
Access to integrated community case management of childhood illnesses services in rural Ethiopia: a qualitative study of the perspectives and experiences of caregivers

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Abstract

Background: In 2010, Ethiopia began scaling up the integrated community case management (iCCM) of childhood illness strategy throughout the country allowing health extension workers (HEWs) to treat children in rural health posts. After 2 years of iCCM scale up, utilization of HEWs remains low. Little is known about factors related to the use of health services in this setting. This research aimed to elicit perceptions and experiences of caregivers to better understand reasons for low utilization of iCCM services.

Methods: A rapid ethnographic assessment was conducted in eight rural health post catchment areas in two zones: Jimma and West Hararghe. In total, 16 focus group discussions and 78 in-depth interviews were completed with mothers, fathers, HEWs and community health volunteers.

Results: In spite of the HEW being a core component of iCCM, we found that the lack of availability of HEWs at the health post was one of the most common barriers to the utilization of iCCM services mentioned by caregivers. Financial and geographic challenges continue to influence caregiver decisions despite extension of free child health services in communities. Acceptability of HEWs was often low due to a perceived lack of sensitivity of HEWs and concerns about medicines given at the health post. Social networks acted both to facilitate and hinder use of HEWs. Many mothers stated a preference for using the health post, but some were unable to do so due to objections or alternative care-seeking preferences of gatekeepers, often mothers-in-law and husbands.

Conclusion: Caregivers in Ethiopia face many challenges in using HEWs at the health post, potentially resulting in low demand for iCCM services. Efforts to minimize barriers to care seeking and to improve demand should be incorporated into the iCCM strategy in order to achieve reductions in child mortality and promote equity in access and child health outcomes.

Key words: Diarrhoea, Ethiopia, healthcare access, healthcare seeking behaviour, iCCM, malaria, pneumonia

Key Messages

- Utilization of community-based health workers (CBHWs) by caregivers of under-five children sick with diarrhoea, malaria and/or pneumonia remains low after scale up of the iCCM of childhood illness strategy in Ethiopia.
- Despite the presence of child health services in rural communities through the iCCM scale up, caregivers continue to face access barriers related to availability of CBHWs and geographic access to child health services.
- Caregivers described concerns about quality of interactions with CBHWs and perceptions of drugs available at rural health posts. Social networks could also act to inhibit demand for iCCM services.
- Efforts aimed at minimizing these barriers and improving demand for child health services need to be incorporated into the iCCM intervention model to achieve goals of reducing child mortality and promoting equity in child health outcomes.

Introduction

Ethiopia has made considerable progress in reducing under-five mortality, having recently achieved their Millennium Development Goal (MDG)-IV of reducing child mortality by two-thirds since 1990 (UNICEF 2013). This progress is often attributed to national efforts aimed at increasing access to essential child health interventions (Mariam 2011; Onarheim *et al.* 2012). Despite this success, nearly 200 000 under-five children continue to die in Ethiopia every year, many from preventable diseases such as diarrhoea, malaria and pneumonia (Liu *et al.* 2012). Although the supply of evidence-based treatments for these illnesses is steadily improving (Mariam 2011; Miller *et al.* 2014), utilization of formal health services in Ethiopia is extremely low (Mebratie *et al.* 2014) and use of correct treatments for diarrhoea, malaria and pneumonia remain low in comparison to other low-income nations (CSA 2012) (Table 1). Use of formal services is often lowest among poor and rural populations, populations which also suffer from a disproportionate number of child deaths (CSA 2012; Yitayal *et al.* 2014).

In an effort to increase public access to basic health services, Ethiopia instituted the Health Extension Program (HEP) in 2004. As part of this program, over 30 000 female health extension workers (HEWs) have been trained for 1 year and deployed to over 15 000 health posts throughout the country. According to HEP guidelines, each health post is staffed with two paid HEWs providing free preventative and curative health services to a *kebele* (sub-district) of a population of ~5000 people (Table 2). After a national policy change supporting community-based treatment of childhood pneumonia by HEWs in early 2010, Ethiopia began scaling up the integrated community case management (iCCM) of childhood illness strategy, within the platform of the HEP. Under this strategy, HEWs are now trained to assess, classify and treat diarrhoea, malaria, pneumonia and undernutrition in rural communities.

HEWs are expected to designate 75% of their activities to community education and mobilization and are assisted in community outreach by volunteer community health workers (VCHWs). These volunteers are women from “model households,” recruited and trained to demonstrate “model behaviours,” including utilization of HEWs at the health post for sick children. According to government policy, one VCHW demonstrates model behaviours through outreach activities to ~30 households. In an effort to expedite the achievement of the MDGs and to supplement both the HEP and iCCM initiatives, Ethiopia’s Federal Ministry of Health (FMoH) began to formalize the role and significantly enlarge the VCHW cadre with the Health Development Army (HDA) Initiative in 2012. The HDA is a new cadre of community health volunteers consisting of one woman per every five households allowing for more intensive

and targeted focus compared with the previous VCHW scheme. Although the role of the HDA is evolving, they are expected to contribute to the HEW’s community mobilization and education activities as part of existing national child health initiatives and to promote community engagement and program sustainability (FMoH 2011).

