge and experience influenced the interviews). The sample size for this study was guided by the concept of "information power," where adequate sample size is defined in terms of a clearly defined aim, specific sample, theoretical approach, high quality dialogue and clear analytic strategy (see Malterud et al., 2016).

4.4.6 Data Management, Analysis and Rigor

After the completion of the interviews, the audio files were saved. The first author simultaneously translated and transcribed the interviews in English. The field notes were included at the end of the transcripts to remind the researchers of reflections and contextual details noted at the time of the interview. An independent researcher with proficiency in both Dagaare and English was contracted to compare each interview transcript to the corresponding audio file. Another independent local researcher randomly selected the translated transcripts and compared with their corresponding audios. We developed these steps to ensure that meaning was maintained during the translation process. The completed transcripts were then imported into an NVivo™12 software for analysis.

The first author (ED) analyzed the data using thematic analysis (Braun & Clarke, 2006). The processes of thematic analysis involves: (i) familiarizing oneself with the data, (ii) systematic coding of the data, (iii) grouping codes under potential themes, (iv) validating themes in relation to coded data and the entire data set, (v) defining and naming themes, and (vi) producing the final report with selected extracts. The first author subsequently mapped the emergent themes onto Russell's et al. (2013) dimensions of access to PHC framework. The research team finally discussed and reached consensus on emergent themes and sub-themes.

4.5 Results

4.5.1 Participants' Characteristics

Eighteen participants were included in the study. Table 6 provides further details of participants' demographics. Participants ranged in age from 18 to 64 years, with a mean age of 35 years. Most of the participants (12) had their disability at birth. The participants were split between male and female (9 each) and were fairly evenly distributed across occupations and geographical locations. In terms of mobility devices, 11 used tricycles; 3 did not use any mobility devices. For education, 8 never attended school whereas 3 had a college or university degree. A majority of the participants (13) lived with their families.

Table 6 Socio-demographic Characteristics of Participants.

Characteristic	Total, N
Age (Years)	
18-29	3
30-49	10
50-64	5
Duration of disability	
At birth	12
After birth	6
Sex	
Male	9
Female	9
Main occupation	
Seamstresses/dressmakers	4
Students	2
Public workers/teachers	3
Traders	3
Farmers	2
Retired/not working	4
District	
Daffiama/Bussie/Issa	4
Jirapa	4
Nadowli/Kaleo	6
Wa West	4
Type of mobility device use	
Tricycle	11
Powered device	1
Walking stick	3
No device	3
Education	
Primary	4
Secondary	3
Tertiary	3
None	8
Social support	
Lives alone	5
Lives with family	13

4.5.2 Participants' Experiences

We have mapped the results deductively onto seven dimensions; availability, geography, affordability, accommodation, timeliness, acceptability and awareness (See Table 7). Two

overarching themes emerged from the framework. These are limited facilities (e.g. insufficiency and uneven distribution) and personnel (e.g. attitudes).

Table 7 Access to Primary Health Care

Themes	Sub-themes
1. Affordability	• Presence of health insurance • Services not covered by insurance • High cost of transportation
2. Accommodation	• Inaccessible interior and exterior built environment • Lack of disability friendly medical equipment
3. Acceptability	• Positive attitudes of providers • Negative attitudes of providers • Low perceived quality of care
4. Availability	• Presence of health facilities • Lack of drugs in health facilities • Lack of beds in health facilities
5. Geography	• Long distance to facilities • Unfavorable physical terrain • Environmental hazards
6. Awareness	• Knowledge of service • Provision of information
7. Timeliness	• Wait time/queues

4.5.2.1 Affordability.

This refers to clients' ability to pay the cost of health care services, including direct and indirect cost (Russell et al., 2013). All the participants (n=18) discussed affordability as a key determinant of accessing health care in rural Ghana. This dimension has three subthemes—presence of health insurance, services not covered by insurance and high cost of transportation. In relation to health insurance, most of the participants (n=16) were enrolled under the national health insurance scheme which facilitated access to health care. These participants recounted

how the health insurance scheme has helped them saved money for other expenses.

> The introduction of health insurance is a blessing to me. With my health card I'm able to get services free of charge. I don't need to worry about paying medical bills anytime I go to the CHPS compound here. Also, I can save money for food and other expenses.

Despite this, the participants expressed concerns about the cost of services that were either not covered by the insurance scheme or not available at health facilities. This was not surprising since most were either underemployed or unemployed. The participants indeed highlighted the shortcomings of the health insurance scheme.

> Providers will say health insurance is no longer paying the services they provide to people and so when you go to the clinic and even in some cases common paracetamol you have to go to the drugstore and buy.

Aside the direct cost of services, some of the participants (10) also recounted that they could not afford the associated cost of transportation in seeking care at nearby facilities.

> Although I can get free treatment at [name] clinic with my health insurance, I can't go because I don't have money to pay for lorry fare or buy fuel for someone to pick me with a motorbike there.

Consequently, some of the participants who could not raise money to buy drugs indicated that they try to manage their conditions until such a time they get money to buy the drugs. For example, a participant remarked that when he was giving prescription note to buy drugs, he decided "to sit down in pains". Similarly, some of the participants illustrated that anytime they are giving a prescription note in the facility, they keep it and manage.

> When they [providers] give me the prescription note to buy the drugs I buy them when I have money, but when I don't have money to buy the drugs I just manage like that. I just keep the prescription note. What else can I do?

4.5.2.2 Accommodation.

This denotes the ways resources are organized in relation to the clients' ability to gain, contact and navigate the health care system (Russell et al., 2013). Most of the participants (n=17) highlighted accommodation as a factor that affects their access to health care.

Accommodation has three subthemes—operation hours, architectural design of the built environment and inaccessible medical equipment. Regarding operation hours, some participants (n=9) complained that facilities could not accommodate them because they mostly operate on week days and during certain times. In such cases these participants had to endure with their conditions until the next day or travel to the nearest health center in case of emergency. The architectural design of facilities was a dominant barrier that participants with tricycles experienced. A few of the participants (n=6) remarked that the lack of ramps at entrances for tricycle users hampered physical access to health facilities. The participants, however, noted the presence of steep slopes in CHPS compounds, were not conducive for tricycle users.

> The CHPS compound has a steep slope that I can't climb with my tricycle. Those slopes are only good for nurses to send their motorbikes inside but not good for tricycle users.

Due to this, the participants had to leave their wheelchairs and crawl into the facility for care. Added to this is that accessing beds, consulting and toilets in the facilities was a common barrier the participants also reported. This inaccessible scenario is summed up by one participant:

> I was going to use the toilet I had to leave my tricycle and then climb on the steps in order to get in. I had to struggle with my hands to get into the washroom. When I got in it was another story on its own as I struggled to ease myself. It is really pity that the toilets were designed and constructed without taking our situation into account.

The participants also lamented that the lack of disability-friendly weighing scales often compel providers to guess their weight. However, this sometimes result in complications and needs different medication. A participant summed this experience:

> I went to [name of facility] and they [nurses] guessed my weight and gave me some drugs and anytime I take it I feel pain in my stomach. For three good days I say to myself nooo!!!! I can't continue with the drug. So I returned to the facility and the physician prescribed a different drug for me.

4.5.2.3 Acceptability.

This relates to the attitudes and beliefs of clients about the health care system to the

personal and practice of providers (Russell et al., 2013). Most of the participants (n=16) recounted acceptability as one of the factors that influenced their access to health care in rural Ghana. This dimension has two subthemes—attitudes of providers and perceived care quality. In relation to attitudes, the participants described positive encounters with providers. This case was especially common for a few of the participants (n=5) who were highly educated because they have been working with the nurses in health promotion among persons with disabilities. The participants also explained that they were given priority in a queue due to their disability, as soon as the nurse saw them. Similarly, a participant said nurses were generally respectful towards him.

> When I go to the clinic the providers accord me with respect. I usually talk to them and even crack jokes with them. I have never experienced any negative attitude from the providers.

Interestingly, the participants who expressed these positive experiences with health care providers were generally those who also expressed that they experienced satisfaction with the health care received.

> Yeah, I would say [facility name] generally provide standard services. Like they have a medical assistant and … he is like next to a doctor. So he has expertise in all sort of illnesses just like the doctor.

On the contrary, most of the participants (n=12) generally experienced negative attitudes from providers. Participants especially recounted how providers yell at them in facilities. For instance, a participant recalled that providers often refused to help her climb beds that are not disability friendly, but instead started yelling at her for not coming with a caregiver.

> When I get there I always struggle and climb the bed…. When I asked for help some of the nurses will start shouting on me about why I didn't bring any carer to look after me.

These participants also indicated perceptions of a low quality of care has deterred them from seeking care in facilities. Particularly, a participant noted that "untrained" nurses compromised quality of care.

> When I went to that place there was this "Kufour nurse" [a volunteer community nurse] who

> doesn't know anything. She provided me with a full load of paracetamol. And so every day I take the drugs and was tired with them without any cure.

Some participants (n=9) further recounted how they resorted to self-care due to the low quality of care received at health facilities. For example, a participant who usually experienced headache and malaria during the rainy season described that he just purchased drugs at a local pharmacy rather than seeking care at the health center in the community.

> For me I just go to the drugstore and buy drugs. Malaria is the major issue that worries me and when it happens I always buy "Two Heads" or "Akoma APC" [names of drugs in Ghana] for self-medication because at the clinic they will only waste your time without giving you any meaningful care.

These participants also reported that resorting to self-care was more convenient than seeking care at health facilities. The participants indicated that they received high quality of care at their local drugstores and recommended the use of such services and also consultations offered by drugstore vendors.

> The drugstore here provides better care and the drugs are even affordable. When you go there and describe your health condition, the one in charge often provide the necessary drugs and the moment you take them you get healed within the shortest possible time. I always advise people to go there rather than going to the clinic.

4.5.2.4 Availability.

This refers to the volume and types of services in relation to clients' needs (Russell et al., 2013). Most of the participants (n=16) discussed availability as a key factor in determining access to PHC in rural Ghana. This dimension has three subthemes—presence of health facilities, lack of drugs and lack of beds. For instance, the presence of health facilities especially CHPS compounds in the participants' communities have improved access to care. These facilities have reduced the burden of travelling for a long distance at an extra cost in order to access care.

> I used to go to [Name of health facility] for health care services but recently, like a year ago, the government has constructed a CHPS compound [name of community] and that is where I go to seek health care currently.

At the same time other participants (n=8) lamented how the lack of drugs in some facilities made them to travel outside the community for health care. For instance, the participants had pressure sores needed antibiotic gel for their condition. However, a majority of the participants (n=12) remarked that frequent stock-outs of such gel in health facilities served as an obstacle in meeting their care needs: "In most cases you go to the facility here and they will tell you they don't have drugs and so when that happens you have to go elsewhere for them." The participants also explained that lack of beds in health facilities compounded access challenges. For instance, a participant described an ordeal where, due to a lack of beds, staff made her to lie on the floor or long bench in order to receive care.

> One day I went to the health center and all the beds were occupied. As a result of this situation, the nurse gave me drips while I was on lying on a long bench for almost the whole day.

4.5.2.5 Geography.

This denotes the proximity of health care services and/or providers to clients, and also the ways clients can transcend the distance to the services and services (Russell et al., 2013). Some of the participants (n=12) discussed geography as a factor that determines access to PHC in rural Ghana. This dimension has three subthemes—long distance, terrain and environmental hazards. For example, long geographical distance to facilities was a great barrier for participants. Hence participants had to travel long distance to access health care services. The use of a tricycle was the dominant form of transportation for most of the participants (=12) to health facilities. The participants also used walking sticks. Participants recounted the effects of using these assistive devices to reach a facility. The following accounts of two participants illustrate this point:

> Sometimes when I pedal my tricycle to the facility, I feel pains all over my body. And when that happens I have to buy 'pain killer' or rest for three days in order to recover.

> Anytime I walk to the facility with my stick, I tend to develop sores and it can take a week for them to heal after I apply antibiotics [penicillin powder].

In view of these negative experiences, these participants suggest that the provision of free public transport or ambulance services could improve access in cases or reduce some of the secondary complications. Some participants (n=10) also described how they often navigate unfavorable physical terrain/geographical features such as rivers, forests, mountains, hills and valleys to access services. In particular, the poor nature of the road network linking communities was highlighted by the participants as a major barrier. The participants indicated how they had to navigate environmental hazards and even encountered wild animals in order to reach a facility. A participant summed up such experiences:

> Well talking more about the road network in [name of community], there are times you have to climb hills and you know propelling the tricycle is hard. Think of the many valleys you have to cross to get to the facility during the farming season. Even depending on the time you leave the house to the facility, you may encounter wild animals on your way.

4.5.2.6 Awareness.

This involves sharing information between health care services and clients, and also enhancing clients' knowledge about the health care system (Russell et al., 2013). A few of the participants (n=8) recounted awareness as an important factor in accessing health care services in rural Ghana. This dimension has two subthemes—knowledge about health care services and provision of information about health insurance. For instance, the participants had knowledge about the services offered in health facilities. They also had knowledge about navigating the health care system in their communities.

> I know where to get care when needed. And so when I'm not feeling well, I don't ask anybody where to go for care because I know the health facility and the things [i.e. health insurance card] I need to send for care. Nobody has ever told me where to go for services.

Further, the provision of information from family and friends was a key facilitator to participants' access to health care services. Some participants (n=8) especially illustrated the information provided by their peers at disability resource centers to be very helpful.

> I always realize that information provided by my friend[name] here is more helpful than the staff in the clinic. For example, my friend told me a lot of things that my health insurance covered. And so when I'm going to the clinic I take some money because I know that not all the services will be covered by the insurance. Health workers will not get that time to tell you more information about this health insurance.

In contrast, the lack of information about the services covered by the health insurance scheme negatively affected the some participants' (n=7) access to health care. For instance, participants believed that with their health insurance they did not need to pay for services. As a result, they were upset to learn that even with the insurance scheme they had to pay for some services out of pocket without reimbursement.

> One day I went to the clinic here with my health insurance card. To my surprise I was asked to pay for some of the services and I was really angry with the nurse. I thought everything in that clinic was covered by the health insurance.

These participants narratives also demonstrated how information from health care providers were not relevant to persons with physical disabilities.

> I don't know the kind of training some of the nurses often go through. When I went to the health center here and one nurse told me to always combine my drugs with exercise such as walking. But as you can see me always in my tricycle, I can't even stand let alone walk.

4.5.2.7 Timeliness.

This denotes the extent to which health care can be sought, offered or received within a time frame (Russell et al., 2013). A few of the participants (n=6) highlighted awareness as an important factor that influence access to health care services. This dimension has one subtheme—wait time/queue in receiving health care. The participants reported that they receive care within a short time frame. Short waiting time was especially noted in CHPS compounds. As one participant indicated:

> In this facility [CHPS compound] we don't experience long queues and anytime I go there the consulting rooms are always empty. Even sometimes the nurses will complain of not receiving patients here.

The participants further described that their colleagues' patients without disabilities or health

staff often allow them to jump long queues in health centers and clinics. On the contrary, timely access to health care services was a challenge reported by many of the participants (n=13) that seek services at health centers and clinics. High client loads were often experienced in these facilities because most them are enrolled in the national health insurance scheme. Interestingly, a few of the participants indicated that because of they have health insurance, they visit health facilities regularly for minor conditions and are sometimes denied services because providers think they are abusing the insurance scheme.

> The nurses think we bring every small problem to the facility and these days when you go there, they will tell you that they can't treat you today. That because of this health insurance thing we like coming to the clinic too much. Meanwhile with my condition, I always need care for my sores, but these nurses won't listen to my case.

Some of the participants (n=9) also discussed that long queues were due to the lack of providers in most health facilities. Participants noted that on local market days, long queues often occur in health centers but you will find only two providers in consulting rooms. This wait time sometimes created chaos as illustrated by a woman in a tricycle.

> One day I went to [name] health center and as we form the queue some people came late and wanted to go in before others. This led to confusion and I was just pushed down. People were pushing each other, and they never bothered about me….

4.6 Discussion

We conducted this study to understand the lived experiences of persons with physical disabilities in accessing PHC in rural Ghana. We found that rural residents generally encounter access barriers such as limited supply of services and lack of providers. The study further suggests that those with physical disabilities face additional challenges that include travelling and navigating unfriendly built environments and experiencing negative attitudes from providers. This resonates with a recent review indicating that access barriers are exacerbated for persons with disabilities in rural areas globally (Dassah et al., in press).

Research has shown that disability has been generally neglected among the social determinants of health discourses (Wolbring, 2011). In contrast, our study clearly articulates that social factors influenced participants' access to health care services. For instance, income was a key determinant for participants in meeting direct and indirect cost of services. However, societal discrimination towards persons with disabilities limit their employment opportunities and this has ripple effects on their incomes (Yeo & Moore, 2003). As a result, the lack of financial resources hinders their ability to afford health care services that were not available in public facilities and this can exacerbate their disability. Thus, the study corroborates with existing evidence on the relationship between poverty and disability (Banks et al., 2017; Yeo & Moore, 2003). In effect, Ghana's health insurance scheme was introduced to ensure equitable access to health care. However, the poorest, including persons with disabilities, are excluded thus resulting in low levels of both vertical and horizontal equity (Jehu-Appiah et al., 2011). Low health literacy level was another social determinant that negatively impacted the ability of participants to access care. For instance, a majority of the participants were unaware of the services that were covered under the national health insurance scheme. Providers and related bodies should endeavor to educate clients about the services that are covered by insurance. To improve health service delivery, health care systems should also consider rural context specific social determinants of health.

The architectural design of health facilities and medical equipment access highlighted in this study reflects recent studies that found unfriendly disability designs in Ghana (Badu et al., 2016; Ganle et al., 2016). We especially noted that physical barriers such as inaccessible health facilities and equipment impeded clients' access to health services. This situation contrasts with the Disability Act that highlights the need for access to public spaces and services through the

design of disability friendly facilities (Persons with Disability Act of 2006). These physical barriers contribute to social exclusion and violation of their right to access health care (Ganle et al., 2016). They could also hamper Ghana's efforts in ensuring the 2030 Sustainable Development Goal target of equity in access to health care (United Nations, 2015). As a matter of policy, we recommend the implementation of the Disability Act in collaboration with major state institutions and stakeholders. In particular Ghana's health agencies should work collaboratively with architects and building regulators to redesign existing or construct new facilities that are more disability friendly (i.e., presence of ramps). Additionally, manufacturers of medical equipment should take into consideration the needs of clients with disabilities. Ghana Health Services and the Ministry of Health should also endeavor to procure disability friendly equipment such as weighing scales, chairs and beds. These recommendations mirror a recent study that calls for health agencies to collaborate with relevant stakeholders to ensure accessible structures for persons with disabilities in Ghana (Badu et al., 2016).

