

Factors Influencing Healthcare Access for Persons with Disabilities in Kakamega County, Kenya During COVID-19: A qualitative study

Stephene Osongo Maende,^{1*} Pamela Godia,¹ Islay Mactaggart², Calum Davey³, and Joyce Olenja¹

*Corresponding author: Stephene Osongo Maende, Email: smaende@students.uonbi.ac.ke

DOI: https://dx.doi.org/10.4314/ajhs.v36i6.9

Abstract

INTRODUCTION

Access to healthcare for persons with disabilities is an indicator of the overall effectiveness of the healthcare system in terms of equity, accessibility and the right to health. This study explores factors affecting access to healthcare among persons with disabilities in Kakamega County in the context of COVID-19.

MATERIALS AND METHODS

Materials used in this study are part of a larger study that looked at access to healthcare and its effect on the quality of life of persons with disabilities in Kakamega County. In this paper, we present data generated from the qualitative component of the study that comprised 7 focus group discussions, 15 in-depth interviews, and 8 key informants who provided contextual information on health services for persons with disabilities. Data was coded and analysed thematically.

RESULTS

The study established key barriers to healthcare access for persons with disabilities during the COVID-19 pandemic period ranging from availability, affordability, discrimination, accommodation, assistive devices, and appropriateness of healthcare. In addition, the results show that these obstacles are not limited to the pandemic, but represent everyday challenges that persons with disability experience; but were exacerbated during the pandemic.

CONCLUSION AND RECOMMENDATIONS

This study highlights the need for disability-friendly infrastructure in healthcare facilities, subsidized medical costs, and the provision of assistive technologies to improve healthcare access for persons with disabilities. We also recommend increasing community and provider awareness of disability rights, enforcing existing laws and policies, and ensuring equal employment opportunities to support full social participation for individuals with disabilities.

Keywords: Access, Healthcare, Disability, COVID-19, Policy

[Afr. J. Health Sci. 2023 36 (6): 703-712]

Introduction

Evidence from 75 middle-income countries worldwide suggests that people's health is directly related to their productivity and ultimately overall welfare (1). Therefore, access to healthcare for all is crucial to the economic growth and development of countries. This is in tandem with various conventions, declarations,

and country-specific laws such as the 2006 Convention on the Rights of Persons with Disabilities (CRPD) (2), the World Program of Action on Disabilities (3) and the Standard Rules on Equal Opportunities for Persons with Disabilities (4), all of which mandate the inclusion of persons with disabilities in the pursuit of optimum population health.

¹Department of Public and Global Health, University of Nairobi, Nairobi, Kenya; ²International Centre for Eye Health, London School of Hygiene and Tropical Medicine, and ³ National Institute of Teaching, London, UK.



Kenya is replete with policy frameworks aimed at improving access to quality health services for persons with disabilities. The Constitution of Kenya (5) confers every Kenyan the right to quality health care (Article 43.1a). Kenya's health policy (2014-2030) emphasises the rights of persons with disabilities in accessing healthcare (6). Persons with Disabilities Act 2003 (Section 20) gives the National Council for Persons with Disabilities (NCPWD) a mandate to persons with disabilities discrimination in the provision of healthcare (7). Moreover, Kenya's Reproductive Health Policy (7) and Adolescent Sexual and Reproduction Policy (9), oblige the state to ensure that women with disabilities and adolescents respectively, have access to reproductive healthcare (10).

Since Kenya's independence in 1963, access to quality healthcare has remained the privilege of a few who can afford to pay high costs for better services mainly offered in private hospitals or travel overseas improved healthcare systems (11). Although there have been efforts to take healthcare closer to the people through the devolved system of government, public health facilities in many counties are unevenly distributed, requiring healthcare seekers to travel long distances in search of services (12). The widespread ravage of COVID-19 was therefore more likely to compound the complexities in healthcare access, particularly for persons with disabilities (13).

Factors influencing seamless access to healthcare for persons with disabilities in both low and high-income countries have been explored. Limited or lack of social support, the need for human personal assistance and disability-related costs could hinder their access to healthcare (14-16). Lack of disability-friendly healthcare facilities, assistive devices, negative attitudes of healthcare workers, stigma and cultural beliefs have been associated with low access to healthcare services for persons with disabilities (10, 14). Studies have shown that

COVID-19 had a devastating socio-economic impact on the general population but with a special mention of persons with disabilities (17, 18). Although Kenya has been hit by pandemics such as swine flu (19) and HIV in the past, there is limited evidence on the status of access to healthcare for persons with disabilities during such pandemics, particularly during COVID-19.

