

# COVID-19 Vaccines:

### Availability & implications for children globally and lessons from Kenya and Ghana

April 13, 2021

Understanding Child Health in the Context of COVID-19: A webinar series



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# Check out the Task Force Child Health & COVID-19 web page for additional resources!

Suggestions for improvement or additional resources are welcome. Please email childhealthtaskforce@jsi.com.

13 April 2021







Update on Covid 19 vaccine rollout – challenges and successes ...and the potential for further pediatric use

Dr. Ann Lindstrand

### Agenda

- 01. State of vaccine roll-out globally and in Africa
- 02. **Operational Challenges in Covid 19 delivery**
- 03. Covid 19 vaccines for pediatric use
- 04. Impact of COVID-19 on Routine Immunization and health systems

# State of vaccine roll-out globally and in Africa

DATA AS OF 12 APRIL 9:30AM CET

# Globally, 781M doses of COVID-19 vaccine have been administered in 196 countries, areas, territories & economies



24 economies have not yet started vaccination

Source: Bloomberg. 77% in top 10 countries (largely high income and/or vaccine-producing countries); WHO COVID-19 Dashboard at https://covid19.who.int/

Note: The designations employed and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement

# Since the first country started vaccination, most HICs/UMICs have started their campaigns as well as the large majority of LMICs/LICs



- **125 days** since 1<sup>st</sup> country started vaccinating
- 96% of HIC/UMICs & 78% of LMIC/LICs have started
- 77% of doses administered in 10 countries
- At least **11 different vaccines** are in use<sup>1</sup> (4 platforms<sup>2</sup>)
- 4 of the vaccines have WHO Emergency Use Listing

Source: WHO COVID-19 dashboard, COVAX, Our World in Data 1. Pfizer, Moderna, Gamaleya, Sinovac, Sinopharm, SII, Bharat Biotech, AZ, Johnson & Johnson, EpiVacCorona, Novavax 2. Inactivated virus, mRNA, viral vector, peptide

### However, there is a striking difference in the number of doses, administered by income level



Source: WHO COVID-19 dashboard, World Bank

PRELIMINARY – THIS LIST MAY NOT BE EXHAUSTIVE

## Out the 11 COVID-19 vaccines now in use, AstraZeneca & Pfizer products are the most prevalent



65 economies are using 1 vaccine; 130 are using 2 or more vaccines

Source: Our World in data, WHO, Government websites; Press research

Note: World Bank classification (2021) of 218 economies. Note: The term country, used interchangeably with economy, does not imply political independence but refers to any territory for which authorities report separate social or economic statistics

DATA AS OF 12 APRIL 9:30AM CET

# When it comes to COVAX specifically, the facility has shipped over 38M doses to 105 participants in all regions, including 50 LMICs/LICs



Source: COVAX, WHO COVID-19 dashboard, Our World in Data; Government websites; Press research

Note: The designations employed and the presentation of these materials do not imply the expression of any opinion whatsoever on the part of WHO concerning the legal status of any country, territory or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement. \*Kosovo: All references to Kosovo should be understood to be in the context of the United Nations Security Council resolution 1244 (1999).

# In African, COVAX shipments and bilateral deals account for the majority of doses received thus far by most countries



### **COVAX Facility Portfolio Overview**

2021 and 2022

PRELIMINARY

#### COVAX Available Supply, Mn doses, 2021 and 2022



1 "Committed doses" are doses that the COVAX Facility is required to purchase once a legally-binding agreement has been signed. "Optional doses" are doses that the COVAX Facility has the option to make a firm order commitment for in the future, but is not required to purchase.

2 Building on the recently announced memorandum of understanding with Novavax, negotiations on the final terms of the agreement and the distribution of volumes between Novavax and the Serum Institute of India are ongoing; updates will be published in due course.

UPDATED ON 12 MARCH 2021

# There are currently seven vaccines in the COVAX portfolio:

- 1. AstraZeneca: ChAdOx1-S [recombinant] ("AZD1222")
- 2. Novavax<sup>2</sup>: NVX-CoV2373
- 3. SII: Covishield ("AZD1222")
- 4. SII: Covovax ("NVX-CoV2373")
- 5. Pfizer: BNT162b2
- 6. Janssen J&J: Ad26COV2.S
- 7. Sanofi-GSK: Recombinant Protein



# Operational challenges in Covid 19 delivery

### COVAX

In order to get closer to the immunization equity goals of the 100-day-challenge and the IA2030, attention is being brought to the challenges that impede on countries' access to COVID-19 vaccines



vaccinated, at times to prevent vaccine wastage

from open vials

cover operational costs.

# The observed inequalities are exacerbated by delivery and HR surge costs to vaccinate first 20% population in AMC participants, which exceed \$USD 3bn for 2021, with a higher burden on LICs



1. Excludes COVAX AMC participants without NDVPs (Burundi, Eritrea, Madagascar, Marshall Islands and Tanzania) and those without 2018 GGHE estimate (Kosovo, North Korea, Somalia, Syria, West Bank and Gaza, Yemen). Source for income classification: The World Bank, 2019

2. Services delivery scale up costs have been estimated by the CRD Costing and Financing Working Group. Human resources scale up costs have been produced by the WHO Health Workforce team. Estimates include costs related to vaccinators (59%), support staff (32%) and social mobilisers (10%) surge.

