



# Digital Square Webinar: Global Good COVID-19 Adaptations Part II (DHIS2 and mHero)

October 7, 2020

# Agenda

- Welcome and Opening - Bianca Poll (5 min)
- DHIS2 - Zeferino Saugene (20 min)
- mHero - Caitlin Loehr (20 min)
- Questions & Closing (15 min)



Zeferino Saugene  
(Saudigitus/HISP Mozambique)

# **DHIS2 COVID-19 Package Adoption**

Experiences from the Lusophone Africa Countries

Zeferino Saugene  
Saudigitus (HISP Mozambique)

# Outline

- Introduction
- DHIS2 COVID-19 Package
- Extensions and Developments
- Local Innovations
- Concluding Remarks

# Introduction

- The DHIS2 COVID-19 Package
  - Is a digital data tool that allows the registration of suspected cases and their contacts, as well as the active surveillance of patients.
  - Developed using case-based disease surveillance standards and WHO guidelines on COVID-19.
  - Provided by the University of Oslo, its technical partner in the implementation of DHIS2.
  - Adopted by the five Lusophone Africa Countries (Angola, Cape Verde, Guinea-Bissau, Mozambique and Sao Tome Principe)
  - Some more successful than others

## DHIS2 COVID19-Package Adoption

- The adopted package was mainly used for:
  - Screening at point of entry
  - Health quarantine for negative cases.
  - Suspected and confirmed investigation form
  - Laboratory testing
  - Health isolation and follow-up for positive cases.



The screenshot displays the DHIS2 COVID-19 package interface. On the left, a list of packages is shown, with 'COVID-19 Rastreio nos Pontos de Entrada' selected. On the right, the detailed view for 'COVID19\_0011573 GUB-CAC-ING-003' is shown, including the case registration date (2020-05-05) and a list of events.

**COVID-19 Rastreio nos Pontos de Entrada**

- COVID-19 Rastreio nos Pontos de Entrada
- COVID-19 Registo de Contatos e Acompanhament
- COVID-19 Vigilancia Baseado no Caso

**COVID19\_0011573 GUB-CAC-ING-003** Margarida

Case Registration Date: 2020-05-05  
Enrolling OU: Cabo Delgado

[SEE DETAILS](#) [SHARE](#)





Event	Date
Estágio 1 - Exame clínico e diag...	2020-05-08
Estágio 2 - Solicitação de labora...	2020-05-07
Estágio 3 - Resultados do labor...	2020-05-07
Estágio 4 - Resultado	2020-05-08

## DHIS2 COVID19-Package: Extension & development







- The package was extended to cover areas, such as:
  - Hotline information (Call Center)
  - Inpatient case management
  - Positive case tracking
  - Health Facility Assessment (Checklist)
  - Infection Prevention and Control (IPC) for COVID-19 Assessment;
  - Assessment of risk factors for coronavirus disease 2019 (COVID-19) in health workers


### Surveillance Programs


Selecionar o programa

-  COVID-19 Rastreo nos Pontos de Entrada
-  COVID-19 Registo de Contatos e Acompanhamento
-  COVID-19 Seguimento na Comunidade
-  COVID-19 Vigilância Baseado no Caso
-  COVID19 - Rumores
-  COVID19 Internamento

Selecionar o programa

-  Covid-19 | Notificação de casos
-  Covid-19 | Notificação de casos [Tracker]
-  Covid19 Triage
-  IRA| Infecção Respiratória Aguda
-  eVIDR
-  [Covid19] - Checklist

