# REaCH TRAINING
For Remote Healthcare Consulting

## REPORT

# Embedding remote consultations into healthcare for people living with long term conditions.

## A gap analysis for seven countries of sub-Saharan Africa and resources to support gap closure

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# INTRODUCTION

**Embedding remote consulting for people living with long term conditions into existing primary and specialist ambulatory healthcare: a gap analysis for seven countries of sub-Saharan Africa and resources to support gap closure**

**1** **Universal Health Coverage (UHC) is the ambition of most countries of sub-Saharan Africa** - where all people have access to the full range of quality health services they need, when and where they need them, without financial hardship.
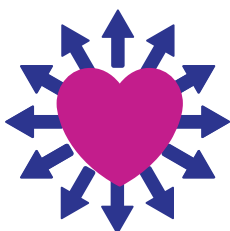
**2** **This includes quality healthcare for the rapidly increasing number of people living with long term conditions** such as hypertension, coronary heart disease, diabetes, and chronic obstructive airways disease to reduce premature mortality and expensive to treat complications.
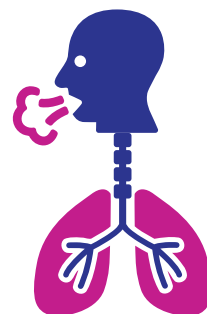
**3** **Quality healthcare includes patients being able to contact healthcare workers when it will make a difference to how they manage their condition**, for example, adjusting a medication dose, managing side-effects, understanding how to change their diet. The problem faced by primary and ambulatory specialist healthcare globally is how to deliver this quality care within the limitations of their resources. We propose that the use of remote consulting, embedded within current healthcare provision, has a role in delivering this quality care.

**Remote consulting, where a health worker and patient use mobile phones to speak to each other is technically straightforward where mobile phone infrastructure exists. Research evidence supports the implementation of remote consulting.**

Over the past decade, we have synthesised the research evidence for remote delivery of healthcare for long term conditions (1-8). The consistent message from this evidence is that remote delivery of healthcare is desirable for health workers and the population, as effective as face-to-face, improves the quality of care through improved timeliness, and improves the reach of healthcare to marginalised populations.

In 2022 we developed training for health workers on how to plan for and undertake remote consulting (9) and in 2023 added evidence on the safety and trustworthiness of remote consulting for the management of patients with long term conditions within everyday primary healthcare in sub-Saharan Africa, and of how remote consulting can be delivered by existing primary healthcare teams (10) (see Appendix 1 for summary of training and Appendix 2 for summary of clinical trial and process evaluation).

**Embedding remote consulting within current healthcare provision helps to address challenges associated with the widespread use of *informal* remote consulting.** Studies of informal remote consulting demonstrate that it is widespread in sub-Saharan Africa, with the health worker often bearing the financial cost (11). For example, community health workers use their own phones extensively in their work (12). This informal use has ethical risks including lack of a record of the consultation, privacy invasion for health workers and the potential for confidentiality breaches (13).

In 2023, we undertook this gap analysis in seven countries of sub-Saharan Africa to clarify next steps towards implementation of remote consulting, embedded within the health system, for people living with long term conditions.
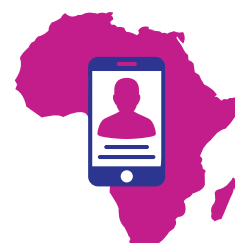
# POLICY CONTEXT

The World Health Organization (WHO) classifies remote consulting as a form of telemedicine. In sub-Saharan Africa, telemedicine has long been used to improve healthcare access, bridge distance barriers and provide healthcare education (14). Currently, telemedicine is a strategy for strengthening digital health systems and delivering universal health coverage on the continent (15, 16). It is also viewed as a means for creating a pan-African Digital Single Market, with a connected health service and workforce (17).

Technology has transformed telemedicine in Africa and globally. This has been accelerated through the Covid-19 pandemic (16). However, in low-resource contexts, there are 'substantial barriers' to its implementation and scale-up, including lack of funding, weak infrastructure (equipment/connectivity/power), issues of data security and privacy, human resource capacity/skills, and lack of integration and competing health system priorities (17, 18).

The African Union's Digital Transformation Strategy (2020-2030) recommends that member states define policies for teleconsultations and e-prescriptions to facilitate their 'smooth integration with current clinical practices' and to address ethical concerns (p.34) (17). WHO advocates using telemedicine to complement face-to-face services (not replace them); and

establishing monitoring systems and standard operating procedures for patient consent, data security, provider licensing and accreditation, and accountability (16, 19, 20). Africa Centres for Disease Control and Prevention (Africa CDC) emphasizes principles of patient-centredness, workforce empowerment, reusing and improving systems and technology, collaboration and cooperation; and working through a lens of gender, equity and inclusion to strengthen digital health systems on the continent (21).

Appendix 3 provides a summary of some recent global and national policies guiding the embedding of remote consulting within primary healthcare systems.

# GAP ANALYSIS: METHODS

## Nigeria, Tanzania, Sierra Leone, Ghana, Kenya, Uganda and Malawi

We undertook a gap analysis (Feb-June 2023) for the countries where we had undertaken our clinical trial and process evaluation of remote consulting (Nigeria and Tanzania) and further countries that relate to each of these in terms of policies and/or geography: Sierra Leone, Ghana, Kenya, Uganda and Malawi.

To understand whether relevant policy was in place to enable remote consulting, we identified policy documents available online for each of these countries (see Appendix 3 for examples). We used the Digital Square 2021 Covid-19 Map and Match resource country briefs(22) (not available for Nigeria) to understand the extent of digital health innovation and the number of innovations similar to remote consulting (case management). To understand likely mobile phone population coverage, we consulted World Bank data on mobile cellular subscriptions.

