POLICY BRIEF

Investing in mConsulting to improve health care for marginalised communities in Tanzania

Background

Face-to-face medical consultations are reported to be costly to patients but also carry the risks for contracting infections such as Covid-19 to healthcare workers as well as patients. Our mConsulting research explored how mobile phone consultations in communities with minimal healthcare access in rural areas can improve the situation. Using Cyber and participatory mapping methods, we managed to identify a number of mConsulting services that are already available to the communities in terms of type, purpose, history, size coverage, operating systems, costs usage and perceived impact. We conclude by stating that the time to invest in mConsulting has come.

What is mConsulting?

Definition of mConsulting

mConsulting refers to the process where someone with a health need consults a healthcare provider using mobile communication technology, e.g. consulting with a community health worker, pharmacist, nurse or doctor using a mobile phone. It is a practice involving provider-to-patient (business-to-consumer) consultation. However, a 'third party' or intermediary might participate but only if they are helping the patient to do the mConsulting. When an intermediary is involved, the patient also needs to be present to qualify as mConsulting.

Key stakeholders of mConsulting Consensus meeting held on 13th December 2019 in Morogoro Tanzania, reviewed the definition of mConsulting and redefined it as *"a consultative process through the use of a mobile device between a client and a health care provider for the purpose of getting prevention and promotional advice, guidance for investigations, treatment, rehabilitation and follow-up."*

Key findings

Between April 2019 and March 2020, we analysed national policies and identified existing mConsulting services in our country. We held interviews and ran workshops in Ulanga district, Dodoma and Dar es Salaam regions involving community residents, healthcare workers, mHealth providers, and local and national decision-makers. We explored about the use, experiences and perceptions of mConsulting services. Our research work was guided by a 'Project Advisory Group' of local experts, including mHealth service providers, mobile companies, technical and academic experts as well as and researchers. We report on six key findings that are worth sharing with stakeholders: 1) factors influencing the need for mConsulting, 2) policies and policy guidelines on mConsulting, 3) need for Project Advisory Group, 4) providers of mConsulting services, 5) ethical considerations for mConsulting, 6) accessibility and affordability of mConsulting services in Tanzania.

Factors influencing the need for mConsulting services

Factors that influence the need for mConsulting in Tanzania are presented below:

Box 1. Factors influencing the need for mConsulting services

High demand for health services in low-resourced settings	Community members, health care providers interviewed confirm that, mConsulting has the potential to improve access to healthcare services in low-resourced settings especially rural areas where health professionals are in scarcity.
Acceptability and usability among health stakeholders	Health care providers and Community members accept and recognize that affordable, effective, and accessible mConsulting services have become the right and quick solution for increasing health care access to remote rural communities especially in emergencies, advice including after-hours and care follow-up. *"…. it facilitates to get quick health solutions to the clients, so the problems are solved at any time, whether in a day or night" (CMI-3).*
Economic benefits (saves cost and time	From the research findings, mConsulting has been described as a cost-effective or cost-saving service, by decreasing transportation costs for patients, addressing efficient health care practices remotely and saving time by reducing hospital visits. *"mConsulting facilitates to get access to healthcare services at the right time, so it saves time and costs. Instead of hiring the transport somebody can talk to the doctor at a distant" (CMI-1).*
4. Availability/presence of digital infrastructure	There is an increase in mobile phones possession and internet use. o Statistics published by the Tanzania Communications Regulatory Authority (TCRA) retrieved on February 2018, indicated there were an estimated 43,497,261 million mobile phone subscribers out of an estimated population of 53,853,702 representing 80.77% penetration rate. At the same time, the country's Internet customers estimated at 22,281,727 representing a 41.37 % penetration rate. o From our mConsulting research findings, 13/13 (100%) community members from Ulanga district who were interviewed possessed mobile phones, 6/13 (46%) had smartphones while 7/13 (54 %) had feature phones.
5. Accessibility of mobile networks	Through community workshops and mini interviews, we observed that there are different mobile network operators offering network services in Ulanga villages, these included: Tigo, Airtel, Halotel and Vodacom companies. Community members interviewed indicated that they had two or more network connections

Are there existing policies and guidelines on mConsulting?

