



Chipatala cha pa Foni & Maternal Health Lessons from Malawi's national health hotline

Evidence-based recommendations to strengthen Chipatala cha pa Foni (CCPF)'s maternal health services, particularly during the COVID-19 pandemic

KEY FINDINGS

HOTLINE WORKERS PROVIDE QUALITY SERVICE TO CALLERS

Analyzing call transcripts showed that hotline workers performed well when answering calls related to obstetric emergencies and those centered on COVID-19. Hotline workers explained information clearly and checked for caller understanding throughout the exchanges and upheld a high level of professionalism.

HOTLINE WORKERS IDENTIFY A NEED FOR ADDITIONAL TRAINING

Hotline workers reported feeling confident advising callers overall but did cite a need for more regular refresher training.

LIMITED CCPF USAGE IN OBSTETRIC EMERGENCIES

Through auditing call data and interviewing hotline workers, we found that obstetric emergencies account for a small proportion of all calls fielded by CCPF.

VERY HIGH UNMET DEMAND FOR CCPF DURING COVID-19

In the first seven months of the pandemic, a monthly average of less than 7% of callers who attempted to reach a live operator succeeded.

Background

Pregnant women in Malawi are at high risk of complications or death. Malawi's maternal mortality ratio is one of the highest in the world, at 439 deaths per 100,000 live births.¹ While timely identification and treatment of symptoms of obstetric emergencies is critical to saving lives, skilled staff to attend births are limited and fewer than half of women receive a check-up in the critical period following birth. With the onset of the COVID-19 pandemic, healthcare workers are in even higher demand and risk of exposure may prevent some women from accessing care. Particularly during COVID-19, mobile phones provide a low-cost, effective opportunity to provide women and their families with health information and to refer them to seek care at a facility when necessary. Chipatala cha pa Foni (CCPF) is a national toll-free health hotline staffed by trained nurses and operated at all hours of the day by the Ministry of Health (MoH). Callers can also choose to listen to pre-recorded health messages about pregnancy, child health and more through Interactive Voice Response (IVR) technology.



Advancing Postpartum Hemorrhage Care (APPHC) is a one-time catalytic investment from U.S. Agency for International Development (USAID) in Malawi and Madagascar to generate and test solutions that address key barriers to PPH prevention, detection, and treatment, and to advance the use of related evidence. As part of APPHC, we set out to understand how CCPF currently handles obstetric emergencies, particularly post-partum hemorrhage (PPH), and to provide recommendations on how service delivery could be improved for PPH and other emergencies. During initial analyses we did not encounter any instances of PPH, and so broadened our focus to obstetric emergencies and maternal danger signs generally. Additionally, as the COVID-19 pandemic emerged, we adapted study aims to explore how women used CCPF in the

context of COVID-19 and maternal health, and how the services received could be improved.

Specifically, we explored CCPF caller demand for obstetric emergency information, callers' satisfaction with the service provided, and their maternal health concerns specific to the COVID-19 pandemic. We analyzed call patterns over a 12-month period to assess the impact of COVID-19 on demand for CCPF. We also analyzed call transcripts from callers with maternal danger signs, as well as call transcripts from pregnant women who called seeking information about COVID-19. We conducted follow-up interviews with pregnant women who called about COVID-19 and spoke to hotline workers about their experiences and perceptions addressing callers' maternal health concerns.

¹ National Statistical Office (NSO) [Malawi] and ICF. (2017). 2015-16 Malawi Demographic and Health Survey Key Findings. Zomba, Malawi, and Rockville, Maryland, USA. NSO and ICF. <https://dhsprogram.com/pubs/pdf/SR237/SR237.pdf>

Key Findings

Overall

HOTLINE WORKERS PROVIDE QUALITY SERVICE TO CALLERS

Analyzing call transcripts showed that hotline workers performed well when answering calls related to obstetric emergencies and those centered on COVID-19. Beyond their technical expertise, hotline workers built rapport in a short amount of time. When relevant, they encouraged women to seek medical care and explained why the symptoms they were experiencing could be dangerous and required immediate attention. Hotline workers also explained information clearly and checked for caller understanding throughout the exchanges and upheld a high level of professionalism.