Interestingly, a few of the participants experienced positive interactions with providers that facilitated their access to care. They also expressed high satisfaction of care received, trust and confidence with rural health care providers, a finding that is consistent with a previous rural study in rural Louisiana, USA (Davidsson and Södergård, 2016). A possible explanation could be that providers are adhering to the Ghana's Health Services "Code of Ethics" and the "Patients Charter" (Ghana Health Service, 2003). However, narratives about stigmatization and discrimination were commonly experienced by a majority of the participants. In view of these negative interactions, researchers have recently emphasized the need to incorporate disability issues in the health training institutions' curricula, and to offer continuing professional development training for providers on the principles of client-centered care and customer care

communications (Ganle et al., 2016). These recommendations are supported by our current study. Some participants reported that negative attitudes of health care providers affected their willingness to receive quality health care at public health facilities. This stresses that creating and maintaining positive relationships between providers and clients should be a priority issue in any health care system. It is worthy to note, however, that interactions of clients with disabilities with providers often cast the latter in a bad light (Badu et al., 2016). We argue for further studies to understand the experiences of providers in providing care to clients with disabilities in order to have a more balanced view of this topic.

As reflected in previous studies (Donabedian, 1973; Ho et al., 2017), the findings from this current study indicated that the mere presence of health facilities in rural communities is not enough unless it is possible for clients to use such facilities. For instance, participants recounted how the lack of 24-h operation of some of the facilities impeded access. Participants again shared that although they had health facilities in their communities, the lack of drugs and providers in these facilities meant that they had to make a long journey and navigate physical features within the natural and built environment (e.g., untarred roads, valleys) in order to receive health care elsewhere. This situation also resonates with the experiences of persons with physical disabilities in other African nations, such as in rural South Africa (Vergunst et al., 2015). For policy makers, the construction of facilities in rural communities should correspond with the recruitment of providers and supply of resources in order to ensure quality health care delivery. However in situations of shortage of services and providers, there is evidence suggesting that the provision of free or subsidized ambulatory or transportation services and mobile vans could potentially enhance health care access in rural communities in Ghana (Ganle et al., 2016).

Finally, the study also showed that recent conceptualizations of access as a "fit" is a useful analytical tool for client-health systems interactions. In particular, the Russell et al. (2013) framework is useful in understanding PHC in rural areas, as most of our themes are clearly mapped into the framework.

4.7 Limitations

We acknowledge several limitations of the study. There is the possibility of selection bias as our sample was limited to participants from organizations that support disabled individuals with mobility limitations. Nonetheless, anecdotal information from the heads of the organizations indicate that a majority of persons with disabilities are members because there are several benefits of being a member. Further, the study was limited to participants living in selected districts in rural Ghana. As such this limits generalization of the results to other rural districts. Another limitation pertains to the possibility of lost meaning in the translation process of the interviews. However, the involvement of researchers who spoke the local languages and the intentional application of steps to ensure rigor and to guard against translation limitations helped to minimize this influence. Moreover, health access dimensions are often interrelated and we needed to make judgements about whether data fit best within the sub-themes of the individual level or the health system level. Finally, the study did not examine the experiences based on the type of participants' mobility impairments and duration of mobility impairments. Despite these limitations, the findings provide recommendations that are useful for future research, health policy design and clinical practice in rural Ghana and other rural contexts in LMICs.

4.8 Conclusion

To our knowledge, this study is the first in Ghana to explore access to PHC (i.e., access to treatment for common ailments or injuries and access to essential medications) for people

with physical disabilities in rural areas. The participants in this study provided evidence that can inform policy development and clinical practice. More specifically, the development of policies around disability-friendly spaces and their subsequent implementation could help reduce inequities in access to care for persons with disabilities and the general population. Further, educating health care providers about disability issues has the potential to improve client centered care. Paying attention to these areas can contribute to timely access, the prevention of secondary complications, and clients' satisfaction with PHC services in rural Ghana in particular and potentially also in other rural areas in LMICs.

4.9 References

Aday, L. A., & Andersen, R. (1974). A framework for the study of access to medical care. *Health Services Research*, *9*(3), 208–220.

Agyepong, I. A., & Adjei, S. (2008). Public social policy development and implementation: A case study of the Ghana National Health Insurance scheme. *Health Policy and Planning*, *23*(2), 150–160.

Ahmad, M. (2013). Health care access and barriers for the physically disabled in rural Punjab, Pakistan. *International Journal of Sociology and Social Policy*, *33*(3/4), 246–260.

Akazili, J., Ataguba, J. E., Kanmiki, E. W., Gyapong, J., Sankoh, O., Oduro, A., & Mcintyre, D. (2017). Assessing the impoverishment effects of out-of-pocket healthcare payments prior to the uptake of the national health insurance scheme in Ghana. *BMC International Health and Human Right*, *17*, 13.

Andersen, R. M. (1995). Revisiting the Behavioral Model and Access to Medical Care: Does it Matter? *Journal of Health and Social Behavior*, *36*(1), 1–10.

Atuoye, K., Dixon, J., Rishworth, A., Galaa, S., Boamah, S., & Luginaah, I. (2015). Can she make it? Transportation barriers to accessing maternal and child health care services in rural Ghana. *BMC Health Services Research*, *15*(1), 333.

Awoonor-Williams, J. K., Tindana, P., Dalinjong, P. A., Nartey, H., & Akazili, J. (2016). Does the operations of the National Health Insurance Scheme (NHIS) in Ghana align with the goals of Primary Health Care? Perspectives of key stakeholders in northern Ghana. *BMC International Health and Human Rights*, *16*(1), 21.

Badu, E., Agyei-Baffour, P., & Opoku, M. (2016). Access Barriers to Health Care among People with Disabilities in the Kumasi Metropolis of Ghana. *Canadian Journal of Disability*

Studies, *5*(2), 131–151.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability*, *5*(1), 1–8.

Badu, E., Opoku, M., Appiah, S., & Agyei-Okyere, E. (2015). Financial Access to Healthcare among Persons with Disabilities in the Kumasi Metropolis, Ghana. *Disability, CBR & Inclusive Development*, *26*(2), 47–64.

Banks, L. M., Kuper, H., & Polack, S. (2017). Poverty and disability in low- and middle-income countries: A systematic review. *PLoS ONE*, *12*(2), e0189996.

Berk, M. L., & Schur, C. L. (1998). Measuring access to care: improving information for policymakers. *Health Affairs*, *17*(1), 180–186.

Campbell, S. M., Roland, M., & Buetow, S. (2000). Defining quality of care. *Social Science & Medicine*, *51*(11), 1611–1625.

Cooke, E., Hague, S., & McKay, A. (2016). *The Ghana poverty and inequality report: Using the 6th Ghana Living Standards Survey*. Retrieved on July 10, 2018 from https://www.unicef.org/ghana/Ghana_Poverty_and_Inequality_Analysis_FINAL_Match_2016(1).pdf

Dassah, E., Aldersey, H. M., McColl, M.A. & Davison, C. (in press). Factors Affecting Access to Primary Health Care Services for Persons with Disabilities in Rural Areas: A "Best-Fit" Framework Synthesis. *Global Health Research and Policy*

Davidsson, N., & Södergård, B. (2016). Access to Healthcare among People with Physical Disabilities in Rural Louisiana. *Social Work in Public Health, 31*(3), 188–195.

Dixon, J., Tenkorang, E., & Luginaah, I. (2011). Ghana's National Health Insurance Scheme:

helping the poor or leaving them behind? *Environment and Planning C: Government and Policy, 29*(6), 1102–1115.

Donabedian, A. (1973). *Aspects of Medical Care Administration*. Cambridge: Harvard University Press.

Donnelly, C., McColl, M. A., Charlifue, S., Glass, C., Brien, P. O., Savic, G., & Smith, K. (2007). Utilization , access and satisfaction with primary care among people with spinal cord injuries : a comparison of three countries. *Spinal Cord, 45*, 25–36.

Ganle, J. K., Otupiri, E., Obeng, B., Edusie, A. K., Ankomah, A., & Adanu, R. (2016). Challenges Women with Disability Face in Accessing and Using Maternal Healthcare Services in Ghana: A Qualitative Study. *PLoS ONE, 11*(6), e0158361.

Ghana Health Service. (2003). Code of Conduct and Disciplinary Procedures. Accra. Retrieved on July 10, 2018 from http://www.ghanahealthservice.org/ghs-item-details.php?cid=5&scid=52&iid=87

Ghana Health Service. (2005). *Community-Based Health Planning and Services (CHPS). The Operational Policy* (No. 20). Accra. Retrieved on July 10, 2018 from http://www.moh.gov.gh/wp-content/uploads/2016/02/CHPS-Operational-Policy-2005.pdf

Ghana Health Service. (2015). *The Health Sector in Ghana: Facts and Figures 2015*. Accra. Retrieved on July 10, 2018 from http://www.moh.gov.gh/wp-content/uploads/2017/07/Facts-and-figures-2015.pdf

Ghana Statistical Service. (2012). *2010 Population & Housing Census: Summary Report of Final Results*. Accra. Retrieved on July 10, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Census2010_Summary_report_of_final_results.pdf

Ghana Statistical Service. (2014). *2010 Population and Housing Census Report: Disability in Ghana*. Accra. Retrieved on July 10, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Mono/Disability in Ghana.pdf

Grut, L., Mji, G., Braathen, S. H., & Ingstad, B. (2012). Accessing community health services: challenges faced by poor people with disabilities in a rural community in South Africa. *African Journal of Disability*, *1*(1), 1–7.

Guilcher, S. J. T., Craven, B. C., Lemieux-Charles, L., Casciaro, T., McColl, M. A., & Jaglal, S. B. (2013). Secondary health conditions and spinal cord injury : an uphill battle in the journey of care. *Disability & Rehabilitation*, *35*(11), 894–906.

Ho, J. W., Kuluski, K., & Im, J. (2017). "It's a fight to get anything you need" — Accessing care in the community from the perspectives of people with multimorbidity. *Health Expectations*, *20*(6), 1311–1319.

Jehu-Appiah, C., Aryeetey, G., Spaan, E., Hoop, T. de, Agyepong, I., & Baltussen, R. (2011). Equity aspects of the National Health Insurance Scheme in Ghana: Who is enrolling, who is not and why? *Social Science & Medicine*, *72*(2), 157–165.

Johl, S. K., & Renganathan, S. (2010). Strategies for gaining access in doing fieldwork: Reflection of two researchers. *Electronic Journal of Business Research Methods*, *8*(1), 42–50.

Jones, H., Parker, K. J., & Reed, R. (2002). *Water Supply and Sanitation Access and Use by Physically Disabled People. A Literature Review*. Leicestershire, UK. Retrieved on July 10, 2018 from http://wedc.lboro.ac.uk/docs/research/WEJY3/Literature_review.pdf

Kassah, A. K. (1998). Community-Based Rehabilitation and stigma management by physically disabled people in Ghana. *Disability and Rehabilitation*, *20*(2), 66–73.

Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health, 12*(1), 18.

Mactaggart, I., Kuper, H., Murthy, G. V. S., Sagar, J., Oye, J., & Polack, S. (2016). Assessing health and rehabilitation needs of people with disabilities in Cameroon and India. *Disability & Rehabilitation, 38*(18), 1757–1764.

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, *26*(13), 1753– 1760.

McColl, M. A., & Jongbloed, L. (2006). *Disability and social policy in Canada* (2nd ed.). Toronto, ON, Canada: Captus Press.

Ministry of Health. (2010). *Ghana Essential Medicines List*. Accra. Retrieved on July 10, 2018 from www.ghndp.org

Ministry of Health. (2015). *Holistic Assessment of the Health Sector Program of Work 2014.* Accra. Retrieved on July 10, 2018 from http://www.moh.gov.gh/wp-content/uploads/2016/02/Holistic-Assessment-2015.pdf

Moustakas, C. (1994). *Phenomenological Research Methods*. Thousand Oaks, Carlifornia: Sage Publications.

Neergaard, M. A., Olesen, F., Andersen, R. S., & Sondergaard, J. (2009). Qualitative description – the poor cousin of health research? *BMC Medical Research Methodology*, *9*, 52.

Patton, M. Q. (2002). *Qualitative Research and Evaluation Methods*. Thousand Oaks, California: Sage Publications.

Persons with Disability Act of Ghana, Act 715 (2006).

Penchansky, R., & Thomas, J. (1981). The concept of access: definition and relationship to

consumer satisfaction. *Medical Care*, *19*(2), 127–140.

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In R. G. Burgess & A. Bryman (Eds.), *Analyzing qualitative data* (pp. 173–194). London: Routledge.

Russell, D. J., Humphreys, J. S., Ward, B., Chisholm, M., Buykx, P., McGrail, M., & Wakerman, J. (2013). Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*, *21*(2), 61–71.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, *23*(4), 334–340.

Tenkorang, E. Y. (2016). Health Provider Characteristics and Choice of Health Care Facility among Ghanaian Health Seekers. *Health Systems & Reform*, *2*(2), 160–170.

United Nations. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol*. New York. Retrieved on July 10, 2018 from http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. New York. Retrieved on July 10, 2018 from https://sustainabledevelopment.un.org/post2015/transformingourworld

Vergunst, R., Swartz, L., Mji, G., MacLachlan, M., & Mannan, H. (2015). 'You must carry your wheelchair'–barriers to accessing healthcare in a South African rural area. *Global Health Action*, *8*, 29003.

Wolbring, G. (2011). People With Disabilities and Social Determinants of Health Discourses. *Canadian Journal of Public Health*, *102*(4), 317–319.

World Health Organization. (2011). *World report on disability 2011*. Geneva. Retrieved on July

10, 2018 from https://doi.org/http://www.who.int/disabilities/world_report/2011/en/

Yeo, R., & Moore, K. (2003). Including Disabled People in Poverty Reduction Work: "Nothing About Us, Without Us." *World Development, 31*(3), 571–590.

Chapter 5 Health Care Providers' Perspectives of Providing Primary Health Care Services to Persons with Physical Disabilities in Rural Ghana.

Citation: Dassah, E., Aldersey, H.M., McColl, M., & Davison, C. Health care providers' perspectives of providing primary health care services to persons with physical disabilities in rural Ghana. *Primary Health Care Research & Development (Under Review)*

The Fit of Manuscript 3 within the Dissertation

This manuscript builds on the gap I identified in the findings of the previous two manuscripts. The two manuscripts particularly highlighted the need for studies to focus exclusively on the perspectives of health care providers in providing health care services to PWDs, including those with physical disabilities in rural areas. Understanding of such perspectives is especially timely in that health care providers are key stakeholders in improving health care access and quality for persons with physical disabilities. Overall, the manuscript complements the dissertation by leveraging on the findings from the first two manuscripts. Specifically, health care providers' perspectives leverage previous findings from clients' experiences (Dassah et al., 2018) and develop specific and actionable intervention priorities to improve health care delivery for PWDs rural Ghana specifically and other rural contexts in general.

5.1 Abstract

A growing body of evidence has shown that persons with physical disabilities experience substantial barriers in accessing primary health care (PHC) services in rural areas. Negative attitudes from health care providers and inaccessible health care facilities and equipment are common experiences that negatively affect access to quality health care for persons with physical disabilities. However, there is limited research that explores this issue from the perspectives of health care providers. This qualitative study explores the perspectives of health care providers in delivering PHC services to persons with physical disabilities in rural Ghana. Understanding health care providers' perspectives could help leverage previous findings from clients' experiences to more fully inform the development of specific and actionable research and interventions to improve health care delivery for persons with disabilities. We conducted in-depth interviews with 15 health care providers and used thematic analysis to analyze the data. Participants reported their perspectives in three major themes: challenges in providing health care (e.g., limited health care services and providers, financial constraints, inaccessible facilities and equipment); strategies in navigating the challenges (e.g., improvising techniques and self-sacrifices, referring clients and providing financial assistance to clients); and positive experience in providing health care (e.g., feeling rewarded and appreciated). The findings reinforce the need to consider the availability of rehabilitation professionals and services to address the specific health care needs of persons with disabilities at the PHC level in Ghana. The findings also point to a need for further research on the perspectives of health care policymakers about how to navigate the systemic barriers encountered by providers in providing care to persons with physical disabilities in rural Ghana in particular, and other similar rural areas.

Keywords: Ghana, primary health care, access to health care, rural health, persons with physical disabilities.

5.2 Introduction

People with disabilities (PWDs) include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others (United Nations, 2006) Persons with disabilities constitute approximately 1 billion of the global population, with 80% living in low- and middle-income countries (LMICs) (World Health Organization, 2011). PWDs are often regarded as the poorest and most marginalized in many communities (World Health Organization, 2011). They also often have limited access to health care as compared to their counterparts without disabilities. Given this, global policy documents including the Sustainable Development Goals and the Convention on the Rights of Persons with Disabilities (UNCRPD) have recognized the need for supporting PWDs' access to quality health care. Ensuring equitable health care access for this population is also a top priority for health care systems in many LMICs (Tomlinson et al., 2009), including those in Sub-Saharan Africa.

Ghana is one of the emerging countries of Sub-Saharan Africa promoting and supporting access to health care for PWDs through the formulation of disability and health policies. For example, Ghana signed and ratified the UNCRPD, and also enacted the Persons with Disabilities Act in 2006 to protect the rights of PWDs (Persons with Disability Act of 2006). The Act has many provisions that aim to improve health care access for people with disabilities. For instance, it guarantees PWDs' right to access the same quality and standard of health care as provided to other persons. Furthermore, the Act emphasizes free medical treatment and rehabilitation services. Aside from access to health care, PWDs' rights to access public spaces and services through the design of disability friendly facilities are enshrined in this Act (Persons with Disability Act of 2006). Additionally, Ghana has been at the forefront in sub-Saharan Africa in

ensuring universal access to health care for all its citizens. For instance the government of Ghana introduced a national health insurance scheme in 2003, with the aim of increasing and improving access to quality and affordable health care for all residents regardless of socio-economic status (Agyepong & Adjei, 2008). Premiums are charged to clients and are renewable on a yearly basis under the scheme. However, the scheme grants exemptions from these premiums for specific groups including elderly persons, children, social security contributors and pensioners, pregnant women, the extreme poor (indigents), and recently, those with mental health disorders.

