Referral Service Barriers in Ethiopia: experiences and perceptions of actors.

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Abstract

Background: Globally, about 2.8 million neonates and 295,000 mothers die annually. Almost two-third of these deaths are reported from Africa and Asia. The causes have been attributed to sepsis, asphyxia, prematurity, hemorrhage, obstructed labor, and hypertension. To save the lives of women and babies, the Ethiopian Ministry of Health developed and implemented a referral system which comprises a network of primary health care facilities, a guiding document, and established tracking mechanisms. However, there is limited information on barriers to effective patient referrals. This study aims to assess referral barriers at primary healthcare entities in four regional states of Ethiopia.

Methods: The study employed a cross-sectional study design with mixed qualitative and quantitative methods. It was conducted in September 2019 in four purposively selected districts with high referral rates in Ethiopia. The quantitative data were collected for a one-month period from all 1,139 referral service beneficiaries or adult care takers in targeted health facilities using exit interviews. In addition, qualitative data was collected from 52 key informants using in-depth interviews. The quantitative data was analyzed using SPSS v20 and is presented using, tables, and figures. Qualitative data were transcribed verbatim were read and reread. Categories and themes that emerged and corresponding codes were labeled using open code software.

Results: Out of 1,139 formally referred patients, 95% reported that no pre-referral communication occurred between referring and receiving facilities. On the qualitative data analysis, five themes emerged as follows: (1) Lack of provider communication skills, (2) lack of governing documents, (3) shortage of human resource, and (4) Lack of essential equipment in ambulance services, and (5) Lack of infrastructure.

Conclusion: This study explored and described several referral service barriers in four regional states of Ethiopia. The referral service barriers were influenced by both individuals and health systems related factors. The investigators recommend implementing performance and quality improvement interventions to strengthen the referral systems. In addition, to address the barriers of referral system, improving the communication skills of health care providers was recommended. Furthermore, providing governing documents including referral protocol, referral service directory, and guidelines can solve some of the referral services barriers. Equipping ambulances with trained providers and lifesaving equipment, enhancing telephone lines and office facilities are recommended.

[*Ethiop. J. Health Dev.* 2021;35(SI-5):55-62]

Keywords: referral, barrier, primary healthcare, experience, Ethiopia

Background

Globally, about 2.8 million neonates and 295 000 mothers die annually. Almost two-third of these deaths are in Africa and Asia (1,2). The causes of these high death rates are attributed to sepsis, asphyxia, prematurity, hemorrhage, obstructed labor, and hypertension (1, 3). In addition, inadequate access to quality maternal and neonatal health care elevates the risk of death. To save the life of women and babies, the Ethiopian Ministry of Health developed and implemented a referrals system within its primary health care facilities including primary hospitals, health centers, and health posts. A key element of primary healthcare is a functional referral system in which patients can access care at different levels (4-7).

When primary healthcare providers identify clients in need of higher level of care than they can provide (8, 9), referrals move clients up to secondary and/or tertiary level healthcare facilities. There are various types of referrals. Vertical interfacility referrals are those made to higher level health facilities; horizontal interfacility referrals are those made between facilities providing similar levels of care; and diagonal referrals are those made when a lower-level health facility directly refers patients to specialized facilities without necessarily passing through the hierarchal system (Fig. 1). Clients are referred to higher levels of care based on the severity of their illness and availability of services. Once critical conditions are resolved, the patient is referred to lower levels of care for follow-up management. A functional referral system includes a group of organizations that provide comprehensive healthcare services in a defined geographic area, a unit that coordinates and oversees referral activities, designated referral focal persons at each health facility, directory of services and organizations within a defined territory, standardized referral formats, feedback loop to track referrals, and documentation of referrals (10-12). Functional referral systems ensure that patients receive the best possible care, closest to home (13).

