

EXEMPLARS IN COVID-19 RESPONSE:

Experiences from Uganda,
DRC, Senegal, and Nigeria

Winter School Presentation

August 17



OUR PROCESS: WHO WE WORK WITH AND WHAT WE ARE DEVELOPING TO DRIVE IMPACT

> Stunting Reduction

Research Partner: **SickKids**

> Under-5 Mortality Reduction

Research Partner: **UNIVERSITY OF Global Health EQUITY**

> Community Health Workers

Research Partner: **LAST MILE HEALTH**

> Vaccine Delivery

Research Partner: **EMORY UNIVERSITY**

> Neonatal & Maternal Mortality

Research Partners: **Countdown to 2030**, **JOHNS HOPKINS UNIVERSITY**, **LONDON SCHOOL OF HYGIENE & TROPICAL MEDICINE**

> Covid-19 Response

Research Partner: **Kitanari University**, **Outbreak Observatory**, **JOHNS HOPKINS UNIVERSITY**, **Center for Health Security**

Focus of Today

EXEMPLARS PROGRAM



CORE TEAM

Bring together research, analysis and content creation; coordinate overall project

Gates Ventures

BILL & MELINDA GATES foundation



Web Platform

Single source for Exemplars research and resources



Strategic Partnerships

Collaborations that jointly increase effectiveness and impact



Dissemination Activities

Tools and pathways to increase awareness of and engagement with Exemplars



Services

Hands-on support to our audiences throughout their decision-making process

CONDUCT RESEARCH

Deep analysis to identify outliers and areas where evidence can drive better outcomes

SYNTHESIZE FINDINGS

Translate dense, technical findings into clear, rigorous, and actionable country narratives

DRIVE IMPACT

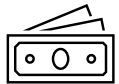
Support our audience to drive maximum impact

EXEMPLARS IN COVID-19 RESPONSE: OVERVIEW AND VISION

Unlike a traditional retrospective Exemplars research project, this research aims to capture key implementation nuances with near real-time documentation and analysis

2021

Inform **near-term decisions** and **funding allocations** with sprint research findings by contributing to...



Strong implementation of GFF grants for Essential Health Services



Evidence-based policy adjustments through technical working groups in countries of study



Robust and practical vaccine rollout that reaches target populations

2022+

Shape guidance on future **investments in pandemic preparedness** and **resilient health systems** by...



Informing key indices and evaluation mechanisms to assess preparedness



Establishing a network of universities focused on pandemic preparedness and response, health systems resilience

EXEMPLARS IN COVID-19 RESPONSE THEMATIC RESEARCH SPRINTS



Essential Health Services

Assess the impact of COVID-19 on health systems and routine services, focusing on best practices for **health system resilience**

Uganda, Nigeria, Senegal, the DRC

Focus of presentation

Thailand, Sri Lanka, Dominican Republic, Costa Rica, Sub-Saharan Africa



Testing and Surveillance

Frame and evaluate the various **testing and surveillance** strategies for use in LMICs

Uganda, Nigeria, Senegal, the DRC



Vaccine Readiness and Implementation

Determine characteristics of successful **preparation for and delivery of vaccinations** for COVID-19 in LMICs

South America & Sub-Saharan Africa



Digital Health Tools

Define optimal selection and implementation strategies for **digital health tools** in response to COVID-19

South Africa, Burkina Faso, Nigeria, Vietnam, Sri Lanka, Uganda, India

EXECUTIVE SUMMARY

Context:

- » Public health emergencies like the COVID-19 pandemic cause **disruption to essential health services**, beyond direct morbidity and mortality
- » Fear of contracting COVID-19 & transport difficulties due to mobility restrictions have caused people to avoid health care facilities, **delaying routine health services**

High-level recommendations:

- » **Develop clear guidelines** to promote maintenance of essential health services during crises, & **disseminate to all levels of the health system**
- » In times of crisis, health systems should **implement innovative health service delivery models and strategies**
- » Reliable, accurate, & connected data reporting systems across health system levels enable effective **evidence-based decision- and policy-making**
- » Strong **government coordination, public-private partnerships, & international cooperation** are key to effective COVID-19 response

How our work can help:

- » **Relay experiences & decisions** made by peer countries during the COVID-19 pandemic in the last 18 months
- » **Provide qualitative insight into efficacy of strategies** in improving outcomes related to service maintenance
- » **Guide resource allocation** for direct COVID-19 response and maintenance of essential health services

