

# Harnessing 'intellectual proximity' to deliver effective provider-to-provider tele-consultations

Experiences from *Turkana*, one of the most remote and marginalised regions of Kenya

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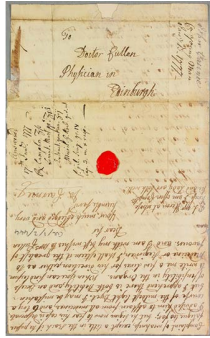


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**health-e-net**  
health equity through access

## History of remote medical consultations



Almost every means of communication\* has been used to request and deliver medical consultations remotely.

### Letters

The Cullen Project (figure, c. 1800)  
<http://www.cullenproject.ac.uk/>

Telegraph Radio  
Telephone Television  
Satellite Email  
Internet Mobile apps

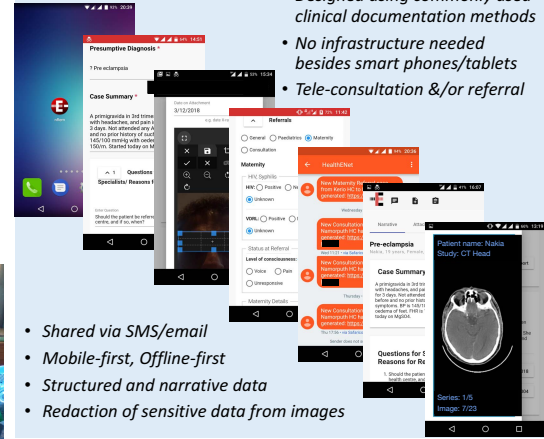
(\*No evidence on use of smoke signals, carrier pigeons)

Yet, tele-consultations are still not a routine part of health service delivery!

## The intervention in Turkana County, Kenya



- In 20 dispensaries/health centres, 2 county hospitals
- Trained >100 non-physician clinicians, 11 physicians
- Network of >90 volunteer remote physicians/specialists
- The **GabrielTRM** app for asynchronous Tele-consultations & Referral Management:

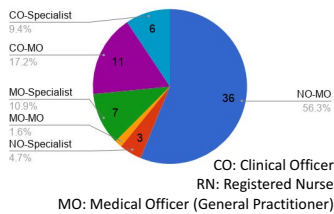


- Designed using commonly used clinical documentation methods
- No infrastructure needed besides smart phones/tablets
- Tele-consultation &/or referral

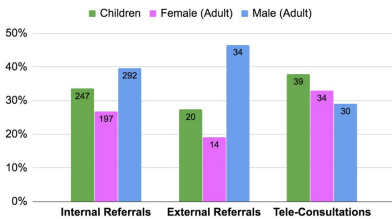
- Shared via SMS/email
- Mobile-first, Offline-first
- Structured and narrative data
- Redaction of sensitive data from images

## The use, impact of tele-consultations in Turkana

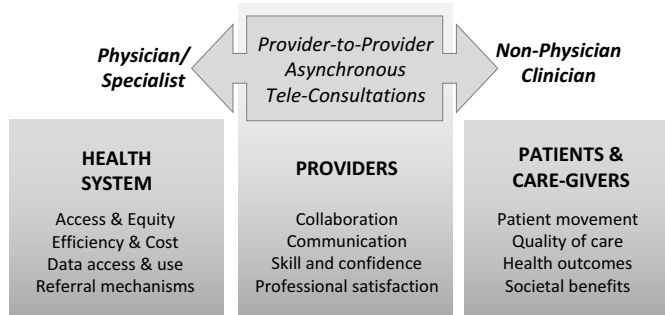
### Tele-consultation use by clinician cadre



### Tele-consultations increase equity in access to physicians/specialists



## Areas of influence of asynchronous tele-consultations



## Appreciative Inquiry (AI)

- Qualitative research design
- AI: iterative process generating data on existing positive elements in a system, while also leveraging these data to accelerate positive change
- Key informant interviews
  - Volunteer physicians & specialists (8)
  - County health administrators (6).
- Focus group discussions
  - Two with non-physician clinicians based in rural dispensaries/health centres (12)
  - One with medical officers (5) based in the Lodwar County Referral Hospital.

## Communication & Collaboration

"It's like we are in one room ... I am able to share in their minds, what they are saying, as if I am with them."

- Nurse, Turkana county

"Even though I am alone, I feel that we are many; I am not alone."

- Nurse, Turkana county

"We are all healthcare professionals. It's not about names now; it's about healthcare professionals delivering services as a team."

- Clinical Officer, Turkana county

## Professional satisfaction

"My patients see me as a professional. They always come back to my health facility because they say they've been helped."

- Nurse, Turkana county

"Sometimes we fall into a routine [in our medical practice] ... but cases from Turkana are different. I'm passionate about paediatrics, so I get excited when I get a call from Health-E-Net. I get excited because it's something different. It's motivating for me."

- Consulting physician, Nairobi

## Improved referral

"In the past I would have said, 'Let's just refer,' but when someone senior tells you, 'No, you know what? It's malaria, let's do this,' or 'It's meningitis, let's do this treatment,' it helps."

- Nurse, Turkana county

"If you get a referral, it helps you prepare. Like one of the referrals was for blood transfusion. Usually we don't have blood in the hospital, but if you know there is somebody coming with severe anaemia, it helps you be ready for the patients."

- Medical Officer, Turkana county

## Skills & Confidence

"I get more knowledge because the doctors or consultants will add more flesh to what I have, to my diagnosis, when they now send the feedback. I am been able to see it and say, 'Ok, I could have done this, I could have done that.' So it adds some more knowledge to me in my experience"

- Clinical Officer, Turkana county

"I don't want to pass on the wrong information, which may affect someone else's life. It's a huge responsibility ... and motivates me to be more knowledgeable."

- Consulting physician, Nairobi

## Altruism in the remote physician network

"The main motivation is helping a child who cannot access a pediatrician."

"I also have worked with the very same lower cadre of health professionals whom I understand work very hard, so I relate with them as partners."

"You are using your knowledge at your own free time; that becomes a very important time for another person and has impact on their lives."

"I am proud to be of help, and I imagine that a patient on that side has benefited from my advice"

Tele-consultations link health professionals based on 'intellectual proximity', overcoming geographical separation.

The implementation of asynchronous tele-consultations is complex, and its areas of influence are wide. It needs to be studied using a broader framework than before.

Altruism is a powerful motivator that can be harnessed to deliver tele-consultations at scale through a distributed network.

Could a 'blood donation' model be used to deliver large-scale, remote physician/specialist consultations?