HOTLINE WORKERS IDENTIFY A NEED FOR ADDITIONAL TRAINING

Hotline workers reported feeling confident advising callers overall but did cite a need for more regular refresher training. They requested maternal health refresher training, particularly on obstetric emergencies, to stay current on best practices that may have changed since they received their nursing degrees. Hotline workers also expressed confidence in their ability to provide basic information about COVID-19 to callers but requested ongoing training to update their knowledge on emerging COVID-19 findings or concerns. At the time the COVID-19 transcripts were reviewed, inaccurate information that COVID-19 could be transmitted through blood, sweat, or undercooked meat was circulating amongst hotline workers. Although this advice is not necessarily harmful, it highlights the potential for misinformation to spread.

Obstetric Emergencies

LIMITED CCPF USAGE IN OBSTETRIC EMERGENCIES

Through auditing call data and interviewing hotline workers, we found that obstetric emergencies account for a small proportion of all calls fielded by CCPF. That said, hotline workers relayed that these calls do come in and are important to handle swiftly and appropriately.

In the transcripts of calls about maternal health danger signs, women generally called with symptoms of abdominal pain, persistent low back pain, sudden and significant swelling of hands, face, or feet, vaginal bleeding, and dizziness. The research uncovered that the relatively low usage of CCPF for obstetric emergencies could be due to a myriad of reasons,

"Maybe you can call [if experiencing an obstetric emergency], you can weigh if CCPF will help at the moment or go to the hospital. Or before you reach the hospital you can call CCPF. When people are sick [though], they do not remember that there is a person who can assist."

-Follow-up interview with pregnant woman

such as women not being aware of CCPF, not thinking to call in the midst of a crisis

and preferring to rush to a hospital rather than call CCPF (most women interviewed reported that they would rush to the hospital if experiencing signs of a maternal health emergency). It is also possible that women are in fact calling with obstetric emergencies but wait in long call queues and hang up before reaching a live operator.

"I doubt, I do not know [if CCPF should be used in obstetric emergencies]. CCPF can only advise. I feel like they can only advise that you should go to the hospital and that's it...The issue of pregnancy is unpredictable, so I cannot say that you should ask CCPF first, [because] you do not know what can happen. I feel like going to the hospital is much better."

-Follow-up interview with pregnant woman

When asked whether CCPF should be used for emergencies or not, all but one hotline worker agreed that it should be. However, most proponents of using CCPF for emergencies justified their response because CCPF could help a woman identify that she is experiencing a health emergency and know that she should seek care immediately. If the woman is already aware she needs to seek care urgently, it is possible that calling CCPF would be more of a disruption than helpful as she travels to the hospital.

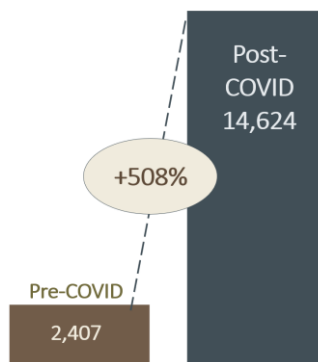
COVID-19

VERY HIGH UNMET DEMAND FOR CCPF DURING COVID-19

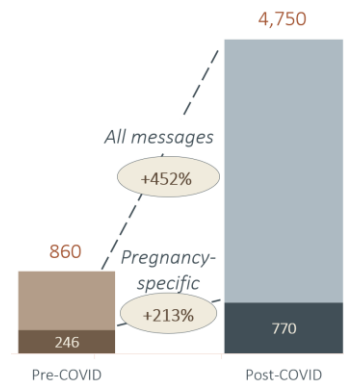
After the onset of the COVID-19 pandemic, demand for CCPF in general spiked dramatically after CCPF was declared the trusted source of information on COVID-19 during a presidential address. The hotline was able to hire additional hotline workers to help meet demand, yet CCPF still struggled to handle the high volume of calls. In the first seven months of the pandemic, a monthly average of less than 7% of callers who attempted to reach a live operator succeeded.

However, nearly all callers who wanted to listen to prerecorded messages on various health topics, including pregnancy, were able to do so (89%). The number of pregnancy messages listened to more than doubled after the onset of COVID-19.