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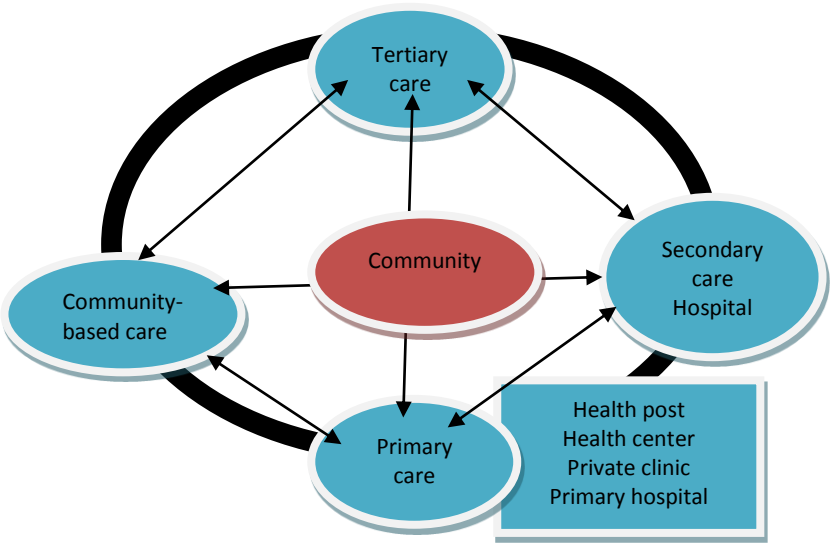

Fig. 1. The Ethiopian Ministry of Health recommended referral system flow (4)

The process of referral system implementation needs to be continuously monitored and evaluated. Ethiopia's national referral system guidelines recommend using monitoring and evaluation indicators in three categories: (1) input; (2) process; and (3) output/outcome. Input includes availability of a referral office, focal person, referral forms and registers, feedback forms, and service directories of a defined catchment area. Input also includes infrastructure, such as an equipped and functional ambulance with a driver, a dedicated phone line, a computer with a printer, internet services, a photocopy machine, a referral network agreement, and a web-based referral service. The process domain addresses the steps and documentation of referral services, the extent of self-referrals, feedback services, and appropriateness of referrals. The outcome domain addresses the number of clients who complete the referral cycle and are satisfied with the referral services, as well as provider satisfaction with the overall system (4).

In a primary healthcare system, several referral service barriers are documented. These barriers can be categorized into two: Individual level barriers: prior poor experience with the health system (such as long waiting times for access to services), fear of mistreatment by healthcare staff, financial constraints (not enough money for transport, food, drugs, service fees, costs of travel for caretakers), or time or opportunity costs of skipping work (7,14,15). The second category is facility level barriers: providers being too busy, stockouts in facilities, complex paperwork, and unmotivated staff who may lack technical capacity to do their jobs (5,12,16,17). Further, service providers may not refer patients, because they perceive patients as unable to take up a referral because of lack of transportation or due to perceived severity of illnesses (18,19).

Scientific studies have looked at referral rates, patient satisfaction, and referral system operations (20,21). While some studies focus on barriers, others simply describe the referral patterns (22-24). Although there are limited number of studies dedicated to exploring the experiences of referral service beneficiaries along the continuum of community health service care. To date, there is no published study available on individual and health system related reproductive, maternal, newborn, and child health and nutrition (RMNCH-N) service referral barriers in the Ethiopian context. It is important to understand context-specific barriers and facilitators for functional referrals to guide the design of targeted and appropriate interventions that improve referral systems. Therefore, the aim of this study was to explore referral service barriers in selected districts in Ethiopia from both the clients and providers perspectives.

Methods

Study setting

Since 2017, the USAID Transform: Primary Health Care Activity in collaboration with the Ministry of Health, has been implementing and supporting continuous quality improvement of health care delivery in Ethiopia. Benefiting nearly 53 million people, USAID Transform Primary Health Care strengthens the management and performance of Ethiopia's national health system by improving the service delivery process across the continuum of primary health care, improving household and community health practices, health care-seeking behaviors, and strengthening program learning to impact policy and activities related to the prevention of child and maternal deaths. The study was conducted in selected health facilities located within USAID Transform: Primary Health Care implementation regions and focused on referral process and its barriers. The data was collected in September 2019.

Study design

A cross-sectional study design with a mixed method (qualitative and quantitative) approach was employed in four agrarian regions, namely Oromia; Amhara; Southern Nations, Nationalities, and Peoples'

(SNNP®[1]); and Tigray of Ethiopia. Source and study population of this analysis was any client (patient or caretaker) who referred from a health center to a primary hospital, and from a health post to a health center in the month of September 2019.

