



# Interoperability of data management system to support COVID response in Malawi

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**16<sup>th</sup> TechNet Conference**

Shaping a resilient and adaptive immunization program

# Interoperability of Data Management System to Support COVID Response in Malawi

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

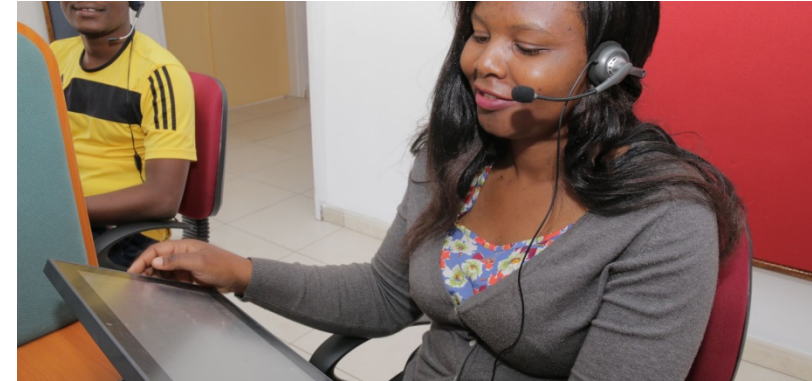
- COVID-19 is affecting only those in town, the rich, white people
- No COVID-19 in Malawi, just politics

### 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

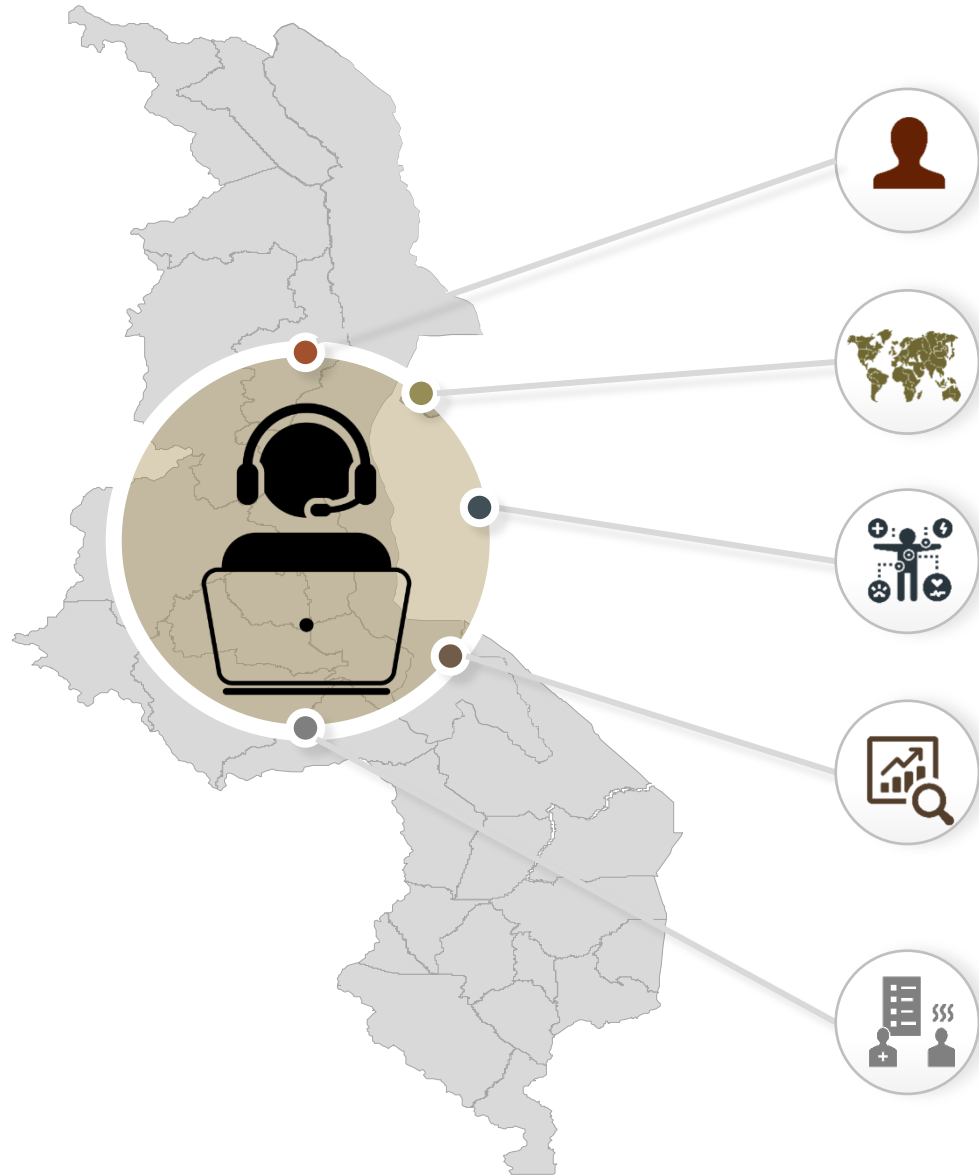
- Some claim to have found cure and need government's approval
- Herbs are able to cure COVID-19
- Taking alcohol can prevent COVID-19 19