Average # of CCPF daily call attempts



Average # of CCPF IVR messages heard per day



"I was pregnant and showing signs of COVID-19. I went to the hospital and they told me to go to the nearest health facility. Our facility was congested... I went there [for two hours] and we were sent back...then I thought of calling [CCPF.]"

-Follow-up interview with pregnant caller

During this period of high, unmet demand, callers reported long wait times, as well as the phone line cutting during the call due to poor connectivity. Several callers also reported not being able to receive attention or care at facilities. As new guidance emerges and COVID-19 vaccines are introduced in Malawi, there is an urgent need for accurate, accessible information to combat misinformation and rumors that may circulate.

PREGNANT WOMEN HAVE UNIQUE CONCERNS AND INFORMATION NEEDS DURING COVID-19

Pregnancy can be a time of worry and fear, particularly during COVID-19. Pregnant women calling CCPF in the first few months of the pandemic wanted general information about COVID-19, including how many people in Malawi have been affected, how it is spread,

"I made those things you put on the mouth but if we wear them, please laugh at us."

-Pregnant caller to CCP

ways to prevent transmission, symptoms, and testing, but also had specific questions and concerns related

to healthy pregnancy during COVID-19.

During follow-up interviews with callers conducted in January, callers who had given birth since their initial CCPF call reported that health facilities were enforcing preventive measures to reduce the spread of COVID-19, including wearing masks, washing hands with soap, and temperature checks for all patients. Labor and delivery experiences were also

"During pregnancy, you usually feel breathless if you are wearing a mask for a long time."

-Follow-up interview with pregnant caller

different during the pandemic,

with reports that wearing a mask during labor was too difficult and early discharge after birth, which may increase the risk of postpartum complications. In these cases, it is particularly important that women are able to recognize signs of potential obstetric emergency.



CONCERNS OF PREGNANT CALLERS DURING COVID-19

- The effectiveness of preventive measures
- Transmitting the virus to their child, whether in utero, during delivery, or through breastfeeding
- Practical implications of preventive measures, including whether social distancing is advised between spouses and how to avoid exposure while caring for a person sick with COVID-19
- Whether to go to the waiting home or the hospital for prenatal care, delivery, and postnatal care
- Emerging concerns, including COVID-19 vaccine safety and new virus variants.

Recommendations

A variety of recommendations arose directly from the interviewees, as well recommendations spurred by analyzing call transcripts and the supply and demand data around calls to the hotline.

Overall

IMPROVE NETWORK CONNECTION TO INCREASE ACCESS TO CCPF SERVICES

Several callers reported poor network connectivity during their calls to CCPF, and a few of the follow-up interviews themselves faced connectivity challenges. The MoH should continue existing discussions to expand to additional mobile network operators that might have better coverage in certain areas. At the same time, the MoH may want to consider expanding and updating content that can be accessed immediately without waiting for a hotline worker so that callers with limited connectivity do not need to wait on hold to access basic information about pregnancy or COVID-19.

STAFF THE HOTLINE WITH ENOUGH OPERATORS TO MEET DEMAND

The MoH can consider using the findings in this report regarding the surging demand and struggling supply to continue to advocate for hiring additional staff. Internal decision makers and potential funders may realize that Malawians turn to CCPF for information, and that there must be sufficient numbers of operators in order to meet demand. Furthermore, the MoH can consider continuing to staff the hotline with nurses who able to communicate with clients in their preferred language. In a couple instances in the research, we observed that hotline workers did not always speak the language preferred by the caller. The MoH should continue to intentionally hire operators who speak other languages and schedule them strategically to ensure that callers can communicate in their preferred language at all times.

PROVIDE POSITIVE FEEDBACK TO HOTLINE WORKERS

We found that hotline workers provided consistent high levels of customer service by forming strong rapport with callers, providing accurate information and guidance (with rare exceptions), and taking the opportunity to counsel callers on topics relevant to their health even if the caller did not proactively raise concerns. For instance, if a pregnant woman called with a general question about COVID-19, the hotline workers also provided information targeted towards her pregnancy and antenatal care. Recognizing hotline workers' contributions to equipping callers with critical health information can be a meaningful form of motivation, especially during such busy times.