 General Government Health Expenditures includes on-budget donor funding and loans and has been extracted from the <u>Global Health Expenditure Database</u> Based on **81 AMC participants** with data available<sup>1</sup>

### WHO ARE COUNTRIES PRIORITIZING?



- **High Risk HCW:** Defined by countries as specifically those treating COVID Patients, typically
- **Essential Workers**: Inclusive of government officials, and all other explicitly defined groups by profession
  - 'essential' varies country to country, but we captured specific details of each in notes
- **Military:** Police, Security, Armed Forces, etc
- **High Risk Public:** Those defined by country as belonging to a 'high risk' group
- with comorbidities (not agespecific), living in overcrowded conditions, homeless, living in extreme poverty
- All Adults: General population, subdivided into age based categories for prioritization

Covid 19 vaccine and potential for future pediatric use

### **COVID-19 Vaccine Landscape: 81 in Clinical Development**



1. Emergency use authorisation (EUL); \* detailed safety and efficacy results not yet publicly available



### Status of vaccines with efficacy results

Manufacturer		Release of efficacy results	#Participants	Reported efficacy	COVAX Facility Products Efficacy against
Pfizer/BioNTech	Pfizer	Published (Nov. 18)	43,000	95%	PCR confirmed COVID-19.
	BIONIECH				Licenced for above 16 years of age
Moderna	moderna	Published (Nov. 30)	30,000	94.1%	Symptomatic COVID-19
					SAGE recommended for above 18 years of age
AstraZeneca		Published (Jan. 9)	12,390	62-90%	Symptomatic COVID-19
	AstraZeneca 🖉 💏				Licenced for above 18 years of age
Gamaleya	THE GAMALEYA NATIONAL CENTER OF IFERHILLOUT AND FICTORIFICIERY	Published (Feb. 2)	21,977	91.6%	PCR confirmed COVID-19
Sinovac	sinovac	Press release Interim results (Jan. 12)	13,000	50.4% / 65% / 91%	COVID-19 with or without symptoms (Brazil / Indonesia / Turkey)
Sinopharm	North Contraction	Press release Interim results (Dec. 31)	21,977	79%	No information given
Novavax	Creating Tomorrow's Vaccines Today	Press release full results (Mar. 11)	15,000	1) 89.3%, 2) 100%	1) Mild, moderate and severe disease, 2) severe
Johnson & Johnson	Infectious Diseases	Press release Interim	43,783	1) 66-72%, 2)	1) Moderate and severe, 2) severe only
Jonnson & Jonnson	Janssen & Vaccines	results (Jan. 28)		85%	Licenced for above 18 years of age

1. NEJM on Pfizer / BioNTech, NEJM on Moderna, The Lancet on AZ/Oxford, The Lancet on Sputnik V, Bloomberg on Sinovac, BBC on Sinovac, Bloomberg on Sinopharm, Novavax website, 1) J&J website 2) J&J website



Hosted by World Health

### SAGE working to issue policy recommendations, coordinated with Regulatory process

STATUS 15 MAR



https://www.who.int/publications//item/who-sage-values/famework-for-the-allocation-and-prioritization-of-code/19-vaccination; https://www.who.int/publications//item/who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-sheft-ne-context-of-limited-supply; https://www.who.int/publications//item/who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-sheft-ne-context-of-limited-supply; https://www.who.int/publications//item/who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-sheft-ne-context-of-limited-supply; https://www.who.int/publications//item/who-sage-roadmap-for-prioritizing-uses-of-covid-19-vaccines-sheft-ne-context-of-limited-supply; https://www.who.int/publications//item/who-2019-nCoV-vaccines-Sheft-recommendation-ADT1222-2021.1

### There are currently three variants of concern

#### DATA AS OF 9 MAR



Variants of concerns are defined by WHO by their transmission, disease severity, or impact on COVID-19 counter measures

Evidence supports ongoing use of existing vaccines – with some concerns about B.1.351 vs. some vaccines (available data still limited, and incomplete)

The preliminary findings highlight the **urgent need for a coordinated approach for surveillance and evaluation of variants** and their potential impact on vaccine effectiveness

https://www.who.int/emergencies/diseases/novel-coronavirus-2019/situation-reports

# Children are at lower risk of severe Covid 19 infection

- more data needed on transmission, long-covid and multi system inflammatory conditions