Sample size and sampling

As there was no pre-determined estimate of referral rate and its process to base our assumptions for estimating sample size, standard sample size formula could not be used to calculate a sample. Woredas (districts) were selected from the four regions where USAID Transform Primary Health Care activities implemented. The sampling frame included woredas that have implemented USAID Transform: Primary Health Care Activities. One woreda/district from each region was purposively selected from Amhara, Oromia, Tigray, and SNNP. A total of 4 woredas were selected based on their higher referral rates compared with others in the routine health information management system, and with referral networks.

Based on this, one primary hospital, two health centers and four health posts were randomly selected from each of the 4 woredas for a total of 4 primary hospitals, eight health centers and 16 health posts. Exit interviews were conducted among referred clients (patients or caretakers) who were referred for and/or used RMNCH-N referral services. Client selection was completed through consecutive sampling method until an adequate sample was obtained. A total of 1,139 clients (patients or caretakers) who were referred from health centers to primary hospitals, and from health post to health center in September 2019 were identified using their referral slip and clients were also asked if they are referred or not. The qualitative key informant interviews were conducted with people who had more than two years of experience with facilities referral process and managing referral services. With the same sampling techniques used in quantitative data collection, 52 key informant interviews were conducted for two liaison officers, 22 case team leaders, 12 health facility managers, and 16 health extension workers from the four targeted districts.

Data collection process

A quantitative data collection instrument was used to conduct exit interviews with referral service beneficiaries. The questionnaires were adopted from the MEASURE Evaluation referral system assessment tool and reviewed literature (25,26). The content of the questionnaire has 27 items which consists of socio-demographic characteristics, process, services received in referring facilities, and services in referral-receiving facilities. The qualitative data was collected using a semi- structure questionnaire. The main question proposed for key informants explored more detailed information about the referral process and its barriers, example "please tell me how you perceived the functionalities, and barriers of the referral services in [name] health facility?". The questionnaires were prepared in English, translated into the local languages (Tigrigna, Amharic, and Oromifa), and translated back into English to check consistency. Eight data collectors who were fluent in the regional working languages were selected for data collection and four supervisors with experience in referral systems were selected to supervise the process. Training, consisting of mock interviews and practical exercises for both data collectors and supervisors, was conducted over two days in August 2019. The questionnaires were pretested in Sululta district in Oromia region and refined to ensure clarity and could be understood by both the data collectors and respondents.

Data processing and analysis

The research team assessed the quality, accuracy, and completeness of the collected data using range plausibility and cross-validation checks. The quantitative data was entered into EPI-Data vs 3.02 for Windows and exported into SPSS vs 25 for further analysis. Data analysis consisted of descriptive statistics (table) were used to summarize the quantitative data.

The qualitative data analysis (key informant responses) was audio-recorded, transcribed verbatim in local languages (Amharic, Oromifa and Tigrigna) and translated into English before starting to analysis. Thematic analysis was used to analyze the data in three phases: preparation, team organization and reporting the summary result in each team. The first phase of the analysis started with careful reading of the data multiple times to become immersed in and familiar with the data. In the organization phase, each transcript was read carefully by the first author who highlighted the theme text (words or phrases) that appeared to describe the phenomenon under the study (barrier, process). The highlighted theme text was openly and manually coded with descriptors. The third author read the data to confirm the descriptive codes. These codes were revised, and the codes that emerged from the revision were jointly reviewed before they were integrated into the analysis. The other authors collaborated with the first and third author to review, discuss and agree on the final code categories. The final analysis was summarized using the Open Code computer program based on agreed emerging themes.

Ethical consideration

The study was granted ethical clearances from institutional review boards (IRBs) of Amhara, Oromia, SNNP, and Tigray regional health bureaus. Permission to conduct the study was obtained from the selected health facilities. Verbal approval was obtained by the primary healthcare facilities, and informed written consent was taken from participants to use digital voice recorder and use the information for the research purposes.