The scale-up of iCCM was implemented in a phased manner in Oromia Region allowing for an independent evaluation of the impact of iCCM commissioned by UNICEF and CIDA. The baseline study for this evaluation conducted in 2010 found that only one in five caregivers of a child presenting with diarrhoea, fever and/or pneumonia in Oromia Region used a formal source for a sick child and only 4% received treatment from an HEW (Mela Research 2011). This is slightly lower than rates for utilization of a formal source of care for a child presenting with diarrhoea, fever and/or acute respiratory infections seen in the 2011 Ethiopia Demographic and Health Survey (DHS) for the Oromia Region (29%) and all regions (28%) (CSA 2012). A quality of care study conducted 1 year after implementation of iCCM in Oromia Region found very low rates of utilization of HEWs providing iCCM services at the health post (Miller *et al.* 2014). Given the central placement of HEWs in both the HEP and iCCM initiatives, these findings suggest that even if efficient and high-quality services are offered, the desired health outcomes may not be achieved if services are not timely and appropriately utilized by caregivers.

Our study was commissioned by UNICEF to explore reasons for low utilization of HEWs in two rural districts of Oromia Region after 2 years of scale up of the iCCM strategy. Use of HEWs remains low despite the presence of a service delivery strategy that focuses on minimizing several common access barriers related to cost, distance and quality of services (Rutherford *et al.* 2010; Marsh *et al.* 2012). In this context, we sought to explore remaining barriers to access from the perspective of caregivers of under-five children in this setting. The iCCM strategy is an increasingly popular strategy for delivering evidenced-based child health interventions to underserved communities endorsed by UNICEF and the WHO (WHO and UNICEF 2012). Ethiopia and a number of other low-income nations have invested considerable resources in scaling up this strategy through community health workers (CHWs) to meet their MDG-IV goals. Yet, surprisingly little is known about the relationships between CHWs and the communities in which they work or factors that affect their utilization (Haines *et al.* 2007; Lewin *et al.* 2010) and few studies have explored these relationships in the context of iCCM (Guenther *et al.* 2012; Nanyonjo *et al.* 2012). Consequently, it is currently uncertain that these strategies and investments are realizing their full potential. In Ethiopia, the perspectives of potential users of iCCM services are urgently needed to understand

Table 1. Child illness and care seeking in Ethiopia

	Percentage of under-five children with symptoms in preceding two weeks	Percentage of children with symptoms seeking care from a health facility or provider	Percentage of children with symptoms seeking care from a health facility or provider who received treatment (treatment type)
ARI	7.0	27.0	6.8 (antibiotics)
Diarrhoea	13.4	31.8	30.7 (ORT) ^a 13.2 (antibiotics)
Fever	17.1	24.2	3.6 (anti-malarials) 6.8 (antibiotics)

Source: Ethiopia District Health Survey (CSA 2012).

ARI, acute respiratory infection.

^aOral rehydration therapy (ORT) includes either oral rehydration solution or recommended home fluids.

Table 2. HEW characteristics

Training	1 year, includes practical training
Payment/incentives	Government employees with regular salary of 670 birr (~\$33 USD) ^a per month
Gender	Female
Literacy required	Yes
Education	Completed grade 10
From the community in which they work	Yes ^b
Community involved in selection	Yes ^b
Catchment population	5000 per health post, 2 HEWs per health post ^b
Live in the community	Yes
Supervision	1 supervisor for 5 health posts (10 HEWs)

Source: Health Extension and Education Center (2007).

^aBased on the exchange rate from December, 2014.

^bIn policy but not always the case in practice; often selected by community leaders.

challenges faced by caregivers of sick children in accessing and using HEWs delivering iCCM services in order to inform future child health policies and actions.

Health services access and utilization

Improved access to essential treatment holds great potential for significant reductions in child death and is a central provision of health service delivery strategies such as iCCM (Marsh *et al.* 2012). However, there is no consensus on what access to healthcare means, and there is considerable ambiguity about the concept's usage as it relates to utilization (Oliver and Mossiolos 2004; Rutherford *et al.* 2010). Access to health care in low-resource countries is often discussed in terms of "barriers" which might prohibit potential or actual entry of an individual or population group into the health care system (Andersen 1995; Jacobs *et al.* 2012). According to Andersen (1995), "having access" denotes a potential to utilize a service if required, whereas "gaining access" refers to the initiation into the process of utilizing a service (Gulliford *et al.* 2002). A number of authors have argued to expand the concept of access beyond the potential supply of health services available to include actions designed to assist users in gaining access—such as promoting demand generation and minimizing barriers for utilization (Ensor and Cooper 2004; O'Donnell 2007; Peters *et al.* 2008).

Our research focuses on the processes involved in caregiver utilization of HEWs delivering iCCM services, given low rates of utilization despite increasing numbers of children "having access" through the scale up of iCCM. In particular, we highlight a range of potential challenges in "gaining access" as described by caregivers of sick children. We use Penchansky and Thomas's (1981) focus on the latter and definition of access as a "fit" between those seeking health services and health services themselves. According to these authors, the process of gaining access has four dimensions: availability, geographic accessibility, affordability and acceptability. *Availability* consists largely of the presence of qualified health providers and quality health commodities at a health post. *Geographic accessibility* relates to the spatial or geographic relationship between providers and users of health care. *Affordability* is the financial ability of a user to access care. *Acceptability* relates to attitudes of users of health care towards providers and services.