Despite these policies, a growing body of evidence has shown that PWDs continue to experience barriers in accessing health care in Ghana (Badu, Opoku, & Appiah, 2016; Badu, Opoku, Appiah, & Agyei-Okyere, 2015; Dassah, Aldersey, McColl, & Davison, 2018; Ganle et al., 2016). In particular, a recent study indicated that persons with physical disabilities in rural Ghana encounter barriers that include negative attitudes from health care providers (i.e., stigmatization and discrimination) and inaccessible health care facilities and equipment (Dassah et al., 2018). Dassah et al. (2018) exclusively sought the perspectives of persons with physical disabilities and revealed that these clients' recollections of encounters with health care providers often cast the providers in a negative light. It is critical for new research to understand the perspectives of health care providers in order to have a holistic understanding of access for clients with physical disabilities, especially in rural Ghana (Dassah et al., 2018; Ganle et al., 2016). The objective of this study is to explore the perspectives of health care providers in providing care to persons with physical disabilities in rural Ghana. This study is timely in that health care providers are key stakeholders in improving health care access and quality for clients with physical disabilities. Hence, they can provide unique perspectives on how to translate policies into clinical practice, an area in which actors in national health care systems often

struggle to make improvements (White, 2015). Further, health care providers' perspectives will leverage previous findings from clients experiences (Dassah et al., 2018) and develop specific and actionable intervention priorities to improve health care delivery for PWDs. In particular, health care providers' perspectives will contribute to policy makers' understanding of the barriers and facilitators in providing care to PWDs. Such understanding might shape decisions on the problems that need to be addressed to improve access to health care services for PWDs.

5.3 Health Care System in Rural Ghana

Health care delivery in Ghana is provided by both public and private sectors. The public or government-run health care sector provides two-thirds of all health services in Ghana (Institute for Health Metrics and Evaluation, 2015). The public health system in Ghana is organized in five tiers—Community-Based Health Planning and Services (CHPS) compounds at the community level, health centres at the sub-district level, district hospital at the district level, regional hospital at the regional level and specialized/teaching hospitals at the national level.

Primary health care (PHC) services are mostly provided at the community, sub-district and district levels in rural areas. At the community level, the CHPS compounds constitute the most basic level of health care services provision and function more to ensure quality and equitable PHC services for those living in rural and hard-to-reach communities. Under the CHPS compounds, health care providers deliver basic services to clients in their communities and homes. At the sub-district level, the health centers deliver both preventive and curative services. These centers especially provide minor surgical services and refer severe health cases to the next level of care. The district hospital constitutes the apex of health care delivery in rural areas. The facilities provide comprehensive care including curative care, preventive care, outpatient and inpatient services, and health promotion. The facilities in these three levels are mostly staffed

with health care providers such as medical doctors, medical assistants, nurses, pharmacists, laboratory technicians and auxiliary nurses (Agbenyo, Nunbogu, & Dongzagla, 2017)—hereafter, we refer to these individuals as "providers".

5.4 Theoretical Framework

The perspectives of providers are important in understanding access to health care. The concept of access to health care is complex and thus difficult to define and measure (Levesque, Harris, & Russell, 2013). Andersen (1995) conceptualized access as both potential access (resources that enable clients to seek care) and realized access (clients' actual use of care services). The use of service is determined by the interactions between the characteristics of the population and that of the health care system (Andersen, 1995). Thus, access to health care is achieved if health resources (supply) fit or interact with the individual health care need (demand) (Frenk, 1992). These demand and supply interactions have further been described by researchers as the "fit" between the provider and the user in the following dimensions; accessibility, availability, affordability, accommodation and acceptability (Penchansky & Thomas, 1981). More recent reviews have either modified or identified additional dimensions to operationalize health care access (Levesque et al., 2013; Russell et al., 2013; Saurman, 2016). For instance, Russell et al. (2013) suggested that access is a complex and multidimensional construct that includes the "fit" between the client and the provider across seven dimensions—availability, geography, affordability, accommodation, timeliness, acceptability and awareness. Access also encompasses the ability to identify and use health services in times of need (Levesque et al., 2013; Russell et al., 2013). In this study, we will conceptualize access based on Russell et al.'s (2013) framework as it focusses on rural perspectives of access to PHC.

5.5 Methods

5.5.1 Study Design and Setting

We used a descriptive qualitative approach to explore the perspectives of providers in delivering care to persons with physical disabilities in rural Ghana. A qualitative descriptive approach is well-suited for researching topics where practical answers are sought with relevance to health care practitioners and policy makers (Sandelowski, 2000). We obtained approvals from Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board and the Ghana Health Services.

The study was conducted in the Upper West Region of Ghana. Detailed information about the study setting is explained elsewhere (See Dassah et al., 2018). In brief, the region has only 2.8% of Ghana's population with 3.7% PWDs, and approximately 83.7% of the population is rural, thus making it the most predominant rural region in Ghana (Ghana Statistical Service, 2012).

5.5.2 Participants and Recruitment

We recruited 15 providers for the study (see Table 8). We believe that with this sample size, we achieved adequate 'information power' (when adequate sample size is defined in terms of study aim, sample specificity, use of established theory, quality of dialogue, and analysis strategy) (Malterud, Siersma, & Guassora, 2016). We used purposive sampling to recruit the participants based on the following inclusion criteria: (a) provision of health services to persons with physical disabilities in their health facilities (i.e., persons with impairments that impact their physical functioning); (b) ability to communicate in English and/or Dagaare (dominant local language in study areas) and (c) willingness to participate. To achieve diverse perspectives, we sampled the participants based on age, sex, specialization, district, type of facility working and

number of years working in the profession. We identified and recruited participants through the Ghana Health Services (GHS). The GHS wrote an introductory letter stating the study purpose. The first author then contacted potential participants and interviewed those who met the inclusion criteria.

Table 8 Characteristics of Participants

Characteristic	Total, N
Age (Years)	
20-30	5
31-40	5
41-50	3
51-60	2
Sex	
Male	7
Female	8
Specialization	
General nurses	6
Medical assistants	4
Community health nurses	3
Medical doctor	1
Auxiliary nurse	1
District	
Daffiama/Bussie/Issa	3
Jirapa	4
Nadowli/Kaleo	5
Wa West	3
Type of facility	
Health centers	8
CHPS compounds	4
District hospital	3
Years in profession	
0-10	6
11-20	4
21-30	3
31-40	2

5.5.3 Data Collection, Analysis and Rigor

The first author conducted in-depth interviews (12 in English and 3 in Dagaare) in health facilities and at a time convenient to the participants. The interviews were audio-recorded with

the participants' consent and lasted between 45-60 minutes. The interview guide focused on participants' roles and experiences in providing care to persons with physical disabilities. The first author simultaneously translated and transcribed the Dagaare interviews and crossed checked with two independent researchers fluent in both English and Dagaare. Similarly, the interviews in English were also transcribed verbatim by the first author and checked with the same independent researchers.

The data were then imported into NVivo™12 software and the first author conducted thematic analysis using the following major steps: (a) initial familiarization with the data, including repeatedly reading of interview transcripts while noting down key messages; (b) systematic generation of initial codes, including the creation of a code book; (c) tentative organization of codes into themes and sub-themes; and (d) iterative process of reviewing, restructuring and refining of themes and sub-themes (Braun & Clarke, 2006). The first author collaborated with a second coder to code a sample of the transcripts to identify the themes. All the authors also discussed and reached consensus on the final themes.

5.6 Results

Three major themes emerged from the analysis, and they include: 1) challenges in providing health care; 2) strategies in navigating the challenges; and 3) positive experiences in providing health care. Supportive quotations from the participants to demonstrate these themes and their related subthemes are described in the subsequent sections.

5.6.1 Theme 1: Challenges in Providing Health Care

5.6.1.1 Limited supplies of drugs and medical equipment.

A notable challenge highlighted by all the participants was the frequent lack of drugs and medical equipment in health facilities: "One day a client in a tricycle came to me with leakage of

urine. I was thinking of giving him a catheter to manage the problem, but we don't have some over here". Another similarly emphasized:

> We can't get antibiotics for our clients with disabilities in here because there is a directive from the top…. Because of that clients who need them have to go to health centers or drugstores.

The providers especially noted that delay in payment of services by the national health insurance scheme hindered the supply of drugs and equipment to the facilities. Due to this, providers were sometimes uncertain as to when they will get supplies. Further, providers in CHPS compounds recounted that persons with physical disabilities that often develop secondary conditions such as sores that needed care. However, participants said a lack of the necessary supplies especially in CHPS compounds impeded the provision services to such clients. A participant emphasized this point:

> We sometimes run out of medical supplies like gauze and hand gloves to provide the necessary services to persons with severe physical disabilities that develop sores.

5.6.1.2 Limited health care providers.

A limited number of providers was another key barrier noted in some of the clinics and health centers. More specifically, limited specialists at the PHC level to manage common conditions experienced by persons with physical disabilities was a key barrier for providers in providing optimal care for these clients. A provider summed up this experience:

> we don't have enough staff to provide optimal care like checking BP levels, managing pressure sores and urinary problems of clients with severe physical conditions like stroke and spinal cord injuries.

Further, some of the participants in these facilities recounted that their staff numbers could not match with clients' needs. Some providers in health centers indicated that their staff were not many and due to this they could not devote much time for their clients with severe physical impairments with secondary complications. This situation is often exacerbated during local market days (i.e. specific dates set aside for farmers to sell their farm produce to

customers). Participants especially expressed frustrations about high workload during market days since that is the only time clients from nearby communities often get reliable means of transportation:

> For now, we are only two trained nurses that struggle to serve this community and beyond. And so on market days we usually have high workload. This sometimes negatively affects quality health care delivery to clients with disabilities.

Although this situation pertains to both persons with and without disabilities, providers were more concerned that it often leads to delays in providing quality care to persons with physical disabilities.

5.6.1.3 Financial constraints.

A majority of the participants (n=12) cited financial constraints as a common challenge faced by their clients with physical disabilities. The participants indicated that although the national health insurance scheme covers most of the services, some of the clients with physical disabilities could not purchase or annually renew the insurance coverage because of poverty. A participant noted:

> Clients with disabilities who come here without health insurance always complained that they are not working and so don't have money to cover medical expenses and other non-medical things like folder and consultation fees.

Some of the providers (n=8) attributed this issue to societal discrimination that often excludes PWDs from the job market. Unsurprisingly, they reported that many of their clients with disabilities were unemployed and thus lacked financial resources to cover the cost of care:

> Most of the clients with disabilities are not working and so when they come for care at times I have to just consider them because they find it difficult to pay for services. They are like abandoned people in society.

They also mentioned that clients with insurance coverage sometimes find it difficult to afford the indirect cost of care (i.e., transportation) to health facilities: This is noted by a participant

> Clients with physical disabilities often postpone visits to health care facilities because they don't have money for transport. They also fear to walk or propel their tricycles far because of the fear of developing more complications.

5.6.1.4 Inaccessible facilities and equipment.

Participants (n=13) cited inaccessible facilities and medical equipment as a major barrier in providing service to their clients with physical disabilities. Providers lamented how health facilities were designed without taking the needs of clients with assistive devices into consideration. A participant recounted:

> The design of this building is nothing to write home about. The entrance is steep that clients in tricycles can't propel them into the facility. It is a shame that the architects did not factor the needs of those with mobility devices into the design and that is really bad.

The participants further highlighted that when the clients with tricycles manage to access the facility, they encounter different layers of barriers such as inaccessible rooms and tables: "This facility is not that accessible for those with tricycles because we don't have ramps at the entrances. The waiting room is also a small space for a tricycle to move freely". Some participants reported that weighing scales could not accommodate the needs of those with severe physical impairments. A participant indicated:

> We have weighing scales here, but they are not disability friendly and so when those with severe physical disabilities cannot stand on them we don't use them when they come for care.

Participants recounted that the lack of disability friendly equipment often resulted in devoting substantial time to provide services to persons with physical disabilities, and this partly contributed to long queues in some facilities.

5.6.2 Theme 2: Navigating the Challenges

5.6.2.1 Improvising techniques and self-sacrifices.

Providers (n=13) explained that the lack of ramps and disability friendly equipment means that they had to improvise techniques like guessing their clients' weight to provide

adequate care. A nurse summed up this issue: “When they can’t stand on the weighing scale, we usually guess their weight and provide the necessary prescription. Is so frustrating but what else can we do?” Another provider expressed similar sentiments:

> For those clients in tricycles when they can’t get into the facility we [providers] usually try to lift the person in. But if we can’t do that we try to put a piece of wood between the gutters for the person to propel the tricycle into the building.

Providers further indicated that when they encounter challenges such as high workload on market days, they make self-sacrifices by placing the health needs of the patients above their personal needs. A participant summed up:

> Some clients with disabilities rely on their family members to come here. Sometimes they have to wait for their family members to return from work or school and if they [i.e., family members] come back late, they could also come at the time I’m about to close. When this happens, I have to forgo domestic issues and rather attend to the person’s needs…. This usually happens on market days.

A few of the providers (n=4) also recounted the importance of making self-sacrifices despite the lack of incentives and compensation packages. For instance, they recalled that dedicating more time to clients with physical disabilities could prevent further secondary complications like sores.

5.6.2.2 Referring clients.

In cases of limited supply of services (e.g. drugs and equipment) and providers (e.g. rehabilitation specialists), providers refer clients to higher facilities (e.g. health centers): “Because we don’t have rehabilitation specialists over here, and so what I usually do is just to refer them to heath facilities that have these specialists”. The participants (n=9), however, noted that referring clients often make them feel guilty about their inability to provide services to their clients with severe disabilities. A nurse noted:

> One afternoon two caregivers assisted a client with disability over here for services. Unfortunately, I had to refer this client to the next level and that made me feel guilty when I consider the struggle of the client in using public transport, and the associated cost and the time

> involved by the two caregivers in accompanying him to the next health facility. What else can I do? Because I have no choice either than to refer him.

They further recounted how clients often doubt their competency level when they refer these clients. Meanwhile participants noted that this issue can be squarely placed with the inability of the health care system to make rehabilitation specialists available at the PHC level to handle the specific health care needs of their clients with physical disabilities.

5.6.2.3 Providing financial assistance to clients.

Some of the providers (n=8) recounted how they financially assisted their clients by providing services on credit or giving cash to meet the direct and indirect costs of care. For instance, a few of the participants held the view that most of the clients with disabilities they often see could not afford their basic needs. Hence, when these clients visit health facilities for care, providers often attend to them and give them drugs on credit: "I try to give them [i.e. clients with physical disabilities] care and then use my own money to pay for those services because most them can't afford for the services". Similarly, providers also recounted that they financially assisted clients with disabilities to purchase drugs at local drugstores and also cover transportation cost back to their community. One provider explained why they are often obliged to provide such financial assistance:

> Some of these clients with disabilities can't even afford food let alone medical expenses. There was a day a client came and told me how she struggled to get money to come here for care. Her story was so sad and I had to just give her money to buy drugs and transportation back home.

5.6.3 Theme 3: Positive Experiences in Providing Health Care

5.6.3.1 Feeling rewarded and appreciated in rural practice.

Some of the participants (n=7) indicated it is rewarding to serve clients with physical disabilities in rural communities. For instance, a participant explained how a client in tricycle inspired her to continue working with clients with disabilities. She explained:

> Although I was not able to provide the needed services to a client with tricycle with muscle spasm, she was happy I dedicated sometime to listen to her problems and that inspires me to still stay in this community. This gives me a sense of how such clients need me here.

These participants further explained that rural practice enables them to reap rewards such as being considered as 'experts' in handling different conditions of PWDs because they are always the first contact for these clients in rural communities. Other rewards stressed by the participants include learning different cultural contexts. In one instance, a nurse working in a different cultural context recounted how her understanding of disability within a local context enabled her to provide culturally appropriate care to clients with physical disabilities. Additionally, participants expressed their excitement about how rural residents with disabilities appreciate the services they often provide. Participants particularly shared that family members of clients with disabilities often demonstrate appreciation for their work by giving gifts of farm produce:

> I was surprised to see a young man who came and gave me some tubers of yams [farm produce] just to express how appreciative he is for the service I provided to his family member with a physical disability.

5.7 Discussion

This study provides insights into the perspectives of providers in providing PHC services to clients with physical disabilities in rural Ghana. These perspectives include challenges providing care, navigating the challenges and positive experiences providing care.

Overall, the results suggest that providers encountered multiple barriers that are in accordance with previous studies globally wherein inaccessible facilities and equipment, insurance constraints, limited supply of services and providers were identified as the common barriers to quality health care delivery to clients with physical disabilities (Knox, Rohatinsky, Rogers, Goodridge, & Linassi, 2014; Mitra et al., 2017; Smeltzer, Mitra, Long-Bellil, Iezzoni, & Smith, 2018; Vergunst, Swartz, Mji, MacLachlan, & Mannan, 2015).

In particular, the limited availability of services and providers in meeting the specific health needs of clients with disabilities were recurrent barriers the participants highlighted in this study. Similar to existing evidence, the lack of services and providers especially rehabilitation specialists in rural areas is a global concern and negatively affects the ability of PWDs to receive care (Hussain & Tait, 2015; Roots & Li, 2013). The participants in this study however recounted that they had to cope with these barriers by referring clients. Nevertheless, research has indicated that financial predicaments (i.e. cost of care and transportation) and long distance to facilities coupled with unknown dangers often deter referral uptake for PWDs to health facilities (Bedford, Mackey, Parvin, Muhit, & Murthy, 2013). This point was especially noted by the participants in this study and they often feel uncomfortable in referring their clients to service centers. In view of this, researchers have suggested that the provision of mobile vans/clinics could enhance PWDs' access to health care services in rural Ghana (Dassah et al., 2018; Ganle et al., 2016). Additionally, strategies may be targeted towards recruitment of rehabilitation professionals to augment the human resource level of providers to improve equitable access to health care (Roots & Li, 2013). However, in cases of professional shortage, the World Report on Disability recommends that training of community workers in LMICs could enhance the provision of basic rehabilitation interventions for PWDs at the PHC level (World Health Organization, 2011).

