

# In search of universal health coverage – highlighting the accessibility of health services for students with disabilities in Ghana: a qualitative study

**Eric Abodey**

University of Cape Coast

**Irene Vanderpuye**

Queensland Department of Education Training and Employment

**Isaac Mensah**

University of Education, Winneba

**Eric Badu** (✉ [badu3eric@gmail.com](mailto:badu3eric@gmail.com))

Kwame Nkrumah University of Science and Technology College of Health Sciences

<https://orcid.org/0000-0002-0593-3550>

---

## Research article

**Keywords:** Students with disabilities, accessibility, health services, barriers, health financing, Ghana

**Posted Date:** October 21st, 2019

**DOI:** <https://doi.org/10.21203/rs.2.16285/v1>

**License:** © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

---

**Version of Record:** A version of this preprint was published at BMC Health Services Research on March 31st, 2020. See the published version at <https://doi.org/10.1186/s12913-020-05138-0>.

# Abstract

**Background:** Accessibility to health services for students with disabilities is a global concern. This is no less important in Ghana, however, to date, no study has been undertaken regarding access to health services for students with disabilities. This study, therefore, aims to explore the accessibility of health services for students with disabilities, in the quest of achieving universal health coverage in Ghana.

**Methods:** Qualitative methods, involving in-depth interviews were employed to collect data from 54 participants (29 students with disabilities, 17 health workers and 8 school mothers), selected through purposive sampling. Thematic analysis was used to analyze the data.

**Results :** The study identified three themes – accessibility, adequacy, and affordability. The study findings highlighted that universal health coverage for students with disabilities has not been achieved due to barriers in accessing health services. The barriers faced by students with disabilities are unfriendly physical environments, structures, equipment, limited support services and poor health insurance policy to finance health services.

**Conclusion :** The study concludes that the government should prioritize disability-related issues in health policy formulation, implementation and monitoring. The current provisions and requirements in the disability act should be prioritized, enforced and monitored to ensure adequate inclusion of disability issues in health services. Further, the current exemption policy under the NHIS scheme should be revised to adequately address the needs of people with disabilities.

## Background

The health of the individual is the “state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity” (1, 2). Access to health services is recognized as a right to improve the social and economic wellbeing of individuals (2–4). Several efforts have been undertaken to improve the health services of individuals, including vulnerable populations. Specifically, the Convention of the Rights of People with Disabilities (CRPD) has tasked countries to improve access to health services for people with disabilities (5). The article 25 of the CRPD has tasked governments to ensure that “persons with disabilities have the right to the enjoyment of the highest attainable standard of health without discrimination on the basis of disability” (5). This effort is significant to improve access to health services for the 1 billion people (global estimates) who are estimated to have some form of disabilities (4).

Despite these efforts, people with disabilities have limited access to social services, including health, education, and economic activities. People with disabilities lag behind the non-disabled population in accessing health services (6–8). The existing estimates suggest that about 5.8% of persons with disabilities have unmet needs to accessing health services compared with 3.9% of the non-disabled (4). Several studies have highlighted that people with disabilities in LMICs face substantial barriers in accessing health services (9–14). These barriers are largely attributed to several weaknesses in the

health systems as well as individual factors of people with disabilities. In particular, the health systems factors contributing to barriers are mostly linked to unfriendly physical and environment structure, the unfriendly process of delivering health services (limited therapeutic and technical skills of services providers), and social barriers including stigmatizing attitudes of health service providers, (15–20). The individual factors contributing to barriers are mostly linked to limited awareness about health services, attitudes and beliefs of people with disabilities, limited insurance coverage, and geographical proximity to health service centres (21, 22). The health systems factors and individual factors jointly contribute to barriers in accessing health services in many LMICs.

In Ghana, the 2010 population census suggests that 737,743 people, representing 3%, of the 30 million population live with some form of disability (23). The most common disability groups are people with sight, hearing, speech, physical, intellectual, emotional, and other forms of impairment(23). Several efforts have recently been employed by the Ghanaian government to improve the well-being of people with disabilities. These efforts include the passage of the people with disability Act 715 and subsequent ratification of the act. Act 715 aims to establish a national council that will promote the welfare of people with disability. However, people with disabilities seem to have limited access to health services. People with disability are considered the poorest of the poor in the Ghanaian society. Similarly, they are ranked low in every economic indicator in the country, particularly, access to education for children with disabilities (21, 24–27).

Several studies have recently been undertaken on access to health services for people with disabilities (15–18, 20–22, 28, 29). However, the studies focus on the Sexual and Reproductive Health (SRH) needs of women with disabilities (22, 30) and deaf patients (15–19). In addition, the evidence focused largely on the general disability population, with relatively no study targeting students. The search of the literature identified few studies that explore social service issues regarding students with disabilities in Ghana but addressed barriers in accessing inclusive education (25, 31, 32). More importantly, students with disability may face specific challenges when accessing health services compared with those without a disability. Specifically, students with disabilities may require inclusive health services that are accessible to meet their needs. They may also require specific support services to make the services become accessible. To improve access to health services for students with disabilities, it is important to understand the specific barriers peculiar to students with disabilities to inform policy decision. Therefore, this study aims to contribute to this gap by exploring the accessibility of health services for students with disabilities, in the quest of achieving universal health coverage in Ghana. This study is supported by Pechansky and Thomas's (1981) theory on access. The theory which initially had four elements/components have recently been expanded into several components, which include availability, accessibility, affordability, adequacy, awareness, acceptability (33–35).