Methods

Qualitative research was conducted as part of a series of studies evaluating Ethiopia's scale-up of iCCM in the Oromia Region. Fieldwork was conducted for 30 days from December 2012 to January 2013. Eight rural sites, each corresponding to a *kebele* or one health post catchment area servicing ~5000 people, were selected from sites where iCCM implementation and scale-up had been occurring for at least 18 months in the predominantly rural zones of Jimma and West Hararghe. Purposive selection of sites was based on existing information about health post utilization (number of sick child consultations) obtained from a quality of care survey conducted 4 months prior to the qualitative study (Miller *et al.* 2014). Sites were selected to achieve maximum variation for this factor of health post utilization. Table 3 presents key characteristics for selected *kebele* sites.

The study design was informed by rapid ethnographic assessments developed as part of applied anthropological research methods for child health and care-seeking behaviours (Scrimshaw and Hurtado 1987; Pelto and Pelto 1997). One team of four college-educated, Afan Oromo-speaking investigators with experience in qualitative research methods was trained and conducted the research under the supervision of the first author. Qualitative methods consisted of focus group discussions (FGDs) and in-depth interviews (IDIs). Following recommendations of Pelto and Pelto (1997), FGDs focused on social norms of care seeking and community perceptions of HEWs and iCCM services; IDIs focused on care-seeking experiences over the course of the most recent illness of a caregiver's child,

Table 3. Characteristics of selected *kebele* sites

Location	Woreda	Utilization ^{a,b}	Distance to referral facility (in km)	Catchment size (in km ²)	Number of functional HEWs
Jimma					
Site 1	Goma	Low	23	16	1
Site 2	Omo Nada	Low	8	9	1
Site 3	Shebe Seneba	High	31	20	2
Site 4	Kersa	High	10	8	3
West Hararghe					
Site 5	Oda Bultum	Low	5	10	1
Site 6	Gemechis	High	3	17	2
Site 7	Boke	Low	25	42	1
Site 8	Boke	High	13	21	2

^aSource: Miller *et al.* (2014).

^bSites were selected from among the lowest (low) 20% and highest (high) 20% of average sick child consultations from April through June 2012. All sites in the low category had an average of <10 sick child consultations. All sites in high category had an average of >40 sick child consultations.

Table 4. Respondent groups by district and data collection method

Method	Population	Jimma	West Hararghe	Total
FGDs		8 (71 individuals)	8 (61)	16 (132)
	Mothers			
	Health post users	4 (33)	4 (29)	8 (62)
	Health post non-users	4 (38)	4 (32)	8 (70)
IDIs	Mothers	22	18	40
	Fathers	8	8	16
	HEWs	5	5	10
	Community health volunteers	7	5	12
Total		58 (113)	44 (97)	94 (210)

Table 5. Selected demographic characteristics of maternal caregivers^a

	IDIs (<i>n</i> = 40)	FGDs (<i>n</i> = 132)
District		
Jimma	22	71
West Hararghe	18	61
Age of mother		
18–25	14	40
25–30	16	59
30–40	9	24
>40	1	9
Primary occupation		
Agriculture	36	115
Other	4	17
Household distance from the health post		
<1 h walk	30	101
>1 h walk	10	31
Marriage status		
Married (monogamous)	35	– ^b
Married (polygamous)	3	–
Unmarried	2	–
Literacy		
Literate	11	–
Non-literate	29	–
Religion		
Muslim	33	–
Christian	7	–

^aBased on self-report.

^bInformation not collected from FGDs participants.

including perceptions relating to barriers and facilitators to utilizing HEWs delivering iCCM services at the health post.

Sixteen FGDs were held and were stratified into eight with mothers who were identified as previously using iCCM services and eight with mothers identified as never using iCCM services. Forty IDIs were held with mothers of children under the age of five screened for having experienced a child illness over the previous month. For additional context, 16 IDIs were held with a subset of these women's husbands and 22 IDIs were held with HEWs and members of the HDA (including VCHWs). Tables 4 and 5 provide the sample size and selected demographic characteristics of participants, respectively.

Data were analysed using Atlas.ti software (1997). Hierarchical codes were created after reading through a sub-sample of transcripts by the primary investigator and validated by independent analysts. A priori codes were also included based on Penchansky and Thomas's (1981) study, while additional themes were identified that emerged from the data. All transcripts were then coded for thematic analysis. During analysis, data were compared across sites, methods and participant groups to triangulate findings.

The study received ethical approval from the Oromia Region Health Bureau and Johns Hopkins Bloomberg School of Public Health. All participants gave oral consent for involvement in IDIs and FGDs and no individuals selected for this study refused participation. The research consent process stressed the independence of the research from federal or regional government affiliation. Nevertheless, some participants may have biased their participation and responses due to perceived affiliations.

Results

Availability

Caregivers noted that HEWs were frequently absent from the health post and many mentioned uncertainty in knowing when an HEW would be available at the health post. This lack of availability and uncertainty led to a range of responses from waiting for the HEW to return to stop-gap measures such as seeking local care options to foregoing use of the HEW altogether.