## 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**

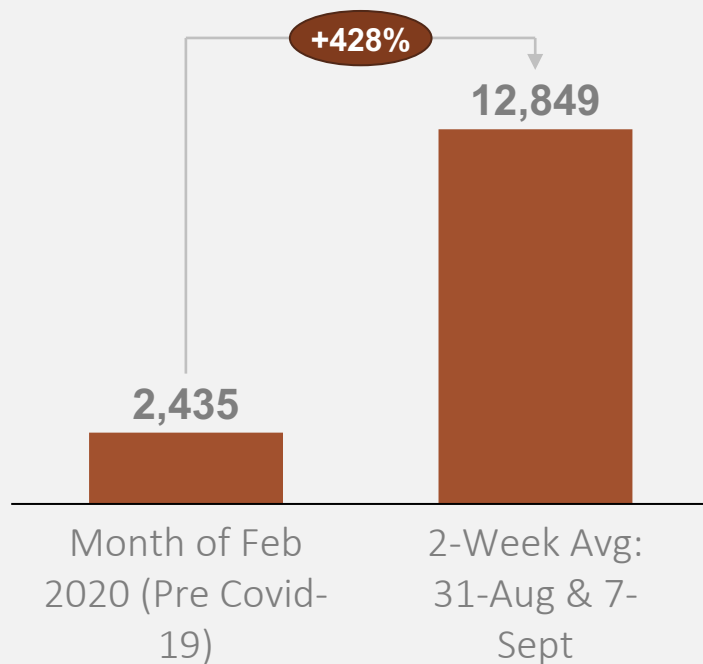
Platform choice for obtaining information, number and types of messages accessed, calls answered

## **WHAT**

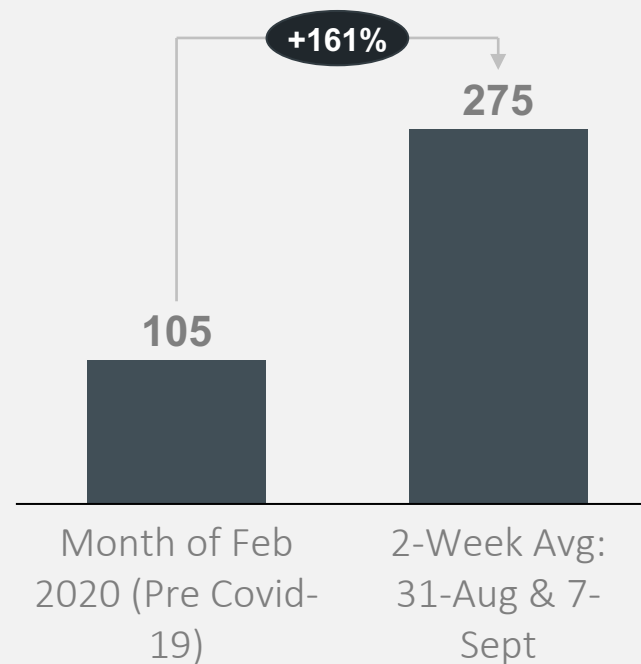
Call outcomes, advice dispensed etc.