An estimated 16% of the world's population lives with disabilities (20), and approximately 2.2% of Kenyans experience significant disability (21). Disability prevalence in the country is higher in rural areas (2.6%) compared to urban (1.4%). There are more women than men living with disabilities in Kenya. Kakamega County has disability prevalence of 2.9 %, slightly above the national average, with physical disability being the most common followed by visual and hearing impairments (ibid).

The study sought to explore factors influencing access to healthcare for persons with disabilities during the COVID-19 pandemic. We draw from Levesque, Harris and Rusell's 2013 conceptual framework on access to health care (22). This framework conceptualizes access to health care as the opportunity to receive a health service perceived as required by an individual (23). Its Proponents argue that access to health care results from the interaction between personal, household, and social elements as well as the features of physical environments and health systems. There are five dimensions, which determine access to healthcare: approachability, availability, accommodation, acceptability, affordability, and appropriateness of the service. These five dimensions interact with five capabilities: to perceive, seek, reach, pay, and involve to generate access to health care.

Materials and Methods Study setting

This study was conducted in Kakamega County, the fourth most populous county in Kenya after Nairobi, Kiambu, and Nakuru. The



county's total population is estimated at 1,867,579, a land area of 3,020 Km², a population density of 618 people per square kilometre, and an average household size of 4.3(21). Kakamega is largely rural, and most of the residents rely on small-scale farming as their main source of income.

Participant recruitment

Participants were recruited from Khwisero, Lugari, Lurambi and Matungu subcounties. We included persons with disabilities aged 18 years who could communicate either independently, through a caregiver, or through a translator. Fifteen (15) participants were purposively enrolled to take part in the in-depth interviews (IDIs). Two participants were picked from each of the six domains of disabilities. This sampling technique ensured the selection of participants with differing demographic characteristics. Fifty-six (56) persons with disabilities (from a pool of 80) were recruited to participate in 7 Focus Group Discussions (FGDs), with each FGD comprising 8 people. The selection considered six disability domains (Physical, visual, hearing, cognitive, self-care and communication) with equal representation of

males and females. Two (2) FGDs were conducted in each of the selected sub-counties, except in Khwisero, where only one FGD took place due to mobilization challenges. The selection of persons with disabilities was preceded by disability assessment where individuals were asked a Shot Set of Washington Group of questions (WGSS) directly to ascertain their disability status (24) and their age. Those who did not meet the inclusion criteria were excluded. A total of 8 key informants were purposively selected to take part in the study. These were drawn from local disability organisations, policymakers, the Ministry of Health (MOH) - County Directorate of Health, Heads of sub-county health facilities, Department of Social Services (Directorate of Social Protection), United Disabled Persons of Kenya (UNDPK), the National Council for Persons with Disabilities (NCPWDs) and Non-governmental organisations (NGOs) (Table 1).

Data collection

Data was collected between May and August 2022, under the guidance of the lead researcher, and the support from four experienced research assistants.

Table 1: Methods and Sample Characteristics

Method	Purpose	Sample Characteristics
In-depth interview (IDI)	To explore factors influencing access to healthcare during COVID-19.	7 males and 9 females with disabilities.
Focus group discussions	To explore factors associated with access to healthcare for persons with disabilities.	26 women and 22 men with disabilities aged between 18 and 56 years.
Key informant interviews	To explore policy perspectives and implementation, perceptions on the experiences of persons with disabilities on access to healthcare during the COVID-19 pandemic. To explore the capacity of healthcare facilities to handle persons with disabilities.	2 professionals from national disability organisations 3 heads of sub-county medical facilities. 1County medical professional 1 professional from the Ministry of Health. 1 professional from the county directorate of social services 1 professional from a national non-governmental organization dealing with persons with disabilities.



Data was collected using IDIs, FGDs, and key informant interview (KII) tools. IDIs and FGDs explored participants' experiences with access to healthcare, whereas KIIs focused on policy perspectives. With the participant's written /oral consent (for FGDs), the interviews were conducted in English, Kiswahili and the local dialect (Luhya) depending on the participant's preference. The tools were pretested in Malava-a sub-county that had not been selected for the study.

The COVID-19 safety protocols such as wearing of face masks, and physical and social distancing were observed during data collection.