I took the child to the health post and waited there for hours for the HEW to return. (IDI, mother, health post (HP) user, low-utilization HP, Jimma)

The child's condition worsened and I went to get medicines from the health post, but the doors were locked. I went to an elderly family member for herbal treatments until she returned. (IDI, mother, HP user, high-utilization HP, Jimma)

I carried my child twice to the health post over two days. It was closed and the local women said the HEW was at a meeting in town. I did not return for a third day. I went to the market to get medicines instead. (IDI, mother, HP non-user, low-utilization HP, W. Hararghe)

For many caregivers residing distant from the health post, the lack of certainty or previous experiences of finding the HEW absent led to caregivers to explore other, more reliably available options.

We can go to the shop or the health center in town for medicines for our children. They will always be open. (FGD, mothers, non-users, low-utilization HP, W. Hararghe)

We were not concerned when the child's fever was low during the day. It worsened through the night and we did not wait for the health post to open to get medicines. We took her to get medicines in town. (IDI, mother, HP non-user, high-utilization HP, Jimma)

Like this last caregiver, many caregivers stated that fears of the lack of availability of the HEW when a child's condition worsened often led to use of other sources.

Some caregivers' related experiences and perceptions of the health post not have necessary tests or medicines available for children.

They tell us to go to the health post but what can they do for our children if they have no medicines? (FGD, mothers, HP non-users, low-utilization HP, Jimma)

These perceptions were most common among non-users. However, many of the specific experiences recounted were dated and there was a general recognition among users of health post services that the availability of treatments and supplies at health posts had improved in recent periods. Nevertheless, some caregivers stated that they no longer went to the health post due to a previous experience and lingering perceptions about the lack of supplies.

Affordability

Most caregivers involved in this study recognized that services provided by HEWs were free or low-cost to their under-five children. This was often regarded as a major facilitator to using health post services over other sources of care and treatment.

I went to the HEW for treatments because our family is poor and my child received powerful medicines for free. (IDI, mother, high-utilization HP, Jimma)

However, some caregivers were unaware of either the ability of HEWs to provide treatments for child illness or the availability of free care and treatment services for under-five children. A larger number of caregivers did not fully trust that a visit to the health post would not incur some direct costs for treatment.

P₁: We suspect the HEW of holding the best treatments so she can earn money.

P₂: Do not listen, this is ignorant. The HEW is trustworthy and would not do such practices. (FGD, mothers, HP non-users, high-utilization HP, Jimma)

Despite this perception and a few mentions of rumours or conflicting messages as in the discussion above, no caregiver mentioned an actual experience of an HEW asking for money when providing services for children under the age of five.

In contrast to direct costs of services, the majority of caregivers noted indirect costs associated with visiting the health post.

We provide free medicines, but for many women in our community, that is not enough. For mothers who live distant from health post, they travel great distances and must hire transport. Their husbands hold all the money... they might scold them for not doing work and many women must beg money to come to the health post. (IDI, HDA member, high-utilization HP, W. Hararghe)

While some fathers acknowledged and spoke positively about the availability and convenience of free services and treatments in their communities, many were unaware of the availability of free services and concerned that a visit to the health post would incur direct and/or indirect costs.

I desired that our child received the best treatment for his fever. My duty was to provide money and choose the best medicines. It may be that the health post has cheaper medicine, but is this the best for curing our child? When the fever was serious I didn't want to take the risk for our child or having my wife spend money on travelling to the health post for inferior medicines. (IDI, father, high-utilization HP, Jimma)

For most, transporting a child from the household to the health post could be a significant expense, especially for households distant from the health post or in emergencies. As the previous two informants suggest, many mothers did not have access to money to cover indirect costs. For others, leaving field or domestic work to seek care represented a significant opportunity cost associated with visiting the health post. A small number also expected that a visit to the health post would result in an expensive referral to the urban health centre, often based on previous experiences.

Geographic accessibility

Distance to the health post, poor village pathways and road conditions and inadequate transport were the commonly cited obstacles to the use of health post services. Conditions were particularly challenging during the rainy season and at *kebeles* with mountainous terrain. Participants frequently mentioned a lack of transport options and difficulties in carrying children long distances to and from the health post without assistance.

I did not visit the health post because it is too far from our household and I could not have my child walk. If I could find a motor-bike, I would take my child, but there are none. (IDI, mother, HP non-user, high-utilization HP, 60 mins. from HP, W. Hararghe)

Geographic barriers were the most commonly mentioned challenge for those participants residing further than 45 min walking distance from the health post—about half of caregivers interviewed. Nevertheless, some participants residing at distances further than a 45-min walk did use health post services. These participants mentioned that the availability of free and high-quality services at the health post and the seriousness of their child's condition outweighed concerns about distance.

It is a long and difficult walk, but we want the best medicines for our children. (FGD, mothers, HP users, high-utilization HP, 75 mins. from HP, W. Hararghe)

In the face of these challenges, many caregivers resorted to informal sources of treatment that were located closer to their household such as elders, herbalists and illegal drug vendors. Some explicitly preferred these sources as more conveniently located while others stated a preference for health post services but coped with geographical barriers by opting for informal sources instead.

Ownership of the health post

In some selected *kebeles*, the location of the health post within a particular sub-village appeared to be linked to perceptions of community ownership of the health post and services.