# Use of the CCPF has increased dramatically since the onset of COVID-19 and the introduction of COVID-19 services

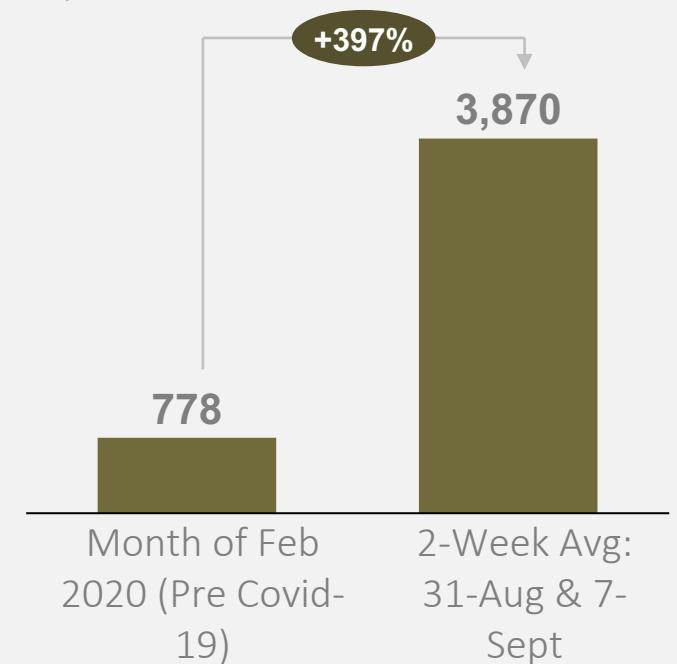
Since February 2020, **attempts to reach** per day have grown by over 500%



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

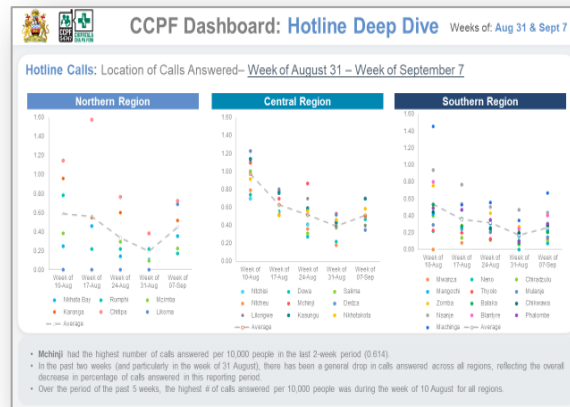
Raw data on hotline portal

Cumbersome to analyze and visualize data.

Client	Call Type	Status	...
Client A	Call Type X	Completed	...
Client B	Call Type Y	Cancelled	...
Client C	Call Type Z	Completed	...

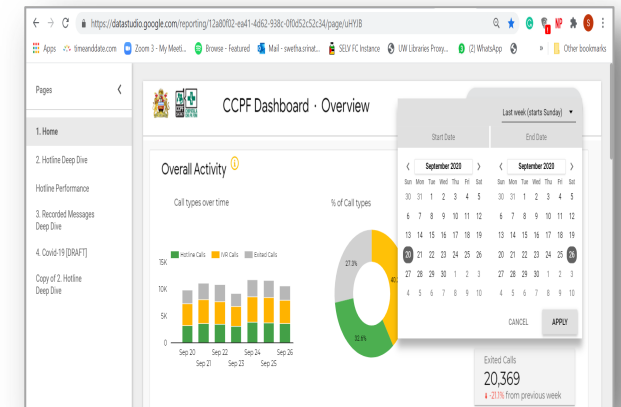
Early 2020

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)

○ *COVID-19 is affecting only those in town, the rich, white people*

Existence  
of Virus

○ *COVID-19 is not transmittable*

Transmission

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

Symptoms

- *Herbs are able to cure COVID-19*
- *Taking alcohol can prevent COVID-19*

Cure /  
Treatment

# 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 mosquitos 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
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## QUESTIONS

- COVID-19 is affecting only those in town, the rich, white people
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Govt public communication strategies