Another important barrier raised by participants was the inability of their clients with disabilities to afford health care. Thus, while Ghana's health insurance was introduced to reduce financial barriers to access, inequities in access still exist between PWDs and the general population (Badu et al., 2015). This situation can be attributed to the cyclical nature of disability and poverty (Banks, Kuper, & Polack, 2017; Yeo & Moore, 2003). For instance, participants' narratives point to systemic factors (e.g. discrimination) that generally exclude clients with

disabilities from the job market. This scenario often pushes PWDs into poverty and because of this, they may not be able to purchase or renew their health insurance and afford out of pocket payment for services. This financial situation could exacerbate their disabling conditions as they find it difficult to access health care when needed. As a result, participants recounted providing personal financial assistance to cover clients direct and indirect cost of services. Nevertheless, evidence shows that this strategy is often unsustainable and insufficient (Hutchison, Khan, Yoong, Lin, & Coker, 2017), and could also paint PWDs as "objects of charity". Considering this, policymakers need to fully commit to the implementation of Ghana's Disability Act provision on free medical care and employment opportunities for PWDs. This can be achieved through intersectoral collaborations among stakeholders in the ministries of social protection, health and employment. More specifically, collaboration between employment and social protection ministries could foster skills training and employment opportunities for PWDs to reduce poverty (Naami, Hayashi, & Liese, 2012).

Taken together, Russell et al.'s (2013) conceptualization of access as a "fit" between the characteristics of health care systems (supply) and client characteristics (demand) is analytically useful in explaining the access barriers. Thus, the barriers reported by the participants in this study illustrate how the complex interplay of supply and demand determine health care access. For instance, we noted that access barriers emanated from the inability of the health care system to match the specific health care needs of clients with physical disabilities. This pattern also reflects an earlier study which noted that a mismatch between supply and demand often results in barriers to health care access for persons with physical disabilities in rural Ghana (Dassah et al., 2018).

A central theme in the analysis was how participants improvised techniques and made self-sacrifices to navigate access barriers. The focus on self-sacrifices is consistent with research on providing care for clients with multiple chronic conditions (Loeb, Bayliss, Candrian, DeGruy, & Binswanger, 2016). Self-sacrifices is one of the core tenets of health professional bodies and agencies globally. For instance, the core tenets of self-sacrifices outlined by Ghana Health Service may include demonstrating high sense of dedication to duty and upholding the dignity and interest of clients without discrimination (Ghana Health Service, 2003). It is worth noting that providers' adherence to self-sacrifices in the light of resource constraints may have negative consequences. For example, participants' narratives of working long hours and relegating their personal needs to satisfy clients health care needs could contribute to provider burnout (Loeb et al., 2016). This burnout could give rise to both physical and psychosomatic problems (e.g., anxiety, depression and low tolerance of frustration) that could be transferred to clients (Suñer-Soler et al., 2014). This may be a possible factor that leads to clients casting providers in a negative light. Therefore, the availability of rehabilitation professionals at the PHC level is crucial in reducing burnout of existing staff.

Participants recounted positive experiences that enable them to provide high quality of care to clients with disabilities. This finding contrasts with research that described adversarial relationships between providers and PWDs in Ghana (Badu et al., 2016). Participants in this study particularly highlighted the rewarding experience for providing care to persons with physical disabilities. They also reported that they had a cordial working relationship with these clients. Providers, however, described systemic challenges (i.e., lack of providers, drugs and medical equipment, and inaccessible building) that hamper the delivery of quality care to their clients with disabilities. These patterns mirror a recent study highlighting that while clinicians

generally experienced positive encounters in caring for pregnant women with physical disabilities, systemic issues (i.e., inaccessible facilities) tend to frustrate their efforts in providing quality care (Smeltzer et al., 2018). As such, providers' frustrations with the systemic barriers compelled them to take some decisions (e.g., referring clients and improvising techniques). However, such decisions could potentially attract negative remarks from clients. Despite these systemic issues, the positive encounters between providers and clients could serve as useful guide for providers in different LMICs to learn and promote client-centered services in rural communities.

The participants' positive attributes also challenge a deficit discourse that dominates in rural health. The deficit discourse refers to the deficiencies of rural health when compared to urban health (Bourke, Humphreys, Wakerman, & Taylor, 2010; Malatzky & Bourke, 2016). Bourke et al. (2010) especially noted that rural health practitioners, policy makers and researchers persistently emphasize this deficit discourse, which maintains and reinforces 'problem-describing'. Consequently, the authors have commented on the need to focus on the strengths of rural health and promote it as 'problem-solving' (Bourke et al., 2010). Therefore, participants' positive encounters with their clients with physical disabilities could potentially motivate them to work with PWDs in rural communities. This can also increase providers' knowledge and skills in managing health issues encountered by PWDs in a rural areas of resource poor settings.

5.8 Limitations

This study was conducted in a few selected districts and municipal assemblies of rural Ghana. This makes it difficult to generalize the findings to other rural areas. Another limitation is that high workload and tight schedules of providers could not allow for more frequent or longer

interviews. Although we determined that information power was reached, there is the possibility that more information would have emerged in a larger sample size. Notwithstanding these limitations, the results provide interesting perspectives that are congruent with similar emerging studies on providers' perspectives especially around the challenges in providing health care to PWDs (Knox et al., 2014; Maragh-Bass, Griffin, Phelan, Rutten, & Morris, 2018; Mitra et al., 2017; Smeltzer et al., 2018). The study also offers insights about the development of interventions, programs and clinical guidelines aimed at improving the quality of health care to persons with physical disabilities in rural Ghana.

5.9 Conclusion

This study contributes to the nascent evidence that addresses the perspectives of providers in health care delivery to PWDs by incorporating the perspectives of those in rural Ghana. This study particularly supports existing evidence on positive provider—client with physical disabilities' interactions and the challenges in health care provision to these clients (Smeltzer et al., 2018). This study is unique in that we expanded the existing evidence by explaining a strength-based approach in health care delivery to PWDs, thus counteracting the deficit discourse in rural health. The study also delved into strategies employed by providers in dealing with access barriers and noted that the strategies are likely unsustainable. We therefore recommended possible areas of policy, practice and research that could ensure sustainable service delivery. Importantly, the findings reinforce the need for policy makers to consider the availability of rehabilitation professionals and services to address the specific health care needs of PWDs at the PHC level in Ghana. The findings also point to a need for further research on the perspectives of health care policymakers about how to navigate the systemic barriers

encountered by providers in providing care to persons with physical disabilities in rural Ghana in particular, and other similar rural areas.

5.10 References

Agbenyo, F., Nunbogu, A. M., & Dongzagla, A. (2017). Accessibility mapping of health facilities in rural Ghana. *Journal of Transport & Health, 6*, 73–83.

Agyepong, I. A., & Adjei, S. (2008). Public social policy development and implementation: A case study of the Ghana National Health Insurance scheme. *Health Policy and Planning, 23*(2), 150–160.

Andersen, R. M. (1995). Revisiting the Behavioral Model and Access to Medical Care: Does it Matter? *Journal of Health and Social Behavior, 36*(1), 1–10.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability, 5*(1), 1–8.

Badu, E., Opoku, M., Appiah, S., & Agyei-Okyere, E. (2015). Financial Access to Healthcare among Persons with Disabilities in the Kumasi Metropolis, Ghana. *Disability, CBR & Inclusive Development, 26*(2), 47–64.

Banks, L. M., Kuper, H., & Polack, S. (2017). Poverty and disability in low- and middle-income countries: A systematic review. *PLoS ONE, 12*(2), e0189996.

Bedford, J., Mackey, S., Parvin, A., Muhit, M., & Murthy, G. V. S. (2013). Reasons for non-uptake of referral: children with disabilities identified through the Key Informant Method in Bangladesh. *Disability & Rehabilitation, 35*(25), 2164–2170.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2010). From "problem-describing" to "problem-solving": Challenging the "deficit" view of remote and rural health. *Australian Journal of Rural Health, 18*(5), 205–209.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in*

Psychology, *3*(2), 77–101.

Dassah, E., Aldersey, H. M., McColl, M. A., & Davison, C. (2018). 'When I don't have money to buy the drugs, I just manage.'—Exploring the lived experience of persons with physical disabilities in accessing primary health care services in rural Ghana. *Social Science & Medicine*, *214*, 83–90.

Frenk, J. (1992). The concept and measurement of accessibility. In K. White (Ed.), *Health Services Research: An Anthology*. Washington DC: Pan American Health Organization.

Ganle, J. K., Otupiri, E., Obeng, B., Edusie, A. K., Ankomah, A., & Adanu, R. (2016). Challenges Women with Disability Face in Accessing and Using Maternal Healthcare Services in Ghana: A Qualitative Study. *PLoS ONE*, *11*(6), e0158361.

Ghana Health Service. (2003). *Code of Conduct and Disciplinary Procedures*. Accra. Retrieved on October 18, 2018 from http://www.ghanahealthservice.org/ghs-item-details.php?cid=5&scid=52&iid=87

Ghana Statistical Service. (2012). *2010 Population & Housing Census: Summary Report of Final Results*. Accra. Retrieved on October 18, 2018 from http://www.statsghana.gov.gh/docfiles/2010phc/Census2010_Summary_report_of_final_results.pdf

Hussain, R., & Tait, K. (2015). Parental perceptions of information needs and service provision for children with developmental disabilities in rural Australia. *Disability and Rehabilitation*, *37*(18), 1609–1616.

Hutchison, C., Khan, M. S., Yoong, J., Lin, X., & Coker, R. J. (2017). Financial barriers and coping strategies: a qualitative study of accessing multidrugresistant tuberculosis and tuberculosis care in Yunnan, China. *BMC Public Health*, *17*(1), 221.

Institute for Health Metrics and Evaluation. (2015). *Health Service Provision in Ghana: Assessing Facility Capacity and Costs of Care*. Seattle, Washington. Retrieved on October 18, 2018 from http://www.healthdata.org/sites/default/files/files/policy_report/2015/ABCE_Ghana_finalreport_Jan2015.pdf

Knox, K. B., Rohatinsky, N., Rogers, M., Goodridge, D., & Linassi, G. (2014). Access to traumatic spinal cord injury care in Saskatchewan, Canada: A qualitative study on community healthcare provider perspectives. *Canadian Journal of Disability Studies*, *3*(3), 83–103.

Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health, 12*(1), 18.

Loeb, D. F., Bayliss, E. A., Candrian, C., DeGruy, F. V., & Binswanger, I. A. (2016). Primary care providers' experiences caring for complex patients in primary care: a qualitative study. *BMC Family Practice*, *17*, 34.

Malatzky, C., & Bourke, L. (2016). Re-producing rural health: Challenging dominant discourses and the manifestation of power. *Journal of Rural Studies, 45*, 157–164.

Malterud, K., Siersma, V. D., & Guassora, A. D. (2016). Sample Size in Qualitative Interview Studies: Guided by Information Power. *Qualitative Health Research*, *26*(13), 1753– 1760.

Maragh-Bass, A. C., Griffin, J. M., Phelan, S., Rutten, L. J. F., & Morris, M. A. (2018). Healthcare provider perceptions of accessible exam tables in primary care: Implementation and benefits to patients with and without disabilities. *Disability and Health*, *11*(1), 155–160.

Mitra, M., Smith, L. D., Smeltzer, S. C., Long-Bellil, L. M., Moring, N. S., & Iezzoni, L. I.

(2017). Barriers to providing maternity care to women with physical disabilities: Perspectives from health care practitioners. *Disability and Health*, *10*(3), 445–450.

Naami, A., Hayashi, R., & Liese, H. (2012). The unemployment of women with physical disabilities in Ghana: issues and recommendations. *Disability & Society*, *27*(2), 191–204.

Penchansky, R., & Thomas, J. (1981). The concept of access: definition and relationship to consumer satisfaction. *Medical Care*, *19*(2), 127–140.

Persons with Disability Act of Ghana, Act 715 (2006).

Roots, R. K., & Li, L. C. (2013). Recruitment and retention of occupational therapists and physiotherapists in rural regions: a meta-synthesis. *BMC Health Services Research*, *13*(1), 59.

Russell, D. J., Humphreys, J. S., Ward, B., Chisholm, M., Buykx, P., McGrail, M., & Wakerman, J. (2013). Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*, *21*(2), 61–71.

Sandelowski, M. (2000). Whatever happened to qualitative description? *Research in Nursing & Health*, *23*(4), 334–340.

Saurman, E. (2016). Improving access: modifying Penchansky and Thomas's Theory of Access. *Journal of Health Services Research & Policy*, *21*(1), 36–39.

Smeltzer, S. C., Mitra, M., Long-Bellil, L., Iezzoni, L. I., & Smith, L. D. (2018). Obstetric clinicians' experiences and educational preparation for caring for pregnant women with physical disabilities: A qualitative study. *Disability and Health*, *11*(1), 8–13.

Suñer-Soler, R., Grau-Martín, A., Flichtentrei, D., Prats, M., Braga, F., Font-Mayolas, S., & Gras, M. E. (2014). The consequences of burnout syndrome among healthcare professionals in Spain and Spanish speaking Latin American countries. *Burnout Research*, *1*(2), 82–89.

Tomlinson, M., Swartz, L., Officer, A., Chan, K. Y., Rudan, I., & Saxena, S. (2009). Research priorities for health of people with disabilities: an expert opinion exercise. *The Lancet*, *374*(9704), 1857–1862.

United Nations. (2006). *Convention on the Rights of Persons with Disabilities and Optional Protocol*. New York. Retrieved on October 18, 2018 from http://www.un.org/disabilities/documents/convention/convoptprot-e.pdf

Vergunst, R., Swartz, L., Mji, G., MacLachlan, M., & Mannan, H. (2015). 'You must carry your wheelchair'–barriers to accessing healthcare in a South African rural area. *Global Health Action*, *8*, 29003.

White, F. (2015). Primary Health Care and Public Health: Foundations of Universal Health Systems. *Medical Principles and Practice*, *24*(2), 103–116.

World Health Organization. (2011). *World report on disability 2011*. Geneva. https://doi.org/http://www.who.int/disabilities/world_report/2011/en/

Yeo, R., & Moore, K. (2003). Including Disabled People in Poverty Reduction Work: "Nothing About Us, Without Us." *World Development*, *31*(3), 571–590.

Chapter 6 General Discussion and Conclusion

6.1 Introduction

The goal of this dissertation was to explore access to primary health care (PHC) services for persons with physical disabilities in rural Ghana. In order to achieve this goal, I used a qualitative approach to address the following research objectives: (a) examine current literature on factors affecting access to PHC for PWDs in rural areas globally; (b) explore the lived experiences of individuals with physical disabilities in accessing PHC in rural Ghana; and (c) investigate health care providers' perspectives in providing PHC for people with physical disabilities in rural Ghana.

In the final section, I summarize unique/key findings, and discuss these findings relative to existing evidence on access to health care for PWDs. I also discuss the implications of these findings in relation to research, policy and practice. I conclude the chapter with a discussion about the limitations of this dissertation and directions for future research.

6.2 Summary of Unique/Key Findings

The dissertation consists of a review (chapter 3) and two qualitative studies (chapters 4 and 5). The review examines existing evidence regarding factors affecting access to PHC for rural residents with disabilities globally. I identified and mapped literature onto a rural health framework (Russell et al., 2013). The review suggested that PWDs are unable to access PHC due to obstacles including the interplay of four major factors: availability, acceptability, geography and affordability. For instance, limited availability of health care facilities and services and perceived low quality of care means those in need of health care services had to travel for care. The barrier of geographic distance is worsened by transportation problems. This review also revealed that where health services were available, most people could not afford the cost. This

review confirmed the findings of a previous review on this issue (Lishner, Richardson, Levine, & Patrick, 1996), indicating that barriers to health care access have not been resolved since the United Nations adopted the Convention on the Rights of PWDs or the Sustainable Development Goals. Importantly, I identified research gaps and suggested the need for future research to explore access to PHC in geographical contexts with different health care systems (chapter 4) and the perspectives of health care providers (chapter 5). Finally, the review revealed a recent growing interest in disability and PHC access in LMICs, however, I was unable to locate such evidence in rural Ghana.

Given this knowledge gap, I conducted the second study (chapter 4) to understand the experiences of rural residents with physical disabilities in accessing PHC services in rural Ghana. Thus, this study addressed the core aim of this dissertation. The participants shared their experiences across all the seven dimensions of access to PHC for rural residents (Russell et al., 2013). I found that rural residents with disabilities generally encountered access barriers such as limited supply of services and lack of providers. The study further suggested that those with physical disabilities face additional challenges that include travelling and navigating unfriendly built environments and experiencing negative attitudes from providers. Overall, this trend resonated with the findings from the review of global literature (chapter 3) indicating that access barriers are exacerbated for PWDs in rural areas. However, the study also revealed positive encounters between providers and persons with physical disabilities. This finding contrasts with research that described adversarial relationships between providers and PWDs in Ghana (Badu, Opoku, & Appiah, 2016).

It is worth noting that data from both chapters 3 and 4 often cast health providers in a negative light. Therefore, I argued for further studies to understand the perspectives of providers

in providing care to persons with physical disabilities to have a more balanced view of this topic. Given this, I performed the third study (Chapter 5) to explore the perspectives of health care providers in providing care to persons with physical disabilities in rural Ghana. In this study, participants reported their perspectives in alignment with three major themes: challenges in providing health care (e.g., limited health care services and providers, financial constraints, inaccessible facilities and equipment); strategies in navigating the challenges (e.g., improvising techniques and self-sacrifices, referring and providing financial assistance to persons with physical disabilities); and positive experiences providing health care (e.g., feeling rewarded and appreciated). This study supports existing evidence on the challenges in health care provision of services to PWDs (Knox, Rohatinsky, Rogers, Goodridge, & Linassi, 2014; Maragh-Bass, Griffin, Phelan, Rutten, & Morris, 2018; Mitra et al., 2017; Smeltzer, Mitra, Long-Bellil, Iezzoni, & Smith, 2018). Importantly, it provides evidence for positive provider—persons with physical disabilities' interactions, a finding that is generally contrasted with the findings from the review in chapter 3.

6.3 Key Factors Affecting Access to Health Care for PWDs in Rural Areas

In summary, I undertook an extensive review of existing literature and conducted qualitative interviews with persons with physical disabilities and health care providers to understand PHC access for persons with physical disabilities in rural Ghana. I identified several factors across all the seven dimensions (Russell et al., 2013) that affected access to PHC services for PWDs, including those with physical disabilities, in rural areas. The most common dimensions were affordability, availability, acceptability, accommodation and geography. Less common, but worthy of consideration were timeliness and awareness. In the next section that

follows, I present the dimensions in order of importance based on number of occurrences within the review and qualitative studies.

6.3.1 Affordability of Health Care Services

A prominent barrier highlighted in the dissertation was the inability of PWDs to afford health care. This financial barrier was due to the high cost of medical services (e.g., drugs) and transportation to facilities that deter PWDs from seeking care, especially in LMICs, including Ghana. Thus, Ghana's health insurance was introduced to reduce such financial barriers to access; however, inequities in access still exist between PWDs and the general population (Badu et al., 2015). In effect, PWDs still continue to encounter financial barriers in accessing PHC services in Ghana, indicating that financial barriers to health care access have not been resolved since the introduction of the national health insurance scheme in 2003.

