



## Non-discriminating Access for Digital Inclusion



# Digital Health Intervention in TZ - Plans and Time Schedule

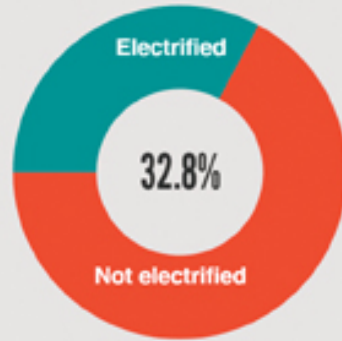
Felix Sukums  
NIMR / MUHAS



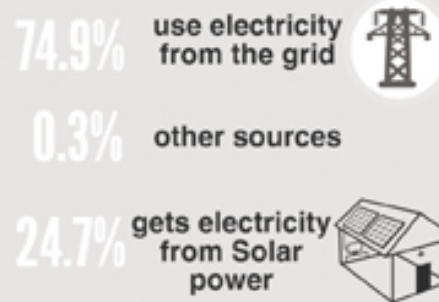
## Electricity access: Whats is happening in Tanzania



Households electrified with any form of energy

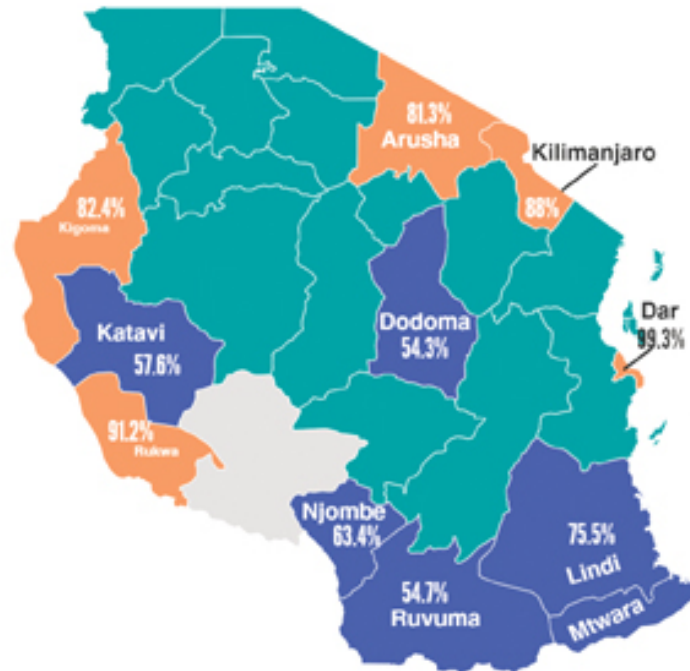


Of the electrified households



# 39%

of households said connection costs were moderate. Only 8% of rural electrified households felt the costs were low while in urban only 2% felt the costs were low



Regions leading with high proportion of households electrified by solar power

Regions with more than 80% of electrified households connected to the grid



# 67.5%

Of the population in Tanzania Mainland has access to electricity



# 49.3%

Only half of the population in rural areas has access to electricity



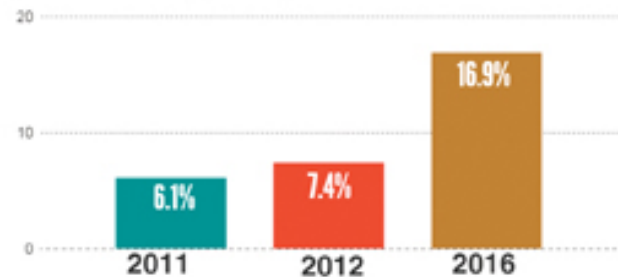
# 97.3%

Nearly all people living in urban areas have access to electricity

## One-quarter

of households use electricity as main source of lighting

Percentage of households connected to electricity of any form in rural areas



Source: Energy Access Situation report 2016 by National Bureau of Statistics (NBS) and Rural Energy Agency (REA)