## **Methods**

### **Research Participants and sampling**

The study employed the qualitative methods. The qualitative methods helped to explore an in-depth understanding of the experiences of students with disabilities as they come in contact with the health systems (36–38). Also, the qualitative approach enabled the researchers to interact and listen to students with disabilities and capture their experiences. The approach involves an interpretive understanding of the subjective experiences of students with disabilities. The study was conducted between August 2017 and July 2018 in three regions of Ghana (Western Region, Eastern Region and Central Region). The study purposively selected three educational facilities and two health facilities across three regions of Ghana. The educational facilities were purposively selected to capture students with different category of disabilities. The location of the educational facilities is among the top five regions in Ghana that have the highest population of people with disabilities (23). The educational facilities recruited for the study were Special Vocational School (in Western Region), School for the Blind (Eastern Region) and School for the Deaf (Central Region). Participants recruited for the study were in-school students with disabilities of 18 years and above (Senior High School level), school mothers providing care to students with disabilities and health workers. The school mothers were people who worked in the selected schools to provide care to students with disabilities. We focused on this group because previous research on vulnerable population in Ghana has concentrated largely on homeless, female head potters, HIV/AIDS patients (39). Few is known about students with disabilities, particularly issues pertaining to their health service utilization, barriers in accessing health services, health financing sources and support services. The recruitment of participants involved three-stages. First, the researchers extracted the names of all students with disabilities and school mothers who have visited health facilities in the last year preceding the study from the school records. The researchers purposively selected participants (eg. students with disabilities and school mothers) and invited them through a phone call, email and letters. The invitation contained a letter, consent form and participants information sheet explaining the research purpose, how they were selected, the risk and benefits for participating in the study. In cases where any of the participants (students with disabilities and school mothers) declined to participate, the researchers replaced them with another person. Only three participants who were approached declined to participate. Overall, 54 participants were purposively recruited for the study. Of this, 29 were students with disabilities; 13 visual impaired students (from School for the Blind); 11 hearing impaired students (from School for the Deaf) and 5 intellectual disabled students (from Special Vocational School). Also, 8 school-mothers from Special Vocational and School for the Deaf were purposively selected. In addition, the two health facilities selected were located in the Cape Coast Region. The health workers in the health facilities were selected through purposive sampling. The researchers advertised the study through a publicly placed flyers at the notice board of the facilities. The publicly placed flyers described the inclusion criteria and the research purpose. The researchers purposively selected health workers who have at least three years' experience providing health services. A total of 17 healthcare providers (12 nurses and 5 medical doctors) were purposively selected from the two health facilities.

## Data collection methods

In-depth interviews were used to collect data from all participants. The IDIs allowed the researchers to probe deeply to elicit information which students with disabilities might not have disclosed in the group level discussion. More importantly, some students with disabilities may feel uncomfortable sharing their experiences regarding health services in a group interview. Particularly, the nature of in-depth interviews helped to reduce the power differentials between the researcher and the participants. The in-depth interviews were facilitated by an interview guide. The in-depth interviews were conducted by two members of the research team; one read the questions and record whilst the other member takes notes of all the gestures. An audio recording device was used to enhance the accuracy of the data collected. The researcher read the questions on the interview guide to the participants and record the response using an audio-tape recorder. For participants with hearing impairments, an open-ended questionnaire was administered with support from a professional sign language interpreter. The sign language interpreter read the questions on the open-ended questions and record the response. The in-depth interviews with health workers and school mothers were held in the English language, the primary language of conversation informal educational settings in Ghana. The interviews with students with disabilities were held in Akan (Fante and Twi) (the local dialects of the study region). The researchers had good knowledge (spoken and written) of English and Akan (Fante and Twi) and so had no difficulty with the languages used in the interview. All in-depth interviews were conducted in the selected schools, and hospitals usually at staff common rooms chosen by participants. The interviews were mostly conducted on non-schooling days (eg. Saturdays and Sundays). All interview session lasted for an average of 40 minutes to 1 hour, often at a saturation point (i.e., when no new ideas and issues seemed to arise) (40). Written informed consent was obtained from all participants prior to their participation in the interviews.

## Research instruments

The study used an open-ended interview guide, developed into a thematic section according to study participants. Questions captured in the interview guide were variables that have been identified by previous literature (15–18, 20–22, 28, 29) and theories (33–35) on accessibility to health services. The interview guide covers sections regarding availability, accessibility, adequacy, awareness, affordability, and acceptability (see Table 1). The instruments had several probing questions and clues that prompted the interviewee's regarding the subject.