This financial situation among PWDs can be attributed to the cyclical nature of disability and poverty (Banks, Kuper, & Polack, 2017; Yeo & Moore, 2003). For instance, participants' narratives point to systemic factors (e.g., discrimination) that generally exclude PWDs from the job market. This scenario often pushes PWDs into poverty and because of this, they may not be able to purchase or renew their health insurance and afford out of pocket payment for services. This financial situation could exacerbate their disabling conditions as they find it difficult to access health care when needed. As a result, health care providers in the third study recounted providing personal financial assistance to cover direct and indirect cost of services. Nevertheless, evidence shows that this strategy is often unsustainable and insufficient (Hutchison, Khan, Yoong, Lin, & Coker, 2017), and could also paint PWDs as "objects of charity".

6.3.2 Availability of Health Care Services and Providers

This study also found availability as a major factor that affected PWDs access to PHC in rural areas. For instance, the general shortage of health care providers in rural areas, which was highlighted in this dissertation, corroborates previous studies (Lishner, Richardson, Levine, & Patrick, 1996; Strasser, Kam, & Regalado, 2016). High turnover of providers in rural areas can be expensive to health care systems and also negatively affects PWDs in receiving quality health care (Buykx, Humphreys, Wakerman, & Pashen, 2010). For PWDs, the shortage of providers (e.g. rehabilitation professionals) in rural areas can especially lead to difficulties in fostering relationships and rapport that may enhance continuity of care (Burton & Walters, 2013; Di Blasi, Kendall, & Spark, 2006).

Malatzky and Bourke (2016) noted that health care providers are choosing to work in urban areas despite the need and incentives to work in rural areas. They further argued that the persistent focus on workforce shortage in rural areas relative to urban areas undermines the recruitment of new health care providers to rural areas (Malatzky & Bourke, 2016). Given this, high workloads, burnouts, and restriction of opportunities for professional development and career advancement, have been documented to contribute to the notion among health care providers that working in rural areas is undesirable (Bourke, Humphreys, Wakerman, & Taylor, 2010; Farmer, Clark, & Munoz, 2010; Strasser et al., 2016). The shortage of providers may hamper efforts in achieving the 2030 Agenda for Sustainable Development Goal that reiterates equity, universality and quality of care.

Additionally, the lack of health care infrastructure (e.g. health centers, drugstores and laboratories) and services compounded access to health care services for PWDs in rural areas. Similar to existing evidence, the lack of health care infrastructure and services especially

rehabilitation services in rural areas is a global concern and negatively impacts PWDs in receiving care (Hussain & Tait, 2015; Roots & Li, 2013). The dissertation highlighted that health care providers recounted coping with these challenges by referring PWDs to the next level of care. Nevertheless, research has indicated that long distance to facilities and services coupled with unknown dangers often deter referral uptake for PWDs to health facilities (Bedford, Mackey, Parvin, Muhit, & Murthy, 2013). This point was especially noted by health care providers in this dissertation and they often feel uncomfortable in referring PWDs to service centers.

6.3.3 Acceptability of Health Care Services and Providers

This dissertation demonstrates that acceptability of services was a prominent factor that affected health care access for PWDs in rural areas. For instance, stigmatization compounded access barriers for PWDs and as a result PWDs often felt reluctant to access health care services although they may have serious health conditions that may require urgent health service intervention. This finding echoes other previous literature indicating that PWDs perspectives about interactions with health care providers often cast health care providers in a bad image (Badu, Opoku, & Appiah, 2016; Vergunst, Swartz, Mji, MacLachlan, & Mannan, 2015).

Interestingly, a few of PWDs experienced positive interactions with providers that facilitated their access to care. They also expressed high satisfaction of care received, trust and confidence with rural health care providers, a finding that is consistent with a previous rural study in rural Louisiana, USA (Davidsson & Södergård, 2016). This positive provider—PWDs interaction contrasts with research that described adversarial relationships between providers and PWDs in Ghana (Badu et al., 2016). These positive interactions were also highlighted by health

care providers. A possible explanation could be that providers are adhering to the Ghana's Health Services "Code of Ethics" and the "Patients Charter" (Ghana Health Service, 2003).

Further, providers positive experiences that enable them to provide high quality of care to PWDs. Health care providers particularly highlighted the appreciating and rewarding experience for providing care to persons with physical disabilities. They also reported that they had a cordial working relationship with these PWDs. Providers however described systemic challenges (i.e. lack of providers, drugs and medical equipment, and inaccessible building) that hamper the delivery of quality care to persons with physical disabilities. These patterns mirror a recent study highlighting that while clinicians generally experienced positive encounters in caring for pregnant women with physical disabilities, systemic issues (i.e. inaccessible facilities) tend to frustrate their efforts in providing quality care (Smeltzer et al., 2018). As such, providers frustrations with the systemic barriers compelled them to take some decisions (e.g. referring PWDs and improvising techniques). However, such decisions could potentially attract negative remarks from PWDs.

The participants' (health care providers and PWDs) positive attributes also challenge a deficit discourse that dominates in rural health. The deficit discourse refers to the deficiencies of rural health when compared to urban health (Bourke et al., 2010; Malatzky & Bourke, 2016). Bourke et al. (2010) especially noted that rural health practitioners, policy makers and researchers persistently emphasize this deficit discourse, which maintains and reinforces 'problem-describing'. Consequently, the authors have commented on the need to focus on the strengths of rural health and promote it as 'problem-solving' (Bourke et al., 2010). Therefore, health care providers' positive encounters with persons with physical disabilities could potentially motivate them to work with PWDs in rural communities. This can also increase

providers' knowledge and skills in managing health issues encountered by PWDs in a rural areas of resource poor settings.

6.3.4 Geographical Access to Health Care

The dissertation identified geography as a key feature of access to health care. In particular, the findings indicated that PWDs in rural areas had to travel long distance to access health care. Thus, as reflected in previous studies (Donabedian, 1973; Ho et al., 2017), the findings from this dissertation indicated that the mere presence of health facilities in rural communities is not enough unless it is possible for PWDs to use such facilities. For instance, persons with physical disabilities in rural Ghana recounted how the lack of 24-h operation of some of the facilities impeded access. Given this, participants had to make a long journey and navigate physical features within the natural and built environment (e.g. untarred roads, valleys) in order to receive health care elsewhere. This situation also resonates with the experiences of persons with physical disabilities in other African nations, such as in rural South Africa and Namibia (Van Rooy et al., 2012; Vergunst et al., 2015).

6.4.5 Accommodation of Services

The architectural design of health facilities and medical equipment access highlighted in this dissertation reflects recent studies that found the lack of disability-friendly designs of health facilities (Badu et al., 2016; Ganle et al., 2016; Knox, Rohatinsky, Rogers, Goodridge, & Linassi, 2014; Mitra et al., 2017; Smeltzer, Mitra, Long-Bellil, Iezzoni, & Smith, 2018; Vergunst et al., 2015). The dissertation noted that physical barriers such as inaccessible health facilities and equipment impeded PWDs' access to health services. This situation contrasts with the Disability Act that highlights the need for access to public spaces and services through the design of disability friendly facilities (Persons with Disability Act of 2006). These physical

barriers contribute to social exclusion and violation of their right to access health care (Ganle et al., 2016). They could also hamper Ghana's efforts in ensuring the 2030 Sustainable Development Goal target of equity in access to health care (United Nations, 2015).

6.4 Implications of the Dissertation

6.4.1 Research Implications

This dissertation adds to the literature on access to health care services in rural areas globally by exploring the topic for persons living with physical disabilities in rural Ghana. The dissertation in particular adds to the growing empirical evidence on access to health care for marginalized populations (i.e., PWDs) in resource poor settings in Africa (Eide et al., 2015; Grut, Mji, Braathen, & Ingstad, 2012; Mji et al., 2017; Van Rooy et al., 2012; Vergunst et al., 2017, 2015). I have extended the existing evidence on barriers to health care access by highlighting facilitators in accessing PHC service for persons with physical disabilities in rural Ghana.

Further, I expanded existing knowledge on rural health by explaining a strength-based approach to rural health care delivery to persons with physical disabilities (chapter 5). This approach counteracts a deficit discourse that persistently emphasizes that rural health is inherently problematic and deficient in comparison to urban (Malatzky & Bourke, 2016). In particular, I highlighted positive attributes of rural practice for health care providers, including feeling rewarded and appreciated. These attributes are consistent with findings from rural Australia indicating that rural practice provides rewarding, enriching and challenging careers (Malatzky & Bourke, 2016; Waite & Bourke, 2015). Therefore, rural health researchers have been urged to acknowledge these advantages and "build on the strength of rural and remote public health infrastructure, ingenuity and practice" (Wakerman, 2008, p.52).

Theoretically, the dissertation contributes to the conceptualisation of access as a "fit" between the characteristic of the individual (demand) and that of the health care system characteristic (supply) (Levesque, Harris, & Russell, 2013; Penchansky & Thomas, 1981; Russell et al., 2013; Saurman, 2016). Thus, the barriers to PHC access for PWDs, including those with physical disabilities, across the three substantive chapters paint a complex picture of how the interplay of demand and supply determine access to health care. In particular, findings from the three chapters highlight that a mismatch between demand and supply culminated in the access barriers. Russell et al.'s (2013) framework was also useful in identifying relevant areas that has policy and practice implications. I discuss these implications in the next section.

6.4.2 Policy and Practice Implications

The findings of the three chapters (chapters 3, 4 and 5) point to the inability of persons with physical disabilities to afford health care services when needed. The findings in chapters 4 and 5 particularly highlight the complex nature of disability and poverty that explains this financial situation (Banks et al., 2017; Yeo & Moore, 2003). In view of this, there is a need for policymakers to implement the provisions for free medical care and rehabilitation services, and employment opportunities for PWDs. Policy makers should also endeavor to provide interventions that would address the indirect costs of health care services (e.g. transportation). More particularly, intersectoral collaborations among key stakeholders in the ministries of social protection, health and employment are necessary in addressing these issues. For instance, collaboration between employment and social protection ministries could foster skills training and employment opportunities for PWDs to reduce poverty and therefore enable them to afford both direct and indirect cost of health care services (Naami, Hayashi, & Liese, 2012).

The findings of chapters 3 and 4 provide evidence regarding negative interactions between service providers and PWDs—indicating that stigmatization compounded access for PWDs. Due to this, PWDs felt reluctant to access health care services in future, although they may have serious health conditions that may require urgent health service intervention. Given such experiences, policy makers in the areas of education, health and social protection should seek to collaborate on how to integrate disability issues in the design of health-related education curricula. Such strategies would contribute in developing on the human resources to provide appropriate services to PWDs. Additionally, there should be continuing professional development training for providers on the principles of client-centered care and customer care communications, as indicated elsewhere (Ganle et al., 2016). Despite the negative encounters between persons with physical disabilities and health care providers, chapters 4 and 5 also indicated positive experiences that may be interesting for health care providers in other jurisdictions. These positive interactions bring a unique perspective on how service providers are willing to provide services in a resource poor setting of LMICs. Such understanding provides practical insights for health care providers to learn and promote client-centered care in rural communities.

This dissertation also demonstrated that the architectural design of health facilities and medical equipment compounded access challenges for PWDs. As indicated in the three chapters (chapters 3, 4 and 5), I noted that physical barriers such as inaccessible health facilities and equipment impeded PWDs' access to health services. As a matter of policy, I recommend the policymakers' commitment to the implementation of the Ghana's Disability Act provision on disability-friendly public places and services in collaboration with major state institutions and stakeholders. In particular, Ghana's health agencies should work collaboratively with architects

and building regulators to redesign existing facilities or construct new facilities that are more disability friendly (i.e., presence of ramps). Additionally, manufacturers of medical equipment should take into consideration the needs of PWDs. Ghana Health Services and the Ministry of Health should also endeavor to procure disability friendly equipment such as weighing scales, chairs and beds.

Further, as reported in the three chapters, PWDs had to travel long distance for care due to the lack of services and providers in their communities. To overcome this, policy makers need to consider introducing free or subsidized ambulatory or transportation services and mobile vans as this could potentially enhance health care access in rural communities in Ghana. Additionally, chapter 5 highlighted that providers commonly reported a lack of skills to be able to handle the specific needs of people with physical disabilities. Given this, there is an urgent need to make rehabilitation services available at the PHC level in Ghana. This also means that strategies should be geared towards recruitment of rehabilitation professionals (e.g., occupational therapists and physiotherapists) to address the needs of PWDs. However, in cases of rehabilitation professional shortage, training of the existing PHC providers could help develop appropriate human resources to handle the specific health needs of PWDs. The World Report on Disability also indicates that training of community workers in LMICs could enhance the provision of basic rehabilitation interventions for PWDs at the PHC level (World Health Organization, 2011).

Importantly, researchers have recommended the integration of rehabilitation services in PHC settings to overcome the difficulties that providers often encounter in proving care to persons with disabling conditions (McColl, 2006; McColl, Shortt, & Godwin, 2009). For instance, the availability of physiotherapists at the PHC level could improve access to appropriate care by diagnosing and treating acute and chronic conditions, care coordination and case management

support for PWDs (Dufour, Brown, & Lucy, 2014). Similarly, occupational therapists can perform roles in PHC including assisting with chronic pain and chronic disease management, and providing support and education to caregivers (Leclair, 2013). The role of these rehabilitation professionals could also reduce workload and burnout that are often experienced by providers in rural communities. This may lead to subsequently improved health outcomes for PWDs, and ultimately may improve equitable access to health care between PWDs and the general population.

6.5 Limitations and Directions for Future Research

There are a few limitations of the dissertation that need to be recognized. First, I took a qualitative approach that provided insights into participants' experiences and perspectives about access to PHC services for persons with physical disabilities in rural Ghana. Further, most of the articles I reviewed in chapter three were qualitative based, and as a result do not provide information on the breadth of access barriers and facilitators. Future studies should seek to conduct quantitative research from key stakeholders (i.e., policy makers and health care providers) to explore strategies that could be employed to overcome the access barriers. It would also be useful to conduct quantitative research to compare PHC access across different categories of physical disability and duration of physical disability in rural areas.

Second, most of the studies in chapter 3 utilized generic qualitative approaches as their study design and adopted interviews and focus group discussions to articulate the experiences of PWDs in accessing PHC service in rural areas. Chapters 4 and 5 also adopted a descriptive qualitative approach and interviews to highlight participants' experiences and perspectives. I argue that future research could employ alternative qualitative approaches such as phenomenology and arts-based methods (e.g. photographs and drawings). These approaches may

provide a better understanding of key aspects of the physical, social and political environment and how they affect health care access for PWDs in rural areas. In particular, a recent review has indicated that the use of photovoice could potentially reveal rich perspectives about persons with physical disabilities experiences in relation to physical barriers and facilitators to participation and accessibility to services (Dassah, Aldersey, & Norman, 2017).

Furthermore, I conducted the primary studies in a few selected districts and a municipality of the Upper West Region of Ghana. As such, these findings may not be transferred to other rural areas and facilities in Ghana. As Ghana's health care system is pluralistic—consisting of public, private health facilities, and faith based and Indigenous healing system (Ae-Ngibise et al., 2010; Tenkorang, 2016), it would be interesting for more robust research into the role of these private medical facilities and faith based and Indigenous healing systems in relation to access to PHC for PWDs in rural Ghana.

Another limitation pertains to the possibility of lost meaning in the translation process of some of the interviews I conducted in Dagaare (the dominant language in the Upper West Region of Ghana). However, I took steps to ensure rigor in this process. First, I involved two other researchers who spoke the local language to cross-check the translation of the interviews with the audio recordings before the analysis. Thus, these researchers help in correcting errors and gaps that existed. Further, I held bi-weekly meetings with my primary supervisor (Dr. Heather Aldersey) for de-briefing while I was collecting the data. Additionally, I kept field notes and accounts of participants behaviors and activities during the interviews to aid in the analysis of the data. Finally, the co-authors in the three chapters, (i.e., chapters 3, 4 and 5), (Dr. Heather Aldersey, Dr. Mary Ann McColl and Dr. Colleen Davison) had the opportunity to check the adequacy of the key findings, which enhances credibility of the findings.

Furthermore, I explored the topic from multiple sources and perspectives e.g. existing literature (chapter 3), persons with physical disabilities (chapter 4) and health care providers (chapter 5) to provide a comprehensive understanding of health care access. Nevertheless, chapter 5 points to the need for further research on the perspectives of policy makers on how they make key policy decisions or priority setting in the case of limited resources. Future research should focus on policy documents that support access to health care for PWDs in Ghana. Understanding the policy context is critical given that policy documents "reflect or guide the governmental decision-making process, hold governments accountable for services delivered, shape societal viewpoints and actions, and record a society's progress and change over time" (Aldersey & Turnbull, 2011, p.161). Thus, policy commitment shapes decisions on how health care services may be offered to PWDs in practice. As such conducting policy analysis may assist in understanding if existing policies create barriers or remove barriers for PWDs in accessing health care services in rural Ghana.

Finally, and reflecting on positionality, my familiarity with the study context was instrumental in gathering rich data. The context, however, may have also influenced me to focus more on deficit-based information from the participants due to my personal or family members negative experiences in accessing PHC services in rural Ghana. Thus, this negative "lens" may influence how I interpreted the findings that primarily highlighted access barriers rather than facilitators to PHC services. Despite this limitation, this dissertation provides evidence that could be useful in future research, policy development and clinical practice.

6.6 Conclusion

The purpose of this dissertation was to explore access to PHC services for persons with physical disabilities in rural Ghana. The dissertation highlighted that the interplay of factors such

as as availability, geography, affordability, accommodation, timeliness, acceptability and awareness affect the ability of persons with physical disabilities' access to PHC services in rural settings. The most common factors were service affordability (presence of health insurance and high cost of transportation), availability (presence of health facilities, deficient drug supply and lack of providers), acceptability (positive and negative attitudes of providers and perceived high and low quality of care) and accommodation (inaccessible health facilities and equipment). Given the interplay of these factors, I suggested changes to Russell and colleagues' (2013) conceptual framework to capture the complex interactions of these factors to better conceptualize rural access PHC access challenges and opportunities in rural settings. Besides adding to the emerging literature on access to health care services for PWDs in rural areas of LMICs, the dissertation also made unique contributions in terms of policy, practice and future research.