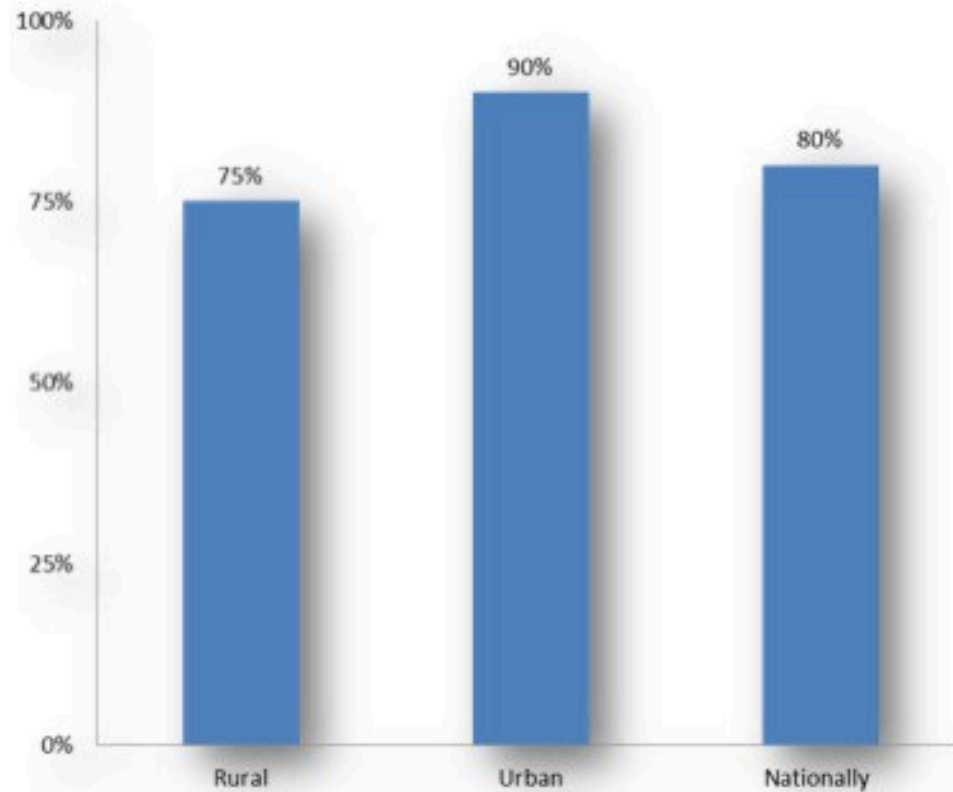
Data analysis and Infographics: Nuzulack Dausen

Twitter: @nuzulack

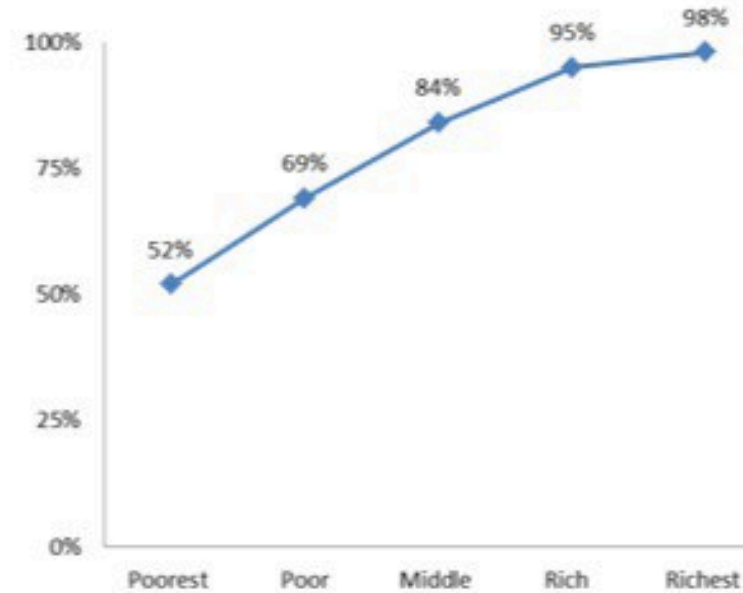
TheCitizenData



# 80% of Tanzanian households own at least 1 mobile phone



Mobile phone ownership at household level across wealth quintiles



Source: Uwazi, Sauti za Wananchi Baseline Survey 2014



# Introduction



CREDIT: GETTY

- In Tanzania, About 40m voice telecom subscriptions (99% via mobile operators)
- About 20m Internet service users (90% via mobile wireless) in 2017 Q1 from 3.7m in 2011.  
*Source: TCRA*
- There is increase in availability of affordable data enabled devices (smartphones and tablets) thus increase in demand for data services.
- Great potential for digital health content and services provision