*Table 1 Questions covered in interview guide*

<b>Participant</b>	<b>Question</b>
<b>Students</b>	<ul style="list-style-type: none"> <li>i. Tell me about your overall experience when you last visited the health facility to access health services?</li> <li>ii. Tell me about the availability of health services to meet your needs?</li> <li>iii. What are the obstacles/ hindrances/impediments that you encountered when you visited the health facility?</li> <li>iv. Tell me about the inclusivity of the health services to meet your specific health care needs?</li> <li>v. Tell me about the support services available when you access health services in the facilities?</li> <li>vi. Tell me about how you get information about health services?</li> <li>vii. What are the sources of financing health services?</li> <li>viii. What are your experiences with the NHIS as a student with a disability?</li> <li>ix. Tell me about your experiences regarding the attitudes and perception of health provider?</li> </ul>
<b>Health workers</b>	<ul style="list-style-type: none"> <li>i. Tell me about your experiences when providing health services to students with disabilities?</li> <li>ii. Tell me about the challenges that students with disabilities face when accessing health services?</li> <li>iii. What are the support services that promote access to health services for students with disabilities?</li> </ul>
<b>School mothers</b>	<ul style="list-style-type: none"> <li>i. Tell me about your experience with access to health services for students with disabilities?</li> <li>ii. What are the specific difficulties people with disabilities face when accessing health services?</li> <li>iii. Tell me about the support services your school provide to facilitate access to health services for students with disabilities?</li> </ul>

## Data analysis

Thematic analysis was used to analyze the data as it dealt with naturally occurring events. Thematic analysis is a method for identifying, analyzing, and reporting patterns within the data (41). The thematic analysis helped to provide vivid descriptions and information regarding students experiences when accessing health services (41). More specifically, the thematic analysis helped to produce categories from the data, unlike quantitative strategies which predetermined categories (36, 41). The thematic analysis followed a six phases outlined by Braun and Clarke (41), which include familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report (41). We employed iterative and collaborative process to analyze the data. Each team member read all transcripts for multiple times to familiarize ourselves with the data. The study team members met to discuss initial ideas obtain from the reading to develop a codebook. The coding process describe a formal system to organize the data, development of a code structure, finalization, and development of thematic description (41). The research team members applied the initial codebook to a small subset of transcripts. We continued the coding process until theoretical saturation was reached, where no new concepts and ideas emerged from successive reviewing and coding (40, 41). Upon

completing the initial codebook, the researchers reconvened to review and modify the final codebook and also discuss and resolve any discrepancies in the coding process.

We employed several steps to integrate the codes and ideas generated from the different participants groups. For instance, the generated codes and statements of students with disabilities, school mothers and health workers were represented graphically by three mappings. Herein, each mapping represented one participant group. The identified codes and statements were then combined to generate a thematic framework (see Table 3). The thematic framework were grouped according to global themes, organizing themes, basic themes and codes. The thematic framework highlights issues regarding accessibility of health services for students with disabilities. The organizing themes were supported with verbatim quotes or text from participants.

## **Results**

### **Socio-demographic information**

The background information of participants is presented in Table 2. More than half of the student participants, 53.84% and 66.66%, respectively from School for the Blind and Special Vocational School were males (see Table 2). The minimum age of the student participants across all the schools was 18 years, but the maximum age varies in all the schools (see Table 2). More than half of health workers, 52.94% were females. The minimum years of working experience were 5 years, whilst the maximum years was 13 years. Also, all the school mother participants were females, with a minimum age of 28 years and the maximum age of 54 years.

*Table 2 Background information*

	Frequency	Percentage (%)
Students with disabilities		
<i>School for the Blind (n=13)</i>		
<b>Gender</b>		
Male	7	53.84
Female	6	46.15
<b>Age</b>		
18-20 years	4	30.76
21-25 years	1	7.69
26-30 years	5	38.46
31 years and above	3	23.07
<i>School for the Deaf (n=11)</i>		
<b>Gender</b>		
Male	5	45.45
Female	6	54.54
<b>Age</b>		
18-20 years	4	36.36
21-25 years	7	63.63
<i>Special Vocational School (n=6)</i>		
<b>Gender</b>		
Male	4	66.66
Female	2	33.34
<b>Age</b>		
18-20 years	2	33.33
21-25 years	3	50.00
26-30 years	1	16.67
<i>Health workers (n=17)</i>		
<b>Health workers participants</b>		
Nurses	12	70.58
Doctors	5	38.46
<b>Gender</b>		
Males	8	47.05
Females	9	52.94
<b>Work experience</b>		
Minimum/Maximum	5/13	
<i>School mothers (n=8)</i>		
<b>Gender</b>		
Females	8	100
Males	-	-
<b>Age</b>		
Minimum/Maximum	28/54	
<b>Education</b>		
JHS	2	25
SHS	3	37.50
Tertiary	3	37.50
<b>Work experience</b>		
Minimum/Maximum	12/22	

## Themes that emerged from the analysis

The study identified three major themes and seven sub-themes. The main themes and sub-themes have been used to organize the results (see Table 3). The themes were consistent across the students, service providers and school-mothers participants. The thematic analysis identified a convergent view from participants regarding the universal health coverage for students with disabilities. This is because all the participants had a common goal towards the health and well-being of students with disabilities.