**Avaliação rápida de Prevenção e Controle de Infecção| SCORECARD**  
9 events

**COVID19 – Avaliação de Risco de Exposição ao Vírus SARS-CoV-2 |Profi...**  
4 Person



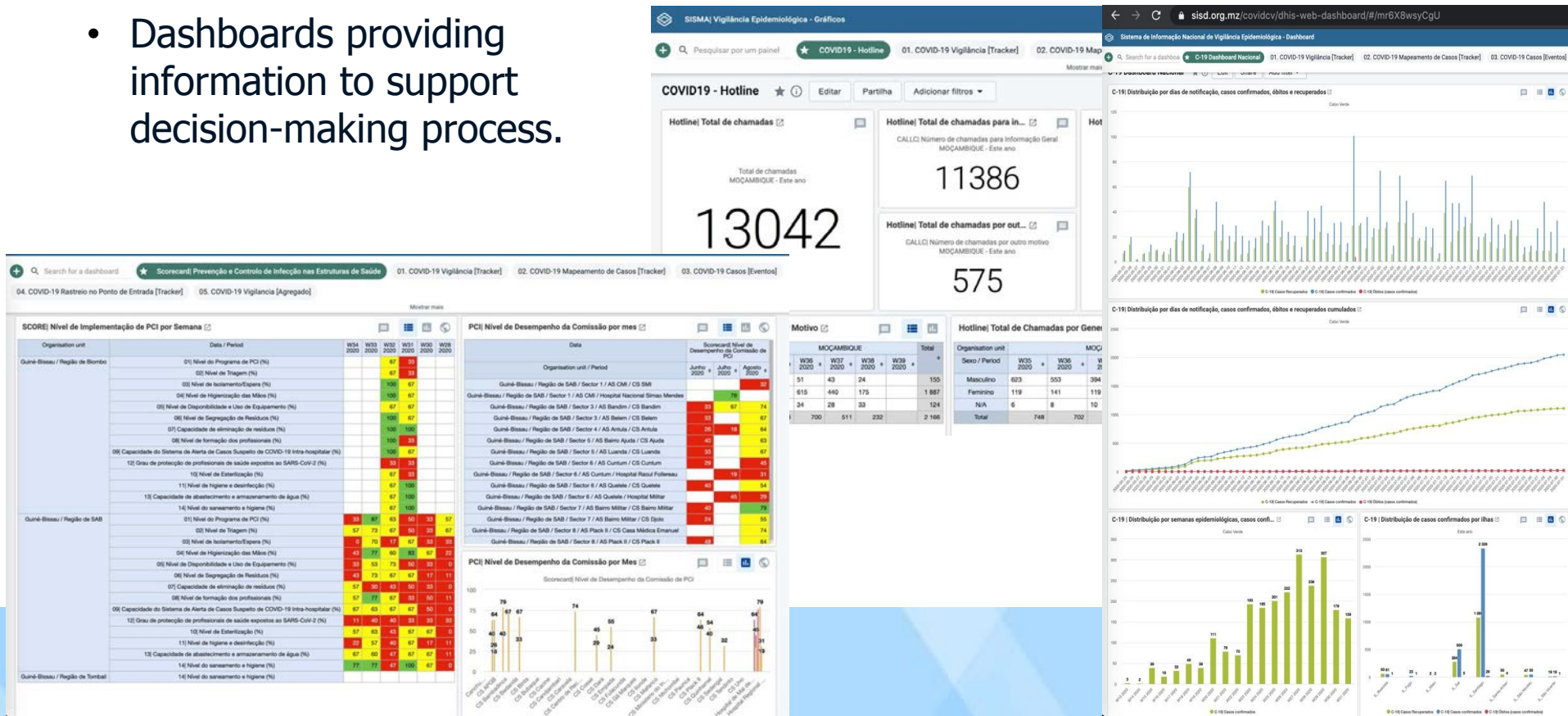
# Individual level Data and Aggregated level Data

- PCs were used (web app)
  - National level,
  - Regions
  - Provinces
  - Districts
- Tablets and mobile devices were used (Android app):
  - Regions
  - Provinces
  - Districts
  - Facilities
  - Points of Entry



# Data Democratization: Dashboard with real time data

- Dashboards providing information to support decision-making process.



# Data Democratization: Statistics sharing with the public

- Web portals developed and linked with DHIS2;
- Routinely data was extracted from DHIS2 COVID19 database and send to the web for public consumption



# Local Innovations: Case Tracing App

CONTACTOS

TRANSFERENCIAS

EXAMES

Lista dos Transferidos

OrgUnit	Enrollment Date	ID do Caso (gerado pelo sistema)	ID do Caso (local)
MAPUTO PROVINCIA	15-04-2020	COVID19_0000219	51 (Caso 2)

- Based on referral model from DHIS2 Tracker we produced this case tracing app;
- Detailed information for each infected person is provided and linked to each orgunit providing services;

Detalhes de Caso de Índice

OrgUnit: MAPUTO PROVINCIA

ID do Caso (gerado pelo sistema): COVID19\_0000219

MOSTRAR MAIS

← Detalhes da Transferencia

12 de Mai de 2020 MAPUTO PROVINCIA | Estágio 2 - REGISTO DE AMOSTRAS

Amostras Spx - Data de Colheita  
2020-04-12  
Data de Envio da Amostra ao Laboratório  
2020-04-12  
Spx Tipo de teste  
PCR  
Motivo do teste de laboratorial  
Contact of a case  
Spx Tipo de amostra  
Nasopharyngeal swab