# Introduction ...

- **Tanzania's Health Sector Strategic Priorities**
  - *"Reach all households with essential health and social welfare services."*
1. Achieve objectively measurable quality improvement of primary health care services, delivering a package of essential services in communities and health facilities.
- Gaps
  - *"Health workers have burdensome tools for data collection and use at the point of care"*.
  - *"Ineffective mechanisms for clients to provide feedback on services received"* - Data Use Partnership, PATH/Tanzania



# Introduction ... Example

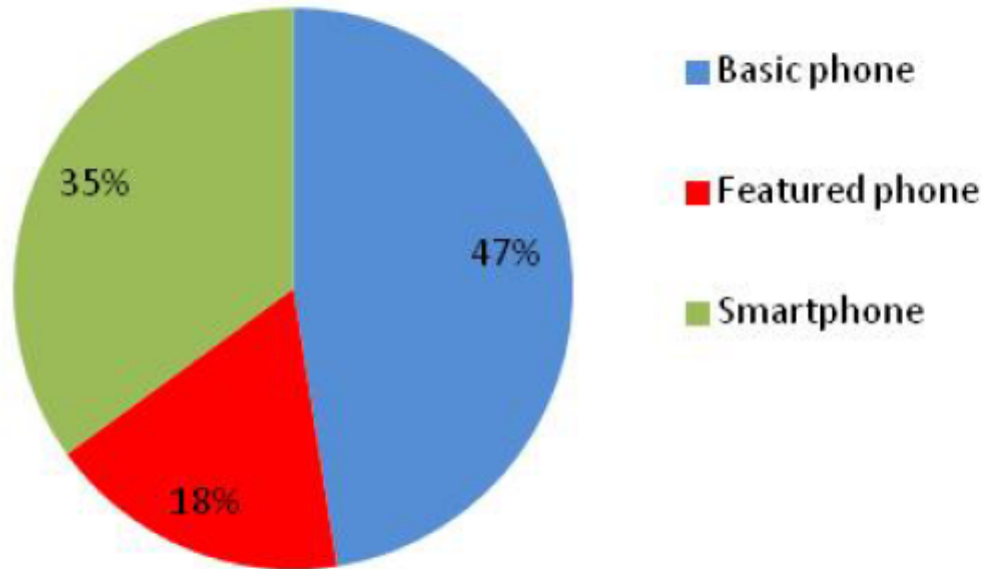
- European Space Agency (“ESA”) Contributes €10.7 Million to Deploy the Avanti ECO Wi-Fi Concept Across Africa
  - Every Child Online (ECO) or Every Community Online
  - ECO is a new **sustainable digital inclusion** initiative focused on providing affordable, superfast satellite broadband to **schools** and their local communities across Sub-Saharan Africa.
  - Solar-powered ECO Wi-Fi hotspots will be hosted at schools that will benefit from subsidised Internet access.
  - CSR and government customers cover the costs of the ECOPOP (Wi-Fi hotspot) and the end user consumer pays bandwidth costs.
  - The ECO App enables users to buy and trade broadband credits
  - 300 schools connected in Tanzania





# Introduction ... Example

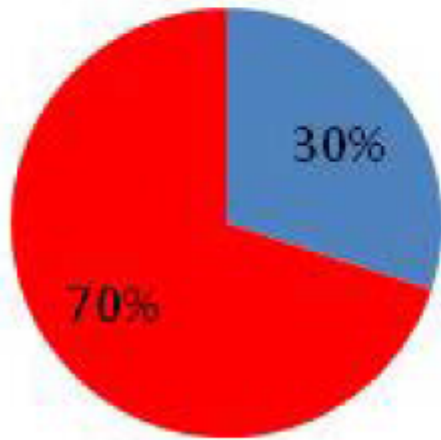
- Mhealth opportunities in Tanzania by Genuchten et al, 2012
  - 41 respondents





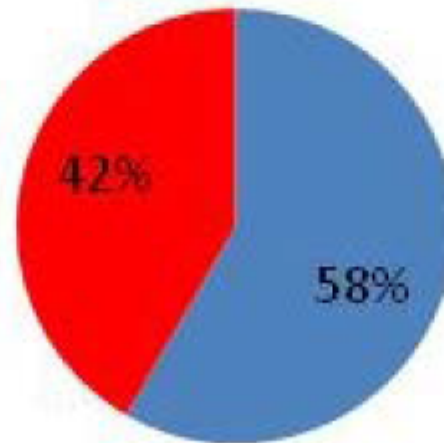
**Have you ever received messages related to health or health prevention?**