[1] ®*During the time of data collection, Sidama and South-west region was part of SNNP and in this study, the term "SNNP" is used to refer three regions (Sidama, SNNP, South-west)".*

Results

Overview of respondent characteristics

Table 1 presents sociodemographic characteristics of respondents participated in the in-depth interview and the exit interview respondents.

Table 1: **Socio demographic characteristics of respondents for key informants and exit interview in Amhara, Oromia, Tigray and Southern Nations, Nationalities and Peoples regions**

KII participants	Number of interviews	Percent
Gender		
Male	28	54%
Female	24	46%
Age(year)		
≤25	8	15%
>25	44	85%
Profession		
MD	5	9.6%
HO	11	21%
Nursing	11	21%
Midwives	7	13%
HEWs	16	31%
Non-medical officers*	2	4%
Exit interview participants		
Gender		
Male	172	15.1%
Female	967	84.9%
Age (years)		
18-25	295	25.9%
26-35	565	49.6%
36-45	210	18.4%
>45	69	6.1%

***Liaison officers**

Referral process

The majority (84.9%) of exit interview participants were female, and 50% of respondents were between the ages of 26 and 35 years old. The exit interview data shows that 948 (83.2%) respondents knew the reason behind their referral to the next level of care, and 536 (47.1%) were given the opportunity to select the facility to which they were referred. Likewise, 735 (64.5%) respondents received proper consultation on availability of services and contact person information and arrangement from referring providers. However, only 244 (21.4%) clients were informed about the estimated services and associated costs at the referral facility. A few (11.1%) of the study respondents were scheduled to return to the referring facility upon completion of care at the receiving facility. Only 599 (49%) respondents received referral feedback out of which 66% and 29% were via formal letters and verbal, respectively (table 2).

Table 2. **Process of referring out and transferring-in (receiving) at primary healthcare facilities in Amhara, Oromia, Tigray and Southern Nations, Nationalities and Peoples regions; September 2019**

Question	Yes N (%)
Services at referring out facilities (n=1139)	
• Received information or services before referral from the primary healthcare facility	975 (85.6)
Referral arrangements(n=1139)	
• Providers explain reasons for referrals	948 (83.2)
• Client given a choice on referral facility	536 (47.1)
• Clients informed on service and associated cost	244 (21.4)
• Client told when to return to the facility (upon completion)	126 (11.1)
• Healthcare providers properly responded to the consultation request	735 (64.5)
• Client given a written referral form (on paper) during referral	802 (70.4)
Services at transferring-in (receiving) facilities (n=1139)	

• The receiving facility was welcoming	744 (65.3)
• Client received service he/she was referred for	1110 (97.5)
• The provider explained the diagnosis	836 (73.4)
• The provider explained the treatment plan	735 (64.5)
• Client received the care and/or medication for which he/she was referred	1033 (90.7)
• Healthcare providers properly responded to consultation requests	1008 (88.5)
• Client received feedback from the referral facility	559 (49.1)
• Client received formal written referral feedback	370 (66.2)

Barriers to referrals

Figure 2 below presents the five most common referral barriers. Among 1139 respondents the majority (95%) were reported that no pre-referral communication between referring and receiving facilities were carried out.