Children in our village no longer die from their illnesses. We are happy that our village now has modern medicines at the health post. (FGD, mothers, HP users, high-utilization HP, Jimma)

In contrast, caregivers from other, often distant, sub-villages at five sites explicitly gave responses that suggested feelings of exclusion from the services available at the health post. At the same site as the caregiver in the previous quote, another mother in an FGD for those that did not use health post services stated:

That health post is not for us [mothers from a distant village]. Nobody in our village goes there because the HEW does not treat us well. (FGD, mothers, HP non-users, low-utilization HP, Jimma)

In addition to geographic placement of the health post, perceptions of ownership were also reinforced by HEW attitudes, practices and interactions with caregivers.

The HEW does not respect us from this village. She accuses us of using wabiya (traditional) medicines and not taking proper care of our children. She favours other mothers with better treatment. (FGD, mothers, HP non-users, low-utilization HP, Jimma)

Acceptability

For many caregivers, the acceptability of health post services depended largely on the HEW attitudes, practices and interactions with them and perceptions about the qualities of medicines presumed to be available at the health post. The majority of those that used health post services held generally positive views of the HEW. However, at two research sites, nearly all caregivers interviewed had negative views. At one of these sites, negative perceptions related to the HEW's leaving a village to live in an urban centre and frequent

absences from the community and health post. At the other site, reports of an HEW's negative attitudes in interactions with caregivers as well as on-going conflict with community leaders led to low acceptability of HEW services.

Many caregivers who did not use the health post reported negative views about the HEW. These negative perceptions were sometimes based on previous experiences but were more often influenced by the perception or experiences of other family and community members.

The HEW thinks we are ignorant and do not care for our children. My sister said she was called a bad mother and that the HEW would not treat me with respect. (IDI, mother, HP non-user, low-utilization HP, Jimma, HP non-user)

Caregivers frequently perceived that HEWs held views of them or other sub-populations within their *kebele* as: "ignorant," "uneducated," "traditional" and "bad mothers." The HEWs themselves often used these terms in interviews when describing areas or populations who did not utilize the health post and/or were perceived as having more child illness and deaths. Caregivers also noted that communication was frequently difficult or strained. They reported that HEWs did not value or address their health beliefs, scolded them for delaying treatment or using other sources of care and spent little time in answering their questions or educating them about their child's condition and treatment options.

I did not tell the HEW of the herbs I have given my child. The elders say this is our tradition, but she will not agree and tell us this is bad for our child. How can this be bad for our child? (IDI, mother, HP user, high-utilization HP, Jimma)

The data also suggested that reported acceptability of HEW and health post services related to expectations of receiving a tangible treatment or the characteristics of the treatments received. Most mothers expected a visit to the health post to result in provision of a diagnosis and drug. Many caregivers recounted previous experiences when a visit to the health post did not result in either, potentially leading to a questioning of the quality of services at the health post or selection of alternative treatment sources.

We went to the health post to get medicines for our child's fever. The HEW told us the child did not suffer from malaria. She did not tell us the cause of the fever. We did not receive good medicines from the health post and went to the health centre the next day. (IDI, mother, HP user, high-utilization HP, Jimma)

Others recounted experiences in which they received medicines that were perceived as inappropriate. Some stated that the medicines given were too weak or difficult to administer (e.g. oral rehydration salts and tablets).

I did not go to the health post for this child. The HEW will only give tablets. I must break them up to convince my child to take the medicine. Even my husband will have difficulties getting her to take these medicines from the health post. (IDI, mother, HP user, high-utilization HP, W. Hararghe,)

Others, especially mothers of very young children, perceived that medicines were too strong (e.g. syrups and injections) for their child and would cause harm. A small number did not trust that the HEW was not withholding the best medicines from their children because they delayed treatment or they were from another sub-village.

Finally, a large number of mothers who did not use the health post suggested that "modern medicines" were not appropriate for a

range of symptoms and illnesses. Certain types of diarrhoea, fever and respiratory problems were perceived as being caused by spiritual or moral causes, and therefore not amenable to treatment at the health post. This was especially common for illnesses in very young children and was reinforced by a cultural proscription, restricting a mother and child to the household for 40 days after birth.

The majority of fathers of under-five children interviewed in this study knew of the location of the health post but had never physically entered the health post. Many viewed the health post as a “woman’s space,” and the lack of engagement with village fathers was often noted by HEWs.

I do not go in the health post as it is only for women and children. (IDI, father, high-utilization HP, W. Hararghe)

I have worked at this health post for almost two years and have never had a father bring his child to us. (IDI, HEW, high-utilization HP, W. Hararghe)

Only a few fathers explicitly mentioned being aware of the ability of HEWs at the health post to provide treatments to children specifically for diarrhoea, malaria and pneumonia.

There was a widespread perception among other fathers that the medicines available at the health post were of inferior quality compared with other sources. At the same time, for those child illnesses perceived as less serious by fathers, more geographically convenient sources of medicines were often preferred, especially for households distant from the health post.

Social networks

Nearly all participants stated that mothers were the primary caregivers of under-five children in rural Ethiopia. For health post users, community and family members were frequently mentioned in supporting roles and often for promoting utilization of the health post such as through making caregivers aware of the availability of the HEW and free services for under-five children. For many caregivers that did not use the health post, however, additional social actors could impede the use of the health post.

