Interoperability of data management system to support COVID response in Malawi

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A case of Chipatala Cha Pa Foni - CCPF
Primary Services

Hotline
• Professionally-staffed, free hotline providing COVID-19, health and nutrition information
• 24 hours / 7 days a week
• Calls free on an Airtel phone

Mobile Messaging
• Voice messages available for those with personal phones on COVID-19 and MNCH, Adolescent Health (SRH) and Nutrition
• Dial-in to retrieve messages from any Airtel phone for those without personal phones
Concerns about COVID is the most common reason for calling; many people just want information

Myths and Misconceptions:

On the existence of the virus
- COVID-19 is affecting only those in town, the rich, white people
- No COVID-19 in Malawi, just politics

On transmission and effects
- COVID-19 is transmitted through air. The air from China transmitted the infection to other countries
- COVID-19 is not transmittable
- Those affected are having maggots from their mouth, eyes and ears

On cure
- Some claim to have found cure and need government’s approval
- Herbs are able to cure COVID-19
- Taking alcohol can prevent COVID-19

Hotline FAQs
- How do I differentiate COVID-19 and other infections?
- Do mosquitos spread COVID-19?
- What happens at Quarantine?
- What is the treatment for COVID-19? How are people getting cured?
- How can couples maintain social distance?
- Why is government not testing everyone?
CCPF data answers questions about who, what, why and how

**WHO**
Client age, sex, occupation

**WHERE**
Client location, nearest health facility

**WHY**
Client reason for calling, symptoms

**HOW**
Platform choice for obtaining information, number and types of messages accessed, calls answered

**WHAT**
Call outcomes, advice dispensed etc.
Use of the CCPF has increased dramatically since the onset of COVID-19 and the introduction of COVID-19 services

Since February 2020, attempts to reach per day have grown by over 500%.

Since February 2020, the hotline has answered ~150 more calls per day.

Since February 2020, ~3000 more callers hear an IVR message per day.
Over the past year, we have made hotline data accessible and digestible allowing for decision-making.

- **2019**: Raw data on hotline portal. Cumbersome to analyze and visualize data.
- **Early 2020**: PDF Weekly Reports with information on call volume and call timing to drive operational decisions.
- **End 2020**: Automated Dashboard with call volume, client profile and client health data to drive operational and strategic decision making.
Data from the dashboard has helped make process changes

Call Interaction
- Exploratory analysis has identified opportunities to streamline call trees and improve data completeness

Call Volume
- Data on volume of calls received and calls answered has informed hotline staffing decisions

Caller Intent
- Data on caller questions has helped understand public questions and concerns about COVID-19
Misconceptions: Concerns about COVID is the most common reason for calling; many people just want information (1/2)

- **Existence of Virus**
  - COVID-19 is affecting only those in town, the rich, white people

- **Transmission**
  - COVID-19 is not transmittable

- **Symptoms**
  - Those affected are having maggots from their mouth, eyes and ears

- **Cure / Treatment**
  - Herbs are able to cure COVID-19
  - Taking alcohol can prevent COVID-19
FAQs: Concerns about COVID is the most common reason for calling; many people just want information (2/2)

- How do I differentiate COVID-19 and other infections?
- Do mosquitoes spread COVID-19?
- What happens at Quarantine?
- What is the treatment for COVID-19?
- Why is government not testing everyone?
These concerns and misconceptions heard on CCPF are used to inform COVID communication strategies.

**MISCONCEPTIONS**
- COVID-19 is affecting only those in town, the rich, white people
- No COVID-19 in Malawi, just politics
- COVID-19 is transmitted through air. The air from China transmitted the infection to other countries
- COVID-19 is not transmittable
- Those affected are having maggots from their mouth, eyes and ears
- Cure has been found and needs government approval
- Herbs are able to cure COVID-19
- Taking alcohol can prevent COVID-19

**QUESTIONS**
- COVID-19 is affecting only those in town, the rich, white people
- No COVID-19 in Malawi, just politics
- COVID-19 is transmitted through air. The air from China transmitted the infection to other countries
- COVID-19 is not transmittable
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- Cure has been found and needs government approval
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**Govt public communication strategies**

**Content to add on Interactive Voice Message Service**
With increased volume of calls and volume of data, we can learn more. . .

Heat Maps
to help demonstrate where calls are coming from

Disease Modelling
to project disease patterns based on caller data
OHSP & NATIONAL HMIS INTEGRATIONS

Integrating with the MoH platforms

- DHIS2 was adopted by the ministry of health in Malawi as the national health data warehouse

- With the Advent of COVID19 the ministry of Malawi, in partnership with UNICEF, activated a DHIS2 Tracker program instance (OHSP) for surveillance purposes and provided room for extension via the Interoperability layer (IL)

- To integrate the OHSP/HMIS with various applications, IL channels are provided for specific use cases (CCPF, mQuarantine etc.) for both patient and aggregate level data

- CCPF Use cases
  - Periodic aggregate level data migration into the HMIS
  - Patient level data into OHSP
End users engage using Mobile Phone

Aggregate data is transferred via Application Program Interfaces (APIs) to the Interoperability Layer (IL).

Actions are taken and the data is stored in the National HMIS (DHIS2) central repository.

This includes:
- Data staging
- Record verification and approval
- Assignment to relevant programs
Thank you