Data management and analysis

Thematic data analysis was adopted for the inductive process which enabled the emergence of themes and categories naturally. Audio recordings were precisely transcribed and translated into English where either the Kiswahili or Luhya language had been used. Transcripts were read, re-read, analysed and synthesized for correct interpretation of the interview content and emerging themes to inform coding. Data was coded with the aid of NVivo 11 to extract and develop hierarchical code structures. To ensure credibility and verifiability, the data was triangulated by comparing findings from IDIs, FGDs and KIIs across thematic areas.

Ethical considerations

Ethical approval for this study was granted by the Kenyatta National Hospital-University of Nairobi (KNH-UoN) Ethics Review Committee (Ref. No: KNH-ERC/A/59). The written/oral informed consent was obtained from all study participants before data collection. Consent was also obtained from the participants for the audio recording of the discussions. Privacy of participants and confidentiality of all date was strictly adhered to.

Results

In both the IDIs and the FGDs, study participants discussed their experiences in accessing healthcare services in general, and during the COVID-19 pandemic in particular. Overall, it emerged that persons with disabilities; regardless of disability domain, face similar problems in accessing healthcare. Six thematic areas emerged: Availability of healthcare services, affordability, accommodation, discrimination, assistive technology and appropriateness/ perceived quality of healthcare.

Availability of healthcare services

The availability of health services, which related to geographical access to facilities, types of services provided, and the types of facilities concerning patients' needs, was found to be a key challenge, affecting overall access to health care for persons with disabilities. From the IDIs, we noted that most healthcare facilities in Kakamega County provide limited services.

".... services at levels 2 and 3 hospitals are not sufficient, level 4 facility is far." (Female DPO, IDI, Kakamega).

Shortage of drugs was a pre-existing issue across public healthcare facilities within Kakamega County and the situation worsened during the pandemic. Even though this was a challenge to the general population, persons with disabilities suffered more due to higher poverty levels as compared to people without disabilities:

"We are given Panadol and asked to buy other drugs elsewhere."(Female with visual impairment, IDI, Lurambi).

KIIs with sub-county hospital officials confirmed that dispensaries and health centres were not well equipped, and as such, offered a limited range of services.

During IDIs and FGDs, persons with disabilities expressed divergent views on the issue of distance to healthcare facilities depending on the type of disability and the participant's area of residence.

"...hospitals are many here....and we can reach them easily." (Male with Visual impairment, FGD, Matungu).



"It is hard to reach my hospital...the road is bad." (Female, physical disability, FGD, Lugari).

KIIs with medical officers in charge of the sub-county hospital revealed that most facilities were within a requisite 5 km radius, although, there were places where the facilities were far. This was corroborated by a medical officer in the county:

".... I can't say geographical accessibility is guaranteed for every person with a disability."

(County medical official, KII).

Affordability

Interviews showed that lack of insurance coverage and high levels of poverty among persons with disabilities were major barriers to accessing healthcare services. Persons with disabilities in Kakamega County pay medical fees at similar rates to the rest of the population. This situation was exacerbated by the prevalent lack of drugs in the facilities.

"... despite the many financial challenges, we experience, we must meet the cost of medical care." (Female, physical disability IDI, Lugari).

These views were complemented by a policy implementor who noted that:

"Most are poor and thus, cannot afford even basic meals." (OPD Rep, Nairobi).

During the COVID-19 pandemic, access to health care was costly. Other than the high cost of medication- worsened by the shortage of drugs in public health facilities; transportation costs increased due to the reduced carrying capacity as a result of COVID-19 regulative directives by the MOH, compounding the undesirable situation for persons with disabilities. Other factors such as loss of jobs and other livelihood sources attributable to the pandemic, made it nearly impossible for most persons with disabilities to afford medication at private health facilities. The situation was further complicated by other miscellaneous expenditures such the mandatory face masks while in public spaces that resulted from the MOH's directives on curbing the spread of the virus. During the FGDs in the four sub-counties, most of the participants mentioned the issue of transportation costs and the need to purchase drugs as a key challenge.

"Transport was unaffordable... buying drugs and face masks...challenge." (Female, hearing impairment, FGD, Lurambi)

Accommodation at healthcare facilities

Despite government efforts to improve healthcare facilities to ensure access to quality health care for all citizens, persons with disabilities in Kakamega County still face a myriad of infrastructural challenges in accessing health care. IDIs revealed that these challenges existed in many of the healthcare facilities.