Obstetric Emergencies

DECIDE WHETHER CCPF SHOULD BE CALLED IN OBSTETRIC EMERGENCIES

"When we are dealing with emergencies, we can save a life by a minute and also lose a life per minute. So since it's a mobile clinic, emergencies are not right but they should call when they are pregnant and then we can tell them that these are the danger signs and if they happen to you, do a, b, c, d."

-Hotline worker

The MoH can consider whether there is value to those who are already aware they are experiencing an emergency to call CCPF, or whether the recommended course of action should simply be to rush to facility care. As one hotline worker mentioned, CCPF can focus on empowering women who call during pregnancy to be able to recognize danger signs, and then if those danger signs do occur she should seek in-person care straightaway. Depending on the decision, MoH can tailor promotional materials and messages accordingly.

Regardless, MoH might also consider whether there is a mechanism to allow callers experiencing emergencies to be answered promptly

without having to wait in the typically congested queue of all callers. Women interviewed cited long wait times, and hotline workers noted it is possible that many more women experiencing obstetric emergencies call but are never connected with a hotline worker due to the high call volumes and poor network connection.

ESTABLISH CLEAR PROTOCOL & RESOURCES FOR FOLLOWING UP ON EMERGENCY CALLS

Although there may be resources and an official protocol for following up with emergency calls, most hotline workers interviewed were confused on the protocol and whether the phone dedicated for this purpose had airtime. Hotline workers need guidance and reminders on what to do if a serious call drops mid-conversation, and whether to follow up with emergency calls later on. If this is ultimately recommended, there will need to be a phone with airtime dedicated to this purpose, which hotline workers know how to easily access. MoH might consider whether this should be a core component with dedicated funds so the service does not come and go depending on external funding.

IMPLEMENT STRONG REFERRAL RELATIONSHIPS WITH FACILITIES AND AMBULANCE SERVICE

Hotline workers lamented that they often refer women with danger signs to seek care but then are unable to link them to a facility directly. Furthermore, they are also unable to contact the facility to advise them of a patient who will be arriving soon or to check in on the situation after the woman has presumably sought care. There is also no mechanism to connect women to transport. This is key as there have been instances where hotline workers refer women to care for danger signs but the women share they do not have access to transport and it is far to the nearest facility. Although it would be a heavy investment to meaningfully establish referral paths with facilities and ambulance or transport services, it continues to be a significant need. While there is a pilot of Emergency Medical Services (EMS), or emergency transport, it is only located in Lilongwe and Blantyre, and it may be several years before any system is rolled out nationally. In the meantime, districts should enact measures to manage their own referral systems. Based on what we have found at CCPF, the Department of Clinical Services can continue to advocate for emergency transport to be put in place at the district level in the absence of a national system.

PROVIDE OPPORTUNITIES FOR MATERNAL HEALTH REFRESHER TRAINING

Hotline workers said they would appreciate refresher trainings in maternal health emergencies, and on what they could advise a caller aside from telling them to rush to seek care at a facility. Hotline workers were quite knowledgeable and fairly confident, so it should only be a matter of light refresher trainings annually. The Department of Clinical Services may be able to leverage the direct requests of nearly all interviewed hotline workers, and the spike in demand and number of clients served, to advocate for additional refresher trainings in the budget. Content for the refresher training can be informed by quality assurance audits of call recordings and regular follow-up with callers to collect feedback on the service received.

COVID-19

BOLSTER ALTERNATIVE MEANS OF COMMUNICATING BASIC COVID-19 INFORMATION

Given the high number of CCPF callers who were unable to access live operators but who succeeded at prerecorded messages, the MoH may want to consider expanding message content on COVID-19. Also, if the messages were updated to reflect statistics on spread and recovery, this could free up live operators from relaying statistics to callers, as they could refer them to the automated messages. Pre-recorded messages could also be used to share accurate, updated information about COVID-19 vaccine safety and availability. The MoH already introduced COVID-19 messages that callers can listen to while on hold to

reach an operator, but the information is dated to earlier in the pandemic and could be refreshed to address topics such as vaccination, which might answer some callers' questions immediately. More broadly, the MoH can leverage existing dissemination channels, including radio broadcasts and its Facebook page, to share information frequently requested from CCPF, including COVID-19 statistics and basic epidemiological information, as well as dispelling rumors circulating about COVID-19. Leveraging CCPF as a data source for the current concerns and rumors will allow MoH to target risk communication messaging.