#### Our finding - Age Distribution from 67 case series of clinical features and outcomes

	Age bands							
	0 to ≤5 years	>5 to ≤10 years	>10 years					
Clinical features Frequency (%)								
Fever	99/181 (54.7)	87/133 (65.4)	60/132 (45.4)					
Asymptomatic	43/1053 (4.0)	45/654 (7.0)	48/880 (5.4)					
Cough	46/181 (25.4)	33/133 (24.8)	23/132 (17.4)					
Nasal symptoms/sore throat	22/181 (12.1)	16/133 (12.0)	5/132 (3.8)					
Dyspnea	15/181 (8.3)	10/133 (7.5)	13/132 (9.9)					
Diarrhea	29/181 (16.0)	48/133 (36.1)	36/132 (27.3)					
Nausea and vomiting	29/181 (16.0)	40/133 (30.0)	33/132 (25.0)					
Abdominal pain	27/181 (15.0)	47/133 (35.3)	30/132 (22.7)					
Fatigue	13/181 (7.2)	7/133 (5.2)	5/132 (3.8)					
Neurological signs	8/181 (4.4)	21/133 (15.8)	16/132 (12.1)					
Kawasaki signs	15/181 (8.3)	24/133 (18.0)	8/132 (6.0)					
Rash	24/181 (13.2)	27/133 (20.3)	20/132 (15.1)					
Conjunctivitis	23/181 (12.7)	8/133 (6.0)	18/132 (13.6)					
Outcomes Frequency (%)								
Recovered	176/196 (89.8)	119/127 (93.7)	146/160 (91.2)					
Severe/ICU admission	188/1708 (11.0)	102/834 (12.2)	131/1134 (11.6)					
Not yet discharged	19/196 (9.7)	6/127 (4.7)	8/160 (5.0)					
Deaths	1/1360 (0.07)	2/742 (0.3)	11/908 (1.2)					



Clinical characteristics, treatment and outcomes of paediatric COVID-19: a systematic review and meta-analysis

Omar Irfan,  $^1$  Fiona Muttalib,  $^1$  Kun Tang,  $^{1,2}$  Li Jiang,  $^1$  Zohra S Lassi,  $^3$  Zulfiqar Bhutta  ${}^{\odot}$   $^{1,4}$ 

 Additional material is published online only. To view, please visit the journal online (http://dx.doi.org/10.1136/ archdischild-2020-321385).

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ABSTRACT Objective Compare paediatric COVID-19 disease characteristics, management and outcomes according to World Bank country income level and disease severity.

International Concern, and on 11 March 2020, a pandemic. As of 21 January 2021, there have been over 95.6 million confirmed COVID-19 cases and over 2.0 million associated deaths from 216 coun-

Global child health

### **COVID Epidemiology**

#### Rate ratios compared to 18-29 year olds

		Hospitalization <sup>1</sup>	Death <sup>2</sup>	
	0-4 years	4x lower	9x lower	
	5-17 years	9x lower	16x lower	
	18-29 years	Comparison Group	Comparison Group	
30-3	30-39 years	2x higher	4x higher	
	40-49 years	3x higher	10x higher	
	50-64 years	4x higher	30x higher	
	65-74 years	5x higher	90x higher	
	75-84 years	8x higher	220x higher	
	85+ years	13x higher	630x higher	

### Future role of Covid 19 vaccines in children

- While most children are not at risk of severe Covid 19 infection it is important to establish safety, efficacy and immune response as some children may benefit from the vaccination
- It is a question of the role of children in transmission of the virus. Could be justified for community immunity.
- The more we can protect the adults, the less we would need to protect the children.
- **Clinical trials are underway** for Pfizer, Moderna, Oxford Aztra Zeneca vaccines in children
  - Pfizer >2000 children aged 12-15 years and second trial planned for 5-11 year olds
  - Moderna 3000 chidren aged 12-17 years
  - Oxford/AZ 300 children 6-17 years

#### Elisabeth Mahase BMJ 2021;372:n723

#### Check for updates

The BMJ Gite this as: BMJ 2021;372:n723 http://dc.doi.org/10.1136/bmj.n723 Published: 16 March 2021

Some covid-19 vaccines could be rolled out to children later this year, as early, real world reports indicate few adverse events.

Covid vaccine could be rolled out to children by autumn

While the global rollout of vaccines to adults continues apace, with more than 359 million doses of vaccines against SARS-CoV-2 administered as at 15 March, health leaders and researchers have been turning their attention to children.

In Israel, where 106 vaccine doses have been administered for every 100 adults, the health ministry recently recommended vaccinating some older children with underlying conditions that make them vulnerable to the difects of the virus, such as cystic fibrosis. Some 600 children aged between 2 and 16 have been given the Pfizer vaccine, and early results reported in the *Guardian* have indicated no serious side effects.<sup>1</sup>

The head of Israel's vaccine taskforce, Boaz Lev, said, "We didn't see any major side effects, and even minor [ones] are quite rare. This is encouraging."

#### Trials in children

Elisabeth Mahase

Although these vaccinations were not part of a clinical trial, trials are currently under way to test the Pitzer, Moderna, and Oxford-AstraZencea vaccines in children. Pfizer has enrolled more than 2000 children aged 12-15 for a trial that was announced in October. It also expects to run a second trial in children aged 5-11 years.<sup>2</sup> Pfizer's chief executive, Albert Bourla, told Reuters in March that he expected younger teens to be eligible for coronavirus vaccination in the autumn and primary school children by the end of the year.<sup>3</sup>

In December Moderna announced that it would be testing its vaccine in 3000 young people aged 12-17, half of whom would receive two shots of the vaccine four weeks apart, while the half would get a placebo.<sup>4</sup>

Anthony Fauct, director of the US National Institute of Allergy and Infectious Diseases, has said that high school students across the country should be able to get a vaccine in the autumn.<sup>5</sup> The US has so far authorised the rollou of the Pfizer, Moderna, and Johnson & Johnson vaccines.