"...beds in most of our facilities can't be accessed by most of the physically disabled. No toilets for disabled." (Female, physical disability, IDI, Matungu).

Yet in another interview, a participant had this to say:

"...the surfaces are very smooth., moving is challenging in some hospitals." (Female with physical disability, IDI, Lurambi).

Even with a wheelchair, we discovered that some healthcare facilities lacked spaces that provided a pathway to enable access to the various service points within the health facilities:

".... there are no spaces designated for persons with disabilities using wheelchairs." (Male with physical disability, FGD participant, Lugari).

These observations were complemented by statements from disability leaders in the community. One of the leaders observed:

".... we don't have adjusted beds." (Female, DPO3, IDI, Kakamega).

KIIs with medical officers in charge of sub-county hospitals confirmed that most health facilities in the county were not disabilityfriendly.



".... three-quarters of the healthcare facilities in this sub-county were constructed a long time ago without persons with disabilities in mind" (Medical officer, Kakamega).

Discrimination

Results from the FGDs and IDIs show that discrimination against persons with disability began at home and extended to public spaces, including healthcare facilities.

"In our culture, any child born with challenges belongs to the mother how can people respect you in the community if your father discriminates against you?" (Female, Visual Impaired, IDI, Khwisero).

Discrimination against persons with disabilities in healthcare facilities existed with or without a pandemic.

".... I have had an occasion where a doctor asked me to breastfeed my child at a clinic as proof that the child was mine." (Female, FGD participant, Khwisero).

Similarly, interviews with DPO representatives indicated that persons with disabilities faced discrimination from the medical personnel:

"... a nurse asked me...why are you giving birth, how will you take care of the children." (DPO2, IDI, Kakamega).

In another interview, the results suggested that pregnant women with disabilities were forced to have a cesarean section on the assumption that they were weak and could not give birth naturally.

"... If a nurse sees a pregnant woman in a wheelchair, they say that you are a Cesarean Section (CS) candidate." (Female, physical Impairment, IDI, Lugari).

Assistive devices

The majority of the healthcare facilities in Kakamega County lacked a sign language interpreter.

"...you have to go with your interpreter.....otherwise.... miscommunication with doctors is likely to occur." (Female, hearing impairment, IDI, Lugari).

Interviews with DPO leaders also revealed a lack of sign language interpreters in virtually all healthcare facilities in the four subcounties surveyed. Only one sub-county had interpreters in two out of 18 health facilities.

".... if you have a hearing impairment. You have to come with a sign language interpreter." (DPO03, IDI, Kakamega)

Results from IDIs showed that most healthcare facilities lacked wheelchairs which made it challenging for the physically disabled to access services.

"... no assistive devices such as hearing aids and wheelchairs." (Male, hearing impairment, IDI, Khwisero).

In one sub-county, a medical officer admitted that there were only two wheelchairs stationed at the Level 4 facility.

".....there are insufficient wheelchairs here, and to talk about sign language interpreters would be farfetched." (Medical officer, KII, Kakamega County).

Appropriateness of healthcare services

There was a general feeling among persons with disabilities that the appropriateness of services they receive, particularly from public health institutions, was below the standards envisioned in various policies. For example, one participant wondered how quality healthcare could be accessed by the deaf when healthcare facilities lacked sign language interpreters.

"Due to poor communication, I had to opt for caesarean section (CS) delivery." (Female, visual impairment, FGD, Lurambi).

The negligence of health workers in most public institutions has been seen as a barrier to accessing health care for persons with disabilities.



"..... for something that would take 1 hour, you end up wasting your whole day in a facility." (Male, communication impairment, FGD, Khwisero).

Discussion

There are various factors which influenced access to healthcare for persons with disabilities in Kakamega County during the COVID-19 pandemic. Even though these barriers existed before the pandemic, COVID 19 containment measures exacerbated the situation. included availability Key themes affordability healthcare services, accommodation at the facilities, discrimination, assistive devices, and appropriateness of healthcare provided.