SELECTION OF UGANDA, NIGERIA, SENEGAL & THE DRC

- » **Variability in COVID-19 response** (i.e., scope/intensity of nonpharmaceutical interventions) and **outcomes** (i.e., epidemic curves/mortality) to maximize opportunity for cross-country learning
- » Experience in managing **past epidemics** of global concern
- » Strong existing **partnership between local research institution and the Ministry of Health** to facilitate access to COVID-19 and other health systems data, and enable the translation of research findings to evidence-based policy, adoption, and practice
- » Representation of **Francophone and Anglophone** countries to enhance South-South collaboration through learning networks and communities of practice



CONTEXT: POPULATION-BASED PUBLIC HEALTH MEASURES EMPLOYED


DRC

Nigeria

Senegal

Uganda
Mobility restrictions

- Lockdown of capital Kinshasa on 20 March 2020
- Curfew from 9pm-5am starting 16 December 2020

- Movement restrictions instituted in high-COVID burden areas on 29 March 2020
- Restricted air travel

- Land and air traffic closure from 20 March to 31 May 2020
- State of emergency with multiple restrictions, public transport, curfew from 8pm-6am starting 23 March 2020

- Land and air traffic closure on 18 March 2020; public transport suspension on 25 March 2020
- Curfew from 7pm-6:30am starting 30 March
- Total lockdown (except essential services starting 1 April 2020)

Measures in public places

- Compulsory mask-wearing in public places in Kinshasa with fine of 5000 CF (\$2.50) on 18 April 2020

- Nigeria CDC released guidance on face mask use; Presidential Task Force mandated face masks in public 27 April 2020
- Schools closed on 23 March through August 2020

- Minister of Interior mandated face masks in public 20 April 2020 (State of Senegal procured 10 million masks for citizens)
- Schools and universities suspended until 4 May 2020
- Religious pilgrimages suspended from 14 March 2020

- Compulsory mask-wearing starting 4 May 2020 (nearly 25 million masks distributed by 1 February 2021)
- Schools suspended until 20 September 2020
- Ban on meetings of greater than 20 people in workplaces

Support for vulnerable populations

- Free provision of water and electricity for two months
- Emergency Food Program established to supply food at reduced price

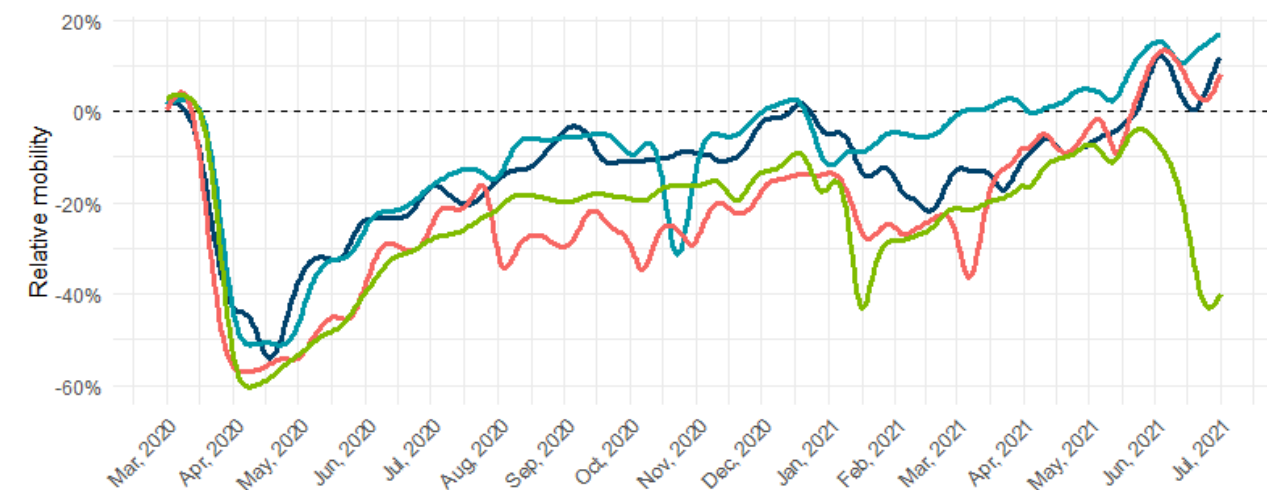
- Conditional cash transfer for extremely poor (families registered in National Social Register of Poor & Vulnerable Households) for four months

- 69 billion FCFA (\$127 million) spent on providing food and basic needs for 1 million poorest households starting April 2020