■ Yes ■ No



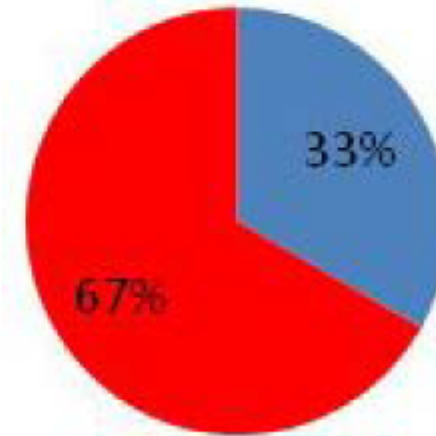
**If yes, did you do something with these text messages?**

■ Yes ■ No



**If yes, did you have to pay for these messages?**

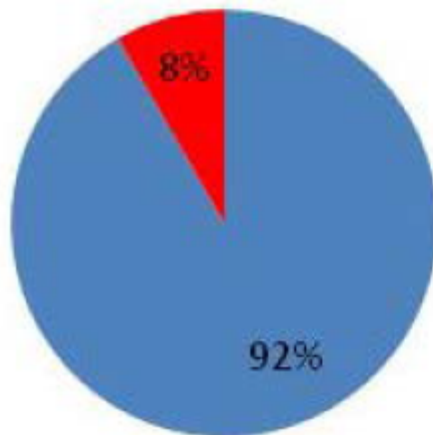
■ Yes ■ No





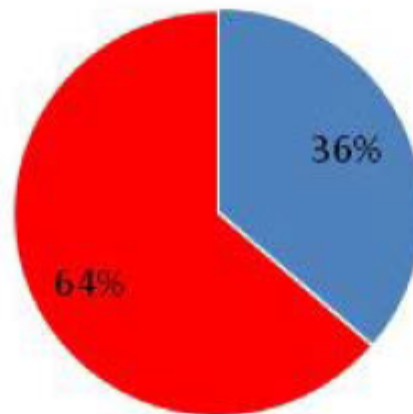
**Did you learn something from these messages?**

■ Yes ■ No



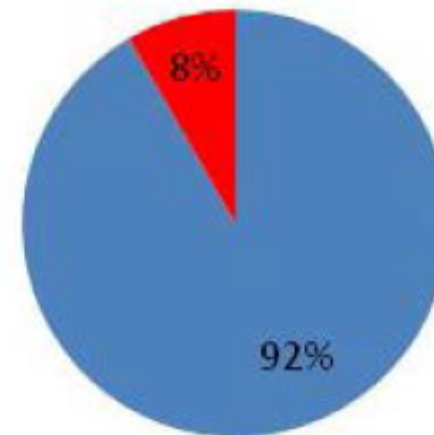
**Did these messages contain enough information to start protecting from the mentioned diseases?**

■ Yes ■ No



**Would you like to receive information about different diseases through text messaging?**

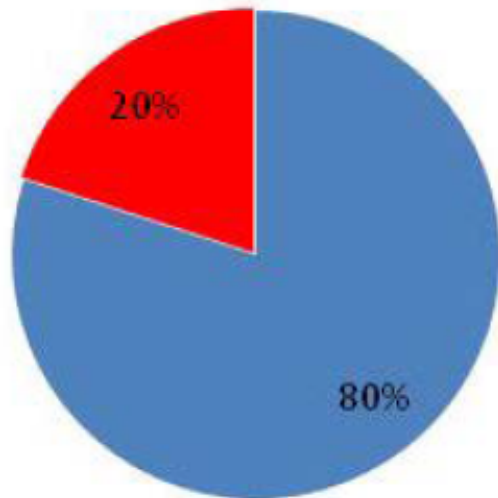
■ Yes ■ No





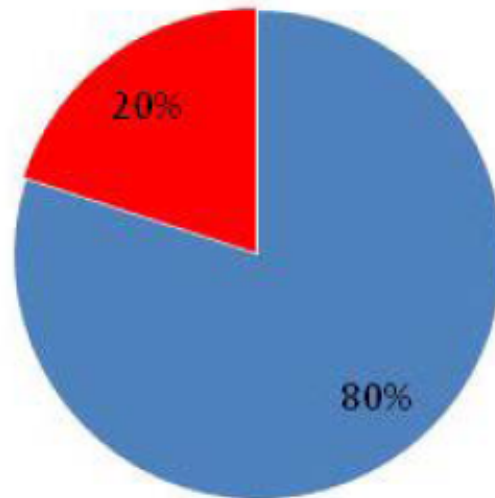
**Would you visit a clinic based on recommendations through a text message?**