### “Insert Table 3 Themes emerging from the analysis”

## Theme 1: Accessibility of health services

### Physical environment of health facilities

Most participants (students, school mothers and health workers) noted that the physical environments of health facilities were unfriendly to accommodate students with disabilities. The challenges associated with the physical environments were poor road network leading to health facilities, bushy nature of the roads and the immediate hospital environment. More specifically, some participants (students, school mothers and health workers) mentioned that the roads leading to health facilities were untarred, and had open gutters. Some of the participants felt that the poor roads and gutters usually serve as a trap, particularly for students with visual impairments:

*“There are many challenges with the covers on the gutters along the road. The road is not corresponding to the gutters. The gutters are not well covered. Covers connecting the entrance of the hospital are not well cemented so I have to drag my legs in the pebbles to picture how it’s before I get there”* (Student IDs, participant 13).

Most participants (students, school mothers and health workers) further expressed that the paths leading to the hospitals are too narrow. This makes movement extremely difficult for students with disabilities particularly when there is no sighted guide or family caregiver accompanying them to the facility. In addition, school mothers from the selected schools confirmed that the roads leading to health facilities were unfriendly to accommodate students with disabilities.

### Physical structure of health facilities

The majority of the participants (students and school mothers) had a mixture of feeling about the physical structure of health facilities. Some participants (students, school mothers) noted that the physical structure of health facilities were unfriendly to accommodate students with disabilities. Some participants particularly those with visual impairment felt that they had some difficulty accessing the

hospital doors. For instance, some students with visual impairments narrated that the doors are made of sliding glass, but are mostly not open to facilitate their movement:

*"...but for the blind to access that place, you have to use your hand to locate where the door is, to know if it's opened or closed. So if it's opened you just access how big or wide the door is, then you go through"* (Student IDs, participant 22).

Most participants (students and school mothers) further expressed that there were several obstacles when moving inside the hospital building. Some of the students narrated that the challenges they faced were unfriendly staircase. For instance, some students said there were a lot of staircases in the hospital environment. The unfriendly staircases made it difficult for students with disabilities when walking to and from the consulting rooms and other departments within the health facility:

*"When accessing the Out Patient Department, I have to climb some stairs, and climbing the stairs is a bit difficult. If you are not careful and the ground is slippery you can easily fall"* (Student IDs, participant 2)

Some student participants further expressed that there were overcrowded tables and chairs as well as unadjusted medical tables and chairs to meet their needs. Some participants (eg. students with visual impairment) also mentioned that non-disabled patients mostly stood in their walk-ways.

*"One of them is that there are a lot of people in the hospital so some people will be standing in your way not knowing that you are blind and they expect you to see them and swerve them, which I do bump into them. And on the way to the laboratory at the Government Hospital, there are some glasses, going through is difficult at times"* (Student IDs, participant 16).

Moreover, some participants also expressed that washrooms and toilet facilities in some health facilities were unfriendly to accommodate students with disabilities:

*"and their washrooms are not in a good shape, in that I have to go to a nearby bush to ease myself anytime I visit the hospital"* (Student IDs, participant 9).

Most health service provider participants also confirmed that the health facilities were unfriendly to accommodate students with disabilities particularly those with visual and physical impairments. Some health providers noted that students with physical and visual impairments were having difficulty moving around the hospital building:

*"For me honestly, I think the hospital was purposely made not disability friendly. When you go to the access ways to the Wards it has stairs that ideally, it shouldn't have been there. The washroom has no rails to aid or support the SWDs who visit the hospital"* (Health worker, participant 1)

The experiences of students with disabilities towards the physical structure of health facilities confirm that of the health services providers. Most health providers noted that the consulting rooms of some health facilities are located on a story building, however, the available lift were not always functioning to

support students with disabilities. This makes it difficult for students with disabilities particularly those with visual impairment to access the consulting rooms.

## Equipment and logistics

The majority of participants (students, school mothers) expressed that students with disabilities faced several challenges regarding unfriendly equipment and inadequate logistics to support the delivery of accessible health services. Some participants felt that there are no directional signs to support the movement of students with disabilities when accessing health services. Again, the few directional signs were not usually accessible particularly for students with visual impairment.

Most participants (students, school mothers and health workers) further expressed that there are no tactile or braille for the visually impaired in the hospital to aid their access to health services. This was confirmed by one health provider when he stated that *“There is no tactile for visually impaired. Those that are in the hospital are not meant for the disabled”* (Health worker, participant 1).

On the contrary, some of the health worker participants noted that some health facilities had few equipment and logistics to support students with disabilities. The equipment available were wheelchairs to convey students with disabilities within the hospital when the need arises. Some health worker participants noted that students with disabilities particularly those with visual impairment are given lenses, canes, clutches and stretches to aid their movement within the hospital.

## Theme 2: Adequacy of health services

### Limited support services

Most student participants felt that they did not benefit from any special support services. In particular, some participants noted that they had to join the usual queue for hours whenever they visit the outpatients' services (eg. getting their records):

*“You have to join a queue, and they don't even consider the fact that you are impaired. There was an instant where I had to stand for about two hours because the seats were full”* (Student IDs, participant 3).