We met with stakeholders in each country. For Nigeria and Tanzania, we held a total of three workshops involving 61 decision makers, health workers and residents during 2020(23) to discuss the potential for remote consulting and next steps. For Sierra Leone, Ghana, Kenya, Uganda and Malawi we met individually or in groups, a total of 89 stakeholders (range 3-38/country) in February 2023.

Stakeholders included government policy makers, leaders of professional bodies such as Nurse and Midwifery Councils and leaders of healthcare provider organisations. We presented the findings of our research (see Appendix 1) and discussed next steps for deployment of remote consulting in primary care.

To guide our gap analysis we used the framework provided in the WHO Digital Investment Guide (fig 4.2.1 page 52)(20) on the information and communication technology (ICT) environment, and the enabling environment. The ICT environment components are infrastructure and services and applications. For remote consulting the former is the mobile phone infrastructure, and the latter is remote consulting using mobile phones. Enabling environment components are: leadership, governance and multisector engagement; strategy and investments; legislation, policy and compliance; workforce; standards and interoperability. We identified evidence of the presence of each component to identify what was missing.

# GAP ANALYSIS: FINDINGS

## ICT Environment

Remote consulting is technically a simple innovation as it only requires the healthcare provider and the patient to have access to a mobile phone. However, this requires sufficient mobile phone coverage for the phone call to take place. All the countries we include in this case report are experiencing a rapid increase in the proportion of the population with mobile cellular subscriptions but where they are on this curve varies. 2021 figures indicate number of subscriptions per 100 people was 60 in Malawi, 66 in Uganda, 85 in Tanzania, 91 in Nigeria, 98 in Sierra Leone and over 100% in Ghana and Kenya (24). The use of the mobile phone network for healthcare delivery can be considered a driver for expansion of coverage as the need for healthcare is ubiquitous. However, any local deployment of remote consulting needs to consider currently available coverage and take account of this when planning where and with whom to commence deployment.
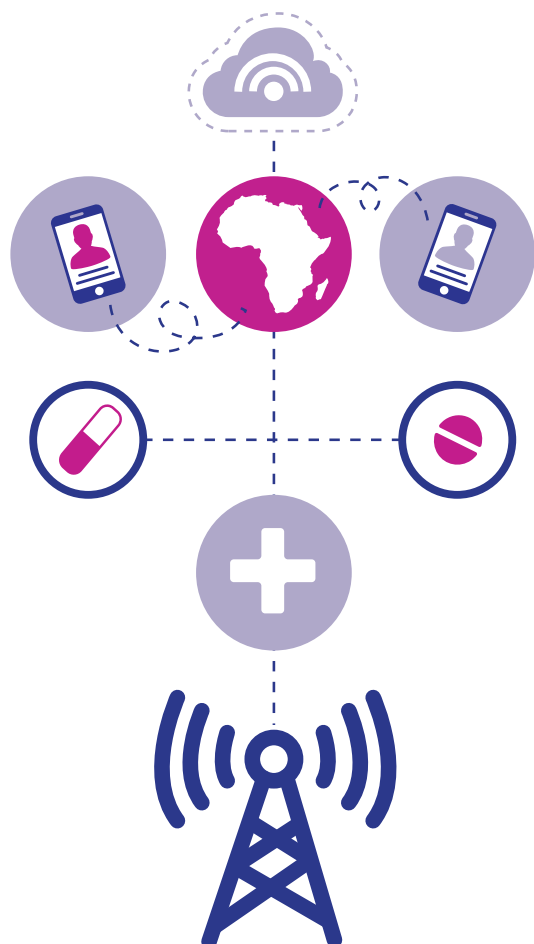
## Enabling Environment

All countries had deployed digital health tools suggesting existence of capacity in leadership, governance and multisector engagement. Ghana, Tanzania and Sierra Leone have less experience with deploying digital tools similar to remote consulting compared to the other countries. For all countries, advancing digital health was an active strategy, with policies in place at national level. Changes in donor funding results in lack of sustainability for digital tool implementation reliant on this funding channel.

Table 1 identifies health system enablers and whether they are present or missing for the upscaling of remote consulting within existing primary healthcare systems of the seven sub-Saharan Africa countries in our gap analysis. Leadership and governance components were in place in each country. Supporting digital infrastructure such as e-prescriptions and online platforms for delivery of health worker training were available in a few countries. At the time of our gap analysis, training in remote consulting was only available in Tanzania and Nigeria (REaCH study countries) and remote consulting was not yet in the scope of practice of healthcare workers in any of the countries in this analysis. Provision of airtime for healthcare workers, service delivery guidelines and payment/billing systems for remote consulting had yet to be introduced.

**Table 1: Enablers to support embedding of remote consulting within government-funded primary healthcare systems and whether they are in place (✓) or not (X) in seven sub-Saharan Africa countries.**

| Health System Building Blocks[1] | Enabler | Ghana | Kenya | Malawi | Nigeria | Sierra Leone | Tanzania | Uganda |
|---|---|---|---|---|---|---|---|---|
| Leadership and Governance | Legislation and policy (national): eHealth and Digital Health | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Digital Health programme/body (national) | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Strategy/policy (national): Telemedicine and Telehealth | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| | Digital health tools in use | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| Medical products, vaccines and technologies[2] | Availability of ePrescriptions[3] | ✓ | ✓ | X | ✓ | X | X | X |
| Health workforce | Remote consulting included in scope of practice of healthcare workers | X | X | X | X | X | X | X |
| | Accredited training available in remote consulting[4] | X | X | X | ✓ | X | ✓ | X |
| | National/State platform available for remote delivery of accredited training | ✓ | X | X | X | X | ✓ | ✓ |
| Service delivery | National agreements with telecommunication companies for provision of affordable airtime within government-funded primary care[5,6] | X | X | X | X | X | X | X |
| | Service delivery guidelines on remote consulting | X | X | X | X | X | X | X |
| Financing | Mechanism for payment/reimbursement of remote consulting services (e.g., billable item in national health insurance scheme) | X | X | X | X | X | X | X |

[1] Adapted from WHO Digital Investment Guide (fig 4.2.1 page 52)(24). We have excluded the Health Information Systems Building Block because we are focusing on embedding remote consulting into the existing system. In our REaCH training, we emphasize to healthcare workers the need to follow the same procedures and practices as they would when working face-to-face, for example, to use a patient's clinical record as it would be used when consulting in-person, and to follow the same procedure for making a referral.