■ Yes ■ No



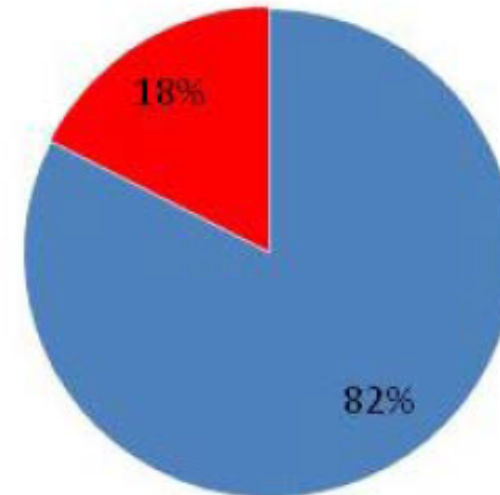
**Would you be willing to pay for text messages related to health or the prevention of health?**

■ Yes ■ No



**Can you remember receiving information through other means of communication related to health?**

■ Yes ■ No





# Digital Health Intervention in Tanzania

- Main objective
  - To design, implement and assess the digital health intervention to improve the KAP, health-seeking behaviour, reporting and magnitude of Taeniosis/Cysticercosis, HIV/AIDS, TB and Anthrax in the selected villages in Tanzania.
- Specific objectives
  - To understand status of Internet connectivity and telecommunications infrastructure in the selected villages/sites
  - To assess KAP, health care seeking behavior and magnitude of HIV, Tuberculosis, Cysticercosis and Anthrax
  - To conduct needs assessment for digital health intervention
  - To develop, and implement a digital health intervention(s)
  - To assess improvements after introducing the intervention(s)



# Content

- What problem are we addressing?
  - No or very low access to health information in rural areas
- What information, which format?, how to access?
- Local digital health information – local server / wifi hotspots/tablets
- SMS based
- Smartphones apps
- Website with multimedia – text, pictures, voice, video/streaming



# Baseline Surveys

- Technical survey
  - To understand the status of Internet connectivity and telecommunications infrastructure
- Health survey
  - To assess KAP, health care seeking behavior and magnitude of HIV, Tuberculosis, Cysticercosis and Anthrax



# Methodology

- Pre-post intervention assessment
- To conduct review of records in the health facilities
- To conduct a community-based, door-to-door cross-sectional study to assess the KAP and health care seeking behavior
  - using mobile device (tablets) data collection tools
- To conduct digital literacy among community members and health workers
- To conduct acceptance/uptake/usability of the digital health intervention



# Baseline Surveys – Expected Findings

- Prevalence proportions of current infection with cysticercosis, HIV, TB and anthrax
- KAP on the cysticercosis, HIV, TB and anthrax on transmission, prevention and control
- Health care seeking behaviour among community members
  - HIV counseling and testing awareness
  - Promote HIV testing and TB screening
- Availability and accessibility of the National guidelines, training materials and policy at the health facilities



# Digital Health Intervention

- To increase KAP and health care seeking behavior among community members in the selected villages
  - Digital Health information about HIV, TB, Cysticercosis and anthrax to be provided to the community using **mobile apps, text messages (sms), website (multimedia), and local server.**
  - **BYOD and Tablets in the kiosks**
- To provide decision support tools and digital content to Health workers
  - Digital national treatment guidelines, policy and training manuals to the health workers using **mobile apps, text messages (sms), and website (multimedia)**