15 de Mai de 2020 MAPUTO PROVINCIA | Estágio 3 - RESULTADOS DE AMOSTRAS

Resultado do teste de laboratorial  
Positiva  
Data do resultado do teste laboratorial  
2020-04-15  
Spx Tipo de teste  
PCR  
Spx Tipo de amostra  
Nasopharyngeal swab

15 de Mai de 2020 MAPUTO PROVINCIA | Estágio 1 - INFORMAÇÃO CLÍNICA DO CASO

Trabalhador de saúde  
No  
Contacto com Casos Confirmados  
Yes  
Gravidez  
No  
Sinais/Sintomas - Presente  
No  
Visita Centro de Saúde  
Unknown  
COVID-19 Data de início calculada (para indicadores)  
2020-04-15  
Contacto Caso Confirmado ID1  
0001 - IGOR  
Viagem 14 dias antes do início  
Yes  
País de Exposição  
IT

# Local Innovations: Contact Tracing App

CONTACTOS					
TRANSFERENCIAS					
EXAMES					
Lista dos Casos Confirmados					
Enrollment Date	ID do Caso (gerado pelo sistema)	Sexo	Idade	Telefone (local)	Contacts ↓
11-07-2020	COVID19_0092562	Female	29	821986188/843220197	46
14-07-2020	COVID19_0107902	Female		849903240/843092359	40
			29	847770101/850148849	29

Detalhes de Caso de Índice  
OrgUnit: MAPUTO CIDADE  
ID do Caso (gerado pelo sistema): COVID19\_0092562