[2] See findings text above for ICT infrastructure, including mobile phone network subscriptions and need for a stable power supply (for connectivity and charging of devices).

[3] e-Prescriptions at least at start of scale up.

[4] Platforms in Nigeria and Tanzania have been established to host REaCH training.

[5] This does not include national remote consulting systems, for example, set up in response to epidemic.

[6] Local agreements are in place between Non-Governmental Organisation (NGO) healthcare provider organisations and telecommunication companies for affordable airtime. These NGO provider organisations may be providing healthcare on behalf of the government.

# INFORMAL REMOTE CONSULTING

In each of the countries of this gap analysis the stakeholders were clear that informal remote consulting is widespread. In addition to the burden it places on the health workers, stakeholders expressed concern about the quality of informal consultations. Although health workers will do their best, they may be asked about health issues that are outside of their current remit, they may not know the person's medical history, they are unlikely to have access to the person's clinical records at the time of the consultation (if ever) and may not know details of services relevant to the person and be able to enable access to them (e.g. referral).

# NEXT STEPS

The next steps for closing the identified gaps include:

## National level steps for remote consulting service provision.

Interlinked national level actions are needed for the health system to support remote consulting.

- Include remote consulting in the scope of practice of all relevant health worker cadres.

- Recognise remote consultation in payment structure and agree payment level; where payment is made by patient, a remote system for receiving payment is needed.

- Provide airtime for healthcare workers for remote consulting.

- Ensure systems for prescription and supply of medication to enable patients to collect medication as close to home as possible.

- Support pilots of remote consulting and evaluate the pilots. To avoid risk to patient safety, undertake these pilots initially in health facilities with their patients living with long term conditions. Pilots undertaken where there is good mobile phone coverage provide evidence for extending remote consulting to other areas when mobile coverage reaches them.

## National level steps for health worker training in remote consulting:

- Adapt, pilot and evaluate REaCH training.

- Accredit REaCH training for all relevant health worker cadres to undertake as part of Continuing Professional Development (CPD) in fulfillment of professional (re-)registration.

- Integrate REaCH training on remote consulting to pre-service training for all relevant health worker cadres.

## Facility/Healthcare provider level steps

- Train relevant health workers in how to undertake remote consulting (see Appendix 1).

- Disseminate guidance on remote consulting (see Appendix 4).

- Adapt facility routines and workloads to integrate use of remote consulting.

- Put in place arrangements for receiving phone calls from and making calls to patients.

- Agree arrangements for examination, tests and referrals for patients who need it.

# CONCLUSION

The countries included in our gap analysis have each started on at least some of the national level steps towards embedding remote consulting. These steps take time. Meanwhile, informal remote consulting continues with its associated risks. Health-workers will benefit from guidance and training on remote consulting now.

Pilot evaluations will provide evidence on how it is best deployed, with what impact and any remaining challenges within a specific health system. With collaboration between national regulatory bodies and healthcare providers, such pilots can happen now.

# RESOURCES

**Resources available through the REaCH study team**
Our project website hosts updates on the availability and content of all our resources.

See: **https://www.kcl.ac.uk/research/reach-trial**

**Our current resources are included in the appendices of this report and include:**

*Appendix 1:* REaCH training for health workers: learning outcomes

*Appendix 2:* REaCH study summary: clinical trial and process evaluation of remote consulting in Nigeria and Tanzania

*Appendix 3:* Some recent global and national policies guiding the embedding of remote consulting within primary healthcare systems

*Appendix 4:* REaCH Protocol for the evaluation of a pilot of remote consulting training, and questionnaire

*Appendix 5:* REaCH Service Delivery Guidelines

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# APPENDIX 1:
## REaCH Training

Table below summarises the learning outcomes for each of the modules within the online REaCH Training.

Please note: the communication module is only available in the version available in Tanzania.

Links to the online training are available on the REaCH website:
**https://www.kcl.ac.uk/research/reach-trial**

| Module title and topic outline | Enabling Learning Outcome | Sub Enabling Learning Outcomes |
|---|---|---|
| **Introduction: Why is remote consulting important?**<br><br>__Content:__<br>The introduction welcomes learners to the training. It explains how to deliver healthcare remotely to patients and communities and why it is important during outbreaks such as COVID-19 pandemic. | Develop and strengthen motivation for engagement | Comprehend the importance of remote consulting |
| **1. What digital devices and platforms can be used for mobile consulting?**<br>This module explains:<br>• Different characteristics of devices, services, and apps<br>• Generic and specific platforms<br>• Form of communication: such as mobile, audio, visual, videos<br>• How health workers can use own mobile phone for remote consulting<br>• Costs associated<br>• How this fits the wider health system<br><br>*Module activity:* This module has an activity which aims to help learners explore what digital devices, services, and apps exist and consider how useful they might be with patients. | Analyse different forms of digital communication in common use and consider how they might be used in health care | Identify forms of digital communication that currently exist |
| | | Comprehend how the various forms of digital communications are commonly used and paid for |
| | | Describe the changing patterns of use by the citizens |
| **2. How does my role change and the care I provide my patients?**<br>Module 2 highlights how remote consulting differs from face-to-face consulting:<br>*i. The infrastructure, such as:*<br>• Where to consult from<br>• What devices to use<br>• Type of infrastructure<br>• Payment<br>• Privacy<br>• Quiet place<br>• Access to patient records<br><br>*ii. The consultations:*<br>• How to offer appointments for patients<br>• How to schedule appointments<br>• How to triage the remote care<br><br>*Module activity:* The rural maternity care case study activity helps trainees to start thinking about how to organise scheduling of care remotely. | Discuss how digital communication changes the nature of the health professional and patient roles, and their interactions | Differentiate the various users of digital communication in health |
| | | Describe the development, qualities and conduct of a digital health professional |
| | | Describe the development, qualities and conduct of a digital patient |
| | | Describe the development, qualities and conduct of a digital community |