*“I have familiarized myself with the environment, so I take off those errands by myself by getting my card processed at the OPD unit. No special support for me”* (Student IDs, participant 7)

The school-mothers also recounted that there are no special support services provided to students with disabilities when accessing health services. For instance, some school-mothers noted that they experience difficulty when trying to get records (eg. Students record folder or book) for students with disabilities at the outpatient department:

*'...I put the child on my back and quickly rush to the OPD and get the card for the children. At the OPD unit, the nurses don't help at all. Unless it is an emergency situation, but if you go and tell them that O' Nurse this is a special child, none will help you process the card or even give you preferential treatment (School-mother, participant 3)*

## **Lack of sign language interpreters**

Most participants expressed that sign language interpreters can support students with hearing impairment when accessing health services. However, most participants (students, school mothers and health workers) expressed that there were no sign language interpreters in most of the health facilities to support students with hearing impairments. The participants noted that the lack of sign language interpreters were creating several barriers for students with disabilities. In particular, some participants felt that the absence of sign language interpreters created communication difficulties and subsequently led to miscommunication between patients and health providers. For example, some participants expressed that the lack of sign language interpreters sometimes leads to misinterpretation of the symptoms of their sickness:

*"I wish they were there because I could have communicated very well since they understand my language and also, I understand theirs. Their absence has caused me a lot, because at times I have to write, which at times I cannot spell the words" (Student IDIs, participant 19).*

*"No interpreters, due to that I have to write and other times I have to go with my parents. Sometimes my writing is not clear to the doctors, and I observed that the doctors are just guessing" (Student IDIs, participant 23)*

The health providers also expressed that whilst sign language interpreters are necessary to facilitate the service delivery, they had no knowledge about how to sign and this practically affects how they perceive the student's illness:

*'Sign language interpretation is very important, you know we are taking care of a lot of people including those who are deaf and dumb so it will help. Else you can give different diagnosis' (Health worker, 6)*

Although school-mothers were able to sign and also interpret sign language, the healthcare providers were deficient in the sign language and its interpretation which has a serious consequence on the delivery of healthcare services (eg. for students with hearing impairment).

## **Theme 3: Affordability of health services**

### **Sources of financing health services**

Most participants (students and school mothers) expressed several sources of financing health services. Students with disabilities financed their health services through personal funds, family members (fathers, mothers, siblings, uncles, aunties and other relatives), individual supports (cooperate entities and individuals), school authority, social workers and National Health Insurance Scheme (NHIS). Most health worker participants recounted that students with disabilities sometimes have difficulties paying for the cost of health services. This was echoed as follows:

*“Some of the students with disabilities are not able to pay for their bills. Some of them have to beg other patients to foot their bills and sometimes we the nurses have to dip our hands into our pocket”* (Health workers, participant 1)

Some health worker participants further noted that there are social welfare services in some health facilities that pay for the cost of services for students who are unable to pay their healthcare bills:

*“We have the Social Welfare Department in the hospital. They screen persons who put themselves up not to be able to pay their bills”* (Health worker, participant 1)

## **Challenges in financing health services**

The majority of participants narrated that most students with disabilities were active members of the NHIS registered with NHIS. However, the participants mentioned that there were several challenges confronting students when using the NHIS finance the health services. For instance, a student participant narrated that they faced several challenges in obtaining their records from the outpatient department:

*“Acquiring the card is tedious because the process is long. With long queues, where they end up telling you they have a quota they will attend to, leaving the rest”* (Student IDs, participant 5).

The NHIS appears as sustainable sources of financing health services for vulnerable population. However, some students mentioned that the scheme had limited benefit coverage and less expensive drugs. Some student participants echoed on this as follows:

*“Sometimes you go there and they will tell you the drug they are given you isn't covered by the NHIS so you have to go and buy it elsewhere”* (Student IDs, participant 12).

*“The challenge is that you do not get the best drugs, those you get are just some cheap drugs. You even have to buy some in addition”* (Student IDs, participant 14).

*“There are a lot of challenges because holding the NHIS card, they provide you with drugs of less cost and ask you to go buy those that are expenses”* (Student IDs, participant 4)

The narrations from the student participants were consistent with the challenges expressed by the school mothers regarding the NHIS. For instance, some school mothers mentioned that the NHIS benefits were

unable to cover some drugs and medications for students with disabilities particularly those with intellectual disabilities:

*"Sometimes the medicine to be given is expensive and because you are using the NHIS card they will say that kind of medicine is not available but the truth is some will be there. So sometimes when I go I tell them, madam, please if there is some available I am buying it because I am a school-mother and I can't go and join the queue in a different Drug-store where I would not get"* (School-mother, participant 3)

The thematic analysis suggest that the challenges in financing health services using the NHIS mostly lead to poor health for students with disabilities.

## **Discussion**

The study aims to explore the accessibility of health services for students with disabilities, in the quest of achieving universal health coverage in Ghana. The study identified three themes, which are consistent with Thomas and Pechansky theory on access to health services. The themes include 1) accessibility of health services, 2) adequacy of health services for students with disabilities and 3) affordability of health services for students with disabilities.