Importantly, there is also the need for health policies that aimed at addressing rural access problems to consider all the dimensions of access. The findings also reinforce a need for policy makers to consider the availability of rehabilitation professionals and services to address the specific health care needs of PWDs at the PHC level in Ghana. In terms of practice, the positive interactions between providers and PWDs bring unique perspectives and practical insights for providers in other rural settings to learn and promote client-centered care. Future research should focus on the perspectives of health care policymakers about how to navigate the systemic barriers encountered by providers in providing care to persons with physical in rural areas. Thus, paying attention to these areas can contribute to timely access to health care services, the prevention of secondary complications, and PWDs' satisfaction with PHC services in rural Ghana in particular and potentially also in other rural areas in LMICs.

6.7 References

Ae-Ngibise, K., Cooper, S., Adiibokah, E., Akpalu, B., Lund, C., Doku, V., & The MHaPP Research Programme Consor. (2010). 'Whether you like it or not people with mental problems are going to go to them': A qualitative exploration into the widespread use of traditional and faith healers in the provision of mental health care in Ghana. *International Review of Psychiatry*, *22*(6), 558–567.

Aldersey, H., & Turnbull, H. R. (2011). The United Republic of Tanzania's National Policy on Disability: A Policy Analysis. *Journal of Disability Policy Studies*, *22*(3), 160–169.

Badu, E., Opoku, M., & Appiah, S. (2016). Attitudes of health service providers : The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African Journal of Disability*, *5*(1), 1–8.

Banks, L. M., Kuper, H., & Polack, S. (2017). Poverty and disability in low- and middle-income countries: A systematic review. *PLoS ONE*, *12*(2), e0189996.

Bedford, J., Mackey, S., Parvin, A., Muhit, M., & Murthy, G. V. S. (2013). Reasons for non-uptake of referral: children with disabilities identified through the Key Informant Method in Bangladesh. *Disability & Rehabilitation*, *35*(25), 2164–2170.

Bourke, L., Humphreys, J. S., Wakerman, J., & Taylor, J. (2010). From "problem-describing" to "problem-solving": Challenging the "deficit" view of remote and rural health. *Australian Journal of Rural Health*, *18*(5), 205–209.

Burton, H., & Walters, L. (2013). Access to Medicare-funded annual comprehensive health assessments for rural people with intellectual disability. *Rural & Remote Health*, *13*(3), 1–15.

Buykx, P., Humphreys, J., Wakerman, J., & Pashen, D. (2010). Systematic review of effective retention incentives for health workers in rural and remote areas: towards evidence-based policy. *The Australian Journal of Rural Health, 18*(3), 102–109.

Dassah, E., Aldersey, H. M., & Norman, K. E. (2017). Photovoice and Persons With Physical Disabilities: A Scoping Review of the Literature. *Qualitative Health Research*, *27*(9), 1412–1422.

Davidsson, N., & Södergård, B. (2016). Access to Healthcare among People with Physical Disabilities in Rural Louisiana. *Social Work in Public Health, 31*(3), 188–195.

Di Blasi, A., Kendall, S., & Spark, M. J. (2006). Perspectives on the role of the community pharmacist in the provision of Healthcare to people with intellectual disabilities: Exploration of the barriers and solutions. *International Journal of Pharmacy Practice, 14*(4), 263–269.

Dufour, S. P., Brown, J., & Lucy, S. D. (2014). Integrating physiotherapists within primary health care teams: perspectives of family physicians and nurse practitioners. *Journal of Interprofessional Care, 28*(5), 460–465.

Eide, A. H., Mannan, H., Khogali, M., Van Rooy, G., Swartz, L., Munthali, A., … Dyrstad, K. (2015). Perceived barriers for accessing health services among individuals with disability in four African countries. *PLoS ONE*, *10*(5), 1–14.

Farmer, J., Clark, A., & Munoz, S. A. (2010). Is a global rural and remote health research agenda desirable or is context supreme? *Australian Journal of Rural Health*, *18*(3), 96–101.

Ganle, J. K., Otupiri, E., Obeng, B., Edusie, A. K., Ankomah, A., & Adanu, R. (2016).

Challenges Women with Disability Face in Accessing and Using Maternal Healthcare Services in Ghana: A Qualitative Study. *PLoS ONE, 11*(6), e0158361.

Ghana Health Service. (2003). Code of Conduct and Disciplinary Procedures. Accra. Retrieved on October 18, 2018 from http://www.ghanahealthservice.org/ghs-item-details.php?cid=5&scid=52&iid=87

Grut, L., Mji, G., Braathen, S. H., & Ingstad, B. (2012). Accessing community health services: challenges faced by poor people with disabilities in a rural community in South Africa. *African Journal of Disability*, *1*(1), 1–7.

Hutchison, C., Khan, M. S., Yoong, J., Lin, X., & Coker, R. J. (2017). Financial barriers and coping strategies: a qualitative study of accessing multidrugresistant tuberculosis and tuberculosis care in Yunnan, China. *BMC Public Health*, *17*(1), 221.

Knox, K. B., Rohatinsky, N., Rogers, M., Goodridge, D., & Linassi, G. (2014). Access to traumatic spinal cord injury care in Saskatchewan, Canada: A qualitative study on community healthcare provider perspectives. *Canadian Journal of Disability Studies*, *3*(3), 83–103.

Leclair, L. (2013). Occupational therapists in primary health care and primary care: Important contributors to the interprofessional team. *Occupational Therapy Now*, *15*(5), 3–4.

Levesque, J., Harris, M., & Russell, G. (2013). Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International Journal of Equity in Health*, *12*(1), 18.

Lishner, D., Richardson, M., Levine, P., & Patrick, D. (1996). Access to primary health care

among persons with disabilities in rural areas: a summary of the literature. *The Journal of Rural Health, 12*(1), 45–53.

Malatzky, C., & Bourke, L. (2016). Re-producing rural health: Challenging dominant discourses and the manifestation of power. *Journal of Rural Studies, 45*, 157–164.

McColl, M. A. (2006). Structural determinants of access to health services for people with disabilities. In M. A. McColl & L. Jongbloed (Eds.), *Disability and social policy in Canada* (2nd ed., pp. 293–313). Toronto: Captus Press.

McColl, M. A., Shortt, S., & Godwin, M. (2009). Models for integrating rehabilitation and primary care: a scoping study. *Archives of Physical Medicine and Rehabilitation*, *90*(9), 1523–1531.

Mitra, M., Smith, L. D., Smeltzer, S. C., Long-Bellil, L. M., Moring, N. S., & Iezzoni, L. I. (2017). Barriers to providing maternity care to women with physical disabilities: Perspectives from health care practitioners. *Disability and Health, 10*(3), 445–450.

Mji, G., Braathen, S. H., Vergunst, R., Scheffler, E., Kritzinger, J., Mannan, H., … Visagie, S. (2017). Exploring the interaction of activity limitations with context, systems, community and personal factors in accessing public health care services: A presentation of South African case studies. *African Journal of Primary Health Care and Family Medicine*, *9*(1), 1–9.

Naami, A., Hayashi, R., & Liese, H. (2012). The unemployment of women with physical disabilities in Ghana: issues and recommendations. *Disability & Society, 27*(2), 191–204.

Penchansky, R., & Thomas, J. (1981). The concept of access: definition and relationship to

consumer satisfaction. *Medical Care*, *19*(2), 127–140.

Persons with Disability Act of Ghana, Act 715 (2006).

Russell, D. J., Humphreys, J. S., Ward, B., Chisholm, M., Buykx, P., McGrail, M., & Wakerman, J. (2013). Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*, *21*(2), 61–71.

Saurman, E. (2016). Improving access: modifying Penchansky and Thomas's Theory of Access. *Journal of Health Services Research & Policy*, *21*(1), 36–39.

Smeltzer, S. C., Mitra, M., Long-Bellil, L., Iezzoni, L. I., & Smith, L. D. (2018). Obstetric clinicians' experiences and educational preparation for caring for pregnant women with physical disabilities: A qualitative study. *Disability and Health*, *11*(1), 8–13.

Strasser, R., Kam, S. M., & Regalado, S. M. (2016). Rural Health Care Access and Policy in Developing Countries. *Annual Review of Public Health*, *37*, 395–412.

Tenkorang, E. Y. (2016). Health Provider Characteristics and Choice of Health Care Facility among Ghanaian Health Seekers. *Health Systems & Reform*, *2*(2), 160–170.

United Nations. (2015). *Transforming our world: the 2030 Agenda for Sustainable Development*. New York. Retrieved on October 18, 2018 from https://sustainabledevelopment.un.org/post2015/transformingourworld

Van Rooy, G., Amadhila, E. M., Mufune, P., Swartz, L., Mannan, H., & MacLachlan, M. (2012). Perceived barriers to accessing health services among people with disabilities in rural northern Namibia. *Disability & Society*, *27*(6), 761–775.

Vergunst, R., Swartz, L., Hem, K. G., Eide, A. H., Mannan, H., MacLachlan, M., … Schneider,

M. (2017). Access to health care for persons with disabilities in rural South Africa. *BMC Health Services Research, 17,* 741.

Vergunst, R., Swartz, L., Mji, G., MacLachlan, M., & Mannan, H. (2015). 'You must carry your wheelchair'–barriers to accessing healthcare in a South African rural area. *Global Health Action, 8,* 29003.

Waite, C. J., & Bourke, L. (2015). Rural young people's perspectives on online sociality: Crossing geography and exhibiting self through Facebook. *Rural Society*, *24*(2), 200–218.

Wakerman, J. (2008). Rural and remote public health in Australia: Building on our strengths. *Australian Journal of Rural Health, 16,* 52–55.

Yeo, R., & Moore, K. (2003). Including Disabled People in Poverty Reduction Work: "Nothing About Us, Without Us." *World Development, 31*(3), 571–590.

Appendix A Detailed Description of the Included Articles in the Review

No	Author, Year and Country of Publication	Study Aim and Design	Study Population	Data Collection and Analysis	Main Findings Related to Access to Primary Health Care Services in Rural Areas
1	Ahmad, 2013 (Pakistan)	**Objective**: To assess persons with physical disabilities access to health care with particular emphasis on the barriers of access **Design**: Qualitative study	Different participants —245 persons with physical disabilities (171 males and 74 females) aged 15-35 years —district health managers —1 director in charge of public buildings	**Data collection:** In-depth interviews **Data analysis:** Thematic analysis	**Acceptability:** clients faced discrimination in receiving health care **Accommodation:** architectural designs of buildings and transport service are not disability friendly **Affordability:** high cost of health service and transportation **Availability:** lack of health care providers and services **Awareness:** health care providers lack of knowledge on disability health needs **Timeliness:** long queues resulting in clients delay in receiving health care
2	Asher et al., 2017 (Ethiopia)	**Objective:** To understand the experiences and reasons for the restraint of people with schizophrenia **Design:** Qualitative study	50 participants (24 males and 26 females) aged 25 years and above —4 people with schizophrenia —17 caregivers —7 community leaders —22 key informants	**Data collection:** In-depth interviews and focus group discussions **Data analysis:** Thematic analysis	**Affordability:** Lack of affordable treatment options **Availability:** absence of mental health care service **Geography:** long distance in reaching to services

3	Banks et al., 2016 (Ethiopia)	**Objective**: To examine explanatory models, health-seeking behaviors and self-care amongst persons with podoconiosis **Design**: Qualitative study	34 participants (19 males and 15 females) aged 26-90 years —27 persons with podoconiosis (13 males and 14 females) —5 patient association leaders (4 males and 1 female) —2 health care providers (males).	**Data collection:** In-depth interviews, focus group discussions and key informant interviews **Data analysis** Thematic analysis	**Acceptability:** clients' lack of trust in modern medications, only use medical clinics as last resort **Awareness:** clients' lack of knowledge about modern medications
4	Braathen et al., 2013 (South Africa)	**Objective:** To elucidate core issues that are key to the development of global mental health agenda **Design:** Qualitative grounded theory approach	Different participants —1 woman (aged 65years) with a mental disorder —Family members of the person with mental disorder	**Data collection:** Observation, in-depth interviews, contextual data from various health sectors **Data analysis:** Grounded theory analysis	**Affordability:** high cost of transportation to a facility **Availability:** shortage of health care providers, equipment and medication **Awareness:** health literacy relating to the lack of family and community understanding of mental disorder **Geography:** Clients trek long distance with public transport to a facility. The area is characterized by geographical features including rugged hills, deep valleys, rivers and forests. **Timeliness:** shortage of health care providers culminates in little time for health delivery to clients

5	Burton and Walters, 2013 (Australia)	**Objective:** To explore people with Intellectual Disabilities (ID) access to an annual comprehensive health assessments (ACHAs) and factors that affect their access to ACHAs **Design:** Qualitative approach	18 participants —8 adults with intellectual disabilities —6 caregivers/support workers of persons with persons with intellectual disabilities —4 health care providers	**Data collection:** Semi-structured interviews **Data analysis:** Thematic analysis	**Awareness:** clients and carers lack of knowledge about health assessments. Health care providers' also have limitations in disability health issues. Communication triangle among health care providers, clients and carers as advocates/interpreters is critical to effective health care delivery. **Timeliness:** clients often have to wait for a long period to see a preferred health care provider
6	Davidsson and Södergård, 2016 (USA)	**Objective:** To explore the perceptions about factors that promotes and impedes health care access for persons with physical disabilities in rural Louisiana **Design:** Qualitative approach	9 persons with physical disabilities (5 females and 4 males) aged 46-87 years	**Data collection:** In-depth interviews **Data analysis:** Content analysis	**Acceptability:** clients expressed trust and confidence in health care providers' knowledge about disability issues. **Accommodation:** designs of medical equipment and the doctor's office are not disability friendly **Affordability:** clients have health insurance coverage, however the ability to pay for health care depends on insurance type **Awareness:** one client got health care information via television or other people, while others got it from health care providers' especially booking appointments. **Geography:** clients were all dependent on transportation to get to health care providers

7	Di Blasi et al., 2006 (Australia)	**Objectives: (1)** To gain an understanding of pharmacists' perspectives of and barriers to the provision of health care services to persons with intellectual disabilities (ID); and **(2)** To explore strategies and solutions for improving pharmacists' involvement in delivering health care services to persons with ID **Design:** Descriptive qualitative study	10 Community pharmacists (5 males and females each) aged 23-58 years and with 6 months to 37 years' experience as pharmacists.	**Data collection:** Semi-structured interviews **Data analysis:** Thematic analysis	**Acceptability:** health care providers ensured medication safety and also built a strong relationship/rapport with clients (persons with intellectual disabilities). **Availability:** staff shortage hampered health care delivery to clients **Awareness:** cognitive abilities and capacity of clients to understand their medications and health care providers to effectively communicate to clients **Timeliness:** insufficient time to deliver service to clients
8	Eide et al., 2015 (South Africa, Namibia, Malawi and Sudan)	**Objective:** To both identify the magnitude and specific barriers, and also estimate the impact of disability on health care access barriers **Design:** Quantitative study	9307 individuals with and without disabilities in 400-500 households in 4 countries —South Africa, Namibia, Malawi and Sudan	**Data collection:** Survey questionnaires **Data analysis:** Structural equation modelling	**Affordability:** high cost health care services **Availability:** shortage of health care services and equipment **Geography:** Lack of transport, long distance and unfavorable terrain to health care facilities

9	Goodridge et al., 2015 (Canada)	**Objective:** To examine the perspectives of persons living with traumatic spinal cord injuries (tSCI) on their access to health care and support services **Study design:** Qualitative descriptive social phenomenology	23 adults living with tSCI (16 males and 7 females) aged 18 and over. —10 participants (9 men, 1 woman) reside in rural areas. —13 participants (7 men and 6 women) reside in urban centers.	**Data collection:** Semi-structured interviews **Data analysis:** Thematic analysis	**Acceptability:** clients described both positive and negative attitudes of health care providers **Accommodation:** access to health care facilities was a challenge to clients. Health care providers were willing to be flexible with bureaucratic procedures **Geography:** some clients could drive, and this facilitated their access to health care services **Timeliness:** timely access to care posed a challenge to clients
10	Grut et al., 2012 (South Africa)	**Objective:** To explore the difficulties persons living in a resource-poor environment access and utilize health care services, and how this may render inaccessible health care services when they are available **Design:** Qualitative study	Different participants —24 persons with disabilities and/or their family members (14 men and boys, and 10 women and girls) —18 health care providers (13 health care professional and 5 unskilled workers at a health facility)	**Data collection:** In-depth interviews **Data analysis:** Contextual and interpretive analysis	**Acceptability:** past experience increases carers expectations about health care quality to clients **Affordability:** extra transport cost for accompanied carer and wheelchair. Some clients do not have disability grant as income source for health care expenses **Geography:** some carers use public transport to take the client to a health facility but has to resort to wheelbarrow because the client becomes violent when in public transport.