Some mothers who did not use the health post described a social network that was more restricted to the immediate household and a limited range of close family members as suggested by the following husband–wife pair:

The child’s illness was only discussed with my husband and his family. Only they know the proper conduct. (IDI, mother, HP non-user, low-utilization HP, Jimma)

It is my wife’s duty to watch over the children, but when her condition is serious it is only the family that knows what to do. (IDI, father, HP non-user, low-utilization HP, Jimma)

Although some of these mothers expressed an openness or desire to use the health post, husbands and mothers-in-law were seen as key gatekeepers and often constrained this preference.

Our neighbour woman has visited the health post when her child had diarrhoea and received strong medicines. She advised me to go for treatment, but we could not convince my husband’s family to let me take the child. (IDI, mother, HP non-user, high-utilization HP, Jimma)

In the absence of social support to overcome this resistance and other barriers, many of these women were unable to take their child

to the health post. Other caregivers who did not use the health post suggested that they had been influenced by negative perceptions or mistrust of the HEW or health post by key members of their social networks.

I did not use the health post because some villagers have told me that it does not have good medicines for my child’s illness [pneumonia] at the health post. (IDI, mother, HP non-user, low-utilization HP, Jimma)

HEWs and volunteers

In contrast to caregivers who primarily focused on challenges to access to the health post, the primary reasons suggested by HEWs for caregivers not using the health post for sick children related to knowledge, beliefs and preferences, predominantly: (1) lack of caregiver awareness of child illness and health post services; and (2) a preference of caregivers and their social networks for alternative sources of care. A few HEWs and volunteers echoed the sentiment:

Most of the women here are uneducated. They do not leave their home when their child is sick. They do not recognize the danger to their child and the need to consult us. (IDI, HDA member, low-utilization HP, W. Hararghe)

Some of these health workers saw this as a function of an inability to fulfil their outreach goals due to excessive workload, transportation or other difficulties.

It is our role to educate them but there is much work to do here. We are to visit every household to provide education and provide community talks, but it is very difficult here to reach every mother and sick child. (IDI, HEW, high-utilization HP, Jimma)

Many health workers and volunteers used the word *wabiya* (“traditional”) to describe caregivers in their *kebeles* that did not use health post services and especially for caregivers in villages distant from the health post (often also perceived as poorer villages compared with those near the health post). This was often applied to caregivers who were perceived as holding non-biomedical views of child illness, using local medicines (predominantly herbal remedies) and/or preferring local, informal sources of care.

Many women here hold wabiya beliefs. They use qoricha Oromo (“Oromo medicines”) or go to village stores for a sick child. If they use local medicines, they may not come to the health post until their child is very sick. If they use the stores, they may receive unknown medicines. These are both big problems because children may get harmful medicines and not those they need for their condition to improve (IDI, HEW, W. Hararghe)

Conversely, many health workers and volunteers also used the word *tijanaya* (“modern”) for some caregivers and suggested that these caregivers often perceived urban health centres or pharmacies as higher quality alternatives to the health post.

Comparing sites

Of the eight sites selected, four were selected with high utilization and four with low utilization from a previously conducted quality of care survey. The most important finding in comparing sites was that all three sites with only one functional HEW were identified as having relatively low rates of HEW utilization according to the quality of care survey conducted prior to our study. In two sites with low utilization there was also a significant level of mistrust of the

assigned HEWs mentioned by most participants at the site. At one site, mistrust was due to the status of the lone HEW as an outsider and her frequent absences from the health post.

The HEW is not of this kebele. She lives in town. She ignores her duties at the health post and this must be brought to the attention of the government. (FGD, mothers, HP non-users, low-utilization HP, W. Hararghe)

At the other, most caregivers suggested that the two HEWs' condescending attitudes led to widespread negative perceptions of health post services. HEW participants at low-utilization sites also noted difficult terrain, especially in mountainous West Hararghe, and conflict with religious leaders, especially over association with family planning activities in the HEP, as leading to low utilization of the health post by caregivers of sick children.

All high-utilization sites had two HEWs and the site with three had the highest utilization of all sites selected. At some of these sites with higher utilization, caregivers also suggested that when the HEW is not available at the health post, she would:

... leave messages on the health post wall and tell a local woman to tell mothers of sick children where to find her. (FGD, mothers, HP users, Jimma)

Finally, participants at these sites were more likely to mention personal interactions with and social networks consisting of community health volunteers such as members of the HDA or women from model households.

Discussion

In this study, we identified a number of issues that influence caregiver access to iCCM services delivered by HEWs in rural Ethiopia for children sick with diarrhoea, malaria and pneumonia. The findings demonstrate that despite significant supply-side improvements in delivery and coverage of iCCM services in Ethiopia (Miller *et al.* 2014), caregivers continue to face challenges in accessing and utilizing iCCM services. Much of the previous literature on access focuses on supply-side factors and "traditional" access concerns such as financial and geographic barriers (Rutherford *et al.* 2010; Mukanga *et al.* 2012). In the context of scale up of the HEP and iCCM initiatives in Ethiopia, which are expected to minimize these traditional barriers (Láinez *et al.* 2012; Marsh *et al.* 2012), we found continuing access challenges relating to the availability, affordability and geographic accessibility of child health services.