The Oxford research group is also testing its vaccine in children aged 6-37, in a trial funded by the National Institute for Health Research and AstraZeneca. The phase II trial, which began in February, will enrol so ovoluntees: Up to 240 of these participants will receive the covid-19 vaccine, while the rest will be given a control meningitis vaccine—being used as it is expected to produce similar reactions, such as soreness at the injection site.

The chief investigator on the Oxford vaccine trial, Andrew Pollard, a professor of paediatric infection and immunity, said, "While most children are relatively unaffected by coronavirus and are unlikel to become unwell with the infection, it is importan to establish the safety and immune response to the vaccine in children and young people as some children may benefit from vaccination."

#### Transmission

Beate Kampmann, director of the London School o Hygiene and Tropical Medicine's Vaccine Centre, tol The BMJ that while most children were not at risk of severe covid-19 illness, they may have an importar role when it comes to transmission.

"To include children in the vaccination programm is essentially a question of their role in transmissio of the virus. They do not usually have severe diseas manifestations, with a few exceptions, usually relate to comorbidities. The more adults we can protect wit the vaccines the less the vaccination of children would matter. However, to achieve as much suppression of viral circulation and to get to community immunity which can then suppress transmission and evolution of new variants, it coul be justified," she said, adding that it was unlikely that children under 5 would be vaccinated.

Commenting on what evidence would be needed to extend authorisation to children, Kampmann, who is a professor of paediatric inflection and immunity said. "We need to exclude side effects in children, and we need to obs/w that the vaccines include a similar immune profile as we have seen in the alread highly protected adults—them the vaccines could be approved on the ground of so called immunobridence."

 Holmes O. Israel says 600 children given Covid jab had no serious side effects. Gaardan. 10 Mar 2021. https://www.theg.ardian.com/soi ety/2021/mar/10/srael-says-600-children-given-covid-jab had no serio side effects.

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- Filter Cho expects younger letter in the angular in the relation of fail. Reuters. 11 Mar 2021. https://globainews.ca/news/7690900/pfize children-coronavirus-vaccination/690900.
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#### 23

NEW

Impact of COVID-19 on Routine Immunization and health systems

# However, by mid-2020, countries reported at least partial disruptions in all 25 tracer Essential Health Services



Percentage of countries reporting disruptions to 25 tracer services

# A comparison of DTP3 doses administered in 2020 compared to 2019 by WHO region shows the least amount of fluctuation in AFRO



- In AFRO, the number of doses administered remained in the +/- 5% of the doses administered in 2019, except in May and June which saw dips of ~10%
- Compared to all other WHO regions, AFRO saw the smallest levels of disruptions in its DTP3 campaign
- In AMRO in EMRO and WPRO, the number of DTP3 doses administered was lower than in 2019 for the all the months for which data is available, with the largest dips in the April, May, June period

Source: monthly administrative DTP3 data available as of 4 March 2021

Organization

### As the pandemic spread, 66 countries had postponed at least one Vaccine Preventable Disease (VDP) campaign due to COVID-19, May 2020



The boundaries and names shown and the designations used on this map do not imply the expression of any cyclicin whatsower on the part of the Wood Health Organization concerning the leag latest of any county, learning, via or man or of its automatilias, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate booker lines for which there may not yet be full agreement.

# The number of countries that have postponed at least one VPD campaign decreased to 50 by 15 March 2021



# To address the disruptions caused by the pandemic through the divergence of human, financial and strategic resources, the following actions are needed

- Ensure the equitable access to COVID-19 vaccines
- Maintain and restore vaccination programs
- Build back better- use the COVID-19 vaccine opportunities:
  - o Cold chain investments
  - o Health care worker
  - Digital tools for monitoring
  - o Safety monitoring systems improved
  - Demand for vaccines
- Catch up coverage and immunity gaps
- Expand routine services to missed (zero-dose) communities
- Focus of global health security
- Immunization Agenda 2030 (IA2030)



### Millions of future deaths averted 2021-2030 if coverage and vaccine introductions follow the IA2030 impact goals (4.4-5.8m/year)



MINISTRY OF HEALTH



# **COVID-19 Vaccines:** Availability & implications for children globally and lessons from Kenya

Child Health Task Force Webinar Date: 13 April, 2021, Time: 4:00pm EAT



**Dr. Ombeva Malande** Vaccinologist/Senior Consultant (Paed infectious diseases) Lecturer – Makerere/Egerton University Director – East Africa Centre for Vaccines and Immunization(ECAVI)





### **Relationships with commercial interests:**

## • NONE

# No conflict of interest

# Update on Current COVID-19 Situation in Kenya

# As at Sunday 11<sup>th</sup> April 2021

- Kenya has recorded 145,670 total cases out of a cumulative 1,561,838 tests over the last one year. (5,393 tested, positivity rate of 22.1%
- Total deaths stand at 2,348 with total recoveries are 99,095.
- The youngest case ever is a newborn and the oldest is 101 years.
- Currently 1,660 people admitted to hospitals, and 5,994 are on HBC.
- 256 patients are in the Intensive Care Unit, of whom 44 are on ventilatory support and 181 on supplemental oxygen. Thirty-one patients are on observation.