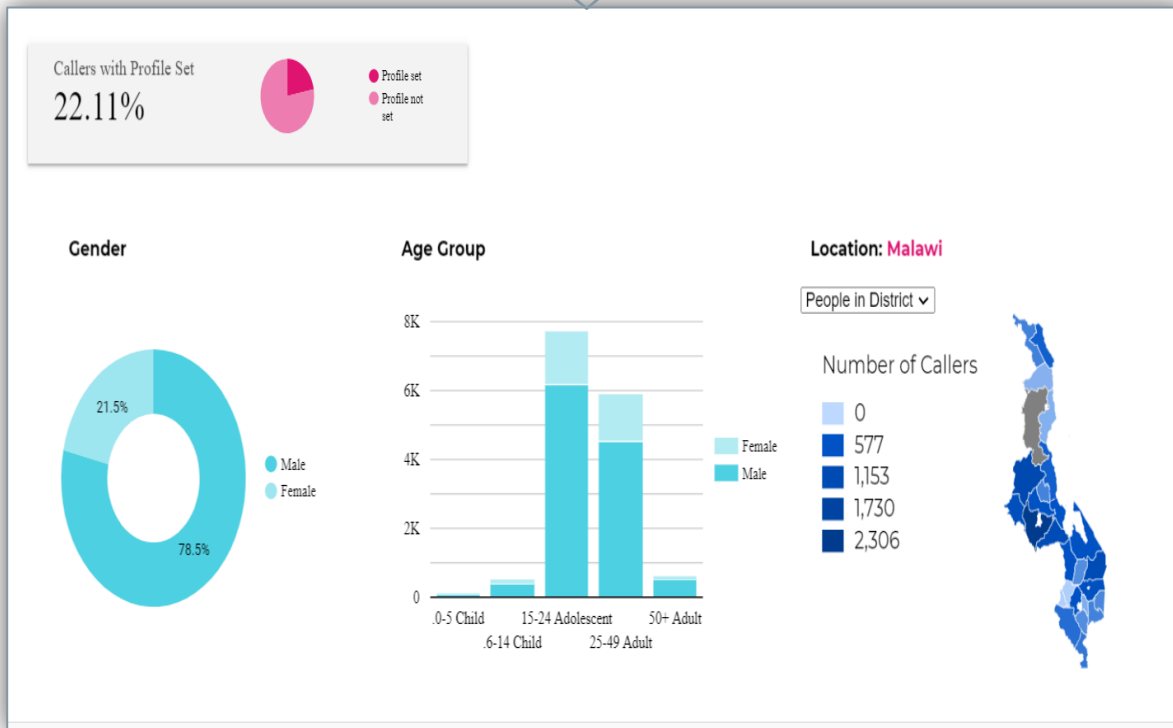


Content to add on Interactive Voice Message Service

# With increased volume of calls and volume of data, we can learn more...

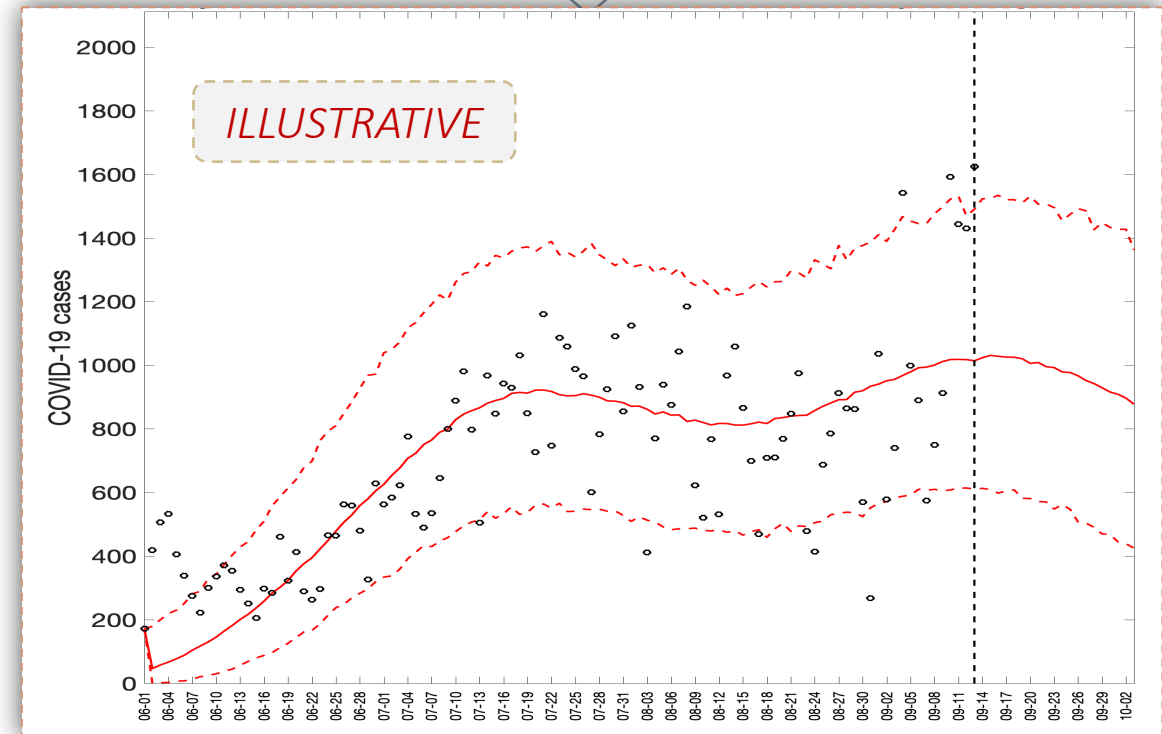
## Heat Maps

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

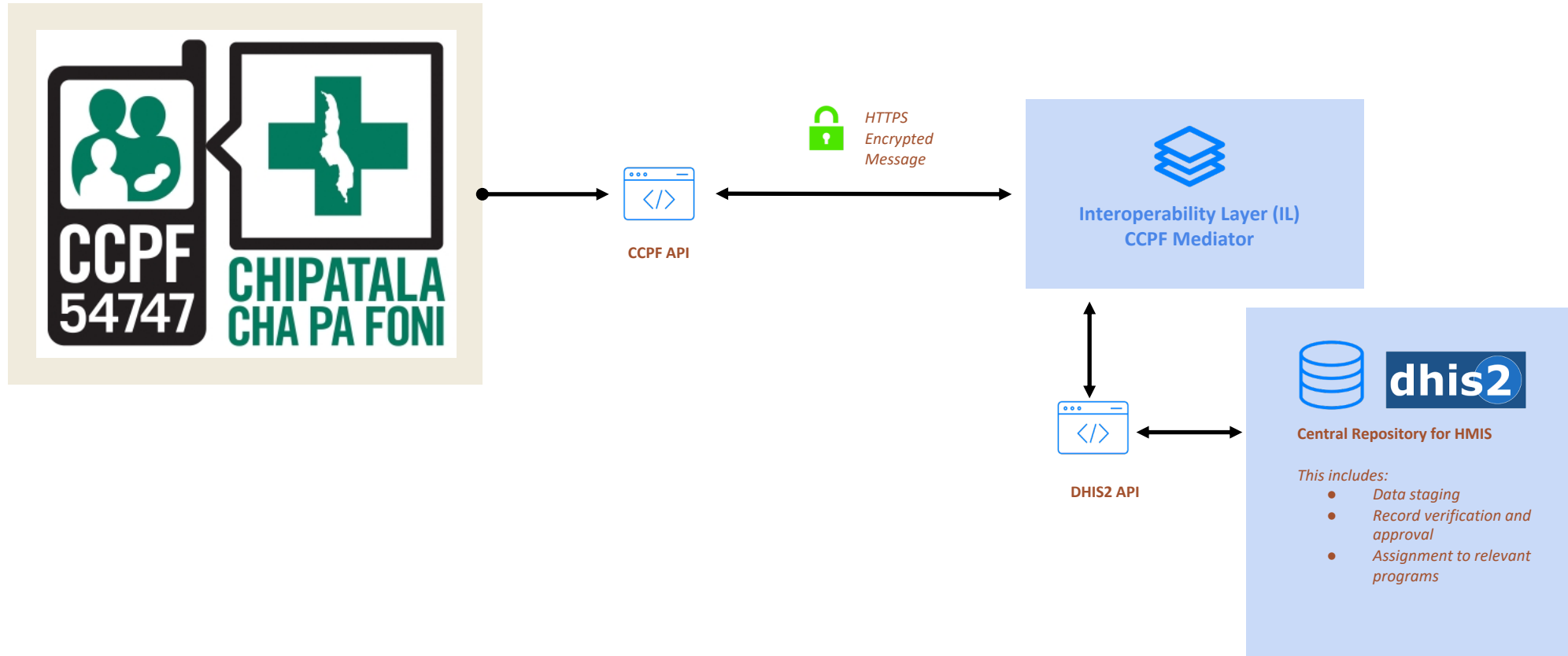
- DHIS2 was adopted by the ministry of health in Malawi as the national health data warehouse
- With the Advent of COVID19 the ministry of Malawi, in partnership with UNICEF, activated a DHIS2 Tracker program instance (OHSP) for surveillance purposes and provided room for extension via the Interoperability 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

# CCPF-HMIS Interoperability (Aggregate Data)

1 End users engage using Mobile Phone

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

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





Thank you