| Module title and topic outline | Enabling Learning Outcome | Sub Enabling Learning Outcomes |
|---|---|---|
| **3. What new issues arise in remote consulting that are different to face-to-face care?**<br><br>The main issues highlighted in this module are:<br>• Technical issues of using technology<br>• Communication skills and methods of communication such as text, telephone/ video call and email. Here a discussion about what method to use and in what situations is highlighted.<br>• Ethical considerations of using technology around duty of care, boundaries, equity, privacy and confidentiality and consent are discussed.<br>• Patient safety: such as who owns the phone, has the message been sent to the right patient? will someone listen while talking to the patient? will the message be interpreted correctly?<br>• Dealing with consultations through patient intermediaries<br>• Cost and workload: remote consultation may cut down costs however rapport building and issues of trust need to be taken into consideration. Also, consideration about affordability of airtime is needed, who will pay for this?<br>• Sustainability: is this model of care sustainable, acceptable to patients, families and health professionals<br><br>*Module activity:* Trainees undertake an Ethics Activity, which includes ethical considerations when communicating digitally: confidentiality, privacy and consent, duty of care, patient safety, and equity. | Summarise the enablers and barriers to implementing a digital communication service about clinical issues, including but not limited to: technical issues, communication skills, ethics, patient safety, cost, and sustainability | Analyse the change in roles for patients and health professionals involved in digital communication |
| | | Describe the doctor – patient digital interaction process and its outcomes in various settings |
| | | Demonstrate change in roles arising from digital communication for health professionals and patients |
| **4. What patient outcomes can I expect?**<br><br>This module highlights two types of patient outcomes:<br>• What difference remote consulting made to young adults living with long term conditions such as HIV, sickle cell disease, depression, and diabetes.<br>• How the patient outcome of safety can be delivered using remote consulting during the pandemic<br><br>*Module activity:* Trainees 'Read and undertake the patient journey activity –intercept the patient journey with remote consulting'. There are five conditions listed (Epilepsy, Diabetes, Hypertension, Chronic Renal disease, Sickle Cell disease). Trainees choose two conditions and highlight using the patient journey model provided how they will intercept it using remote consulting. Trainees may choose any condition(s) not listed above depending on their context or something they are more familiar with. | Explain how digital communication with patients and between health professionals about clinical issues is likely to have benefit for patient care and health outcomes | Describe the potential improvements in health outcomes arising from the use of digital communication |
| | | Describe the benefits beyond the improvements of health outcomes of using digital communication for patients and health professionals |
| **5. What is my plan for delivering my work remotely (and that of my team/colleagues)?**<br><br>Trainees will use a patient-centred access to healthcare as a framework to develop a plan for remote consulting. This framework depends on:<br>• Ability of patients/populations<br>• Accessibility of healthcare services<br><br>*Module activity:* How will you plan remote consulting to take account of ability to perceive healthcare need, and approachability of healthcare services?<br><br>*i. Ability to perceive healthcare need:*<br>1. Understanding of health and healthcare (health literacy)<br>2. Health beliefs<br>3. Trust in healthcare<br>4. Expectations of healthcare<br><br>*ii. Approachability of healthcare services:*<br>1. Transparency<br>2. Information<br>3. Outreach<br>4. Screening | Develop a plan for a digital communication service about a health need identified from one's own practice, either with patients or between health professionals | Define a problem from clinical practice that can be addressed by digital communication |
| | | Identify the opportunity for an intervention using digital communication to address the problem |
| | | Describe the components of a digital communication plan |
| | | Utilise a plan template to develop a realistic digital communication plan for patients or health professionals |
| | | Describe how the plan could be monitored and evaluated |

| Module title and topic outline | Enabling Learning Outcome | Sub Enabling Learning Outcomes |
|---|---|---|
| **6. What health behaviours will help or hinder the successful transition to remote consulting?**<br><br>Module six uses COM-B framework (that helps trainees think through what prompts behaviour change). When they introduce remote consulting in their healthcare work and to their team, they may meet resistance to this change. Using this framework will help them to understand the resistance and how to manage change.<br><br>*Module activity:* Learners should think about how they can apply two or three things they have learnt from the COM-B presentation to help them make the changes they need to provide remote consulting. For example, how can they persuade, incentivise or be a role model for their team? | Summarise the enablers and barriers to implementing a digital communication service about clinical issues, including but not limited to: technical issues, communication skills, ethics, patient safety, cost, and sustainability | List the enablers and barriers for digital communication service for health issues |
| | | Explain how technical issues, communication skills, ethics, patient safety, cost and sustainability issues can hinder or facilitate digital communication in health |
| **7. What qualities do you have and need to deliver remote healthcare and support your colleagues/team?**<br><br>Trainees use the Clinical Leadership Competency Framework-Self-assessment tool.<br><br>This self-assessment tool aims to help trainees to manage their own learning and development by allowing them to reflect on which areas of the leadership framework they would like to develop further.<br><br>The self-assessment tool has five parameters:<br><br>1) demonstrating personal qualities<br>2) working with others<br>3) managing services<br>4) improving services<br>5) setting direction<br><br>*Module activity:* Each trainee completes a self-assessment using the above five parameters. Each parameter has 8 questions where learners assess themselves by looking on the scale next to each statement and choose a rating that reflects how frequently it applies to them.<br><br>Trainees should write some notes about the process of completing the self-assessment tool guided by these questions:<br><br>a. What they learned about leadership?<br>b. What they have learned as leaders themselves that are happy to share with the other learners? | Reflect on the leadership qualities required to bring about change | Describe leadership qualities required to bring about change |
| | | Utilise the clinical leadership framework to develop leadership skills in digital communication |
| **8. Communication skills**<br><br>Communication skills module is based on the philosophy that when a health worker is contacting a patient using mobile phone, information has to flow on both sides. The module explores two areas that healthcare professionals need to be aware of when speaking to a patient/client: "what" you say and "how" you say it.<br><br>The module highlights patients' and health workers' benefits and risks of mobile phone consultations, essential elements of mobile phone consultations, barriers of mobile phone consultations and how to overcome them. | Reflect on effective consultation of patients using a mobile phone and how do I effectively communicate with patients when consulting through mobile phone | Reflect on effective consultation of patients using a mobile phone and how do I effectively communicate with patients when consulting through mobile phone |
| | | Utilise essential elements of mobile consultations process |
| | | Identify different types of barriers of mobile phone consultations and how to overcome them |
| | | Summarise a call process in mobile consultations |