### 1.1 Epidemiology

Since 13 March 2020 when the first case was confirmed in Kenya, a total of 145184 confirmed cases and 2330 deaths giving a case fatality rate of 1.6% have been line-listed. Of these, 142591 cases (98%) were local transmissions and 2591 (2%) are imported cases. Figure 1 below shows trends of cases.



Figure 1: Trends of COVID-19 Outbreak Kenya

### Deaths have coincided with number of cases



COVID-19 SITUATION UPDATE: 10 April 2021

### 1.2 The trends of COVID-19 deaths

A total of 2,330 cases died since the beginning of the outbreak giving a case fatality rate of 1.6%. Figure 2 shows the trend of COVID-19 deaths by week.





### 1.5 Distribution of Confirmed COVID-19 Cases by Presentation and Presentation of Symptoms among Symptomatic cases

Of the **145184** confirmed cases, 12195(8%) presented with symptoms (Figure 5). Cough (55%) and Fever (38%) were predominant presenting symptoms.



Figure 5: Distribution of Presenting Symptoms among Symptomatic COVID-19 Cases
### 1.6 Age and Sex Distribution of COVID Confirmed Cases and Deaths

Eighty-eight thousand five hundred and sixty-nine (61%) are males and 56615 (39%) are females. Most of the cases; 40319 (28%), are in the age group of 30-39 years. Figure 6 below shows the age and sex distribution of COVID-19 cases.



Figure 6: Age and Sex Distribution of COVID-19 Cases Kenya

A total of 2330 deaths have been reported so far, 1622 (70%) being males and 708 (30%) were females (Figure 7).

### 1.7 Trends of health care workers

Among the cases who had their occupation filled in, a cumulative of 4,516 health professionals (57 new cases) and 36 mortalities (no new deaths) have been reported in all the 47 counties.



Figure 8: Covid-19 cases among health care workers

## **COVID-19 among Kenyan Children**

- Over 14,051 children now affected ; youngest neonate
- Majority are household contacts of adults ;
- M:F ratio almost 1:1
- 20% of all national cases are under 20 years of age
- 0-9 years 8% of total while 10-19 years 12% of national total; and 9% boys 20 years and 11% are girls)
- The first paed death was a kid with aplastic anemia post BMT

## **COVID-19 among Kenyan Children**

- Majority often times asymptomatic
- Most affected kids have been stable, and recovering well, with a generally mild disease
- Symptoms often overlap those seen in children
  - Fever 55%;
  - Cough 37.0%
  - Others
    - nausea/vomiting/diarrhea/shortness of breath/Abdominal pain
    - Poor appetite or poor feeding

## **COVID-19 among Kenyan Children**

- Lab --- CBC changes
  - commonest leukopenia/lymphopenia
- Associated conditions
  - mainly URTIs/Pneumonia with Ground-glass opacity in some observed in the CT scan when done, most CXR are unremarkable
- Death rare
  - only among those with comorbidities cancer/post BMT

## COVID-19 among Kenyan Children when compared to Kenyan adults

- COVID -19 is less common in Kenyan kids than adults
- They tend to suffer co-infections especially pneumonia & URTI
- Almost 50/50 Male:Female ratio, unlike adult COVID which mainly affects male gender
- Better ICU outcomes
- Children acquire COVID-19 from adult H/H contacts
- Clinical course of COVID-19 in kids is far less severe and the hospital outcomes tend to be better in critically ill children than the outcomes reported in adults

# KENYA Vaccine Roll-out

### Phased Approach for COVID-19 Vaccine Introduction 1/2

Phase I (Q3 & Q4, FY 2020/2021)	<ul> <li>Vaccine supply limited</li> <li>Focus: Rapidly reaching critical target populations</li> <li>Priority Group: Front line Health Care Workers (HCWs- Including CHWs) Critical/ Essential Workers</li> <li>Target Population: 1.25 Million</li> </ul>
Phase II (FY 2021/2022)	<ul> <li>Larger number of vaccine doses available</li> <li>Focus: Rapidly reaching target populations most vulnerable to severe disease and death</li> <li>Priority Group: Persons &gt;50 years and those &gt;18 years with co-morbidities</li> <li>Target population: 9.76 Million</li> </ul>
Phase III (FY 2022/2023)	<ul> <li>Focus: Ensuring equitable vaccination of other vulnerable groups</li> <li>Priority Groups: Persons &gt; 18 years in congregate settings, Hospitality and tourism industry</li> </ul>
×	• Target Population: 4.9 Million

## Phased Approach for COVID-19 Vaccine Introduction 2/3

Frontline Health workers: All Individuals involved in service delivery in ALL health facilities and at administrative levels

**Critical Services: Teaching** & non-teaching staff in all educational institutions; Uniformed Forces- Police, Military, Prisons Officers; Immigration Officers; Instructors in Religious Institutions



SO Individuals with Comorbidities: Persons >18 D Years living with cancer, diabetes, sickle cell disease, chronic lung disease, cardiovascular

6

disease, renal disease, HIV, tuberculosis, obesity, Neurologic conditions and blood disorders

Individuals working in the hospitality and tourism industry

Individuals in congregate settings: Persons care homes, Prisons and U detention centers, shelters; 5 Street Families; Densely C populated informal settlements 