Specific policy guidelines on mConsulting as of to date do not exist. Even though, Tanzania has a number policies and policy guidelines on eHealth, mHealth and Digital health that are in place as follows:

The National Health Policy (2019): Directs and encourages health care professionals to deliver health services using ICT. It further emphasizes the use of ICT in sharing of information and knowledge on diagnosis, treatment as well as disease prevention.

Tanzania Digital Health Strategy 2019 – 2024: This strategy emphasises the need to improve the use of digital health solutions (mHealth) to enhance access to high-quality health services. The strategy also guides on how to address challenges in the digitization of the health sector in Tanzania.

The Tanzania Communications Regulatory Authority (TCRA), Act No. 12 of 2003: Offers opportunities for licensing and regulating Electronic Communications sectors in the United Republic of Tanzania**.**

Is there need for mConsulting Project Advisory Group?

To promote and advocate for mConsulting in the country, mConsulting 'Project Advisory Group' (PAG) was established. Their main task was to provide advice to the mConsulting Research Team in making sure that the research work became locally relevant and responsive and that mConsulting gets institutionalised. The PAG met twice in the period of six months of mConsulting study to discuss the project's implementation, identify issues for further research work.

Who are the mConsulting providers in Tanzania?

Through cyber mapping and participatory mapping, 25-mHealth and eHealth service providers were identified to be offering mobile health services; among them only five were found to be 'real mConsulting providers' as per our definition above. Table 1 provides the type of provider, coverage of services and costs involved.

Table 1. mConsulting providers in Tanzania

Service provider	Mode of interaction	Targeted Group	Coverage	Cost	Business Model
JamboMama	App/ Voice Call	Expectant mothers/Infants	Bunda District	Donor Funded	Not-profit
AfyaCall	Voice Call	General Public	Country-wide	Service Fee 8.69+ USD/ Toll Free Number	For-profit

Tambua TB	USSD Code/ Voice Call	General Public	Country-wide	Toll Free Number/ Government Funding	Not-profit
Daktari Mkononi	AI/Web chat	General Public	Country-wide	Bandwidth Charges 0.22+ USD	Not-profit
Afya Helpline (TAYOA)	USSD Code/ Voice call	General Public	Country-wide	Toll Free Number/ Government Funding	Non-profit

What are the ethical considerations for mConsulting?

Medical principle on confidentiality maintenance: According to ethical principles, the doctor should ensure confidentiality on his/her client's health information.

Current ICT techniques in ensuring confidentiality in mConsulting: The application of System recognition, Unique IDs, Passwords is crucial in safeguarding confidentiality of clients' information. The current mConsulting providers have got the necessary internal ICT policies and systems to ensure that only that staff that is permitted to access the patients/clients information can do so through unique IDS and password recognition.

Established terms and conditions for sharing patients' information among health stakeholders: The experience from the present mConsulting service providers indicates that each of their external mConsulting stakeholder is only allowed to request specific information depending on the signed agreement.

Adherence to instructions provided by the Ministry for Health on using unique IDs: We observed that mConsulting providers in the country are strictly adhering to governments guidelines as testified by one of the provider: "*We received the guidelines from the health ministry which prohibits us to ask the clients names during mobile consultations, therefore we give them some unique identifications….*"- (mCons-1)

Obtaining Informed Consent: The responses from the participants' interviews indicate that, one of the current mHealth guidelines requires that patients be informed about recordings that the provider wishes to make or to shared and also where it be stored. So there should be a mechanism to ensure the clients consent. '*Once you introduce mConsulting system, it should indicate the way a patient should be able to sign the consent so as to permit the health care providers to share his/her information…*'

Accessibility and affordability of the available mConsulting services

Accessibility

Most of the present mConsulting services are well accessed by the urban dwellers compared to rural dwellers. This is due to the fact that the services are mostly advertised in urban areas compared to rural areas, despite the high demand of such services among the rural communities. Jambo mama mConsulting service is well known in rural Bunda district because of involving the Community Health Workers to link with the community. "*I have never heard about mConsulting services (CMI-6)*

In Ulanga district these services are offered personally and informally, depending on the influence of the relationship between the health care providers and their clients. Community members and their health care providers reported that this was a common practice.