### **Accessibility of health services for students with disabilities**

Accessibility explains the intersection or fits between the physical location of health services and consumers of services, in terms of physical structure, environment, geographical proximity, travelling time and transportation (33–35). The health systems that make services easily and readily accessible have the ability to increase access to services for students with disabilities. However, the study findings showed that the health services were not accessible for students with disabilities. In particular, the students with disabilities faced challenges such as unfriendly physical environments, structures and medical equipment. Consistent with previous studies in LMICs, (22, 28, 30) people with disabilities mostly face several challenges in accessing social services, including health services. The challenges faced by students with disabilities in accessing health services are attributed largely to factors such as health systems weakness, limited priority of disability issues as well as poor monitoring and evaluation of disability policies. The challenges can influence the quality of health services provided to students with disabilities. For instance, students with disabilities could have poor health and social well-being. In an attempt to achieve universal health coverage, governments in LMICs, including Ghana, should prioritize the health service needs of students with disabilities in policy implementation and monitoring. This can possibly address the needs of students with disabilities and create accessible health systems that are inclusive of the general well-being of people with disabilities.

### **Adequacy of health services for students with disabilities**

Adequacy (organization) describes the ability to make health services accommodative or well organized to become user-friendly for students with disabilities (33–35). An adequate inclusion of the needs of people with disabilities into health systems can promote access to health services, irrespective disability status. The study showed that the health systems had limited provisions to facilitate access to health services for students with disabilities. More importantly the health systems were challenged with inadequate logistics and support services to support students with disabilities. For instance, assistive support services such as directional signs, tactile or braille, sign language interpreters and preferential services that can facilitate access to services were not available in most health facilities. The limited or lack of support services presents a substantial barrier for students with disabilities when accessing health services. Consistent with previous studies, the available health services have limited provisions to support people with disabilities (15, 18, 30). This challenge is ascribed to limited prioritization of disability issues as well as weak monitoring and enforcement of regulations and laws (15, 18, 30). For instance, the Ghana disability law supports the provision of sign language interpreters and other support services to facilitate access to services, however, there appears to be limited enforcement of this regulations, partly due to the lack of legislative instrument as well as priority. The findings recommend that the current policies and strategies, including the provisions and requirements in the disability act, should be prioritized and enforced to ensure an adequate supply of support services for people with disabilities. The adequate provisions and prioritization of disability-related issues would help to achieve universal health for students with disabilities.

## **Affordability of health services for students with disabilities**

The concept of affordability explain the sources of financing health services for consumers of health services and the health systems. More specifically, affordability describes the cost of services, ability to pay and existing pre-payment plan (33–35). The ability to finance health services without out-of-pocket payment has the ability to increase access to services for students with disabilities (34). The study findings suggest that students with disabilities finance the cost of health services through different sources, which include personal funds, family members, individual supports, school support, social workers and NHIS. Despite these, the sources of financing health services were inadequate to support access to services for students with disabilities. For instance, students with disabilities faced several challenges when using NHIS to finance health services. The challenges are attributed largely to the difficulty in obtaining records at the outpatient hospitals, limited benefit coverage of the scheme, perceived poor health outcomes when using NHIS and less expensive drug. This finding confirms previous studies regarding the challenges in financing health services for people with disabilities (21, 22). As a social protection strategy, the Ghanaian health insurance policy has some exemption criteria for people with disabilities. However, most people with disabilities are offered this exemption unless they classify themselves as being poor or indigent (21, 29). The challenges in exemption criteria to insurance policy for people with disabilities, together with poor health insurance management practices and perceived poor health outcomes discourages them from using the scheme (22). The findings recommend that the current exemption policy under the NHIS scheme should be revised to adequately address the

needs of people with disabilities. Adequate provisions of NHIS scheme that is responsive to the health financing needs of students with disabilities would help to achieve universal health coverage for the population.

## **Strength and limitations**

The study has several limitations. The study is limited only to the perspectives of students with disabilities, school mothers and health workers, without the perspectives of stakeholders in government ministries, such as health, education, social protection and regulatory bodies. Also, the interview guide was self-developed by the researchers, without adapting existing validated instruments for measuring access to health services for the vulnerable population. Moreover, the study was limited to only some selected educational and health facilities in three regions of Ghana. Notwithstanding the limitations, the study employed several methodological and interpretive rigour to ensure the validity and reliability of the results. The methodological and interpretive rigour adhere to four principles, including credibility, confirmability, transferability and dependability. The study piloted the interview guide in July 2017 at one educational facility that provide services for students with disabilities. The pilot study interviewed students with disabilities who have access to health services in the last year preceding the study. Again, to increase the confirmability of the study findings, the thematic analysis process were subjected to coding by consensus, member checking, and a series of debriefing sessions. The study findings have been discussed with previous literature on access to health services for people with disabilities.

## **Conclusion**

The study aims to explore the accessibility of health services for students with disabilities, in the quest of achieving universal health coverage in Ghana. The study findings highlighted that universal health coverage for students with disabilities has not been achieved due to barriers in accessing health services. The barriers faced by students with disabilities are accessibility-related issues, including unfriendly physical environments, structures and equipment. The study findings showed that available health services have limited support services to facilitate access to health services for student with disabilities. The support services that are lacking in the health facilities are directional signs, tactile or braille, sign language interpreters and preferential treatment services. Further, our study findings demonstrate that the sources of financing health services for students with disabilities are inadequate to facilitate access to services. In particular, students with disabilities faced several challenges when using insurance to finance health services. The health insurance challenges are difficulty in obtaining patients records at the outpatient hospitals, limited benefit coverage of the scheme, perceived poor health outcomes when using NHIS and less expensive drug.