11	Grut et al., 2015 (Malawi)	**Objective:** To present a understanding of access to tuberculosis (TB) services for people with disabilities (PWDs) in a resource poor context **Design:** Qualitative approach	89 participants (53 males and 36 females) —47 PWDs-physical sensory, intellectual and albinism (23 males and 24 females) —11 parents/guardians (1 male and 10 females) —31 key informants	**Data collection:** Semi-structured interviews and site observations **Data analysis:** Thematic analysis	**Acceptability:** health care providers treated clients with respect and also prioritize them in queues. This often results in anger from other patients **Availability:** health care facility lacks equipment and personnel for TB testing and medication **Awareness:** clients lack of knowledge about TB causes and medications **Geography:** some participants could not transport themselves to health care facility
12	Hailemariam et al., 2017 (Ethiopia)	**Objective:** To explored barriers to initial and ongoing engagement of people with severe mental disorders **Design:** Qualitative phenomenological approach	70 participants (31 males and 39 females) aged 25 years and above —20 health extension workers —11 primary health care staff —22 caregivers —17 people with severe mental disorders	**Data collection:** In-depth interviews and focus group discussion **Data analysis:** Thematic analysis	**Acceptability:** lack of trust in modern medication **Affordability:** clients unable to afford cost of care due to poverty **Availability:** limited medication options to clients **Geography:** long distance in getting to a facility
13	Hailemariam et al., 2016 (Ethiopia)	**Objective:** To inform delivery of a new primary care-based mental health service through the identification of barriers to equitable	33 participants (16 males and 17 females) aged 25-65 years —12 health extension workers —6 service users	**Data collection:** In-depth interviews and a focus group discussion **Data analysis:** Framework analysis	**Acceptability:** lack of trust in modern medication, however those who received care at mental health facilities can wipe out the fear of modern medicine.

		access to mental health care and strategies of overcoming the barriers. **Design:** Qualitative study	—5 caregivers —3 traditional and faith healers —4 community leaders —2 NGO representatives —1 health office representative		**Affordability:** clients with sufficient financial pay for care, transportation, accommodation and meal **Availability:** absence of mental health care service in the district **Awareness:** community lacks awareness about primary mental health care **Geography:** long distance in reaching to mental health services **Timeliness:** lack of mental health services in the community hampered timely access to care
14	Hamilton et al., 2017 (United States)	**Objective:** To describe the utilization, accessibility, and satisfaction of health care services for persons with spinal cord injuries **Design:** Quantitative study	142 participants (50 females, 92 males) living with spinal cord injuries	**Data collection:** Survey questionnaires **Data analysis:** Descriptive statistics, Wilcoxon rank-sum tests and Spearman correlations	**Acceptability:** clients expressed satisfaction with the care they have received **Accommodation:** clients reported accessibility issues both inside and outside facilities (e.g. washrooms, doorways, exam tables and rooms, labs, imaging and parking spaces) **Awareness:** Majority of clients indicated physician knowledge and good communication about their health care needs
15	Hanlon et al., 2017 (Ethiopia)	**Objective:** To explore the barriers, facilitators and potential strategies to promote good health system governance with respect to mental health care in Ethiopia	17 participants —7 national/regional level policy makers, planners and service developers makers	**Data collection:** Semi-structured interviews **Data analysis:** Framework analysis	**Acceptability:** people are reluctant to accepting biomedical approaches to mental health care. Stigma is also attached to mental health care **Affordability:** Medications can be expensive but integrating mental care into PHC will reduce the cost. Policies like insurance and poverty

		Design: Qualitative study	—10 district level health office administrators and facility heads.		reduction strategies will promote equitable access. **Availability:** lack of medication supplies and personnel **Awareness:** low level of mental health awareness among policy makers and community members **Geography:** clients can receive care when it is closer **Timeliness:** timely intervention of care can lead to better illness outcomes.
16	Hussain and Tait, 2015 (Australia)	**Objective:** To describe the perceptions and experiences of primary caregivers on information needs, perceptions about service providers and experiences of rural service provision **Study design:** Qualitative study	17 parents (1 male and 16 females) of children with developmental disabilities aged 23-59 years	**Data collection:** Face-to-face in-depth interviews **Data analysis:** Thematic analysis	**Acceptability:** parents expressed negative attitudes of health care providers **Availability:** lack of experienced health care providers and limited health services **Awareness:** lack of adequate and timely information about health services awareness among community members **Geography:** parents had to drive long distance for care **Timeliness:** long waiting list to get care in the community
17	Iezzoni et al., 2006 (United States)	**Objective:** To explore the experiences of rural residents with disabilities access to health care	35 adults with sensory, physical and mental disabilities (15 males and 20 females) aged 21-64 years	**Data collection:** Focus group interviews **Data analysis:** Thematic analysis	**Acceptability:** clients underscored their personal relationship with health care providers **Accommodation:** facilities, equipment and transportation are not disability friendly

		Design: Qualitative study			**Availability:** limited health services and providers **Awareness:** health care providers lack of knowledge about disability health issues and clients limited knowledge in health issue **Affordability:** clients have insurance but are unable to pay for medications not covered by their insurance. **Geography:** clients had to travel for care **Timeliness:** transportation problems leads to delays in receiving care that is not available locally
18	Järnhammer et al., 2017 (Nepal)	**Objective:** To explore experiences of persons using lower-limb prostheses, in relation to the Convention on the Rights of Persons with Disabilities articles on mobility, education, health, rehabilitation, and work and employment **Design:** Qualitative study	16 persons using lower limb prostheses (10 males and 6 females) aged 21-67 years —9 (5 males and 4 females) reside in rural areas —7 (5 males and 2 females) reside in urban areas)	**Data collection:** Individual interviews **Data analysis:** Content analysis	**Acceptability:** clients expressed satisfaction with the health care they received**.** They also highlighted positive attitudes of health care providers **Affordability:** cost of service is low at health facilities. Clients however paid for health expenses through loans or relatives. **Geography:** health post is closer to participants, but hospital is within bus distance

19	Knox et al., 2014 (Canada)	**Objective:** To explore health care provider perspectives on persons with traumatic spinal cord injuries access to care **Design:** Qualitative study	23 health care providers (therapists, physicians, nurses, home care workers and managers) —9 provide services in rural communities —14 work in urban centers	**Data collection:** Semi-structured interviews and focus groups **Data analysis:** Framework analysis	**Accommodation:** while facilities are wheelchair accessible getting around most sidewalks is difficult **Affordability:** existence of inequalities and inequities of affordable health services **Geography:** transportation for health care services posed a challenge to clients **Awareness:** easy communication among health care providers culminated in smooth health care delivery
20	Loyola-Sanchez et al., 2016 (Mexico)	**Objective:** To describe the impact of people living with arthritis, identify their perceived health needs and understand the barriers they encounter in accessing health care services **Study design:** Qualitative ethnography	65 participants —32 people living with arthritis (14 males and 17 females) aged 30-85 years —19 public health care providers —4 traditional health providers —4 family members —5 community leaders —1 municipal authority	**Data collection:** interviews, fieldwork observations and community meetings **Data analysis:** Framework approach	**Acceptability:** ethnic discrimination from health care providers hampered clients' access to care **Affordability:** clients lack of financial resources made them not to seek care **Availability:** absence of health care services in the municipality **Awareness:** clients lack information about the health care system. Providers also lack knowledge on disability health issues **Geography:** clients had to travel long distance for services but there is inefficient transportation
21	Mji et al., 2017 (South Africa)	**Objective:** To explore how activity limitations interact with factors related to	4 persons living with disabilities —2 persons with physical disabilities	**Data collection:** In-depth interviews	**Acceptability:** clients highlighted positive attitudes of health care providers

		context, systems, community and personal factors in accessing public health care **Design:** Qualitative study based on different case studies	—2 persons with sensory impairments	**Data analysis:** Thematic analysis	**Accommodation:** health facility operates on certain hours and/or days of the week **Affordability:** high cost of care and transportation **Availability:** lack of health care providers and services **Awareness:** health care providers had difficulties in communicating to a client with hearing impairment **Geography:** clients had to travel vast distances for care **Timeliness:** clients encountered long waiting times at health facility
22	Mshana et al., 2011 (Tanzania)	**Objective:** To investigate the experience and treatment seeking behaviors of persons with Parkinson disease, their carers and community understandings of the disease **Design:** Qualitative study	62 participants (32 males and 30 females) —28 persons with Parkinson disease aged 45-94 years —28 carers —4 health workers —2 traditional healers	**Data collection:** Semi-structured interviews and focus group discussions **Data analysis:** Inductive approach	**Affordability:** clients received financial support from family members to purchase drugs and for transportation to and from hospital **Availability:** drugs are not available in health facilities or local pharmacies
23	Ngo et al., 2013 (Vietnam)	**Objective:** To examine the experiences of young people with disabilities from	55 participants —24 children and youth with physical and/or sensory disabilities (15 males and 9	**Data collection:** In-depth interviews and focus group discussions **Data analysis:** Thematic analysis	**Acceptability:** clients experienced marginalization by health care providers **Affordability:** parents could not afford medical cost and other indirect cost like accommodation and meals.

		ethnic minorities and their families. **Design:** Qualitative participatory study	females) aged 14-19 years —31 mothers of a child/children with disabilities		As a result, they took loan for these expenses **Awareness:** parents lack of awareness of some services like free health-checks and medication **Geography:** parents had to rely on motorbike to health facilities with their children with disabilities
24	Nualnetr and Sakhornkhan, 2012 (Thailand)	**Objective:** To develop an action plan in order to improve access to home health care and assistive devices for persons with disabilities and evaluate changes in the numbers for those who received such services **Design:** Mixed method	Different participants —99 persons with disabilities (42 females and 57 males) —village health volunteers —primary health care staff —community leaders and members —caregivers —administrative officers	**Data collection:** Group meetings and interviews **Data analysis:** Descriptive statistics	**Geography:** health care providers could not provide home health care to their clients due to the terrain, especially during the period of heavy rains and floods.
25	Reddy et al., 2014 (India)	**Objective:** To explore factors that prevent schizophrenia patients and their families' access to psychiatric treatment. **Design:** Qualitative study	16 family members of persons with schizophrenia (9 males and 7 females)	**Data collection:** In-depth interviews **Data analysis:** Unclear	**Affordability:** family members inability to raise funds to treat persons with schizophrenia **Geography**: difficulties in reaching to health care facility due to bad road network

26	Tilahun et al., 2017 (Ethiopia)	**Objective:** To examine training needs and perspectives of community health extension workers in relation to providing child mental health care **Design:** mixed methods approach (cross-sectional survey and qualitative study)	104 health extension workers (all females)	**Data collection :** —Quantitative (structured questionnaire) —Qualitative (11 in-depth interviews) **Data analysis:** —Quantitative (descriptive analysis) —Qualitative (framework analysis)	**Acceptability:** Negative attitudes from community towards persons with mental problems **Affordability:** families face financial problems for treatment and transportation to access mental health services **Availability:** lack of skilled professionals and treatment at primary health care settings **Awareness:** health care providers lack of knowledge about mental health problems
27	Tora et al., 2012 (Ethiopia)	**Objective:** To explore factors related to discontinued attendance at treatment and prevention clinics by patients with podoconiosis **Design:** Qualitative study	88 participants (40 males and 48 females) aged 16-75 years. —44 persons with podoconiosis —policy makers —community and religious leaders —health agents and social workers.	**Data collection:** In-depth interviews, focus group discussions and key informant interviews **Data analysis** Thematic analysis	**Acceptability:** stigma deterred clients from seeking treatment. Clients also doubted the quality of treatment **Affordability**: clients are unable to transport although the treatment was free **Geography:** clinic sites were remotely from the clients. The clients encountered difficulties in finding transport and always walked on long distance to the health facilities

28	Tsegay et al., 2015 (Ethiopia)	**Objective:** To explore barriers to access and re-attendance of persons with podoconiosis **Design:** Qualitative study	53 participants aged 20-65 years. —36 persons with podoconiosis (17 males and 19 females) —8 patient association leaders (6 males and 2 females) —9 health care providers (6 males and 3 females).	**Data collection:** In-depth interviews and focus group discussions **Data analysis:** Thematic analysis	**Acceptability:** anxiety over stigma deterred patients from seeking treatment **Affordability:** clients did not want to abandon their commitments in economic activities and seek care. Clients could not also afford transportation and accommodation **Awareness:** community's awareness about the condition (podoconiosis) and treatment is generally low **Geography:** clients walked long distance on foot (at times over mountains and rivers) to seek treatment
29	Van Hees et al., 2014 (Nepal)	**Objective:** To gain a better understanding of the perceived barriers faced by persons with disabilities in accessing primary health care services **Design:** Qualitative study	21 participants — 9 health care providers —11 persons with disabilities (physically or sensory impairments) —1 person from Disabled People's Organization	**Data collection:** Semi-structured interviews **Data analysis:** Analytical induction	**Acceptability:** Clients' self-stigma prevented them from seeking care. Clients also prefer care at medical shops **Accommodation:** architectural designs of health facilities are not disability friendly **Affordability:** poor financial conditions of clients due to lack of employment **Availability:** lack of staff and services **Awareness:** health care providers lack of knowledge about disability issues and also difficulties in communicating to clients with hearing impairments.

					Geography: clients noted distance to facility and bad nature of roads. Public transportation is free for clients
30	Van Rooy et al., 2012 (Namibia)	**Objective:** To investigate the experiences of people living with disabilities access health care facilities and services **Design:** Qualitative study	25 persons with disabilities, however table 1 (page 767) has participants characteristics which shows that 206 persons (84 males and 122 females) participated	**Data collection:** Semi-structured interviews **Data analysis:** Thematic analysis	**Acceptability:** clients expressed both positive and negative attitudes of health care providers **Accommodation:** health facilities operate on daily basis **Affordability:** cost of transportation and services **Availability:** lack of providers and services in facilities **Awareness:** lack of interpreters for clients with hearing impairments. Language differences impeded communication between providers and clients **Geography:** clients used different modes of transportation to health facility **Timeliness:** clients experienced long queues at health facilities
31	Varghese et al., 2015 (India)	**Objective:** To identify health seeking behaviors of families with children with intellectual disabilities and the barriers they faced accessing health care	15 participants —10 caregivers —5 health care providers	**Data collection:** Semi-structured interviews and focus group discussions **Data analysis:** Thematic analysis	**Acceptability:** Negative and positive attitudes of health care providers towards children with intellectual disabilities **Affordability:** caregivers had to sell their wheat, land or businesses in order to raise money for the child's treatment **Availability:** presence of health care providers

		Design: Qualitative study			**Awareness**: inadequate information about treatment options for the children with intellectual disabilities **Geography**: caregivers raised transportation difficulties
32	Vergunst et al., 2017 (South Africa)	**Objective:** To explore the issue of access to health care services for persons with disabilities in rural South Africa **Design:** Quantitative observational cross-sectional study	773 participants aged 5-97 years covering 527 households —322 persons with disability —451 controls (without disability)	**Data collection:** Interviews **Data analysis:** Descriptive and inferential statistics	**Acceptability:** clients encounter negative attitudes of providers **Accommodation:** designs of facilities are not disability friendly **Affordability:** clients could not afford cost of transportation and care **Availability:** inadequate medical equipment and services **Awareness:** clients lack of knowledge about services and also difficulties in communicating with providers **Geography:** lack of accessible transport to health facility
33	Vergunst et al., 2015 (South Africa)	**Objective:** To explore the challenges faced by people with disabilities in accessing health care **Design:** Qualitative study	26 participants (8 males and 18 females) aged 5years and over —9 persons with disabilities (5 physical, 2 mental, 1 sensory and 1 cognitive and physical Impairments) —9 health care providers	**Data collection:** Semi-structured interviews **Data analysis:** Thematic content analysis	**Acceptability:** stigma mostly from health care providers impeded health access. **Accommodation:** designs of transport and health facilities are not disability friendly **Affordability:** high cost of transportation to health facility **Availability:** inadequate medical equipment and services **Geography:** clients had to travel long distance to a facility

			—8 community Members (chiefs and traditional leaders)		**Timeliness:** an average wait period is half a day to access health care
34	Walker et al., 2016 (USA)	**Objective:** To examine barriers and facilitators to accessing health and support services among urban and rural families of children with disabilities **Design:** Qualitative study	19 parents of adolescents living with disabilities (physical, mental, intellectual, sensory and multiple disabilities) —9 parents/guardians living in rural areas —10 parents living in urban areas	**Data collection:** In-depth interviews **Data analysis:** Content analysis	**Affordability:** high cost of service not covered by insurance **Availability:** limited availability of quality service **Geography:** limited public transportation. This resulted in long travel time and wait time for transport
35	Wark et al., 2015 (Australia)	**Objective:** To undertake an exploration of the experiences of individuals ageing with a learning disability in rural areas. **Design:** Qualitative study	34 participants —17 older adults with a learning disability (10 males and 7 females) aged 54-79 years. —17 carers (3 males and 14 females)	**Data collection:** Semi-structured in-depth interviews **Data analysis:** Thematic analysis	**Acceptability:** support workers expressed positive attitudes of health care providers **Accommodation:** difficulties in clients getting medical appointment **Availability:** lack of medical services **Geography:** 'tranny of distance' posed a major challenge to health care access **Timeliness:** considerable wait time to see a doctor
36	Wongkongdech and Laohasiriwong, 2014 (Thailand)	**Objective:** To explore accessibility to health services among persons with mobility disabilities, and	—462 persons with physical disability (253 males and 209 females)	**Data collection:** Interviews **Data analysis:** Descriptive statistics	**Acceptability:** clients expressed better quality of care at health care facilities **Accommodation:** clients indicated wait time to receive care

	factors influencing such access **Design:** Quantitative-Cross sectional study	—324 reside in rural areas —138 reside in urban areas	and multiple regression analysis	**Affordability**: clients with low income less likely to afford health care **Availability:** clients highlighted adequacy of care **Awareness:** lack of knowledge about their rights to health care **Geography:** Clients' transportation mode to a health care facility: wheelchairs (57.36%) and walking (32.90%).

Appendix B Ethical Clearance

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (HSREB)

HSREB Initial Ethics Clearance

November 18, 2016

Mr. Ebenezer Dassah
School of Rehabilitation Therapy
Queen's University

ROMEO/TRAQ: #6019775
Department Code: REH-673-16
Study Title: Access to Healthcare for Persons living with Physical Disabilities in Rural Ghana.
Co-Investigators: Dr. H. Aldersey
Review Type: Delegated
Date Ethics Clearance Issued: November 18, 2016
Ethics Clearance Expiry Date: November 18, 2017

Dear Mr. Dassah,

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application and granted ethics clearance for the documents listed below. Ethics clearance is granted until the expiration date noted above.

- Interview Guide – Key Informants
- Interview Guide – Photovoice Participants
- Checklist for Photovoice Training
- Recruitment Letter – Ghana Health Services
- Recruitment Letter to Disabled People Organizations
- Information/Consent Form – Photovoice Participants
- Information/Consent Form – Key Informants
- Information Form – During Phototaking
- Information/Consent Form – To Use Photos for Research Purposes

Documents Acknowledged:

- CORE Certificate – E. Dassah

Amendments: No deviations from, or changes to the protocol should be initiated without prior written clearance of an appropriate amendment from the HSREB, except when necessary to eliminate immediate hazard(s) to study participants or when the change(s) involves only administrative or logistical aspects of the trial.

Renewals: Prior to the expiration of your ethics clearance you will be reminded to submit your renewal report through ROMEO. Any lapses in ethical clearance will be documented on the renewal form.

Completion/Termination: The HSREB must be notified of the completion or termination of this study through the completion of a renewal report in ROMEO.

Reporting of Serious Adverse Events: Any unexpected serious adverse event occurring locally must be reported within 2 working days or earlier if required by the study sponsor. All other serious adverse events must be reported within 15 days after becoming aware of the information.

Reporting of Complaints: Any complaints made by participants or persons acting on behalf of participants must be reported to the Research Ethics Board within 7 days of becoming aware of the complaint. Note: All documents supplied to participants must have the contact information for the Research Ethics Board.

Investigators please note that if your trial is registered by the sponsor, you must take responsibility to ensure that the registration information is accurate and complete.

Yours sincerely,

Albert J. Clark

Chair, Health Sciences Research Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations, Canadian General Standards Board, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#:00004184, IRB#:00001173

HSREB members involved in the research project do not participate in the review, discussion or decision.