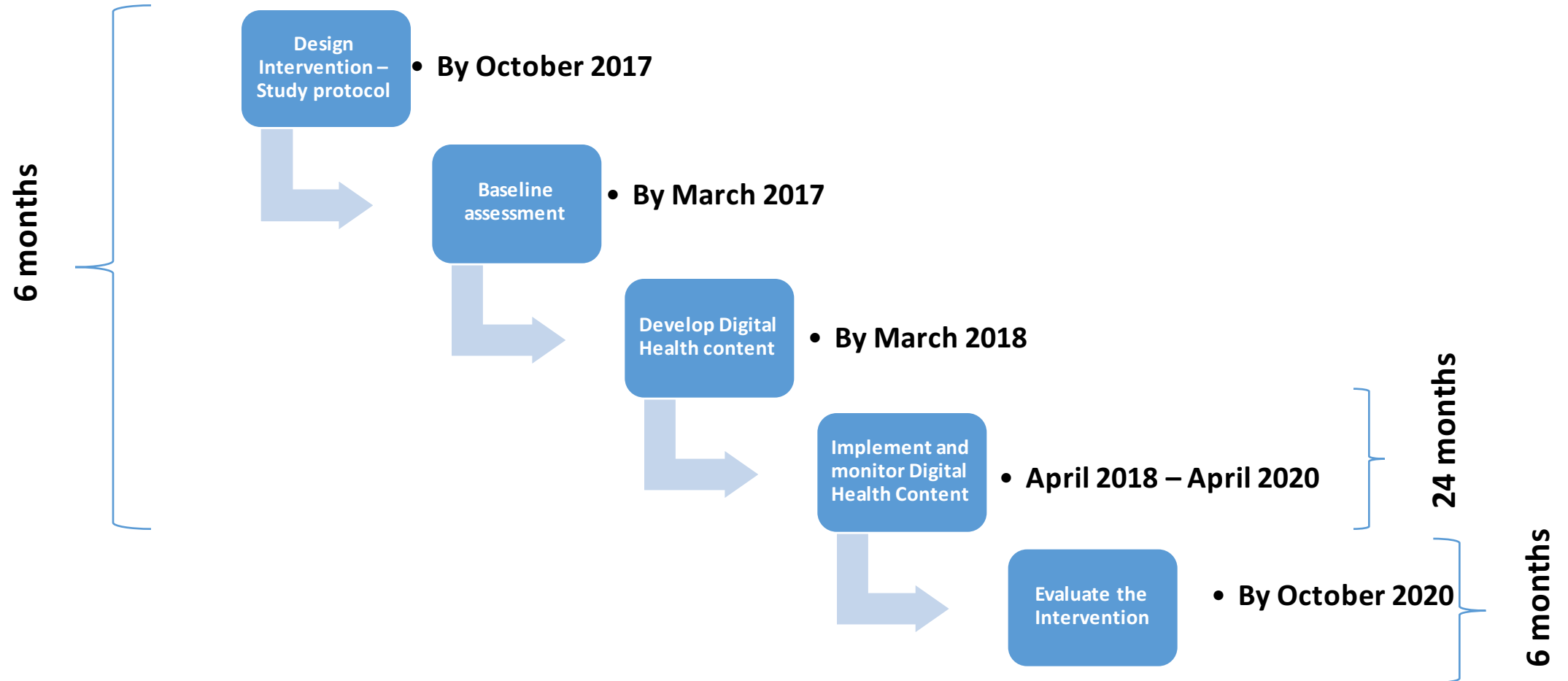


# Activities

1. Finalize Digital health intervention design/protocol including detailed/revised work plan and budget
2. Apply for ethnical clearance from NIMR/COSTECH
3. Conduct baseline surveys
  1. To understand status of Internet connectivity and telecom coverage in the villages
  2. To establish KAP on the selected diseases
  3. To understand knowledge/digital literacy of population on the use of digital health
4. Negotiation and agreement with Internet service providers/Telecom operators
5. Supply, Install and maintain/manage Internet connectivity and systems/
6. Design and develop digital content/mHealth apps and text messages
7. Review and approve digital health content(education materials/guidelines)
8. Implement and monitor mHealth intervention
9. Conduct endline assessment of the intervention



# Digital Health Plan/Schedule





# Open questions

- How will baseline findings inform mHealth apps development?
  - Needs of the health workers and community
- How to package digital content ? An mHealth app/SMS for each disease or one for all 4 disease?
- Will the digital health content be accessible to only the selected villages or beyond?
- How to overcome illiteracy among community members – ability to read Kiswahili/English?
- How to address Technophobia?
- How to motivate community members to participate in the intervention?



Asanteni sana  
Vielen dank  
Tusen takk