## **Implication for policy and future research**

Herein, we make several recommendations based on the study findings. The Ghana government should prioritize disability-related issues in health policy formulation, implementation and monitoring. The current provisions and requirements in the disability act should be prioritized, enforced and monitored to ensure adequate inclusion of disability issues in social services including health and educational services. This can create accessible health services and systems that are inclusive of students with disabilities. Further, the current exemption policy under the NHIS scheme should be revised to adequately address the needs of people with disabilities. The study recommends that future research should aim to explore the preparedness of health workers in providing health services to people with disabilities.

## **List Of Abbreviations**

Convention of the Rights of People with Disabilities (CRPD); Low and Middle Income Countries (LMICs); National Health Insurance Scheme (NHIS); Sexual and Reproductive Health (SRH).

## **Declarations**

### **Ethics approval and consent to participate**

The study was approved by the ethical review committee of the University of Cape Coast. The Head of Department of Education and Psychology, University of Cape Coast, provided an introductory letter to the selected health and educational facilities. The researchers obtained written permission from all the health and educational facilities that were recruited. Study protocols and interview guides were reviewed by the head of all the educational and head facilities. No interviews were conducted without the permission of health and educational facilities. All the study participants provided written consent, which was witnessed by at least one family member, friend and school-mothers. Participants who could not read and write were made to thumbprint the consent form after all the necessary information regarding the study was provided in the local language. The participation in the study was voluntary, and so the researchers clearly explained to all participants about the right to participate, decline or withdraw. The authors assigned unique identifiers to audio recordings and transcripts to maintain confidentiality.

### **Consent for publication**

Not applicable

### **Availability of data and materials**

The datasets analyzed during the current study are available upon reasonable request.

### **Competing interests**

The authors declare that they have no competing interests.

## Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

## Authors' contributions

E.A, I.V, I.M and E.B conceptualized the study. E.A and IM perform the field data collection. E.A, I.V, I.M and E.B collaborated to perform the data analysis and drafted the manuscript. All authors reviewed and made inputs into the intellectual content and agreed on its submission for publication.

## Acknowledgements

The authors wish to thank all the study participants for their support during the data collection.

## References

- 1.Callahan D. The WHO definition of 'health'. *Hastings Center Studies*. 1973;77–87.
- 2.Constitution of the World Health Organization, (1948).
- 3.World Health Organization. Constitution of WHO: principles Geneva, Switzerland: WHO; 2018 [Available from: <https://www.who.int/about/mission/en/>].
- 4.World Health Organization. World report on disability. Geneva: WHO. 2011.
- 5.United Nations. Convention on the Rights of Persons with Disabilities. 2006.
- 6.Áfio ACE, de Carvalho LV, Marques JF, de Oliveira PMP, de Almeida PC, Pagliuca LMF. Physical Accessibility for Disabled People: Analysis of Toilet Facilities in Primary Health Care Units. *Open Journal of Nursing*. 2016;6(11):948.
- 7.lezzoni LI, O'Day BL, Killeen M, Harker H. Communicating about health care: observations from persons who are deaf or hard of hearing. *Annals of Internal Medicine*. 2004;140(5):356–62.
- 8.Drainoni M-L, Lee-Hood E, Tobias C, Bachman SS, Andrew J, Maisels L. Cross-disability experiences of barriers to health-care access: consumer perspectives. *Journal of Disability Policy Studies*. 2006;17(2):101–15.

9. De Beaudrap P, Mac-Seing M, Pasquier E. Disability and HIV: a systematic review and a meta-analysis of the risk of HIV infection among adults with disabilities in Sub-Saharan Africa. *AIDS care*. 2014;26(12):1467–76.
10. Burke E, Kébé F, Flink I, van Reeuwijk M, le May A. A qualitative study to explore the barriers and enablers for young people with disabilities to access sexual and reproductive health services in Senegal. *Reproductive health matters*. 2017;25(50):43–54.
11. Bremer K, Cockburn L, Ruth A. Reproductive health experiences among women with physical disabilities in the Northwest Region of Cameroon. *International Journal of Gynecology & Obstetrics*. 2010;108(3):211–3.
12. Ahumuza SE, Matovu JK, Ddamulira JB, Muhanguzi FK. Challenges in accessing sexual and reproductive health services by people with physical disabilities in Kampala, Uganda. *Reproductive health*. 2014;11(1):59.
13. Morrow M, Arunkumar M, Pearce E, Dawson HE. Fostering disability-inclusive HIV/AIDS programs in northeast India: a participatory study. *BMC Public Health*. 2007;7(1):125.
14. Morrison J, Basnet M, Budhathoki B, Adhikari D, Tambahangphe K, Manandhar D. Disabled women's maternal and newborn health care in rural Nepal: A qualitative study. *Midwifery [Internet]*. 2014 Mar 28 [cited 2014 Sep 22]; 1–8.
15. Mprah WK. Sources and use of sexual and reproductive health information among deaf people in Ghana. *INDONESIAN JOURNAL OF DISABILITY STUDIES (IJDS)*. 2014;1(1).
16. Mprah WK. Exploring knowledge and attitudes towards HIV/AIDS among deaf people in Ghana. *Disability, CBR & Inclusive Development*. 2013;24(2):22–39.
17. Mprah WK. Sexual and reproductive health needs assessment with deaf people in Ghana: Methodological challenges and ethical concerns. *African journal of disability*. 2013;2(1).
18. Mprah WK. Perceptions about barriers to sexual and reproductive health information and services among deaf people in Ghana. *Disability, CBR & Inclusive Development*. 2013;24(3):21–36.
19. Kwadwo W, Anafi P, Sekyere FO. Does disability matter? Disability in sexual and reproductive health policies and research in Ghana. *International quarterly of community health education*. 2014;35(1):21–35.
20. Badu E, Opoku MP, Appiah SC. Attitudes of health service providers: The perspective of people with disabilities in the Kumasi Metropolis of Ghana. *African journal of disability*. 2016;5(1).
21. Badu E, Opoku MP, Appiah SCY, Agyei-Okyere E. Financial Access to Healthcare among Persons with Disabilities in the Kumasi Metropolis, Ghana. 2015.