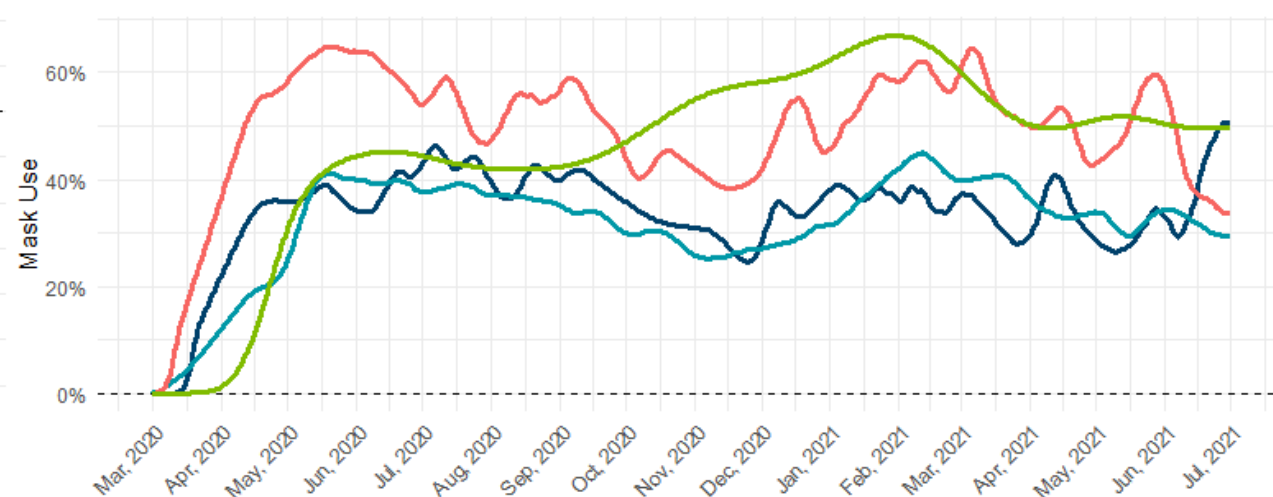
- Food relief distribution starting 4 April 2020 for 1.4 million urban poor in Kampala and Wakiso districts