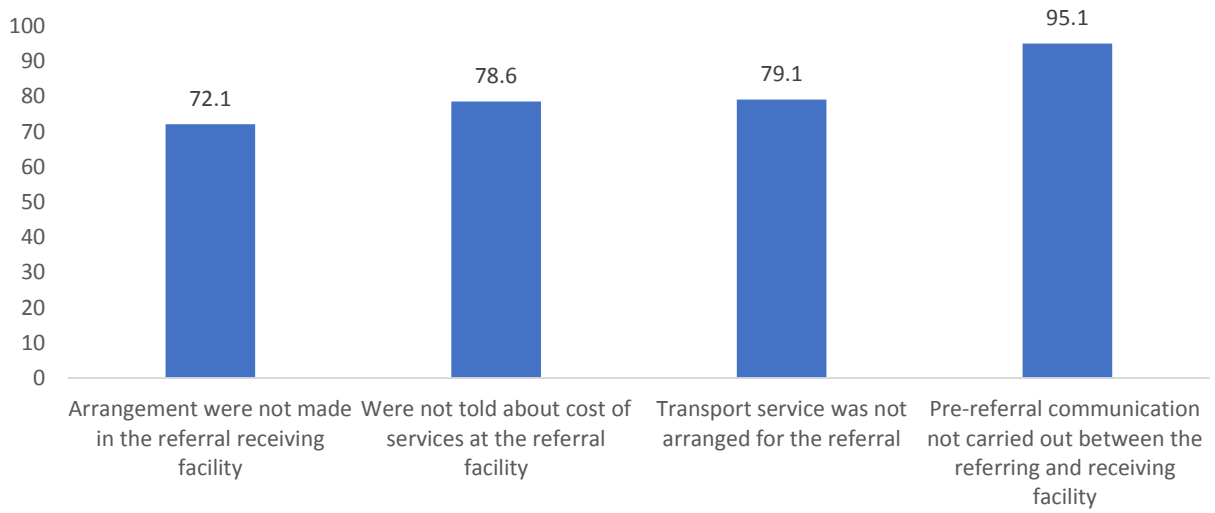

Fig 2: Referral barriers identified by exit interview participants in Amhara, Oromia, Tigray and Southern Nations, Nationalities and Peoples regions

Almost half (28) of the in-depth interview participants were males. The professional category of the in-depth interviews was health extension workers (16), nurses (11), and health officers (11). Seven of the participants were midwives, five were medical doctors, and two were non-medical officers.

The qualitative data analysis emerged with five themes, (1) Lack of provider communication skill, (2) lack of governing documents for referral service, (3) shortage of human resource which is affecting referring and receiving site, (4) Lack of properly equipped ambulance, and (5) Lack of basic amenity.

Lack of provider communication skill

The health extension workers frequently mentioned that they lacked the necessary communication skills to convey messages about the benefits of the referral services to mothers and other clients. A health extension worker expressed her opinion by saying:

> *"Though I told mothers to go to the health center, mothers do not follow my instruction. I feel I may not express the reason for the referral services in simple words."*

Lack of governing documents for referral service

The key informant interview participants mentioned that the referral system lacked integration with health reform implementation guidelines. Lack of availability of clear governing documents were identified as a barrier to referral services. One key informant explained:

> *We don't have any written formal catchment area agreements on referral services. Since the referral system is part of health reforms, the woreda health office, in the presence of the health center and the hospital staff has verbally informed us that we must write referral [slips] and that the recipient facilities must provide written feedback.*

Only two out of eight health centers and three out of four primary hospitals had referral protocols. One participant said, *"We brought a referral guideline document from the hospital at the end of last year. It is available at the human resource office and facility's head office"*.

A liaison officer explained that the presence of a referral protocol would facilitate their work. However, they implement referral services using their prior knowledge and experiences. The verbatim illustrate the importance of referral protocol by the liaison officer by saying *"It would be nice if we had referral protocols, but we don't. Currently, we are using our existing knowledge and capacity"*.

Some participants mentioned lack of financial resources by clients as a reason for poor adherence to referrals. A liaison officer clarified by saying:

One time, a woman came in with a swollen abdomen but was not pregnant. After discussing her case with the facility head and other health providers, we decided to refer her to the hospital. …. she cried …. told me that she did not have the funds to cover the cost of services at a hospital ….

In addition to that, the referral service liaison officer explained their experience of requesting payment for ambulance services. One key informant in a liaison office explained:

> *Many people come with the assumption that ambulance service is provided free for all, and when they hear they must pay for the fuel, they get confused. We were instructed by management that patient must at least share fuel costs for ambulance use…*

Shortage of human resources

Health center care providers frequently mentioned shortage of manpower as a barrier to accompanying referred patients. A health officer said:

> *"... our health center refers mothers, newborns, and children to the primary hospital. However, we cannot accompany patients due to shortage of staff."*

Lack of essential equipment in ambulance services

Most of the participants mentioned lack of equipped ambulance as a main referral service barrier. Most times, an ambulance is available to transport patients to the next referral service point, but life supporting equipment like oxygen and associated accessories are not always available in the ambulance. A medical director explained:

> *Ambulances are not well equipped; many materials needed to provide life-saving services to patients such as vital sign monitoring equipment, ambu-bag, oxygen, and other equipment are not available. It is only beds that are currently available in all the ambulances.*

Lack of access to basic Amenity

Most participants mentioned lack of infrastructure like telephone lines and office facilities as a main referral service barrier. The referral service liaison officer explained his experience of not having a telephone line in the office for coordinating referral services.