Our qualitative focus also highlighted additional access dimensions such as caregiver perceptions of quality of care and perceived trustworthiness of the care provider (Callaghan-Koru *et al.* 2013; Buchner *et al.* 2014). Caregivers in our study highlighted perceptions about ownership of services, involvement of influential social actors and acceptability of services, especially relating to interactions with HEWs and perceptions about the appropriateness and availability of medicines. Unless these barriers are addressed as a part of Ethiopia's iCCM scale up, it is unlikely that utilization levels will improve significantly and the iCCM strategy will contribute significantly to improved health and survival for children in rural Ethiopia (Hanson *et al.* 2003).

According to HEP policy, each health post is to be staffed by two HEWs (FMoH 2011). From our sample of eight health post sites, only half had two or more HEWs regularly staffing the health post in the previous 6 months and three of these health posts were identified as having low utilization for child illness. Both health workers

and caregivers both identified this as the difficulties relating to increased workload in these informants. Although it was outside the scope of this study to explore supply-side factors such as the extent and causes of HEW absenteeism, caregiver perceptions and experiences clearly indicated that this is a major barrier to prompt utilization of the health post. High HEW turnover and the challenges of retention of HEWs in rural Ethiopia have been identified elsewhere (Teklehaimanot and Teklehaimanot 2013; Yitayal *et al.* 2014). Furthermore, all understaffed health posts were identified as having low utilization (<10 sick child consultations in a 1-month period) in the preceding quality of care survey (Miller *et al.* 2014).

HEWs are also expected to post their availability on the health post building to make caregivers aware of her schedule and location (FMoH 2011). However, this was often not done regularly at selected sites and caregivers conveyed frustrations in not being able to locate the HEW. Some HEWs mentioned that when they were not at the health post, they were in the community conducting education and mobilization activities. The HEP policy mandates that HEWs spend 75% of their service time conducting outreach activities (FMoH 2011). However, the quality of care survey found that HEWs at most sites fell well short of this stipulation (Miller *et al.* 2014). Currently, it is not clear what impact the inclusion of iCCM responsibilities is having on time spent at the health post treating children as compared with time spent in the community, potentially conducting demand-generation activities for iCCM services.

Many of the caregivers in this study who did not take their child to the health post did express a desire to utilize the health post. Reasons given often related to the low cost of services relative to other options and proximity of iCCM services to their households. These motivations are similar to the primary motivations given for qualitative studies conducted among stakeholders of an iCCM strategy in Uganda (Nanyonjo *et al.* 2012; Buchner *et al.* 2014) and Malawi (Callaghan-Koru *et al.* 2013). However, in these countries iCCM utilization rates were considerably higher compared with rates in Ethiopia. In our study, caregivers often stated that they were unable to act upon a preference for iCCM services delivered by the HEW at the health post due to indirect costs such as transportation and lost subsistence or domestic work and due to topographical and seasonal challenges. Guenther *et al.* (2012) argue for an expanded concept of access—"effective access"—accounting for dimensions beyond geographical and cost-based measures to assess improvements in areas implementing iCCM. According to these authors, additional, often country-specific, barriers need to be taken into account and the minimization of financial and geographic barriers resulting from adoption of iCCM is necessary but not sufficient to improving access and equity.

Our findings of low perceptions of "ownership" of the health post by caregivers residing in particular sub-villages within a *kebele* might be one important dimension accounting for low effective access and utilization of HEWs in rural Ethiopia. In our study, a large proportion of non-users felt marginalized based on the location of their household in relation to services. Feelings of exclusion of the health post were reinforced through fewer contacts with HEWs during community outreach and mobilization activities and negative interactions with HEWs leading to a lack of awareness of free and quality medicines and mistrust. This geography-based exclusion appears to overlap with exclusion of more vulnerable groups, given that marginalized sub-villages tended to be those recognized by participants as lower socioeconomic status areas. In the Amhara Region of Ethiopia, Yitayal *et al.* (2014) found clear biases in beneficiaries HEW services such that mothers from higher-income households were more likely to be visited HEWs, belong to model households

and to utilize the health post. Given the central role of equity in iCCM scale up, it is not clear that the iCCM intervention is reaching the most vulnerable, and it might potentially be reproducing inequities in access to health care seen in other sub-Saharan Africa settings (Victoria *et al.* 2000; Schellenberg *et al.* 2003).

Notions of communal ownership were also related to individual perceptions of trust and characteristics of interactions with HEWs. In several sub-Saharan Africa nations, low levels of trust and of quality of services have been associated with lower likelihood of utilizing CHWs (Nsungwa-Sabiiti *et al.* 2007; Kisia *et al.* 2012; Mukanga *et al.* 2012). Consequently, several authors have stressed the key role of acceptability in determining utilization of health services, highlighting the central position of interactions between the health service consumer and provider (Thiede 2005; McIntyre *et al.* 2009). According to these authors, care seekers develop competencies such as seeking alternative sources of care to avoid interactions that negatively affect their self-worth, sense of trust and community. At a community level, a lack of or a negative engagement disempowers communities, entrenches mistrust and restricts healthcare options (Thiede 2005). These processes were found in some degree at most research sites in this study revolving largely around perceptions and experiences of HEW attitudes and actions and perceptions and expectations of services received. However, negative perceptions of HEWs were often highest among caregivers living distant from the health post and at low-utilization sites.