POPULATION-LEVEL BEHAVIORS IN UGANDA, NIGERIA, DRC & SENEGAL

RELATIVE CHANGE IN MOBILITY



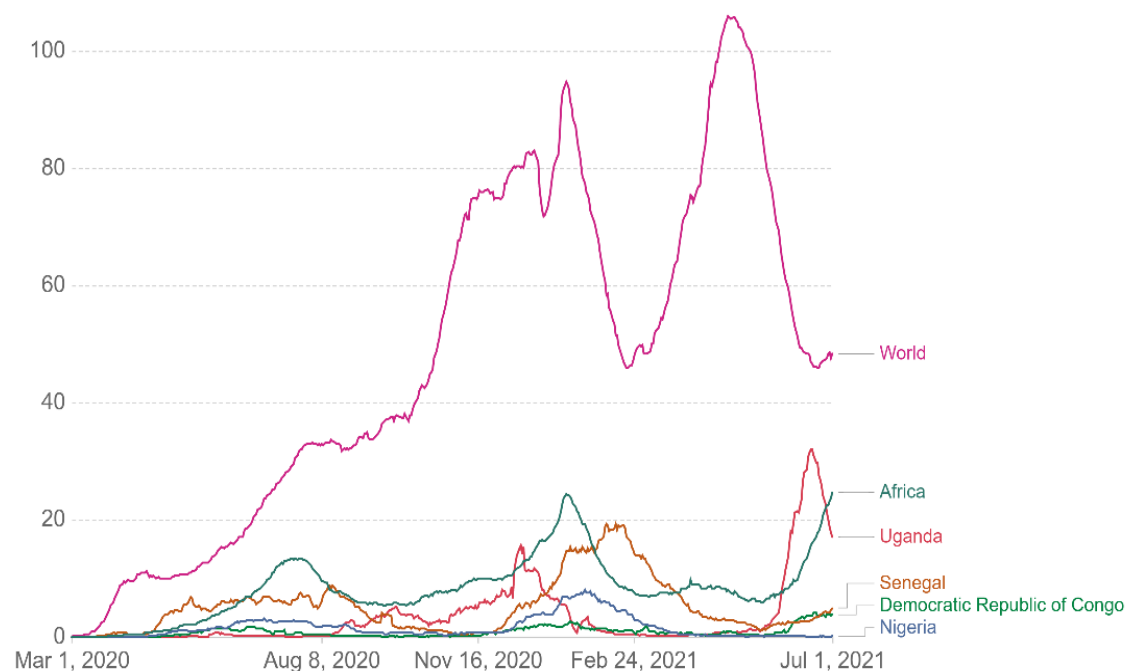
SELF-REPORTED MASK USE



— Democratic Republic of the Congo — Nigeria — Senegal — Uganda

COVID-19 BURDEN ACROSS UGANDA, NIGERIA, DRC & SENEGAL

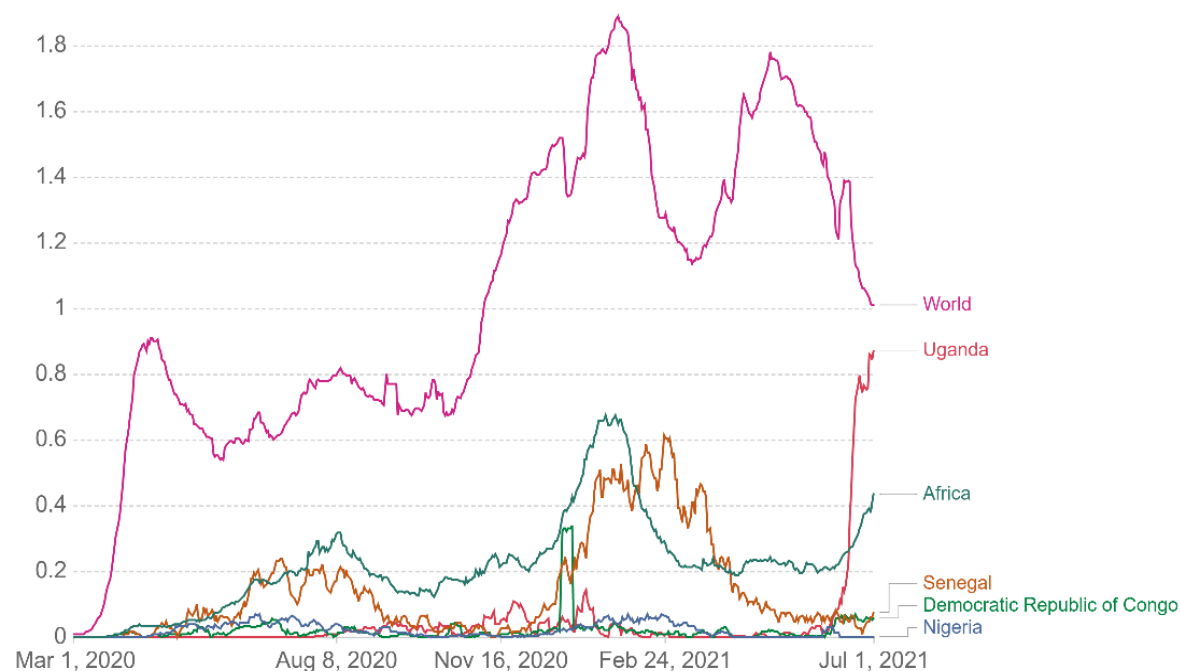
DAILY NEW CONFIRMED COVID-19 CASES PER MILLION



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

DAILY NEW CONFIRMED COVID-19 DEATHS PER MILLION