# APPENDIX 2:
## REaCH study summary: clinical trial and process evaluation of remote consulting in Nigeria and Tanzania

**Safety and upscaling of remote consulting for long term conditions in primary health care: Stepped wedge trials of training, airtime and implementation in Nigeria and Tanzania (REaCH trials)(10)**
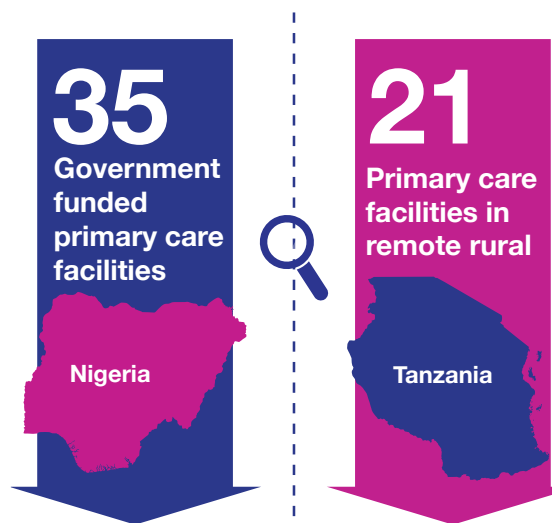
## The Intervention

> **Training for health workers: freely available REaCH training remotely delivered to healthcare workers for remote consulting.**
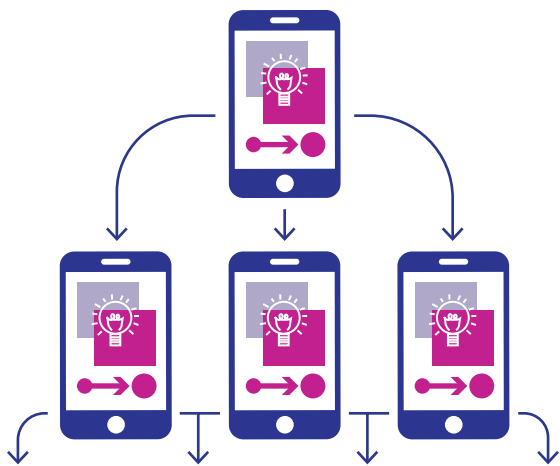


We adapted existing training on remote consulting to 22 hours of self-directed learning, remotely delivered to professional health workers using their own phones over 2 weeks. Training provided health workers with frameworks and tools to plan their own remote consulting and the organisation of remote consulting within their facility. A facilitator provided remote study support. The training included how to cascade learning to other health workers. Since completing the study, we have used feedback from trainees to refine the training to a stand-alone 8 hour course for hosting on educational platforms. Training is freely available (when used not for profit).

## Study design

> **REaCH clinical trial and process evaluation**

**35** Government funded primary care facilities

Nigeria

**21** Primary care facilities in remote rural

Tanzania

We ran two independent clinical trials with process evaluations, one in 35 government funded primary healthcare facilities in urban/peri urban Nigeria and the second in 21 primary care facilities in the mixed-economy health system of remote rural Tanzania. Staff of participating facilities received the training on remote consulting and airtime to use for the training and for remote consulting. We ran two open cohorts comprised 8,776 patient participants in Nigeria and 3,246 in Tanzania with 2,717 and 1,417 patients surveyed respectively. We interviewed 40 health workers and 38 patients and surveyed facility managers. Participating patients had hypertension, coronary heart disease, diabetes, or chronic obstructive airways disease.

**1**

| **Providing training and airtime resulted in increased remote consulting** | In Nigeria remote consultation increased four-fold (RR 4.4, [1.34, >10*]) with no evidence of change in the rate of face-face consulting (RR 1.06, 95% CI: [0.98, 1.09]). There was no increase in remote consulting in Tanzania where phoning health workers was already encouraged due to remoteness. |
|---|---|

**2**

| **Remote consulting is safe and trustworthy** | In Nigeria there was no change in prescribing (1.05, [0.60, 1.14]) and investigation rates (1.06, [0.23, 2.12]). Trustworthiness scores (0.05, [-0.45, 0.42]) were unchanged. In Tanzania, these outcomes also remained unchanged confirming that remote consultations are as safe as consulting face to face. |
|---|---|

**3**

| **Remote consulting allowed health workers and patients to interact at the right time for good management of the health condition** | Health workers used remote consulting to give patients test results, adjust medication after tests and in response to side-effects, check how patients take their medication, provide advice on self-management, to direct patients to needed urgent or specialist care and to enable patients to contact the right health worker when they needed advice |
|---|---|