In the County, results showed that accommodation at a facility and availability of healthcare plays an important role towards access to healthcare for persons with disabilities. Because acceptance of services depends on patients' attitudes and beliefs towards the healthcare system, as well as the individual and practical characteristics of the healthcare professionals (26), these findings suggest that with disabilities face attitudinal persons challenges within the healthcare system, making their access to healthcare difficult. Studies have reported that negative attitudes such as discrimination from health professionals represent major barriers to accessing health for persons with disabilities (25, 26). Studies have further shown that stigma and cultural beliefs also hamper access to healthcare for persons with disabilities (10). In Kenya, it has been established that persons with disabilities are viewed as a curse in some families (28), and the resulting isolation has an impact on their access to healthcare.

Evidence reveals that economic factors significantly influence access to healthcare among individuals with disabilities (29). Studies demonstrate that persons with disabilities encounter economic disadvantages, which in turn

hinder their ability to access primary healthcare and rehabilitation services. The COVID-19 pandemic exacerbated this situation by causing job losses, business closures, and other disruptions in support systems, making it challenging for individuals with disabilities to afford necessary medical expenses. The situation was further complicated by lack of medical insurance coverage, as most them cannot afford it. Given that persons with disabilities are generally poorer (30), have extra healthcare needs (31), and are less likely to be employed (32), they are disproportionately affected. Evidence shows that unemployed people are less likely to be insured and have less access to healthcare (33). At a macro level, a study associated poor health conditions in European countries with unemployment (34). A metaanalysis of panel studies reported that persons with poor health conditions are less productive and, hence, more likely to be unemployed (35).

Regarding the appropriateness, we report that most persons with disabilities were not satisfied with the quality of services they received from the public health facilities. Negative attitudes of health professionals towards them, and communication challenges are some of the problems that characterize public health facilities in the County that could influence access to healthcare. Previous evidence shows that past negative experiences create barriers to accessing services (36), while positive experiences facilitate access (37).

Lack of assistive devices and disability-unfriendly hospital environment were a key impediment to accessing healthcare for persons with disabilities. In most health facilities in the four sub-counties, there was evidence of inadequate assistive devices/technologies such as wheelchairs, sign language interpreters, accessible toilets and beds. This means that access to healthcare is a major challenge for persons with disabilities, particularly for those with limited income. Without assistive devices,



persons with disabilities find it difficult to work, attend school, access healthcare, and or participate productively in the community (38). Other studies have established that the unfriendly nature of the hospital infrastructure can have adverse effects on access to healthcare (14). A 2014-2021 action plan of the WHO observes that persons with disabilities encounter various hindrances towards access to healthcare, such as lack of assistive devices, transport, education, and social support which emanates from insufficient legislation, and or lack of policies and strategies, negative attitudes, lack of disability awareness and inadequate funding (38).

Conclusion and Recommendations

The study has illustrated the realities of living with disabilities in relation to access to healthcare services, highlighting the importance of addressing these plights faced by persons with disabilities. Consistent with Levesque, Harris, and Rusell's framework (2013), we conclude that challenges with, accessibility, availability, affordability, accommodation. and appropriateness of healthcare contribute to barriers to accessing healthcare services among persons with disabilities. Addressing these barriers within the healthcare system is likely to enable everyone to have equal access to healthcare as envisioned in article 43 (1a) of the constitution of Kenya and other healthcare policy frameworks. The provision of assistive technology and subsidizing the cost of healthcare for persons with disabilities will be instrumental in enhancing their access to healthcare. There is a need to improve physical access by creating a disability-friendly environment in all healthcare facilities. Whereas legislation that addresses stigma and discrimination exists, implementation has not been fully realised. Additionally, there is a need for sensitization and training of healthcare personnel on better handling of persons with disabilities. Heightened efforts to raise awareness at the community level on the rights of persons with disabilities, enforcement of existing laws and policies, and provision of equal job opportunities for all can guarantee their full participation in social life, including access to healthcare.

Acknowledgement. The authors would like to thank persons with disabilities from Kakamega County who took part in the study. In addition, we thank the International Centre for Evidence in Disability (ICED), under the Programme for Evidence to Inform Disability Action (PENDA), based at the London School of Hygiene and Tropical Medicine for supporting this research (LSHTM).

Source of funding. This study was supported by PENDA through a grant to the University of Nairobi.