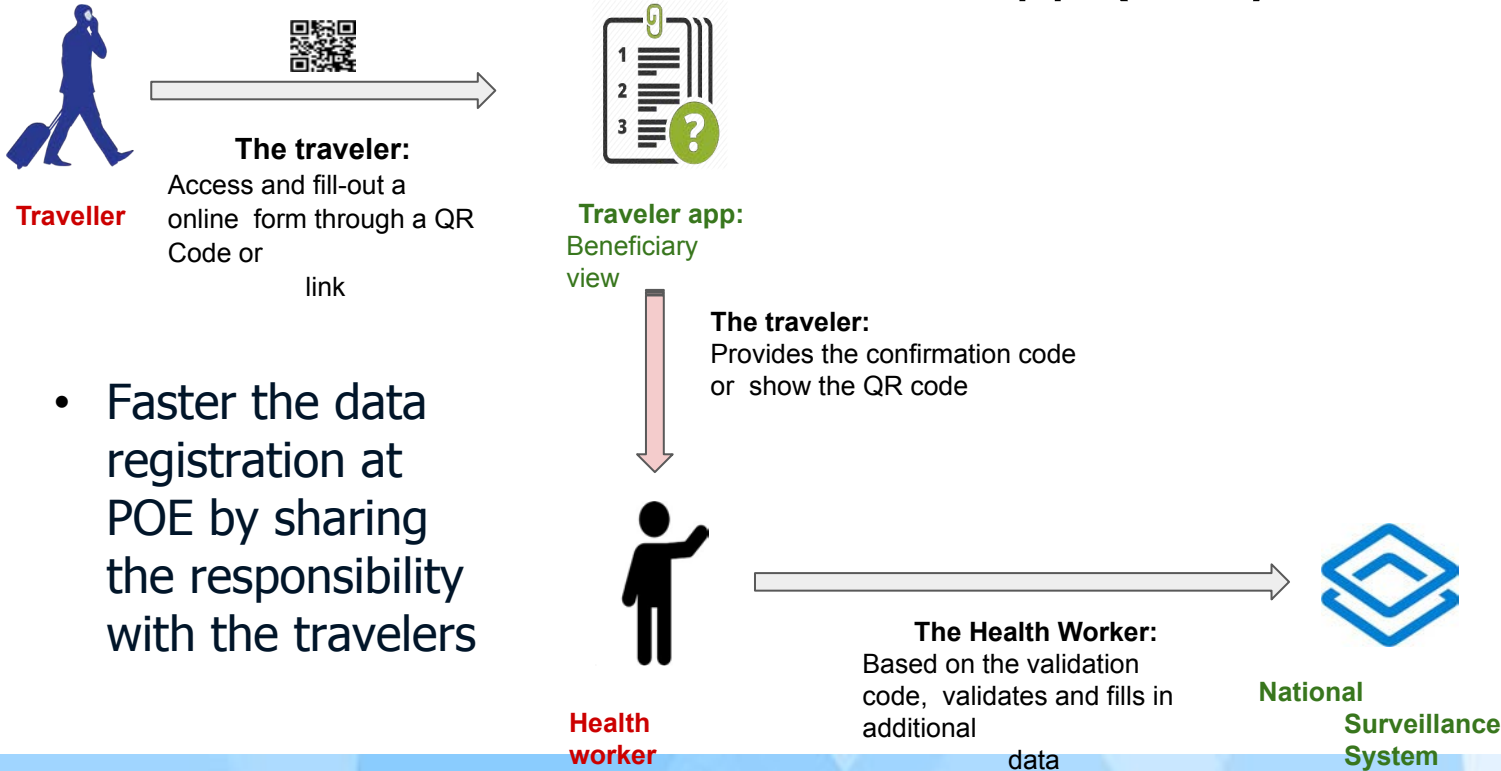
MOSTRAR MAIS

← Lista dos Casos Confirmados

OrgUnit	ID do Caso (gerado pelo sistema)	Sexo	Idade ↓
MAPUTO CIDADE	COVID19_0092566	Male	58
MAPUTO CIDADE	COVID19_0092577	Male	58
MAPUTO CIDADE	COVID19_0092567	Female	54
MAPUTO CIDADE	COVID19_0092604	Male	47
MAPUTO CIDADE	COVID19_0092580	Female	37
MAPUTO CIDADE	COVID19_0092579	Male	35
MAPUTO CIDADE	COVID19_0092605	Female	34
MAPUTO CIDADE	COVID19_0092607	Female	34
MAPUTO CIDADE	COVID19_0092601	Female	33
MAPUTO CIDADE	COVID19_0092565	Male	33
MAPUTO CIDADE	COVID19_0092573	Male	26
MAPUTO CIDADE	COVID19_0092576	Female	23
MAPUTO CIDADE	COVID19_0092574	Female	2
MAPUTO CIDADE	COVID19_0092578	Male	17
MAPUTO CIDADE	COVID19_0092572	Female	16
MAPUTO CIDADE	COVID19_0092571	Female	13
MAPUTO CIDADE	COVID19_0092570	Female	11
MAPUTO CIDADE	COVID19_0092568	Male	10

- Using the DHIS2 Tracker relationship model we produced this contact tracing app;
- The app provide detailed contact tracing list is provided for each infected person

# Local Innovations: Traveller App (Entry Points App)



## Local Innovations: Lab result printing app

CONTACTOS
TRANSFERENCIAS
EXAMES

Pesquisar

Download
Menu

Lista de pacientes submetidos a Exames

OrgUnit	ID do Caso (gerado pelo sistema)	Sexo	Idade	Exames ↓	
CS SMI	COVID19_0032014	Male	63	5	Info
CS SMI	COVID19_0024654				

Detalhes de Caso de Índice

OrgUnit: CS SMI

- Developed based on stage 3 of the CBS program of the DHIS2 COVID19 package
- Extended the Index case app to add the list of exams
- PDF files with digital signatures and barcodes are generated by health professionals

**Detalhes de Caso de Índice**

OrgUnit: CS SMI

ID do Caso (gerado pelo sistema): COVID19\_0032014

[MOSTRAR MAIS](#)

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Morada: Chao De Papel

Laboratório: Universidade Jean Piaget da Guiné-Bissau

Telefone de Pessoa a Contactar:

Responsável do laboratório:

### Boletim de resultados

Amostra	Data da Colheita	Análise	Resultado	Data
Oropharyngeal swab		PCR	Positivo	18/06/2020



Validação Institucional





Validação técnica



ata

i/06/2020

i/07/2020

i/07/2020

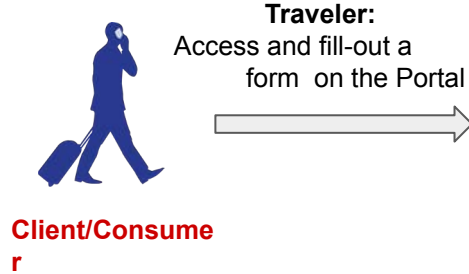
i/08/2020

i/08/2020



# Local Innovations: Lab request and result validation

2020 Global Good COVID-19 Adaptations



AC COVID-19

Sistema de Informação para a Vigilância Epidemiológica

Se já foi testado para a Covid-19, introduza os detalhes que se seguem para continuar.