**4**

| **Patients like remote consulting as it improved their access to their trusted health workers** | Patients reported receiving help at the time they need it. They reported trusting their health worker and feeling cared for. |
|---|---|

**5**

| **Health-workers like remote consulting and successfully work out how to integrate it in their own facility as far as policy and resource flows allow** | On the Acceptability, Appropriateness and Feasibility scale, remote consulting was scored highly by facility managers (17/20) in both countries. Facilities implemented remote consulting in various ways: providing a central number answered by one health worker who redirected the calls if necessary, providing patients with health worker phone numbers, or health worker initiating the remote consulting. Health workers found it convenient and stress-reducing to consult remotely. A few health workers reported patients contacting them when off-duty which they accepted but were alert to this becoming burdensome. Optimising the value of remote consulting requires attention to issues such as: how patient information is recorded and stored in facilities, where patients can obtain their medication. |
|---|---|

# APPENDIX 3:
## Some recent global and national policies guiding the embedding of remote consulting within primary healthcare systems

| World Health Organization (WHO) | Regional | National policies and initiatives in the study countries |
|---|---|---|
| Recommendations on digital interventions for health system strengthening (2018): supports the use of telemedicine to bolster coverage and quality of services for both client-to-provider telemedicine and provider-to-provider telemedicine.<br><br>*WHO Global Strategy on Digital Health 2020-2025U (2020)*<br>Principles for addressing barriers and implementing digital health at scale include:<br>• Take a systems approach and mainstream digital health and virtual care<br>• Establish an intersectoral governance system<br>• Create national agencies and policies to plan, implement and monitor<br>• Protect and strengthen privacy and data<br>• Ensure local relevance and cost-effectiveness<br>• Monitor and evaluate consistently<br>• Fund digital health as part of integrated health service delivery<br>• Collaborate and recognise role of private sector<br><br>*Digital Implementation Investment Guide (DIIG) (2020) and DIGG: Quick Deployment Guide (2022)*<br>Step-by-step guidance for planning, costing and implementing digital health interventions within a digital health enterprise.<br><br>*Consolidated telemedicine implementation guide (2022)*<br>Brings together key telemedicine resources and evidence and uses DIIG framework for planning, costing and implementing interventions.<br><br>*Broadband Commission Working Group report on The Future of Virtual Health and Care (chaired by WHO and Novartis) (2022)*<br>Proposes a roadmap/policy maturity framework with policy steps necessary to ensure virtual health and care helps countries address health equity and access challenges. | **Africa Union**<br>*Digital Transformation Strategy for Africa, 2020-2030:*<br>Emphasizes regional integration as part of creating a pan-African Digital Single Market which, at a health level, aims to 'connect all of Africa's health facilities and workforce by 2030, advancing health data protection, portability, interoperability, and governance…' through the Africa CDC and Smart Africa Initiative.<br><br>**Africa CDC**<br>*Digital Transformation Strategy, March 2023 (v1):*<br>Guiding principles for strengthening inclusive digital health systems on the continent include patient-centredness, open standards and DPIs/DPGs, regional integration of capabilities, reuse and improve, design for scale and build for sustainability, digital leapfrog and innovative solutions, workforce empowerment.<br><br>**East African Community (EAC)**<br>*The Digital REACH initiative (2017):*<br>(With roadmap and strategy: 2019-2028): Emphasizes regional integration and cross-border health.<br><br>**Economic Community of West African States (ECOWAS)**<br>*Vision 2050 (2022):*<br>Digitalisation is a cross-cutting theme, including for health, requiring 'the establishment of appropriate regulatory frameworks, sector-adapted governance, as well as affordable, secure and quality digital infrastructure'.<br><br>**Southern African Development Community (SADC)**<br>*Vision 2050:*<br>Emphasizes health/healthy lives through 'strengthened and harmonised regional health systems for the provision of standardised and accessible health services to all citizens and addressing threats caused by health pandemics' (2020).<br><br>*2021 SADC Regional Indicative Strategic Development Plan (RISDP) 2020-2030:*<br>Seeks to build 'improved, accessible, and responsive regional health systems'. | <u>Ghana</u><br>National eHealth strategy (2010)<br><br><u>Kenya</u><br>*Kenya National eHealth policy 2016-2030:*<br>Remote consultation is legal and encouraged under Kenya National eHealth policy.<br><br>*Telemedicine Guidelines and the Kenya Data Governance Framework:*<br>Currently under development by Department of Health.<br><br><u>Malawi</u><br>*Malawi National Digital Health Strategy 2020-2025:*<br>Digital technologies are key for UHC. Telemedicine has been successfully piloted.<br><br>*Monitoring, Evaluation, and Health Information Systems Strategy 2017-2022*<br>Remote consultation is legal and encouraged under Kenya National eHealth policy.<br><br>*Malawi National Community Health Strategy 2017-2022:*<br>2022 target: 50% community health teams to be using mHealth for integrated service delivery, data collection, and supervision.<br><br><u>Nigeria</u><br>*National Health ICT Strategic Framework 2015 (eHealth Strategy):*<br>Guides the alignment of technology investments in the health system. Regulated remote consulting could fit within an updated framework.<br><br><u>Sierra Leone</u><br>*Sierra Leone eHealth Strategy of 2018*<br>*National Digital Health Strategy (2018-2023):*<br>This strategy includes telemedicine and other remote access systems to ease patient interaction, especially in remote settings.<br><br><u>Tanzania</u><br>*Tanzania National Digital Health Strategy (2019-2024):*<br>Remote consultations are implemented in Tanzania.<br><br><u>Uganda</u><br>*National eHealth Policy (2016)*<br>*National eHealth Strategy (2017-2021):*<br>Telehealth/medicine is a strategic objective.<br><br>*Community Health System Strategy launched 2023:*<br>Community Health Approach as vehicle for REaCH. |

# APPENDIX 4:
## REaCH Protocol for the adaptation, piloting and evaluation of remote consulting training

REaCH training is online and designed for in-service healthcare professionals. It provides training on how to plan for and use remote consulting with patients in their day-to-day healthcare work. The course consists of 8 modules, includes videos, self-directed learning activities and quizzes. It takes at least 8 hours to complete. REaCH  has been adapted from a course developed, delivered and evaluated in Nigeria and Tanzania(9) and there are two versions, one developed in Nigeria and one developed in Tanzania. The content is similar, but presentation differs for example, the voice over is local to West/East Africa. The Tanzanian version includes a module on communication.