> Individuals working in entertainment, restaurant, retail and banking sector

	Key Timelines and Milestones for the Rollout of COVID-19 Vaccine in Kenya																								
		Jan F		Feb				Mar				Apr				May				Jun					
No.	Milestones	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1	Developing &Costing of National Deployment and Vaccination Plan																								
2	National Stakeholders consultative forums & County Introductory Meetings																								
3	Development and Digitization of data management tools																								
4	National and County ToTs																								
5	5 Training of Subcounty HMTs and Health Workers																								
6	Arrival of Phase I doses of vaccines & Distribution to service delivery points																							2	
7	Launch of the COVID Vaccination in Country																								
8	Community Mobilization to create demand for theCOVID Vaccine																								
9	Airing of Print and Electronic Messages & Bulk Messaging																								
10	Implementation Level Monitoring Visits																								



The Kenya Ministry of Health launched the National COVID-19 vaccinations on the 5<sup>th</sup> March 2021 after receiving **1,120,000** doses of the AstraZeneca Vaccine through the COVID-19 Vaccines Global Access (COVAX) facility. As of 9th April 2021, a total of **466,543** persons were vaccinated targeting frontline workers, teachers, security officers, and those above 58years of age. Fifty-six (56%) of those vaccinated were males and 44% female (Figure 12). A total of 263 Advance Event Following immunization (AEFI) have been reported and fatality reported so far.



Twenty-five percent (25%) of those Vaccinated were health care workers (Figure 13)



Fig 13: Distribution of COVID-19 Vaccinated persons by Occupation

Fifteen (15%) percent of the phase 1 Target have so far been vaccinated with 56% of the health care workers Vaccinated (Table 3)

Occupation	No. Vaccinated	Target	%
Health Workers	116,161	208,418	56%
Security Officers	37,510		
Teachers	67,045	330,671	20%
Others	245,827	2,594,585	9%
Total	466,543	3,133,674	15%

### Table 3: Progress towards meeting targets: Kenya, 8th April 2021

### Vaccine LOGISTICS

### Table 4: Current Vaccines Stocks Status

Location	Quantities (Doses)
National (CVS Kitengela)	121,000 (GAVI 21,000 INDIA Donation 100,000)
Total distributed to 9 regional depots	999,000
Total	1,120,000

## Coordination

- Response efforts continue to be coordinated through a whole government and multi agency approach following Executive Order No. 2 of 2021 issued by His Excellency the President on 26th March 2021.
- The National Emergency Response Committee that was constituted following the executive order meets regularly to provide policy directions on response efforts towards the COVID-19 outbreak.
- The Public Health Emergency Operations Centre is fully activated and continues to coordinate response measures as well as provide daily situation reports informing planning.

## Surveillance and laboratory testing

- The Diagnostic capacity in the Country has been scaled up. A total of forty-three (43) public and private laboratories in thirteen (13) counties
- Mandatory screening of cargo vessel crew is ongoing at all points of entry to minimize the risk of importation of additional cases from other affected countries.
- The South African COVID-19 variant (8.1.351/501Y.V2) of concern has now been detected in two persons in the coastal region in Kenya - in Mid-Dec 2020.
- The two genome sequences that were identified as 501Y.V2 were obtained from samples that were collected on the 15th and 17th December 2020, from two South African nationals who visited the country. Both travelers didn't have any symptoms at the time of sample collection and they have since left the country.

## **Key Challenges**

- Need to update testing strategy in the face of upcoming rapid antigen test kits.
- Stigmatization and discrimination on COVID-19 suspects affecting willingness to seek testing and management of cases likely to lead to further spread of the disease.
- Commodity insecurity at the sub-national level of both personal protective equipment and laboratory reagents at COVID - 19 testing laboratories.
- There is a shortage of sampling kits across several counties affecting testing of suspected cases, contacts, and limiting overall access to testing.
- Inadequate resources to facilitate critical response pillars limiting response capacity in detecting, investigating, contact tracing, and follow-up of cases.
- Industrial action by health workers continues across several counties due to delayed salaries.

## Areas that need addressing

- Strengthen enforcement of public health measures across the country.
- There is a need to streamline cross-country coordination to address issues around the borders especially those counties bordering neighboring countries.
- Strengthening contact tracing in the sub-counties.
- Strengthen commodity security of personal protective equipment at the sub-national level.
- Strengthen diagnostic quality assurance system
- Need to address stigma and mental health and long term effects of COVID among recovering patients

## Areas that need addressing

- People who are hesitant to get a COVID-19 vaccine should be reassured that the approval process has been independent and transparent, made by people who have no allegiance to the federal government or to pharmaceutical companies.
- Vaccine hesitancy
  - In general I don't think this will be a problem anywhere
    - vaccination status will be tied to international travel and access to most amenities
  - Need for confidence building and community engagement and social mobilization
  - Biggest worry are hesitant health workers

## Way forward for Africa

- Africa must expand vaccine manufacturing to combat the COVID-19 pandemic and future health emergencies,
  - Forging partnerships to boost expertise and investment
  - Note that 1.1 per 100 Africans had received a vaccine while in North America the rate was over 40 per 100.
- Strategy should be to expand existing manufacturing facilities into regional hubs
  - Learn from India and Brazil on how they developed their generic pharmaceutical industries.
- Building more manufacturing capacity would require longterm investments but countries could offer incentives such as cutting tariffs on raw materials.