Número de telefone: \*

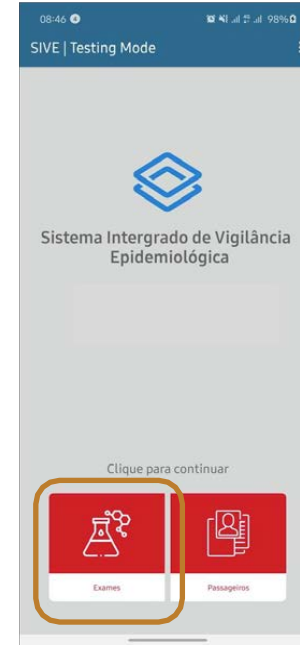
Referência: \*

Continuar

Cancelar



**National Surveillance System**



SIVE | Testing Mode

Dados gerais

Referência COVID19\_0081063

Nome Completo

Sexo Masculino

Idade 38

Nº de telemóvel

Morada Chão de Papel Vanta

Detalhes do Exame

Data da colheita

Tipo de amostra Oropharíngeal swab

Data do resultado 15/07/2020

Resultado Negativo

Verificar o historico

**Health worker**



**Migration Officer**



- Easy access to lab result;
- Allow validation of lab results, and reduce falsification



# Concluding Remarks

- Main challenges:
  - Engaging with stakeholders
  - User Training
  - Connectivity
  
- Strategies/success factors
  - Partnerships
  - Engaging with new stakeholders
  - Local innovations
  - Community of Practice

## Q&A

# Thanks

**Zeferino Saugene**  
**[zsaugene@saudigitus.org](mailto:zsaugene@saudigitus.org)**  
**Saudigitus (HISP Mozambique)**



Caitlin Loehr



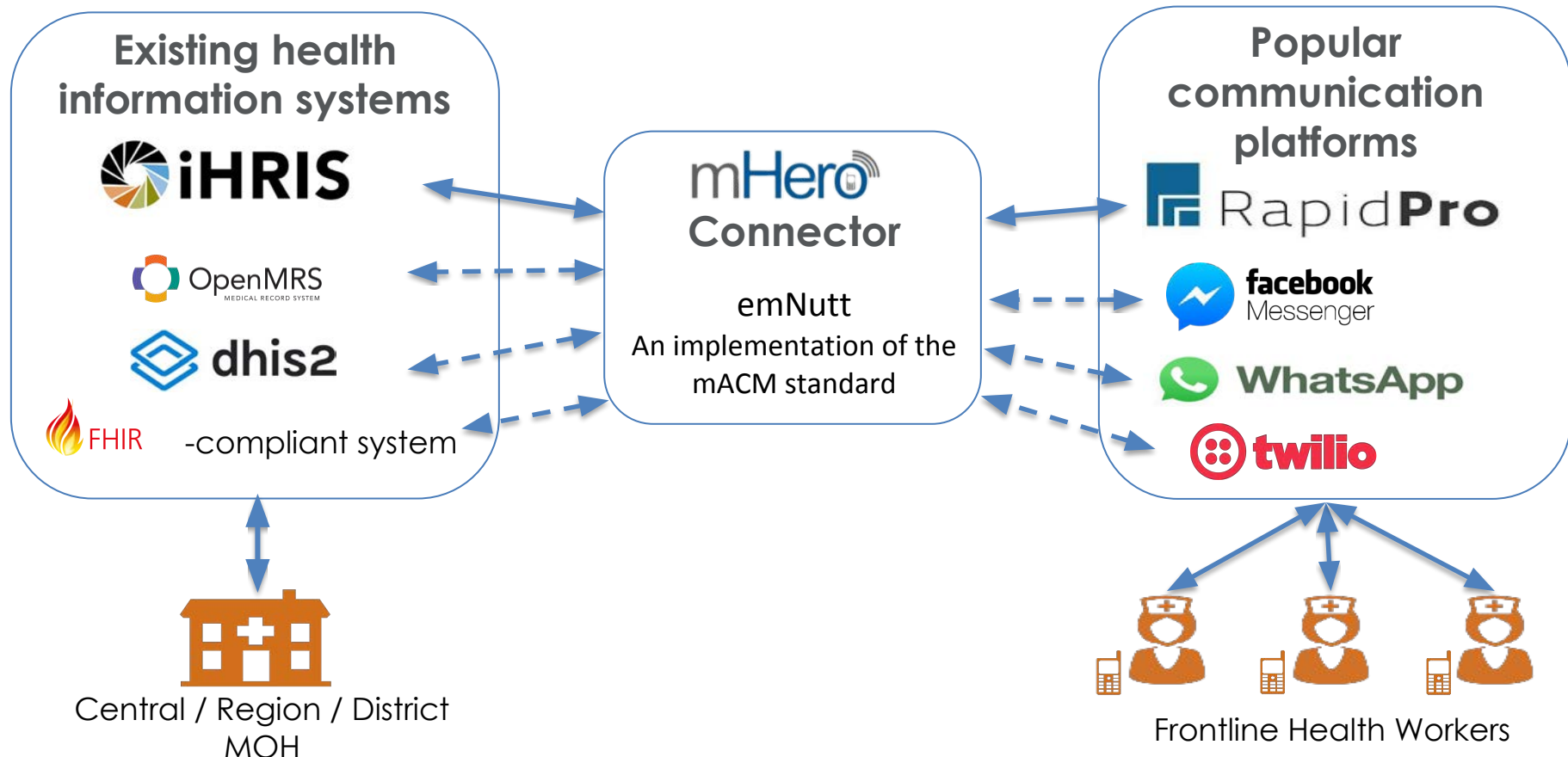
# Strengthening National Health Workforce Communication for COVID-19 Response