We suggest prior to national implementation, the training is reviewed with a group of in-service healthcare professionals and adapted for the local context. This review can also be undertaken with pre-service healthcare professionals with a view to incorporating it within their training. After adapting the training, for example, adding country specific information at the start or end of the training as an additional pdf, we suggest evaluating a pilot training with a wider group of healthcare professionals (pre and/or in-service). Below we suggest how to undertake this evaluation.

### Methodology
We suggest an evaluation based on the first three steps of Kirpatrick's framework (25) for evaluating training programmes: 1) evaluation of the training by trainees, 2) knowledge gained by trainees and 3) trainee change in behaviour.

### Methods
An arrangement is needed for healthcare professionals undertaking the training:

- To be permitted to undertake remote consulting after the training if this is not within their role description
- Receive airtime to undertake the REaCH training and to undertake remote consultations after the training.

### *In-service health professionals*

Identify group(s) of clinical medical officers and/or community nurses and/or health professionals in specialist ambulatory care. For example, the REaCH Nigeria based team invited 30 health professionals to undertake the training. Arrangements for training should be in line with normal practice for continuing professional development (CPD). For example, in Nigeria those undertaking the training came together for a training day and started the training together then completed it at home. This allowed for explanation about the training and the nature of the evaluation, assistance with registration and any technical problems. However, the training can be undertaken independently from the start.

Data and its collection:

1. Evaluation of training by trainee: answers to structured online questionnaire embedded within the training after module 7;

2. Knowledge gained by trainee: pass rate of end of module quizzes.

3. Trainee change in behaviour: two options described below. Choice of option depends on normal CPD practice and available resources.

**Option 1**

This option was used in Nigeria. Trainees completed an online survey before the training and three weeks after starting the training. The Nigeria team telephoned the health workers for completion of the post training survey. The survey asked about their use of remote consulting in the time since the training and challenges they faced. Descriptive analysis provides an indication of impact of the training. Below, we provide a brief questionnaire for capturing this data.

**Option 2**

Training participants are asked to write a short report 3- 6 weeks post training on:

a. Two remote consultations they have carried out (reason for consultation and its outcome (patient to undertake self-care, prescription issues, referral made, diagnostic test arranged, other action).

b. Any cascading of training to other cadres (number and cadre)

Summarising the data will provide  description of how remote consultation training is being applied in front line health care.

*Pre-service health professionals*

The REaCH training is relevant to pre-service health professionals particularly those about to undertake clinical placement. The design of the evaluation can be similar to that for in-service health professionals. However, before delivering the training the following needs to be considered:

• Provision of the REaCH training to placement supervisors prior to receiving the REaCH trained students
• Discussion with placement supervisors as to whether students on placement will be in a position to undertake any remote consultations.

## Questionnaire for use 6 weeks post REaCH training (for Option 1)

Below are example questions for use in evaluating via a questionnaire survey, change in behaviour of trainees after completion of REaCH training. The REaCH team has this set up as an online questionnaire (with skip patterns for ease of completion). Please contact the team if you would like to use this for your evaluation. You can contact the team on: remoteconsulting@warwick.ac.uk.

The questionnaire has been designed based on the findings of our REaCH study process evaluation and piloted by the Nigeria based team.

| Question | Response choices |
|---|---|
| Country where health work is based | Drop down box for choice |
| Since the REaCH training have you remotely consulted at least one patient (either through mobile phone or other digital communication device e.g. laptop, tablet) for health information, advice or healthcare? | Yes/No |
| If yes, how many in total | Drop down box for choice 1-10 or >10 |
| For the last up to 3 patients you consulted remotely we ask you about each consultation (questions presented for each patient in turn) | |
| Was this contact for a new condition or chronic (ongoing) condition? | New/Chronic (ongoing) condition |
| What was the purpose of the consultation? | Planned follow up/drug prescription/patient contacting me for medical advice/I contacted the patient about their health without prior planning with patient/other (please specify) |
| Which mode of remote consultation did you use? | Short text message via mobile phone/Voice mobile phone call/Voice over internet (e.g. Skype, WhatsApp)/E-mail/Other (Please specify) |
| Did you experience any problems with the remote consultation? | Yes/No |
| What was/were the problems? | Tick all that apply: <br><br> I was unable to complete the call due to lack of airtime/data <br> The connectivity/signal was poor <br> My device not sufficiently charged <br> No response from the mobile phone number I called <br> Mobile phone answered by someone other than the patient <br> Patient not available to take call <br> Patient's device ran out of charge before call completed <br> Patient called me outside of work hours <br> Lack of privacy for patient <br> Lack of privacy for me <br> Other (Please specify) |
| What changes are needed within your healthcare facility to enable effective remote consulting? | Tick all that apply: <br><br> Provision of airtime/data/wifi for remote consultation <br> Availability of health facility phone to use for remote consulting <br> Record of phone numbers of patients <br> Facility phone number for patients to call answered by dedicated worker <br> Scheduled time for remote consulting <br> Other (Please specify) |

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# APPENDIX 5:
## REaCH Service Delivery Guidelines for remote consulting

### Scope of Guidelines

These guidelines are for use by those planning, implementing, and undertaking service delivery for patients in primary and ambulatory care. For successful remote consulting there are health system issues that need attention:

- Provision of airtime for remote consulting
- Payment for remote consulting
- How patients obtain prescriptions and medication
- Arrangements for examination of patients who need it
- Access to tests and referrals

### What is Remote consulting?

Remote consulting  is when the healthcare provider and patient are not face-to-face and communication is via a digital or remote communication device such as mobile phone.