> *I didn't have an office and at times I use my own cellphone to contact the referral receiving facilities in case of emergency and no one reimburses my cost for airtime…*

Discussion

Many referral studies have documented client, health care provider and facility level barriers. Understanding the effect of effective referral services on the reduction of maternal, neonatal and child deaths, the Ministry of Health developed and implemented a referral system [4]. This cross-sectional mixed qualitative and quantitative methods study described the referral practices, adherence to, and barriers faced in four regional states of Ethiopia. Based on the exit interviews, the majority (86%) of referred patients benefited from services without delay. The qualitative data revealed that the referral service barriers are related to patient/client, health worker, and health system related issues. The finding of this study can be used to influence policy makers, program managers, health care providers, and community members to strengthen referral services.

This study documented that pre-referral communication was mentioned as a barrier to referral by the exit interview participants. This finding was in line with a study done on referral system for preterm and low birth weight sick newborn in Ethiopia which revealed that uncoordinated pre-referral communication between initiating and receiving facilities was repeatedly reported by participants across the study settings (29).

The second referral barrier identified in this study was poor communication skills among health care workers. This finding was consistent with a study conducted in Malawi by Madula et al (2018), who conferred that health care provider communication skills affected the referral services of maternal health service delivery (27). Communication is a constant theme emphasized by many participants for its role in ensuring that patients receive the necessary care in a timely manner and that feedback is provided to referring facilities to ensure proper follow-up. We found that feedback was not provided through formal communication channels between facilities but instead often comes from clients or their families. There were almost no reports of patients bringing home follow-up instructions or guidance in the form of written notes, nor were there reports of phone calls made from sending providers to initial referring agents.

The third referral barrier observed in this study was lack of governing documents for the referral process, as confirmed by Austin et al 2015, as referral protocol defines, the network of facilities and guides health workers (28). Similarly, these documents enhance referrals to lower health facilities for close follow up in their vicinity. Furthermore, a national health assessment conducted in Ethiopia documented lack of operational guidelines as one factor influencing the referral system (4).

The fourth referral barrier was shortage of available manpower to accompany the client during travel to the higher-level facility. This finding might be explained by the increasing financial costs to be borne by patients or care takers. Similarly, studies in Africa documented patients who when referred without an accompanying health worker would refuse referral advice (5,16, 29). Furthermore, patients who were not offered transportation and lacked close family support may not adhere referral advice.

The fifth referral barrier was that lack of essential life-saving equipment and accessories in the ambulance deterred safe and quality of care when transporting patients to the next level facility. This finding was in line with a qualitative assessment conducted on referral system for preterm and low birth weight sick newborn in Ethiopia, which revealed that lack of provider with necessary oxygen or equipment hindered safe and effective referrals (29).

This finding was also in line with a systematic review conducted on out of hospital emergency care in low and low-middle income countries which revealed that many patients found in respiratory distress did not get appropriate care during ambulance transportation due to lack of equipment (30).

Strength and limitation of the study

The strengthen of this study is in its methodology to described and explore referral service barriers using both quantitative and qualitative data. However, there are also some limitations with the generalizability of the finding to other clients who did not follow referral advice.

Conclusion and recommendations

This study explored and described several referral service barriers in four regional states of Ethiopia. The referral barriers were client, health care worker, and health system related factors. The investigators recommend implementing performance and quality improvement interventions to strengthen referral systems. In addition, we recommended improving the communication skills of health care providers. Furthermore, providing governing documents including referral protocol, referral service directory, and guidelines and ensuring their use may help manage some of the barriers. Equipping ambulances with trained providers and lifesaving equipment and providing and properly equipping the referral liaison office is recommended.

Declarations

Consent for Publication

Note applicable.

Competing Interests

Authors have declared that they have no competing interests.

Availability of Data and Materials

The datasets used in this study are not publicly available to ensure individual privacy. All information related to the processed data is underlined in the results section. The raw data used in this analysis is available from the corresponding author through reasonable request.