22. Badu E, Gyamfi N, Opoku MP, Mprah WK, Edusei AK. Enablers and barriers in accessing sexual and reproductive health services among visually impaired women in the Ashanti and Brong Ahafo Regions of Ghana. *Reproductive health matters*. 2018;1–10.
23. Ghana Statistical Service. 2010 Population & Housing Census: National Analytical Report: Ghana Statistics Service; 2013.
24. Opoku MP, Gyamfi N, Badu E, Kwadwo W. They think we are all beggars”: the resilience of a person with disability in Ghana. *J Except People*. 2017;2(11):7–18.
25. Opoku MP, Mprah WK, Owusu I, Badu E, Torgbenu EL. Challenges in accessing education for children with disabilities in Ashanti and Brong Ahafo regions of Ghana. *Journal of Disability Studies*. 2016;1(2):61–8.
26. Opoku MP, Swabey K, Pullen D, Dowden T. Poverty alleviation among persons with disabilities via United Nations’ sustainable development goals in Ghana: Voices of stakeholders with disabilities. *Sustainable Development*. 2018.
27. Opoku MP, Alupo BA, Gyamfi N, Odame L, Mprah WK, Torgbenu EL, et al. The family and disability in Ghana: highlighting gaps in achieving social inclusion. *Disability, CBR & Inclusive Development*. 2017;28(4):41–59.
28. Badu E, Agyei-Baffour P, Opoku MP. Access barriers to health care among people with disabilities in the Kumasi Metropolis of Ghana. *Canadian Journal of Disability Studies*. 2016;5(2):131–51.
29. Inclusion Ghana. Access to health care for persons with intellectual disabilities in Ghana: mapping the issues and reviewing the evidence. 2016.
30. Ganle JK, Otupiri E, Obeng B, Edusie AK, Ankomah A, Adanu R. Challenges women with disability face in accessing and using maternal healthcare services in Ghana: a qualitative study. *PloS one*. 2016;11(6):e0158361.
31. Opoku MP, Badu E, Amponteng M, Agyei-Okyere E. Inclusive Education at the crossroads in Ashanti and Brong Ahafo regions in Ghana: Target not achievable by 2015. *Disability, CBR & Inclusive Development*. 2015;26(1):63–78.
32. Opoku MP, Mprah WK, Badu E, Mckenzie J, Agbenyega J. Decade of inclusive education in Ghana: perspectives of special educators. *Journal of Social Inclusion*. 2017;8(1):4–20.
33. Russell DJ, Humphreys JS, Ward B, Chisholm M, Buykx P, McGrail M, et al. Helping policy-makers address rural health access problems. *Australian Journal of Rural Health*. 2013;21(2):61–71.
34. Saurman E. Improving access: modifying Penchansky and Thomas’s Theory of Access. *Journal of health services research & policy*. 2016;21(1):36–9.

35. Levesque J-F, Harris MF, Russell G. Patient-centred access to health care: conceptualising access at the interface of health systems and populations. *International journal for equity in health*. 2013;12(1):18.
36. Fossey E, Harvey C, McDermott F, Davidson L. Understanding and evaluating qualitative research. *Australian and New Zealand Journal of Psychiatry*. 2002;36(6):717–32.
37. Creswell JW. *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage; 1998.
38. Davidsen AS. Phenomenological approaches in psychology and health sciences. *Qualitative research in psychology*. 2013;10(3):318–39.
39. Ganle JK. Hegemonic masculinity, HIV/AIDS risk perception, and sexual behavior change among young people in Ghana. *Qualitative health research*. 2016;26(6):763–81.
40. Saunders B, Sim J, Kingstone T, Baker S, Waterfield J, Bartlam B, et al. Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & quantity*. 2018;52(4):1893–907.
41. Braun V, Clarke V. Using thematic analysis in psychology. *Qualitative research in psychology*. 2006;3(2):77–101.