# What is mHero?

- **Connects** health workers to their support at all levels of the health system
- **Communicates** information about on-the-ground needs in real time
- **Adapts** to health information system infrastructure and dynamic needs
- **Strengthens** health systems before, during, and after a crisis




# How does mHero work?





# Updated mHero interface


mHero | Liberia

Welcome , iHRIS Admin



 PEOPLE


 POSITIONS


 MHERO

Send Messages >

Contact Groups >

Reports >

 DATABASE

 DASHBOARD

☐ Use existing message flow\*\*

☒ Create new one time message\*\*

Text Message

Hello from mHero! Can you confirm whether your facility has plenty of PPE? Send Yes or No.

Frequency\*

☐ Once

☒ Recurring

MINUTES

HOURLY

DAILY

WEEKLY


MONTHLY

ADVANCED

Every

1

day(s) at

 09:00

Recipients

Fullname	Phone Number	Group	Facility	Job Title	Cadre
Attia J. Bomosee		Hospital Administrator			
Raymond R. Cassell		Hospital Administrator			
Peter Nyakwai Wonokay		Hospital Administrator			

# mHero for COVID-19 response

## UNICEF - Uganda

- Syncing between community health worker registry and FamilyConnect
- Over 27,000 village health team members

## Liberia MOH

- COVID information
- COVID Digital Classroom (with quizzes)
- Disease surveillance (eIDSR)





# mHero for COVID response

## Kenya HRH Mechanism



- Reinforcing training (IPC, occupational safety and health, home-based isolation care, risk communication, stigma & psychosocial support, case management)
- More than 556,000 messages sent to 19,000 health workers

## DRC

- Daily check on the health of health workers
- 19,000 health workers in Kinshasa

# Resources Needed

## Software

- Database of contact information (valid & accurate)
- mHero Connector
- Communication platform

## Hardware

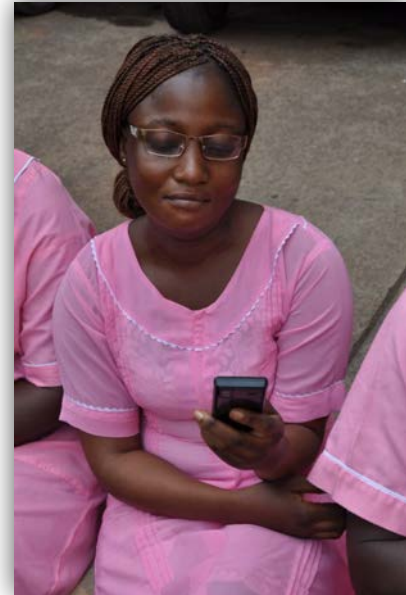
- Computers
- Server or cloud hosting
- Mobile phones (for recipients)

## Connectivity

- Short code for SMS
- Network coverage

## Roles

- Configuration and deployment
- Coordination of stakeholders
- Content development & approval
- Dedicated response team





More at:  
[mHero.org](https://mHero.org)

Contact us:  
[digitalhealth@intrahealth.org](mailto:digitalhealth@intrahealth.org)

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**IntraHealth**  
INTERNATIONAL

Because Health Workers Save Lives.



# Thank you!