Given the increased vulnerability of pregnant women, the MoH might also integrate COVID-19 educational information into antenatal health education talks, with a focus on identifying emergency obstetric symptoms.

ESTABLISH MECHANISMS TO PROVIDE UPDATED COVID-19 GUIDANCE FOR HOTLINE WORKERS

Information and guidance on COVID-19 prevention, testing and treatment is changing rapidly, and in order for CCPF to remain a trusted resource, hotline workers need real-time access to reliable sources of information to address callers' new or unique questions, for example, COVID-19 treatments and vaccines, particularly for pregnant women. This is particularly important as new hotline workers are hired, with varying levels of existing knowledge. The MoH can consider providing internet access and recommendations for websites that have reliable, up-to-date guidance. In addition, the amount of searchable content on COVID-19 available to hotline workers should also be increased, with specific guidance on maternal health during the COVID-19 pandemic, including:

- When to seek in-person care as a pregnant woman, including pregnant women who have had a recent COVID-19 exposure or have potential COVID-19 symptoms
- Risk of exposure in utero, during delivery and through breastfeeding, and recommended preventive measures
- Whether pregnant women should receive the COVID-19 vaccine when it is available
- Direct responses to questions that emerge on calls to which hotline workers are not able to fully respond

ENSURE QUALITY OF NEW COVID-19 REFERRAL RESOURCES

Because referral resources for COVID-19, including testing services, are new, the MoH can consider establishing a process to confirm the reliability of these resources, and prioritize follow-up calls to those who were referred, particularly those given to pregnant women. Confirming the reliability of referral resources and following up on referrals requires funding for airtime, which is currently covered by GIZ through August 2021. A sustainable funding source should be identified to enable this practice to continue and ensure the quality of referrals provided, which can directly impact the callers' satisfaction with the referred service and CCPF.

CONTINUE TO SUPPORT HOTLINE WORKERS TO REDUCE THEIR OWN RISK OF COVID-19

The MoH should continue to provide a safe working environment for hotline workers, including providing mechanisms to work remotely, and supplying personal protective equipment and cleaning the hotline operations space for those working on site. The MoH has already initiated remote work for a subset of the hotline workers, which has reduced crowding at the hotline and made the spacing more conducive to social distancing. There should also be policies and practices in place to support hotline workers exposed to COVID-19 or experiencing symptoms, and if a hotline worker contracts COVID-19, contact tracing should be initiated.

Conclusion

These evidence-based recommendations are drawn directly from a group of CCPF's clients, pregnant women calling from various areas in Malawi seeking information about COVID-19, as well as from hotline workers with direct experience fielding calls from a very high number of callers during the COVID-19 pandemic. The MoH may want to organize next steps around how swiftly and feasibly recommendations can be made, and who will lead each action.

Some of these recommendations can be adopted immediately to strengthen the government's response to the COVID-19 pandemic:

- Bolster alternative means of communicating basic COVID-19 information
- Continue to support hotline workers to reduce their own risk of COVID-19
- Establish mechanisms to provide updated COVID-19 guidance for hotline workers
- Ensure quality of new COVID-19 referral resources
- Staff the hotline with enough operators to meet demand

Other recommendations are relatively simple to implement and can be adopted directly by CCPF management:

- Provide positive feedback to hotline workers
- Establish clear protocol and resources for following up on emergency calls
- Provide opportunities for maternal health refresher training
- Decide whether CCPF should be called in obstetric emergencies

The remaining recommendations are important, but may require coordination beyond CCPF management:

- Implement strong referral relationships with facilities and ambulance service
- Mitigate poor network connection to improve access to CCPF services

Key MoH departments, including Clinical Services, Quality Improvement, Reproductive Health Directorate, and Nursing Directorates, will convene to assess recommendations and plan needed action steps and coordination to improve operations and ultimately maternal care.

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<https://www.respectfulcareresources.com/apphc>

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USAID'S HEALTH EVALUATION AND APPLIED
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