"I normally make phone calls to my friend who is a doctor whenever I face health problems, it is a matter of telling him that I am suffering from A, B, C, D and he normally replies by advising me what to do in solving the problem" *(CMI-3)*

Affordability to mConsulting services

Categories of mConsulting services, their costs and affordability are summarised in Table 2

Table 2. Categories of mConsulting services, their costs and affordability			
Category	**1. Officially - Free**	**2. Officially – Profitable**	**3. Informal/ Personal**
Name of provider	Jambo Mama, Tambua TB, TAYOA (Afya help line)	Daktari Mkononi & Afya Call	Offered personally (Doctor - Clients relationship)
Funding system	Donor funding	Fee – Payments	Friendly basis - Free
Personal Costs	Airtime, SMS & Internet charges	Airtime, Doctors' consultation fee depending on the level of the Doctor (Non specialist v/s non specialist)	Airtime, SMS & Internet charges
Confirmation on payment affordability	Community members confirmed that they can afford	Some can afford and some can't depending on the Doctor's cost	Some community members confirmed that they can afford *"on my side, I can afford that" (CMI-6),*

Challenges

There are a number of challenges pertaining to the use of mConsulting:

- Lack of confidence to use technology hence the need for Training course among health workers

  "the technology is very wide to the extent that you can never be aware of each and everything without training" (HCW-1)

- Lack of clearly stipulated regulation from regulatory bodies to guide the use of mConsulting
- Health care workers using their own mobile phones including airtime costs to make consultations, this pose a risk to the sustainability of mConsulting
- Lack of trust by the community on the confidentiality of the information they provide to the health workers

Conclusion and Recommendations

The use of mobile phones in poor, remote rural areas of Tanzania provides opportunities and capabilities to improve healthcare access. mConsulting allows physicians to better engage patients under their care, and the patients can access the care they need from wherever they are while minimizing costs through receiving the distant care. Currently, health care providers are delivering most of the mConsulting services informally and not officially. If mConsulting will be institutionalised, the following benefits can be realised:

- *Facilitating direct patient management/ follow up:* Initially, healthcare providers and their remote clients had no quick way to interact with each other. mConsulting is changing this dynamic. Through the use of mobile communication technology, patient can efficiently manage their health.
- *Promoting Health Care providers and patients relationship:* Our study findings indicate that through mConsulting the patients are able to explain deeply about their health problems without fear or intimidation due to absence of face to face contact.
- *Helpful to elders and disability people:* mConsulting has been described by the community as the helpful alternative to special groups like elders and disable people who cannot easily move to distant areas.
- *Mostly needed in long-term health care cases*: Some of long-term care conditions include: chronic diseases, sexual reproductive health as well as psychological guidance and counselling.
- *Protecting health workers and patients from contracting infectious diseases:* In the era of COVID-19 pandemic, face-to-face consultations house a big risk of contracting Covid-19. Use of mobile or remote consulting has the advantage of avoiding this situation.

We therefore recommend that Health care providers, Policy makers, Information and technology experts, and digital communication regulatory authorities should work together to harmonise and institutionalise mConsulting in our health care delivery system.

For further reading

1. Griffiths F et al. Timely digital patient-clinician communication in specialist NHS clinical services serving young people: findings from a mixed methods. study (The LYNC study). J Med Internet Res 2017. April. 19 (4): http://www.jmir.org/0000/0/e0/ doi:10.2196/jmir.7154

2. Griffiths F et al. Mobile consulting (mConsulting) and its potential for providing access to quality healthcare for populations living in low resource settings of low- and middle- income countries. Digital Health. 2020 Apr;6: 2055207620919594

3. Griffiths FE et al. The role of digital communication in patient-clinician communication for NHS providers of specialist clinical services for young people (The LYNC study): a mixed methods study. Health Serv Deliv Res 2018;6(9)