References

- 1. **Abubakar MHS, Mohey-ud-din G, Kiani A.** (2020). Human Health and Worker Productivity: Evidence from Middle-Income Countries. *International Journal of Innovation, Creativity and Chang.*, 2020; 14(11), 523-544.
- 2. UN. Convention on the Rights of Persons with Disabilities and Optional Protocol. 2006. Available from: https://www.un.org/disabilities/documents/convention/convoptprot-e.pdf
- 3. UN. World Program of Action Concerning Disabled Persons. 1983. Available from: https://disability-studies.leeds.ac.uk/wp-content/uploads/sites/40/library/united-nations-world-programme.pdf
- 4. **UN.** Standard Rules on the Equalization of Opportunities for Persons with Disabilities. 1983.Available from: https://www.independentliving.org/standardrules/StandardRules.pdf
- 5. **Republic of Keny**a. The Constitution of Kenya 2010. Available from: http://extwprlegs1.fao.org/docs/pdf/ken127322.pdf
- 6. **Ministry of Health.** Kenya Health Policy 2014-2030. 2014. Available from http://publications.universalhealth2030.org/upl oads/kenya_health_policy_2014_to_2030.pdf
- 7. **Government of Kenya.** Disability Act No. 14 of 2003. *Kenya Gazette*. Nairobi, Kenya: Government Printer.



- 8. **Ministry of Health.** National Reproductive Health Policy: Enhancing Reproductive Health Status for all Kenyans. Government of Kenya. 2007. Available from: https://scorecard.prb.org/wp-content/uploads/2018/05/National-Reproductive-Health-Policy-2007-Kenya.pdf
- 9. **Ministry of Health.** National Adolescent Sexual and Reproductive Health Policy. 2015. Available from:https://tciurbanhealth.org/wpcontent/uploads/2018/03/Ministry-of-Health-ASRH-POLICY-2015.pdf
- 10. **KNCHR.** On submissions to the Convention on the Rights of Persons with Disabilities. 2016. Available from: https://www.globaldisabilityrightsnow.org/site s/default/files/related-files/260/Compendium%20on%20Submission s%20to%20CRPD_Vol%201.pdf1
- 11. **Njeri PO, Masai NA, Nyadera IN.** Health coverage and what Kenya can learn from the COVID-19 pandemic. 2020; *Journal of Global Health*, *10*(2), 1-6. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7565744/
- 12. **Ilinca S, Di Giorgio, L, Salari PCJ.** Socioeconomic inequality and inequity in use of health care services in Kenya: evidence from the fourth Kenya household health expenditure and utilization survey. *International Journal for Equity in Health*. 2019; 18, 1-13. Available from:https://equityhealthj.biomedcentral.com/track/pdf/10.1186/s12939-019-1106-z.pdf
- 13. **Opoku MP, Mprah WM, Dogbe JA, Moitui JN, Badu E.** Access to employment in Kenya: the voices of persons with disabilities. *International Journal on Disability and Human Development.* 2020; 16(1), 77–87.
- 14. **Kabia E, Mbau R, Muraya KW, Morgan R, Molyneux S, Barasa E.** How do gender and disability influence the ability of the poor to benefit from pro-poor health financing policies in Kenya? An intersectional analysis. *International Journal for Equity in Health.* 2018; 17(149), 1-12.
- Trani J-F, Loeb M. Poverty and disability: A vicious circle? Evidence from Afghanistan and Zambia. *Journal of International Development*. 2012; 24, S19-S52. Retrieved from https://doi.org/10.1002/jid.1709
- Kennedy J, Wood EG, Frieden L. Disparities in Insurance Coverage, Health Services Use, and Access Following Implementation of the

- Affordable Care Act: A Comparison of Disabled and Nondisabled Working-Age Adults. INQUIRY. *The Journal of Health Care Organization, Provision, and Financing*. 2017; 54, 1-10.
- 17. **Senjam S.** Impact of COVID-19 pandemic on people living with visual disability. *Indian J Ophthalmol.* 2020; 68(7), 1367.
- 18. **Pandey AS,** *et al.* Letter: COVID-19 pandemic-the bystander effect on stroke care in Michigan.2020. Available from: https://doi.org/10.1093/neuros/nyaa252
- 19. **Osoro EM, Munyua P, Muthoka P, Gikundi S, Njenga MK, Lifumo S, et al.** Hospitalized patients with pandemic (H1N1) 2009, Kenya. *Emerg Infect Dis.* 2011;17(9):1744-6. Available from: doi: 10.3201/eid1709.100992. PMID: 21888810; PMCID: PMC3322052.
- 20. **WHO.** Global Report on Assistive Technology. WHO & UNICEF: Geneva; 2022. Available from: https://www.unicef.org/media/120836/file/%2 0Global%20Report%20on%20Assistive%20T echnology%20.pdf
- 21. **KNBS.** Kenya Population and Housing Census: *Volume I. Government Printer:* Nairobi; 2019.
- 22. **Levesque, J-F, Harris M.F, Rusell 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(18), 1-9. Available from: http://www.equityhealthj.com/content/12/1/18
- 23. **Haddad S, Mohindra K.** Access, opportunities and communities: ingredients for health equity in the South. Paper presented at the Public Health and International Justice Workshop. *Carnegie Council of International Affairs*: New York; 2002.
- 24. **Jennifer HM, Mitchell L.** Methods to improve international comparability of census and survey measures of disability. *Disability and Rehabilitation*. 2013; 35(13). Available from: https://www.tandfonline.com/action/showCitFormats?doi=10.3109%2F09638288.2012.7203