Source: Johns Hopkins University CSSE COVID-19 Data

CC BY

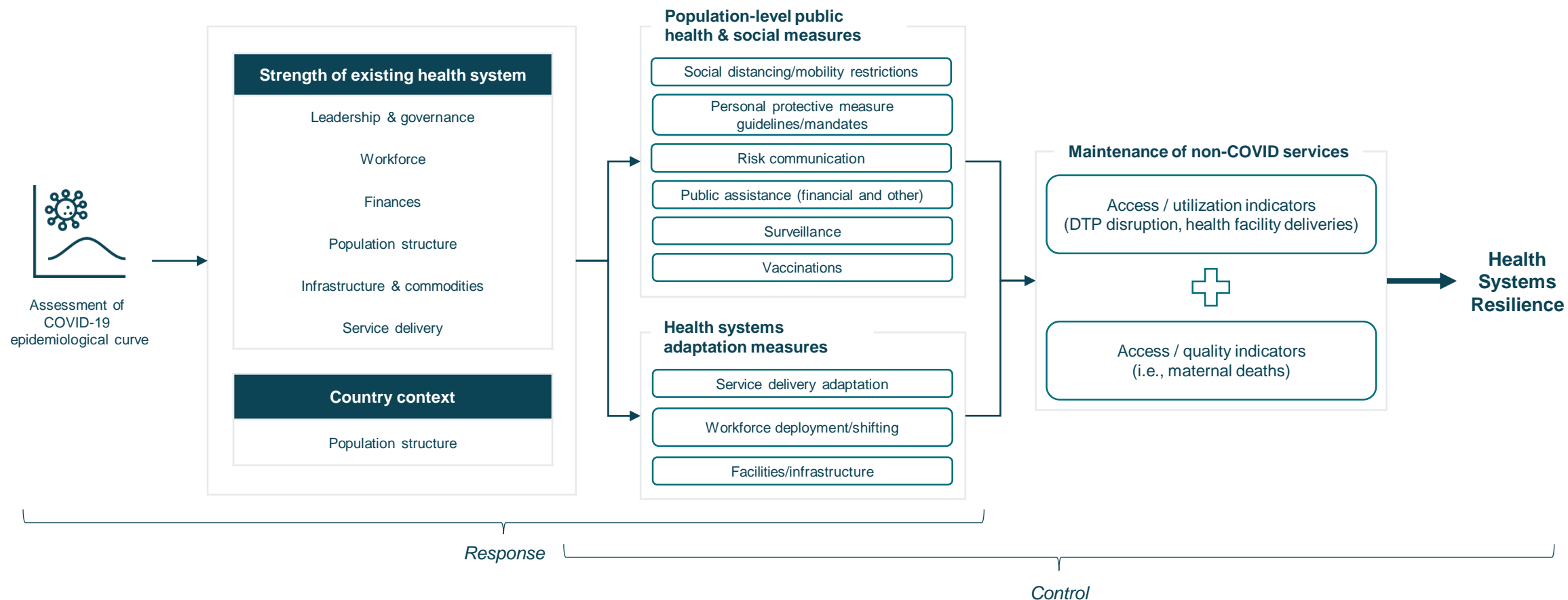
ESSENTIAL HEALTH SERVICES ANALYTICAL FRAMEWORK

Outbreak analysis

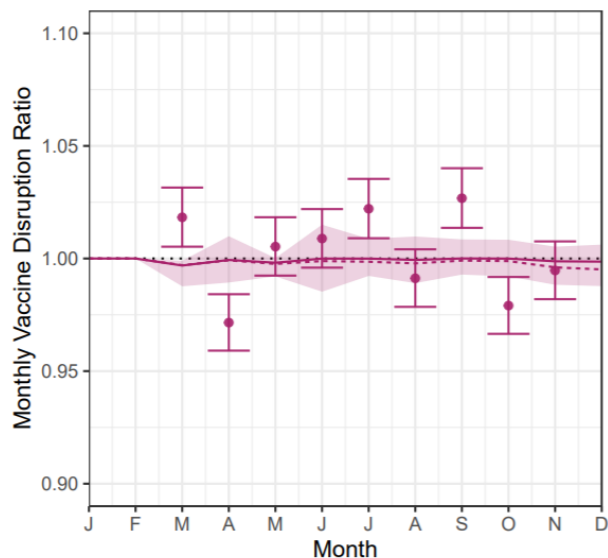
Context analysis

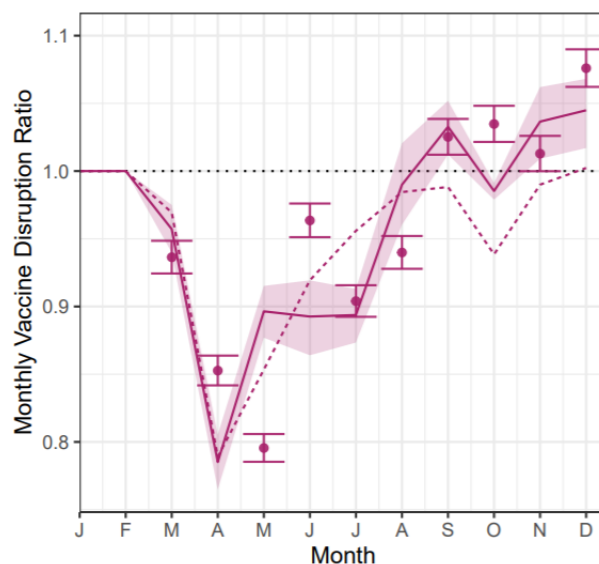
Intervention & process analysis

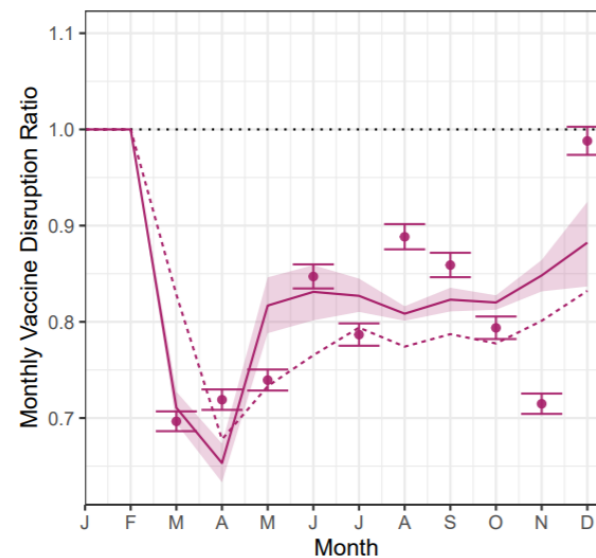
Performance analysis

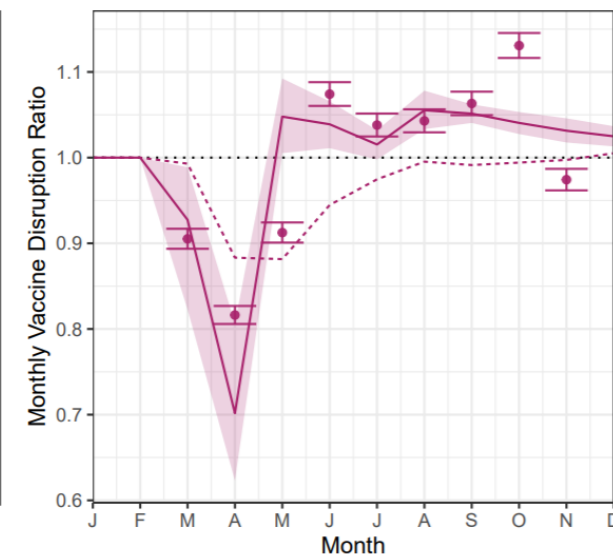


CONTEXT: DTP3 IMMUNIZATION DISRUPTION THROUGH 2020


DRC

Minimal disruption

Nigeria