### **COVID-19 Pandemic Vaccination Response in Ghana**

### Presenter: <u>Dr. Kwame Amponsa-Achiano</u> (FGCP | MPH | MBChB) Programme Manager, Expanded Programme on Immunization, Ghana Health Service

## Outline

- Introduction and Background
- The GH National Deployment and Vaccination Plan (NDVP)
- Governance structures
- Defining priority populations
- Current status of roll out
- Conclusions

## Introduction and Background



- 2021 Population 31m
- Pop <1 1.24m

Surviving infants - 1.21m

Regions – 16

- WHO declared COVID-19 a pandemic Mar 11, 2020
  - Ghana recorded its first two cases simultaneously on 12 March 2020
- Global efforts towards the search for COVID-19 vaccine: COVID-19 vaccines are additional preventive measures to the already existing protocols: face masks, physical distancing, hand hygiene
- Vaccine deployment has started under Emergency Use Authorization (EUA) in some countries including Ghana

## COVID-19 Situational Updates as at 12 April (1600 GMT), 2021



### The National Deployment and Vaccination Plan (NDVP)

#### 61

- The NDVP for Ghana was developed using the core principles of the WHO SAGE's framework for the allocation and prioritization of COVID-19 vaccination and the prioritization roadmap....and
- Recommendations from NITAG-Ghana: NITAG Policy Guide for COVID-19 vaccination issued on 18 December 2021



**COVID-19 Vaccine Deployment and** 

Vaccination Plan

- Regulatory preparedness and safety monitoring
- Planning and coordination
- Vaccination strategies
- Deployment systems and modalities
- Immunization monitoring systems

- Operational research and surveillance
- Communication and information
- Supply chain processes
- Waste management
- Monitoring & Evaluation

### Governance structures

#### 62

- The Inter-Ministerial Coordinating Committee (IMCC) COVID TASK FORCE-- chaired by HE the President, COVID-19 response for overall mechanism in the country
- The National Technical Coordinating Committee (NTCC): serves as a technical expert committee in the monitoring of the implementation of activities
- The National Public Health Emergency Operations Centre (PHEOC): responsible for coordinating day-to-day COVID19 response activities
- Technical Working Group (TWG) for COVID-19 Vaccine Readiness and Deployment: responsible for planning and deploying the COVID-19 vaccines
- The Interagency Coordinating Committee for Immunization (ICC): oversight role for the EPI Programme and coordinates technical and material inputs to the programme
- At the regional and district levels, preparedness and response activities are coordinated by the respective regional and district Public Health Emergency Management Committees (PHEMCs)

## Defining priority populations<sup>1/2</sup>

- Segmentation of the population was informed by the technical recommendation of SAGE and NITAG
- Distribution strategies were based on segmentation of the population informed by <u>risk of exposure</u>, <u>disease severity</u>, <u>business</u> <u>continuity</u> and <u>national security</u>

Geographic Segmentation: Vaccinate hot spots first in a phased approach but ultimately reach all





SAGE - Strategic Advisory Group of Experts on Immunisation; NITAG- National Immunisation Technical Advisory Group

## Defining priority populations<sup>2/2</sup>

#### <u>Group 1:</u> Persons at the highest risk

Health Care Workers, Frontline Security Personnel, Persons with known underlying medical conditions, 60+ year old persons, Frontline members of the Executive; Legislature; Judiciary; Teachers >50 years, other essential service providers

### • <u>Group 2:</u> Other Essential Service Providers including the rest of the security agencies

Water/Electricity/telecom supply services; Teachers & students; Supply and distribution of fuel; food value chain persons; Waste management services; Media; Public and private commercial transport services/Air traffic persons.; Other Securities and Intelligence Agencies; Rest of the Arms of Government; Development partners (DPs)

#### Group 3: Rest of General Public

All persons 18 years and over excluding pregnant women

 <u>Group 4:</u> All Others (When an approved vaccine for this category is found): Pregnant mothers & persons under 18 years

#### Assumption: Vaccine supply will span a long period, therefore, vaccine deployment is staggered in 3 phases

## Vaccine Receipt Update

	Date	AZ Doses	Source
•	24/02/21	600,000	COVAX
. (	05/03/21	50,000	Indian Government
	11/03/21	2,000	GoG
•	22/03/21	165,000	MTN Africa
	30/03/21	149,850	MTN Africa
Toto	ıl:	966,850	

- 03/03/21 (Sputnik-V)
- 10,000 shots of Component 1; 6,000 shots of Component 2



## Current status of the vaccine planning and rollout

- Phase 1A: targeted segmented populations in 43 out of 260 districts in the country completed Health Care Workers, Frontline Security Personnel, Persons with known underlying medical conditions, 60+ year old persons, Frontline members of the Executive; Legislature; Judiciary; Teachers >50 Years, Other essential service providers:
  - Launched on 1<sup>st</sup> March and began on 2<sup>nd</sup> of March, 2021