In a remote consultation, a healthcare worker uses all the knowledge, skills and experience they already possess and would ordinarily use in a face-to-face consultation.

This guideline does not prescribe who provides the healthcare, how or for what purpose. However, research evidence indicates that remote consulting is effective, safe and trustworthy when undertaken by health workers at a facility with people already known to the health facility, for example those needing follow up for long term conditions or after initiating treatment (26, 10).

### What type of consultation can be undertaken remotely?

Remote consultations complement facility visits when the patient sees the healthcare worker face-to-face. They can be used for:

- Planned care, such as reviewing patients after treatment or as part of managing a long term condition
- Responsive care when a patient initiates the contact

### What makes a remote consultation safe and trustworthy?

Remote consultations are safe and trustworthy when delivered by a health worker trained in remote consultation (10).

Timely access to a known health worker can increase trust between the patient and the healthcare provider (26). Remote consultation allows this timely access.

For each remote consultation, the health worker assesses whether it is appropriate or whether face-to-face consultation is needed. For example, for physical examination or if the patient struggles to communicate by phone.

There are remote examinations that may be sufficient for safe clinical practice, for example, a patient sends a photo of their condition (e.g. a rash) or their blood pressure readings.

### How do health workers conduct remote consultations?

Remote consultations involve a healthcare worker and a patient. Another person such as a family member, advocate or interpreter may be present with permission of the patient.

The healthcare worker uses all their existing knowledge, skills and experience within the consultation. They listen carefully to the patient just as they would face-to-face but verbally indicate that they are actively listening. An indication of such active listening is to ask the patient clarifying questions about what the patient has just told them.

The healthcare worker needs to be alert to what they may be missing because they cannot see the patient and ask questions that help fill these gaps. If questions are insufficient to fill gaps, then they consider the use of photos or see the patient face-to-face.

The healthcare worker undertakes the remote consultation where and when they can ensure communication is technically satisfactory via the phone – they can hear the patient and the patient can hear them. It may be important to know the type of phone being used by the patient, so they know whether it is possible for the patient to send a photo or receive written health information.

The healthcare worker needs to ensure they:

- Cannot be overheard or recorded,
- Have access to the patient's clinical records for continuity of care,
- Are satisfied as to the identity of the person they are talking to,
- Have asked the patient about confidentiality and privacy of the patient side of the consultation and that they are comfortable to continue

If the healthcare worker sends a text message, they need to ensure the:

- Patient can receive text messages on their phone
- Text message will not be visible to other people without patient consent
- Patient can read a text message (consider eyesight and literacy and local language)
- Text message is written clearly with no typing or grammatical errors, using wording accessible by lay people but avoiding informality (27)

Healthcare providers record in patient clinical notes for remote consultations and text messages in the same way they would record a face-to-face consultation.

## How do healthcare facilities plan for remote consultation?

Healthcare workers need training on how to conduct remote consulting. This training is not about the clinical content of their consultation but how to plan and deliver a safe consultation remotely (9).

The following are issues to consider when planning remote consulting for a healthcare facility.

### What technical arrangements are needed for remote consulting?

Remote consultations require mobile phones, airtime, mobile signal, and mobile numbers. To contact patients, healthcare facilities need a record of each patient's mobile number. For patients without their own phone, it will be necessary to record the mobile number of a family member/ friend/neighbour. Health facilities need a phone number for patients to call and from which health workers call patients. Telecommunication companies can provide mobile phone arrangements suitable for health facilities.

### What do health workers need to know about the integration of remote consultation with the health system locally?

Health workers need to be aware of how remote consultation is integrated with the local health system including provision of medication, payment of fees, arrangements for physical examination, access to diagnostic tests and referrals for treatment.

### How does a facility triage and schedule remote consultations safely?

As with face-to-face consultations, for clinical safety some patients need attention urgently and others can wait for a scheduled appointment. Facilities need to plan how to triage patients, so the patient speaks to the right health worker with the appropriate level of urgency. They need to plan an appointment system for scheduling remote consultations for less urgent health concerns. To maintain the boundary for health workers between work time and personal time, remote consultations should be scheduled within the normal work time of the health worker.

### How do patients plan for remote consultation?

Patients should be encouraged to plan to receive a scheduled call from a health worker. They need to ensure they have with them the phone with the phone number used by the clinic and that it is charged, and that they are in a place with mobile signal and unlikely to be undisturbed. If a health worker makes an unscheduled call to a patient, they should ask the patient if they are able to take the call and offer to phone back when the patient can plan to receive the call.

### How does the facility tailor the provision of remote consulting to the needs of the community they serve?

If a community is unfamiliar with the idea of remote consulting, consider undertaking community engagement activities.

Ensure arrangements for remote consultation are made clear to patients. This may include advertising to all patients or on a patient-by-patient basis depending on the service being delivered remotely. Patients need to know when it available, how to access it, who will respond and the timescale for response and what it provides.

Consider which patient groups are most likely to benefit from remote consulting and plan implementation accordingly. These patient groups may include those living at a distance from the health facility, working people who will lose income if they attend the facility for their ongoing health problem, those who struggle to pay for transport to the facility.

Consider which patient groups are likely to struggle to access remote consulting. Plan alternative arrangements for these groups for example, continuing to consult face-to-face or arranging for a family member or community health worker to assist individuals with remote consulting.

# REaCH STUDY

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# REaCH STUDY FUNDERS

**https://www.ukri.org/**

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**REaCH study website: [www.kcl.ac.uk/research/reach-trial](www.kcl.ac.uk/research/reach-trial)**