Significant disruption in March with full recovery by August

Senegal

Significant disruption in March with moderate recovery starting in May

Uganda

Significant disruption in March with full recovery by May

Legend:

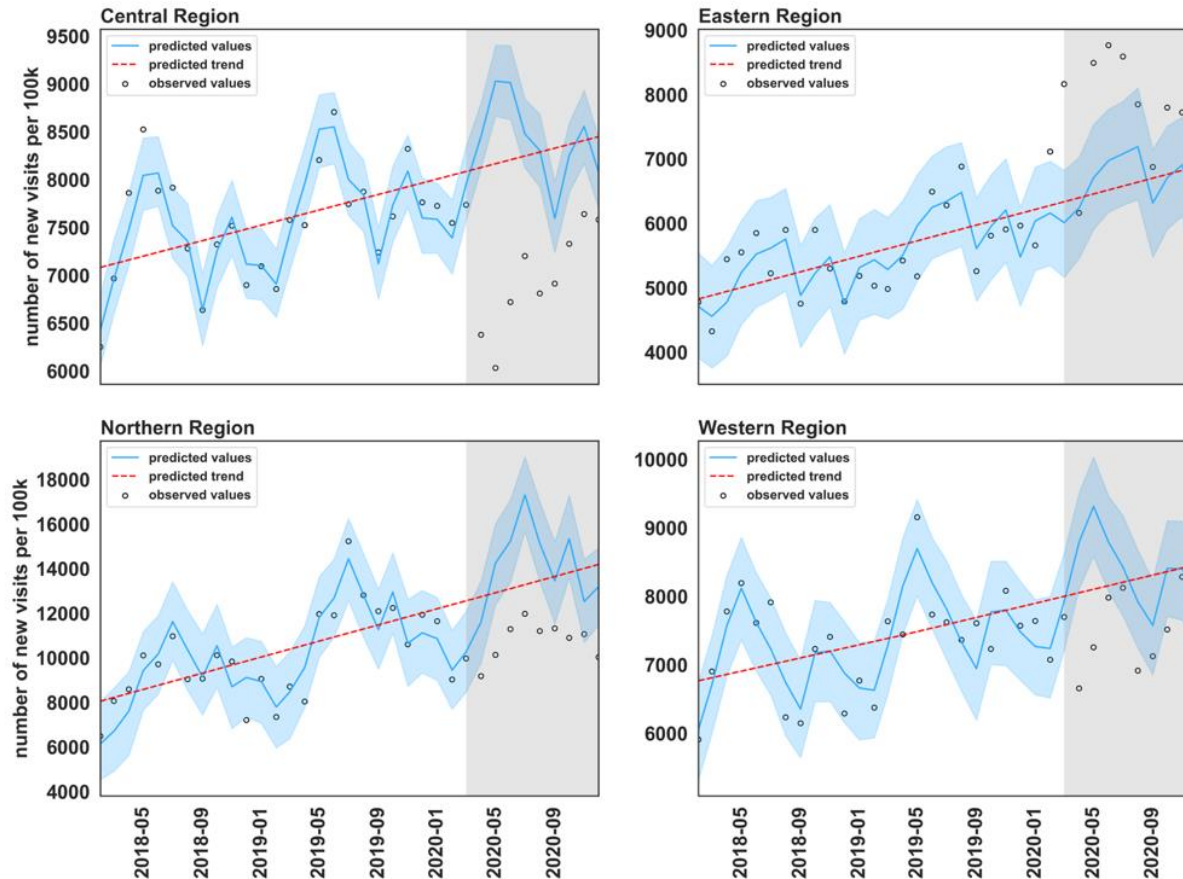
- **Monthly vaccine disruption ratio (MVDR):** DTP3 coverage disruption in 2020 compared to 2019
- **Points:** MVDR calculated from reported input data from countries on DTP3 immunization
- **Error bars:** standard error of MVDR based on reported input data