53

25. Hanlon C, Eshetu T, Alemayehu D, Fekadu A, Semrau M, Thornicroft G, et al. Health system governance to support scale-up of mental health care in Ethiopia: a qualitative study. *Int J Ment Health Syst BioMed Central*.2017; 11(1), 38.



- 26. Michael Thiede Di McIntyre. (2008). Information, communication and equitable access to health care: a conceptual note. *Cad. Saúde Pública*, 24(5), 1168-1173. Retrieved from
 - https://www.scielo.br/j/csp/a/WfKMpKTHBcy 7TyxYKc6bMJj/?lang=en#
- 27. **Grut L, Mji G, Braathen SH, Ingstad B.** Accessing community health services: challenges faced by poor people with disabilities in a rural community in South Africa. *African J Disabil.* 2012; 1(1), 1-7.
- 28. **Bunning K, Gona JK, Newton CR, Hartley S.** The perception of disability by community groups: Stories of local understanding, beliefs and challenges in a rural part of Kenya. *PLoS ONE*. 2017; 12, 1-20. Available from https://doi.org/10.1371/journal.
- 29. **Jeong-Eun L, Young KDo.** Catastrophic Health Expenditures for Households with Disabled Members: Evidence from the Korean Health Panel. *Medicine General & Social Medicine*. 2016; 336-344. Available from:https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4779856/pdf/jkms-31-336.pdf
- 30. **Aderemi T.** Teachers' Perspectives on sexuality and sexuality education of learners with intellectual disabilities in Nigeria. *Sex Disability*. 2014 31:1–12. (31), 1-12.
- 31. **WHO.** World Report on Disability.2011. Available from:https://www.who.int/disabilities/world_r eport/2011/report.pdf
- 32. **ILO.** Social protection for older persons: Policy trends and statistics. 2017. Available from: https://www.ilo.org/secsoc/information-resources/publications-and-tools/policy-papers/WCMS 645692/lang--en/index.htm
- 33. **Driscoll AK, Amy BB. 2012.** Health and Access to Care among Employed and Unemployed Adults: United States, 2009-2010. 2012. *Available from:* http://198.246.124.22/nchs/data/databriefs/db8 3.pdf.
- **34. Maruthappu, Mahiben,** *et al.* Unemployment, Public-Sector Healthcare Expenditure and Colorectal Cancer Mortality in the European Union: 1990–2009. *International journal of public health.* 2016; 61(1), 119-130.
- 35. Rogier van Rijn, Suzan R, Sandra, Alex B. (2014). Influence of Poor Health on Exit from Paid Employment: A Systematic Review. Occupational & Environmental Medicine.

- **2014.** *71*(4), **295-301.** Available from https://oem.bmj.com/content/71/4/295
- 36. **Geleto A, Chojenta C, Mussa A, Loxton D.**Barriers to access and utilization of emergency obstetric care at health facilities in sub-Saharan Africa-a systematic review protocol. *Syst Rev.* 2018; 7(60), 1-6. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/P MC5902829/pdf/13643_2018_Article_720.pdf
- 37. Meghan AB, Erin CH, Heather MM, João PS, Joshua PV, AMetin G. Facilitators and barriers to facility-based delivery in low- and middle-income countries: a qualitative evidence synthesis. *Reproductive Health*. 2014; 11(71), 1-17. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/P MC4247708/pdf/12978_2014_Article_330.pdf
- 38. **WHO.** WHO Global Disability Action Plan: Better Health for All People with Disabilities. 2015. Available from: https://apps.who.int/iris/rest/bitstreams/887498/retriev