Funding

This paper was developed through the generous support of USAID under the cooperative agreement of AID-663-A-17-00002. All opinions expressed herein are of the authors and do not necessarily reflect the views of Pathfinder International or USAID. The funding organization has no role in developing this article.

Acknowledgments

The authors would like to thank the respondents and selected facilities managers for their invaluable time and voluntary participation. In addition, the authors would also like to appreciate the efforts of the data collectors, regional monitoring and evaluation officers, and QI/QA program officers in maintaining the recommended quality and ethical principles. The authors are very grateful to Yordanos M. and Liz F. for their critical review and valuable input during the abstract submission and for further developing this manuscript.

References

1. Liu L, Oza S, Hogan D, Perin J, Rudan I, Lawn JE, et al. Global, regional, and national causes of child mortality in 2000–13, with projections to inform post-2015 priorities: an updated systematic analysis. Lancet. 2014;385(9966):430–40.
2. World Health Organization. Trends in maternal mortality: 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. Geneva: World Health Organization; 2019.
3. Kozuki N, Guenther T, Vaz L, Moran A, Soofi SB, Kayemba CN, Peterson SS, Bhutta ZA, Khanal S, Tielsch JM, Doherty T. A systematic review of community-to-facility neonatal referral completion rates in Africa and Asia. BMC public health. 2015 Dec;15(1):1-3.
4. Ministry of Health [Ethiopia]. Guideline for implementation of patient referral system. *Federal Ministry of Health, Ethiopia. 2010.* http://www.moh.gov.et/English/Resources/Documents/Referral%20Guidelines_final
5. Hensher, M., M. Price, and S. Adomakoh. "Referral Hospitals." In Disease Control Priorities in Developing Countries, ed. D.T. Jamison. Second Edition. *New York: OUP, 2006; PP 1229-1243*
6. Macintyre, K., and D. Hotchkiss. "Referral Revisited: Community Financing Schemes and Emergency Transport in Rural Africa." *Social Science & Medicine, 1999; 49: 1473*.
7. Low, A., D. de Coeyere, N. Shivute, and L.J. Brandt. "Patient Referral Patterns in Namibia: Identification of Potential to Improve the Efficiency of the Health Care System." *International Journal of Health Planning and Management. 2001; 16: 243-257.*
8. Escott, S., and J. Walley. "Listening to Those on the Frontline: Lessons for Community-Based Tuberculosis Programmes from a Qualitative Study in Swaziland." *Social Science & Medicine.2005; 61: 1701-1710.*
9. Suri, A., K. Gan, and S. Carpenter. "Voices from the Field: Perspectives from Community Health Workers on Health Care Delivery in Rural KwaZulu-Natal, South Africa." *The Journal of Infectious Diseases. 2007; 196 (3): S505-S511.*
10. Mshana, G.H., J. Wamoyi, J. Busza, B. Zaba, J. Changalucha, et al. "Barriers to Accessing Antiretroviral Therapy in Tanzania: A Qualitative Study of Early Rural Referrals to the National