- **Dotted line:** modeled MDVR estimates before correcting for patterns in residuals over time
- **Solid line:** mean modeled MVDR estimates
- **Shaded area:** 95% uncertainty interval for modeled MVDR estimates



ILLUSTRATIVE EXAMPLE: PERFORMANCE ACROSS EHS INDICATORS IN UGANDA: NEW HEALTHCARE VISITS

New Visits in Uganda regions (post-intervention period starting March 2020)



- We aimed to quantify changes in indicators of essential health services in Uganda before and after Covid-19
- We used the interrupted time series analysis design
- We found that the Covid-19 pandemic differentially affected the patients seeking essential health services in Uganda



UGANDA – By Region

	Central	East	North	West
New Visits	-16% ↓	↑ +18%	-22% ↓	-10% ↓
Diabetes Visits	-23% ↓	No effect	No effect	-23% ↓
New Deliveries	No effect	↑ +35%	No effect	-6% ↓

Sourced from Uganda's national health system
(may have issues with data completeness & reporting)



CONTEXT: LESSONS LEARNED WHILE ADDRESSING COVID-19 (1 OF 3)

Organized per element of health system (used in analytical framework to assess strength of health system)

Element of health system	Key challenges	Lessons learned / recommendations
 Governance	<ul style="list-style-type: none"> • Lack of policies/ guidelines on maintenance in some countries • Limited or no tracking of service delivery in some countries • Poor financing and dissemination of guidelines in some 	<ul style="list-style-type: none"> • Publish guidelines to inform HCWs of adjustments to promote maintenance of EHS during crises in a timely manner • Disseminate guidelines to all levels of health system effectively and rapidly • Establish committees for EHS maintenance at all levels of health system • Run media campaigns for health promotion and risk communication to improve access to services
 Workforce	<ul style="list-style-type: none"> • Mobility restrictions for service providers, leading to absenteeism / tardiness of health workers • Poor investment in human resource surge capacity • High rate of COVID-19 infections, fatalities, and fear of infections among HCWs 	<ul style="list-style-type: none"> • Conduct trainings on IPC procedures (i.e., PPE use) for HCWs (also build virtual training capabilities) • Provide regular, free testing of HCWs • Provide psychosocial support for infected HCWs • Invest in capacity-building to sufficiently respond to public health emergencies without affecting routine service delivery • Provide incentives, such as risk allowances or free transport to address fear and demotivation



CONTEXT: LESSONS LEARNED WHILE ADDRESSING COVID-19 (2 OF 3)

Organized per element of health system (used in analytical framework to assess strength of health system)

Element of health system	Key challenges	Lessons learned / recommendations
 Finances	<ul style="list-style-type: none"> • Lack of funding for activities to promote health services maintenance (e.g., health communications, transportation, analysis / tracking of EHS data) • Challenges in disbursement of funds (delays, suspensions) for critical health services, 	<ul style="list-style-type: none"> • Establish public-private partnerships and strong cooperation with international community • Keep a dedicated resource envelope in case of public health emergencies (with portion allocated to maintaining EHS)
 Health service delivery	<ul style="list-style-type: none"> • Obstacles in physical access to care given mobility restrictions • Disruption of existing service delivery models (e.g., suspension of immunization outreach programs and mass health campaigns) • Reduced trust in health system given high perceived risk of COVID-19 infection in health facilities 	<ul style="list-style-type: none"> • Expand use & increase adoption of telemedicine • Use multi-month dispensing for chronic care drugs to reduce risk of infection in health facilities • Introduce new service delivery models (e.g., young child clinics, MNCH clinics) • Use of Community Health workers

CONTEXT: LESSONS LEARNED WHILE ADDRESSING COVID-19 (3 OF 3)

Organized per element of health system (used in analytical framework to assess strength of health system)