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (HSREB)

HSREB Amendment Acknowledgment/Ethics Clearance

January 3, 2017

Mr. Ebenezer Dassah
School of Rehabilitation Therapy
Queen's University

ROMEO/TRAQ: #6019775
Department Code: REH-673-16
Study Title: Access to Healthcare for Persons living with Physical Disabilities in Rural Ghana.
Review Type: Delegated
Date Ethics Clearance Issued: January 3, 2017

Dear Mr. Dassah,

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the amendment application and granted ethics approval/acknowledgement for the documents listed below.

- Revised Interview Guide – Key Informants
- Revised Interview Guide – Persons With Disabilities

Yours sincerely,

Albert L. Clark.

Chair, Health Sciences Research Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the TriCouncil Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations, Canadian General Standards Board, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#:00004184, IRB#:00001173

HSREB members involved in the research project do not participate in the review, discussion or decision.

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (HSREB)

HSREB Renewal of Ethics Clearance

November 15, 2017

Mr. Ebenezer Dassah
School of Rehabilitation Therapy
Queen's University

ROMEO/TRAQ #: 6019775
Department Code: REH-673-16
Study Title:REH-673-16 Access to Healthcare for Persons living with Physical Disabilities in Rural Ghana.
Review Type: Delegated
Date Ethics Clearance Effective: November 18, 2017
Ethics Clearance Expiry Date: November 18, 2018

Dear Mr. Dassah,

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application. This study, including all currently approved documentation has been granted ethical clearance until the expiry date noted above.

Prior to the expiration of your ethics clearance, you will be reminded to submit your renewal report through ROMEO. Any lapses in ethical clearance will be documented below.

Yours sincerely,

Albert J. Clark.

Chair, Health Sciences Research Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations, Canadian General Standards Board, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#:00004184, IRB#:00001173

HSREB members involved in the research project do not participate in the review, discussion, or decision.

QUEEN'S UNIVERSITY HEALTH SCIENCES & AFFILIATED TEACHING HOSPITALS RESEARCH ETHICS BOARD (HSREB)

HSREB Renewal of Ethics Clearance

November 13, 2018

Mr. E. Dassah
School of Rehabilitation Therapy
Queen's University

ROMEO/TRAQ #:6019775
Department Code: REH-673-16
Study Title: Access to Healthcare for Persons living with Physical Disabilities in Rural Ghana.
Review Type: Delegated
Date Ethics Clearance Effective: November 13, 2018
Ethics Clearance Expiry Date: November 13, 2019

Dear Mr. Dassah,

The Queen's University Health Sciences & Affiliated Teaching Hospitals Research Ethics Board (HSREB) has reviewed the application. This study, including all currently approved documentation has been granted ethical clearance until the expiry date noted above.

Prior to the expiration of your ethics clearance, you will be reminded to submit your renewal report through ROMEO. Any lapses in ethical clearance will be documented below.

Lapses in Ethics Clearance:
NA

Yours sincerely,

Albert F. Clark

Albert F. Clark, PhD
Chair, Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board

The HSREB operates in compliance with, and is constituted in accordance with, the requirements of the Tri--Council Policy Statement: Ethical Conduct for Research Involving Humans (TCPS 2); the International Conference on Harmonisation Good Clinical Practice Consolidated Guideline (ICH GCP); Part C, Division 5 of the Food and Drug Regulations; Part 4 of the Natural Health Products Regulations; Part 3 of the Medical Devices Regulations, and the provisions of the Ontario Personal Health Information Protection Act (PHIPA 2004) and its applicable regulations. The HSREB is qualified through the CTO REB Qualification Program and is registered with the U.S. Department of Health and Human Services (DHHS) Office for Human Research Protection (OHRP). Federalwide Assurance Number: FWA#:00004184, IRB#:00001173

HSREB members involved in the research project do not participate in the review, discussion or decision

In case of the reply the number and date of this letter should be quoted.

My Ref. No GHS/UWR/~~HR~~ R-51
Your Ref. No.....

Tel: +233 07 56 22 204 or 22 016
Fax: +233 07 56 22 471
Email: ghs-uwr@africaonline.com.gh

GHANA HEALTH SERVICE
REGIONAL HEALTH ADMIN
P. O. BOX 298
WA UWR
GHANA

JANUARY 25, 2017

THE DDHS, NADOWLI-KALEO

THE DHHS, WA WEST

THE DDHS, DBI

THE DDHS, JIRAPA

INTRODUCTORY LETTER: MR EBENEZER DASSAH

The above named is a doctoral candidate of the School of Rehabilitation Therapy of the Faculty of Health Sciences, Queens University, Canada. He is seeking to conduct a research in your district on the topic: **"Access to Health for Persons living with Physical Disabilities in Rural Ghana".**

He has duly complied with all the procedures and regulations pertaining to the conduct of research in the health sector. I therefore implore you to kindly accord him the necessary support and cooperation and take the necessary steps to ensure that the privacy and confidentiality of our staff and clients who will be participating in the study are guaranteed.

Thank you.

RICHARD BASADI

DEPUTY CHIEF HEALTH RESEARCH OFFICER

FOR: AG. REGIONAL DIRECTOR OF HEALTH SERVICES

Cc:

1. Research file 2. Mr Ebenezer Dassah

Queen's UNIVERSITY
SCHOOL OF
REHABILITATION THERAPY
FACULTY OF HEALTH SCIENCES

L.D. Acton Building, George Street
Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel 613 533-6103
Fax 613 533-6776

Appendix C Recruitment Letter for Persons with Physical Disabilities

The Heads of Departments
The Ghana Federation of Disability Organizations
Upper West Region
Wa-GHANA

Dear Sir or Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN YOUR ORGANIZATION

I am a doctoral candidate and wish to conduct my doctoral project in the School of Rehabilitation Therapy at Queen's University, Canada, under the supervision of Dr. Heather Aldersey. The title of my research project is "Access to Primary Health Care for Persons living Physical Disabilities in Rural Ghana."

I am hereby seeking your consent to approach and recruit a number of persons with physical disabilities in your organization to conduct interviews.

I would like to assure you that this study has been reviewed and received ethics clearance through the Ghana Health Service Ethics Committee Board and Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (see copies of letters of ethical approval attached).

Upon completion of the study, I undertake to provide the School of Graduate Studies-Queen's University with a bound copy of the full research report. If you have any questions regarding this study or would like additional information to assist you in reaching a decision, please contact me at +1 613 217 2043 or by email at ebenezer.dassah@queensu.ca. You may also contact my supervisor, Dr. Heather Aldersey at +1 613 533 6088 or by email at hma@queensu.ca.

I hope that the results of my study will be beneficial to the organization and to the communities of persons with disabilities across the country, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project

Yours sincerely,

Ebenezer Dassah
PhD Candidate

Appendix D Interview Guide for Participants with Physical Disabilities

Introduction of the research

Explanation of informed consent.

Demographic characteristics of participant (name, occupation, economic status, level of education)

1. Can you tell me briefly about your disability and especially how your life has changed since your disability?
2. Could you please tell me about your most frequent health problems?

Probes: What did you do to manage the health problem? How do your surroundings affect your ability to manage the health problem?

3. Could you please tell me about the services you have received so far?

Probes: type, frequency, quality.

4. Could you please comment on whether the services you needed were available in your community.

Probes: Service providers, drugs or other resources related to the health condition.

5. Can you please tell me about the location of the health care facilities from your residence?

Probe: mode of transportation, accessibility of transportation and experiences in navigating the transportation to a health facility, time to get to health facility, impact of mode of transportation

6. Can you please tell me about affordability of the services?

Probes: direct cost (total cost, mode of payment), indirect cost related to health problem (transportation).

7. Could you please comment on how you navigated the health care service?

Probe: making appointment, gaining entry to the health care facility.

8. Could you please tell me about the timeliness of the service?

Probes: waiting time and impacts on health condition.

9. Could you please tell me about the attitudes of health care providers?

Probes: positive or negative (provide scenarios).

10. Based on your experiences about accessing health care, please summarize what gone well or not gone well?
11. Is there anything else related to what we have discussed today that you would like to share with me?

Queen's UNIVERSITY
SCHOOL OF
REHABILITATION THERAPY
FACULTY OF HEALTH SCIENCES

L.D. Acton Building, George Street
Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel 613 533-6103
Fax 613 533-6776

Appendix E Information Letter and Consent Form for Participants with Physical Disabilities

Title of Study

Access to Primary Health Care for Persons with Physical Disabilities in Rural Ghana.

Invitation to Participate

You are invited to participate in a study on the lived experiences of persons with physical disabilities in accessing primary health care in rural Ghana.

Basis of Subject Selection

The reason you are invited to participate in this study is because you are a person with physical disability between 18-64 years and reside in Upper West Region of Ghana. In addition, you have attempted to utilize or have already utilized health care services.

Purpose of the Study

The purpose of the study is to understand rural health care access for PWDs in Ghana. The study in particular seeks to identify policies and practices that may improve health care access for persons with physical disabilities.

Explanation of Procedures

You will be interviewed using an interview guide containing open ended questions to elicit your experiences in accessing health care services. The interview guide will include questions about your demographics and specific questions regarding your experiences and the impacts of your experiences in your life. The interviews will be conducted in either English or Dagaare, so you can decide to choose the one you feel more comfortable to express yourself. It should take approximately 45-90 minutes to complete the interviews. With your permission, the interview will be audiotaped. Participation in this study is voluntary. You can choose not to take part and you can also choose not to finish the interviews or omit any question you prefer not to answer without penalty or loss of benefits from your employer.

Potential Risks and Discomforts

There are no known or anticipated risks and discomforts to your participation in this study. You may decline in answering any questions you feel you do not wish to answer during the interview.

Potential Benefits

You will receive no direct benefit from participating in this study. The results of this study may inform the basis of developing strategies to improve access and service delivery in the health care system.

Assurance of Confidentiality

All information you provide will be not be shared with anyone outside the research team. Your name will not be identified with the input you give at the interview session. Given the individual interview format of this study, you will be asked to keep in confidence information that identifies or could potentially identify someone and also respect the privacy and confidentiality of other individuals or groups. Further, you will not be identified by name in reports, journal publications or presentations that Ebenezer Dassah produces for this study. The information collected from the study will be kept confidential for a period of seven years in the office of the International Centre for the Advancement of Community Based Rehabilitation, Kingston, Ontario, Canada.

Withdrawal from the Study

Participation is voluntary. Your decision whether to participate or not to participate in the study will not attract any penalty or loss of benefits.

Offer to Answer Questions

If you have any questions, please do not hesitate to ask. If you think of questions later on, please feel free to contact Ebenezer Dassah at +233 24 380 9264 or by email at ebenezer.dassah@queensu.ca or my doctoral thesis supervisor, Dr. Heather Aldersey at +1 613-533-6088 or by email at hma@queensu.ca

If you have any concerns about your rights as a research participant please contact - Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at the toll-free number: 1-844-535-2988 or clarkaf@queensu.ca.

YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS STUDY. YOUR SIGNATURE/THUMBPRINT CERTIFIES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ AND UNDERSTOOD THE INFORMATION PRESENTED. YOUR SIGNATURE ALSO CERTIFIES THAT YOU HAVE HAD AN ADEQUATE OPPORTUNITY TO DISCUSS THIS STUDY WITH EBENEZER DASSAH AND YOU HAVE HAD ALL YOUR QUESTIONS ANSWERED TO YOUR SATISFACTION. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

Signature/Thumbprint of Participant	**Date**

IN MY JUDGMENT THE PARTICIPANT IS VOLUNTARILY AND KNOWINGLY GIVING INFORMED CONSENT AND POSSESSES THE LEGAL CAPACITY TO GIVE INFORMED CONSENT TO PARTICIPATE IN THIS STUDY.

_____ _____

Signature of Ebenezer Dassah **Date**

Queen's UNIVERSITY
SCHOOL OF
REHABILITATION THERAPY
FACULTY OF HEALTH SCIENCES

L.D. Acton Building, George Street
Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel 613 533-6103
Fax 613 533-6776

Appendix F Recruitment Letter for Health Care Providers

The District Directors,
Ghana Health Services
Upper West Region
Wa-GHANA

Dear Sir or Madam,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH IN HEALTH FACILITIES

I am a doctoral candidate and wish to conduct my doctoral project in the School of Rehabilitation Therapy at Queen's University, Canada, under the supervision of Dr. Heather Aldersey. The title of my research project is "Access to Primary Health Care for Persons living Physical Disabilities in Rural Ghana."

I am hereby seeking your consent to approach and recruit a number of staff in health care facilities in your jurisdiction to conduct interviews.

I would like to assure you that this study has been reviewed and received ethics clearance through the Ghana Health Service Ethics Committee Board and Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board (see copies of letters of ethical approval attached).

Upon completion of the study, I undertake to provide the School of Graduate Studies-Queen's University with a bound copy of the full research report. If you have any questions regarding this study or would like additional information to assist you in reaching a decision, please contact me at +1 613 217 2043 or by email at ebenezer.dassah@queensu.ca. You may also contact my supervisor, Dr. Heather Aldersey at +1 613 533 6088 or by email at hma@queensu.ca.

I hope that the results of my study will be beneficial to your organization and to the communities of persons with disabilities across the country, as well as the broader research community. I very much look forward to speaking with you and thank you in advance for your assistance with this project

Yours sincerely,

Ebenezer Dassah
PhD Candidate

Appendix G Interview Guide for Health Care Providers

1. Can you tell me briefly about your current role in the facility?
2. In your present practice who are your main service users?

Probes: How often do you provide service to persons with physical disabilities? Tell me about the kind of health conditions persons with physical disabilities mostly report in your facility.

3. Tell me about the resources or support services that you have to assist you in providing services to persons with disabilities?

Probes: Human resource, drugs, medical equipment, emergency services.

4. From your experience of working with persons with physical disabilities, could you please give me an idea about the distance to your service users?
   Probes: mode of transportation and its impacts on your practice as well as on health conditions persons with physical disabilities.
5. Can you please tell me how persons with physical disabilities pay for the services at the facility?

Probes: what do you think about the cost of the services? How about the mode of payment? How does the cost influence your practice?

6. Can you please tell me about the infrastructure of your health facilities?

Probes: accessibility to entrance, information point, consultation rooms, washrooms

7. Can you please tell me your daily workload?

Probes: average number of patients, waiting time for patients and impacts on practice.

8. Can you describe how your knowledge and policies influence your interactions with persons with physical disabilities?

Probes: academic training, professional code of conduct, and organizational policies.

9. How do you provide health information in relation to health services in your facility?

Probes: strategies of disseminating information about your service?

10. Finally, can you please tell me the most exciting and challenging part of working with persons with physical disabilities?
11. Is there anything related to what we have discussed today that you would like to share with me?

Queen's UNIVERSITY
SCHOOL OF
REHABILITATION THERAPY
FACULTY OF HEALTH SCIENCES

L.D. Acton Building, George Street
Queen's University
Kingston, Ontario, Canada K7L 3N6
Tel 613 533-6103
Fax 613 533-6776

Appendix H Information Letter and Consent Form for Health Care Providers

Title of Study

Access to Primary Health Care for Persons with Physical Disabilities in Rural Ghana.

Invitation to Participate

You are invited to participate in an interview.

Basis of Subject Selection

The reason you are invited to participate in this study is because you are a health care provider who have worked or are working with or providing health care services to a person(s) with physical disabilities in your health facility.

Purpose of the Study

The purpose of the study is to understand rural health care access for PWDs in Ghana. The study in particular seeks to identify policies and practices that may improve health care access for persons with physical disabilities.

Explanation of Procedures

You will be interviewed using an interview guide containing open ended questions to elicit your experiences in providing health care services to persons with physical disabilities. The interview guide will include questions about your demographics and specific questions regarding your role and the impacts of your experiences in your practice. The interviews will be conducted in either English or Dagaare, so you can decide to choose the one you feel more comfortable to express yourself. It should take approximately 45-60 minutes to complete the interviews. With your permission, the interview will be audiotaped. Participation in this study is voluntary. You can choose not to take part and you can also choose not to finish the interviews or omit any question you prefer not to answer without penalty or loss of benefits from your employer.

Potential Risks and Discomforts

There are no known or anticipated risks and discomforts to your participation in this study. You may decline in answering any questions you feel you do not wish to answer during the interview.

Potential Benefits

You will receive no direct benefit from participating in this study. The results of this study may inform the basis of developing strategies to improve access and service delivery in the health care system.

Assurance of Confidentiality

All information you provide will be considered confidential and grouped with responses from other participants. Your name will not be identified with the input you give at the interview session. Given the individual interview format of this study, you will be asked to keep in confidence information that identifies or could potentially identify someone. Further, you will not be identified by name in reports, journal publications or presentations that Ebenezer Dassah produces for this study. The information collected from the study will be kept confidential for a period of seven years in the office of the International Centre for the Advancement of Community Based Rehabilitation, Kingston, Ontario, Canada.

Withdrawal from the Study

Participation is voluntary. Your decision whether to participate or not to participate in the study will not attract any penalty or loss of benefits.

Offer to Answer Questions

If you have any questions, please do not hesitate to ask. If you think of questions later on, please feel free to contact Ebenezer Dassah at +233 24 380 9264 or by email at ebenezer.dassah@queensu.ca or my doctoral thesis supervisor, Dr. Heather Aldersey at +1 613-533-6088 or by email at hma@queensu.ca.

If you have any concerns about your rights as a research participant please contact - Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at the toll-free number: 1-844-535-2988 or clarkaf@queensu.ca.

YOU ARE VOLUNTARILY MAKING A DECISION WHETHER OR NOT TO PARTICIPATE IN THIS STUDY. YOUR SIGNATURE/THUMBPRINT CERTIFIES THAT YOU HAVE DECIDED TO PARTICIPATE HAVING READ AND UNDERSTOOD THE INFORMATION PRESENTED. YOUR SIGNATURE ALSO CERTIFIES THAT YOU HAVE HAD AN ADEQUATE OPPORTUNITY TO DISCUSS THIS STUDY WITH EBENEZER DASSAH AND YOU HAVE HAD ALL YOUR QUESTIONS ANSWERED TO YOUR SATISFACTION. YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM TO KEEP.

_____ _____

Signature/Thumbprint of Participant **Date**

IN MY JUDGMENT THE PARTICIPANT IS VOLUNTARILY AND KNOWINGLY GIVING INFORMED CONSENT AND POSSESSES THE LEGAL CAPACITY TO GIVE INFORMED CONSENT TO PARTICIPATE IN THIS STUDY.

_____ _____

Signature of Ebenezer Dassah **Date**