Program." *AIDS Patient Care and STDs.2006; 20 (9): 649-657.*

11. Wagner, G., G. Ryna, and S. Taylor. "Formative Evaluation of Antiretroviral Therapy Scale-up Efficiency in Sub-Saharan Africa." *AIDS Patient Care and STDs.2007; 21 (11): 871-887.*
12. Posse, M., F. Meheus, H. van Asten, A. van der Ven, and R. Baltussen. "Barriers to Access to Antiretroviral Treatment in Developing Countries: A Review." *Tropical Medicine and International Health.2008; 13 (7): 904-913.*
13. Abrahim, O., Linnander, E., Mohammed, H., Fetene, N. and Bradley, E.A Patient-Centered Understanding of the Referral System in Ethiopian Primary Health Care Units. *PloS one. 2015; 10(10), p.e0139024.*
14. English, M., C.F. Lanata, I. Ngugi, and P.C. Smith. "The District Hospital." In Disease Control Priorities in Developing Countries, ed. D.T. Jamison. Second Edition. *New York: Oxford University Press. 2006; 1211-1228.*
15. Atkinson, S., A. Ngwengwe, M. Macwan'gi, T.J. Ngulube, T. Harpham, and A. O'Connell. "The Referral Process and Urban Health Care in SubSaharan Africa: The Case of Lusaka, Zambia." *Social Science & Medicine. 1999; 49: 27-38.*
16. Meiberg, A.E., A.E.R. Bos, H.E. Onya, and H.P. Schaalma. "Fear of Stigmatization as Barrier to Voluntary HIV Counseling and Testing in South Africa." *East African Journal of Public Health.2008; 5 (2): 49-54.*
17. Orimadegun, A.E., F.O. Akinbami, A.K. Akinsola, and J.O. Okereke. "Contents of Referral Letters to the Children Emergency Unit of a Teaching Hospital, Southwest of Nigeria." *Pediatric Emergency Care.2008; 24 (3): 153-156.*
18. Simba, D.O., N.A.A. Mbembati, L.M. Museru, and L.E.K. Lema. "Referral Pattern of Patients Received at the National Referral Hospital: Challenges in Low Income Countries." *East African Journal of Public Health.2008; 5 (1): 6- 9.*
19. Mkhabela, M.P.S., T.R. Mavundla, and N.A. Sukati. "Experiences of Nurses Working in Voluntary Counseling and Testing Dervices in Swaziland*." Journal of the Association of Nurses in AIDS Care.2008; 19 (6): 470-479.*
20. Yirgu AN, Daba M, Wakwaya SB. Patient satisfaction to health service delivery and associated factors at negelle arsi general hospital and medical college, oromia regional state, southeast Ethiopia. *Int J Fam Community Med. 2020; 4(6):153–6.*
21. Abrahim O, Linnander E, Mohammed H, Fetene N, Bradley E. A patient-centered understanding of the referral system in ethiopian primary health care units. *PLoS One. 2015;10(10):1–10.*
22. Eskandari, M., Abbaszadeh, A., & Borhani, F. Barriers of Referral System to Health Care Provision in Rural Societies in Iran. *Journal of Caring Sciences. 2013; 2(3), 229–236. http://doi.org/10.5681/jcs.2013.028*
23. Macintyre, K. C., Littrell, M., Hotchkiss, D. R., Mndzebele, S., Nkambule, R., Malima, B., ... & Kemerer, V.. Barriers to referral in Swaziland: Perceptions from providers and clients of a system under stress. *World Medical & Health Policy. 2011; 3(4), 1-2*
24. Ministry of health *[Ethiopia]*. Health and Health Related Indicators 2015/106. *Addis Ababa; Ethiopia, 2017* MEASURE Evaluation. Referral Systems Assessment and Monitoring Toolkit. *Measure evaluation, April 2013. MS-13-60*
25. Rogers, A., Kirk, S., Gately, C., May, C.R. and Finch, T. Established users and the making of telecare work in long term condition management: implications for health policy. *Social science & medicine. 2011; 72(7), pp.1077-1084.*
26. Madula P, Kalembo FW, Yu H, Kaminga AC. Healthcare provider-patient communication: a qualitative study of women's perceptions during childbirth. Reproductive health. 2018 Dec;15(1):1-0.
27. Austin A, Gulema H, Belizan M, Colaci DS, Kendall T, Tebeka M, Hailemariam M, Bekele D, Tadesse L, Berhane Y, Langer A. Barriers to providing quality emergency obstetric care in Addis Ababa, Ethiopia: healthcare providers' perspectives on training, referrals and supervision, a mixed methods study. BMC pregnancy and childbirth. 2015 Dec;15(1):1-0.
28. Teklu AM, Litch JA, Tesfahun A, Wolka E, Tuamay BD, Gidey H, Cheru WA, Senturia K, Gezahegn W. Referral systems for preterm, low birth weight, and sick newborns in Ethiopia: a qualitative assessment. BMC pediatrics. 2020 Dec;20(1):1-2
29. Kironji AG, Hodkinson P, De Ramirez SS, Anest T, Wallis L, Razzak J, Jenson A, Hansoti B. Identifying barriers for out of hospital emergency care in low and low-middle income countries: a systematic review. BMC health services research. 2018 Dec;18(1):1-20.