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- Phase 1B: targeted at all health workers and clinical students of health training institutions in remaining 217 districts in Ghana; began on 25 Mar 2021 and ran for approx. one week
- Phase 1C: Mixed targets included the general population began on around 2<sup>nd</sup> April 2021

# Communication and demand generation: overcoming hesitancy

#### 67

- Communication strategy developed
  - key messages, Stakeholder mapping and engagement/community engagement; Infographics; Jingles; Posters; Fliers; FAQs
- Media outlets for demand generation and risk communication:
  - Mass media: Local FM; Community Information Centers; Social Media (twitter; WhatsApp; Facebook); National Commission for Civic Education/Information Services Department supporting the Health Service
- Preparation for Preventing and responding to misinformation and hesitancy related to the vaccine:
  - stakeholder engagement; proactivity in dealing with the media; GHS hosting social media handles; Spokespersons trained; Holding Statements; Safety surveillance updates; Dashboards;









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example and the mo sted source of inform



tect yourself, protect your family Get your vaccination now! Take care of yourself and your loved ones by getting Coronavirus vaccine









Sample Fliers (top) and infographics (left)

### **Overcoming Hesitancy**



'High level' dignitaries supported the launch ceremony (H.Es, the President; Veep) and the roll-out (Former Presidents including one Opposition leader; Traditional leaders; Religious leaders – Reverend Ministers and Chief Imam; Leaders of the Judiciary; Celebrities etc,)

### Data management

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- Fully electronic for the first time: electronic tracker (etracker) for individual records
  - District Health Information Management System (DHIS2) platform for data aggregation
- Vaccination cards are provided (Home Based Record) for every vaccinee
- The e-tracker has a reminder function that helps to follow-up on clients who are due for subsequent doses.
  - Reminders for 2<sup>nd</sup> dose will be sent via text messages
- All supervisory tools are electronic (ODK) and all monitors and supervisors have been trained to use these tools
- Appointment System using an App (VaccineUpp) is currently being piloted as part of the ongoing Health Care Worker vaccination

#### Vaccination Dashboard



## Vaccination Performance: COB 11 April 2021

### Total Vaccinated: **703,752 (2.3% of population)** (**3.5% of initial target of 20m persons)**

### Vaccinations: selected variables

Selected variables	Number vaccinated	% of total vaccinated						
Healthcare workers	156205	26.1						
Underlying medical conditions	88764	14.8						
Female	357994	59.8						
Aged (60yrs and above)	131865	22.0						
HCW vaccinated = 156205/269725 (57.9%)								

#### Trend of vaccinations by day (Phase 1 A&B)



## Safety monitoring

- 72
- The Ghana Food and Drugs Authority leads regulation and safety monitoring
- Safety Surveillance tools prepared and deployed in conjunction with the EPI/Ghana Health Service
- Passive/Enhanced Passive; Active Surveillance: Cohort Event Monitoring being done
- Training has been conducted for key actors for safety monitoring
- Online reporting; Telephone; Med-Safety App for reporting: Passive/Enhanced Passive
- Designated spokespersons to respond to rumors and 'sensationalism'
- 2,165 AEFI cases per 647380 vaccinated (334/100,000); 21 (1.0%; Cum Incid 4/100,000) are serious: 16 assessed for causality 5 vaccine product related (all febrile illness); 2 anxiety-related; 7 coincidental/unrelated; 2 indeterminate
## **Commonly reported symptoms/signs**



## Successes and challenges

#### Key Successes

- High level political support from the presidency to local authorities
- Support from partners
- Health and immunization systems provided the platform for the roll-out
- All COVID-19 protocols were being observed at all centres visited

#### Challenges

- High level of misinformation and disinformation especially in social media
- Inadequate tablets for the recording of client information leading to initial long queues and waiting times but being resolved

## Conclusions

- The start of the COVID-19 vaccine roll-out in Ghana has been hugely successful
- With support from partners, the country hopes to achieve its vision of vaccinating all eligible persons to reach herd immunity within the shortest possible time
- Until everyone is safe, no one is safe

# THANK YOU

### MOMENTUM Routine Immunization Transformation and Equity Project

MOMENTUM Routine Immunization Transformation and Equity envisions a world in which all people eligible for immunization, from infancy throughout the life-course, and particularly underserved, marginalized, and vulnerable populations, are regularly reached with high-quality vaccination services and use them to protect their children and themselves against vaccine-preventable diseases.





Project Director: Grace Chee Award Period: July 2020 through July 2025 Amount of Award: \$55 million Obligated Funds (April 2021): \$9.8 million



# Webinar: Maintaining Focus on Routine Immunization through COVID-19 Vaccination

- Vaccinating against COVID-19 is now a top priority for health systems around the world.
- Opportunity to elevate the importance of routine immunization (RI) and consider new ways to reach under-vaccinated populations
- Explore early experiences and strategies to leverage the focus on COVID-19 to strengthen RI, and the entry points for doing so
- Speakers
  - Folake Olayinka, USAID Immunization team
  - Alex de Jonquieres, Gavi, the Vaccine Alliance
  - MOH Mozambique
  - USAID/Mozambique





Date: April 27, 2021 Time: 8:30 – 10:00 am ET Find the link to register in the News section of https://usaidmomentum.org/ or register <u>here</u>