Element of health system	Key challenges	Lessons learned / recommendations
 Infrastructure & commodities	<ul style="list-style-type: none"> Lack of facility space given repurposing of infrastructure as COVID-19 isolation units Stock outs and shortages of infection prevention and control commodities and PPE Disruption of global supply chain led to stock out of family planning commodities, vaccines, and testing reagents / equipment 	<ul style="list-style-type: none"> Strengthen patient & HCW safety at point of care (e.g., provide sufficient IPC commodities) Designate facilities for specific services and clearly message designations to the public Allowance for emergency ordering of commodities
 Health information systems	<ul style="list-style-type: none"> Poor monitoring of essential health services and drop in data reporting rates 	<ul style="list-style-type: none"> Monitor essential health services carefully to identify areas where corrective interventions should be implemented

RECOMMENDATIONS FROM THIS RESEARCH

FOR COVID-19 RESPONSE

- » Publish & disseminate guidelines to inform HCWs of adjustments to promote maintenance of EHS during crises
- » Provide regular, free COVID-19 testing and psychosocial support for HCWs
- » Provide incentives, such accommodation or free transport etc.
- » Expand use & adoption innovative service models e.g. telemedicine
- » Use multi-month dispensing for chronic care drugs to reduce risk of infection in health facilities
- » Strengthen patient & HCW safety at point of care (e.g. IPC commodities) and designate facilities for specific services
- » Monitor EHS carefully to identify areas for intervention

FOR FUTURE PREPAREDNESS

- » Define the EHS to prioritize in preparedness and response
- » Establish EHS maintenance structures at all levels of the health system
- » Strong IPC procedures (i.e. PPE use) for HCWs and patients
- » Invest in surge capacity to sufficiently respond to public health emergencies without affecting routine service delivery
- » Keep a dedicated resources for EHS
- » Communication with providers and users on EHS
- » Establish domestic stockpile of essential commodities including PPE

FOR THE HEALTH SYSTEM

- » Media campaigns for health promotion and risk communication to improve access to services
- » Invest in training primary health care providers including nurses, doctors, and lab technicians
- » Invest in training and use of Community Health Workers
- » Strengthen commodity supply chains
- » Dedicate resources to strengthen routine health data collection

RESEARCH FINDINGS HAVE BEEN SHARED THROUGH MULTIPLE CHANNELS

Event	Date	Outcomes
Ministry of Health Presentations <i>Uganda, DRC, Nigeria, and Senegal</i>	May + June	<ul style="list-style-type: none"> Findings were shared with Ministries of Health and Task Forces in all four countries Received concrete feedback to guide future Exemplars research and identified opportunities to use findings to update guidelines and inform future policy
GFF Focal Point Presentation	May 25	<ul style="list-style-type: none"> Presented EHS findings to GFF Focal Point meeting Identified opportunity to use findings to support GFF member countries with building framework to monitor health systems data + respond to disruptions when identified
Regional World Health Summit	June 29	<ul style="list-style-type: none"> Shared EHS findings alongside UGHE, WHO, and GFF Received requests from Ugandan ministry officials for further engagement with the research
WAHO Presentation	July 6	<ul style="list-style-type: none"> Shared findings from Nigeria & Senegal on Testing Identified opportunity to support WAHO in updating testing and surveillance guidelines for member countries



Uganda

REVISED GUIDELINES ON CONTINUITY OF ESSENTIAL HEALTH SERVICES

- Inclusion of NTD, NCDs, school health, mental health, psychosocial services, aging persons
- Updated terms of reference for regional support teams to improve coordination
- Updated terms of reference for Village Task Forces & Village Health Teams
- Expanded dissemination channels
- Incentives for HCWs

NEXT STEPS & RELATED RESEARCH



Testing and Surveillance

Frame and evaluate the various **testing and surveillance** strategies for use in LMICs



Essential Health Services

Assess the impact of COVID-19 on health systems and routine services, focusing on best practices for **health system resilience**



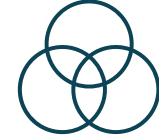
Vaccine Readiness and Implementation

Determine characteristics of successful **preparation for and delivery of vaccinations** for COVID-19 in LMICs



Digital Health Tools

Define optimal selection and implementation strategies for **digital health tools** in response to COVID-19



Direct and indirect impacts of NPIs

*Understand how non-pharmaceutical interventions have affected **COVID-19 disease burden** and other **social-economic outcomes** like education and income*

Coming Soon

QUESTIONS FOR DISCUSSION

- » **Which country, regional, or global decision-makers** in your network should we be targeting for sharing our findings and offering decision support services?
- » Are there **any remaining questions or priorities** that we should explore further as part of the longer-term Exemplars research?

Thank You

For more information, please reach out

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