Despite these challenges, health post users generally were able to call upon their social support networks for help mitigating their effects. In their care-seeking narratives, users tended to list a wide range of social supports. The majority of users also suggested a relatively high degree of decision-making power or the ability to enlist help from community members in overcoming resistance from key gatekeepers. These findings are supported by findings on social capital (Cassell *et al.* 2006; Bakeera *et al.* 2010) and female autonomy (Fantahun *et al.* 2007; Rutherford *et al.* 2009) in relation to improved access and utilization in other settings in sub-Saharan Africa. These factors were particularly important in explaining how caregivers living distant from the health post were able to overcome geographic barriers in accessing the health post. Many non-users similarly expressed a high degree of demand for health post services but were unable to overcome barriers due to a lack of social support or decision-making power.

In light of these findings, innovative approaches are needed that address challenges outlined by these perspectives in order to reduce barriers and promote utilization of iCCM services for all caregivers and children in need. Continued and targeted strengthening of supply-side improvements are necessary to reduce delays and ensure access for caregivers of sick children. In particular, efforts to monitor and ensure the *de facto* availability of two or more HEWs at each health post and a more reliable schedule of HEW activities such that caregivers are able to quickly determine the location of the HEW would likely lead to significant improvements in increasing effective access. Participants in this study also mentioned that both government and community efforts to ensure transportation, such as the provision of motorbikes and maintenance of village pathways should be undertaken to reduce geographic barriers.

In the future, further considerations regarding the site selection of health posts and the selection process of HEWs are needed. Some researchers of access in rural Ethiopia have suggested that these considerations, to date, have been more political rather than based on policy objectives (Mebratie *et al.* 2014; Yitayal *et al.* 2014). We found that some HEWs were not from or did not live in the communities in which they worked contrary to national policy (FMoH

2011). Furthermore, in some instances, participants' perceptions of a lack of ownership of the health post, negative interpersonal interactions and suggestions that HEWs were typically from the higher socioeconomic strata within a community calls into question the process and level of "community involvement" in the selection of HEWs as mandated by official policy (FMoH 2011). These findings have been linked to mistrust and consequent low utilization of CHWs in our study and others (Thiede 2005; Kisia *et al.* 2012). In response to low levels of trust of HEWs at many of the sites in our study, provision of training in culturally-sensitive communication and inclusion of additional stakeholders such as fathers and elder women is critical and should be incorporated into iCCM training for HEWs (Nanyonjo *et al.* 2012).

In order to complement gains seen in the delivery and quality of iCCM services, it is vital to focus on community mobilization strategies with active community participation to improve utilization of HEWs (Rosato *et al.* 2008; Nanyonjo *et al.* 2012). It is currently unclear what effect the inclusion of additional HEW responsibilities in the iCCM strategy is having on the ability to devote time and energy to community education, demand generation and mobilization activities. In the quality of care study, HEWs in *kebeles* with iCCM were spending less time in the community relative to HEWs in non-iCCM *kebeles* (Miller *et al.* 2014). In our study, some health post non-users were unaware or uncertain of the provision of free medicines and services for sick children available at the health post. There were also perceptions that medicines were not available at the health post, potentially due to a legacy of drug stock outs rather than current availability, and that certain medicines were inappropriate for their children. Concrete guidelines for demand generation, a central component of the iCCM strategic framework (George *et al.* 2010; Marsh *et al.* 2012), should be explored and implemented for best practices.

The recent HDA initiative offers a unique opportunity to shift demand generation activities away from iCCM-trained HEWs to the large army of community health volunteers trained through this initiative. The scale and reach of this initiative is impressive and can be utilized towards increasing utilization of HEWs by caregivers of sick children. HDA volunteers should also be engaged in efforts to identify and target sub-villages and sub-populations with low utilization. The role of volunteers should be explored for such activities as active case finding of sick children in the community, engagement of influential community actors and community-based monitoring in an effort to promote utilization, equity and community empowerment (Láinez *et al.* 2012).

Conclusion

Many caregivers interviewed in our study were motivated to use HEWs delivering iCCM services at the health post. However, despite having access to evidence-based treatments for childhood illnesses, most caregivers in this study faced considerable challenges to gaining access to these treatments and quantitative findings suggest that utilization of HEWs delivering these services remains frustratingly low (Mela Research 2011; Miller *et al.* 2014). Our research documents several personal and systems-level challenges to accessing iCCM services outlined in the perceptions and experiences of caregivers themselves. These challenges interact to limit the impact of iCCM in reducing child mortality and improving equity of outcomes. Efforts to reduce "traditional" barriers and improve quality of services through the scale-up of iCCM are necessary but not sufficient to improve utilization (Rutherford *et al.* 2010). Our findings suggest that

other barriers such as the availability of the HEW and less-explored phenomena such as acceptability of services play a large role in the decision to seek care and the ability to get care from HEWs providing iCCM services. With considerable progress made in advancing the supply of evidence-based child health treatments through the scale up of iCCM (Marsh *et al.* 2012), it is now time to turn attention towards minimizing barriers and improving demand for services in order to reduce child mortality and equity in outcomes.

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