



# MINET KENYA COVID-19 VACCINATION ADVISORY 2021

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Risk. Reinsurance. People.

## COVID-19 VACCINATION ADVISORY

A pneumonia of unknown cause detected in Wuhan, China, was first reported in December 2019. On 08 January 2020, the pathogen causing this outbreak was identified as a novel coronavirus 2019. The outbreak was declared a Public Health Emergency of International Concern on 30 January 2020. On 12 February 2020, the virus was officially named as Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), and the WHO officially named the disease caused by SARS-CoV-2 as coronavirus disease 2019 (COVID-19). On 11 March 2020, the WHO upgraded the status of the COVID-19 outbreak from epidemic to a pandemic, which is now spreading globally at high speed. Kenya's index case was reported on 12th March 2020.

Globally, as of 2:44pm CET, 10 March 2021, there have been **117,332,262** confirmed cases of COVID-19, including **2,605,356** deaths, reported to WHO. As of 8 March 2021, a total of **268,205,245** vaccine doses have been administered. In Kenya, from 3 January 2020 to 2:44pm CET, 10 March 2021, there have been **109,643** confirmed cases of COVID-19 with **1,886** deaths, reported to WHO.

Minet Kenya has undertaken to collate relevant, authoritative and reputable information on COVID-19 vaccination to guide your strategic response during these unprecedented times.

### 1.0 COVID-19 Variants

#### 1.1 Introduction to Variants

As an infected cell builds new coronaviruses, it occasionally makes tiny copying errors called mutations. Scientists can track mutations as they are passed down through a lineage, which is a branch of the viral family tree.

A group of coronaviruses that share the same inherited set of distinctive mutations is called a variant. Viruses constantly change through mutation, and new variants of a virus are expected to occur over time. If enough mutations accumulate in a lineage, the viruses may evolve clear-cut differences in how they function. These lineages come to be known as strains.

COVID-19 is caused by a coronavirus strain known as SARS-CoV-2.

#### 1.2 COVID-19 Variants

According to the CDC as of 12th February 2021, multiple variants of the COVID-19 virus are circulating globally:

- ◊ The United Kingdom (UK) identified a variant called B.1.1.7 with a large number of mutations in the fall of 2020. This variant spreads more easily and quickly than other variants.
- ◊ In South Africa, another variant called B.1.351 emerged independently of B.1.1.7. Originally detected in early October 2020, B.1.351 shares some mutations with B.1.1.7. This is the only verified variant circulating in Kenya.
- ◊ In Brazil, a variant called P.1 emerged that was first identified in travellers from Brazil, who were tested during routine screening at an airport in Japan, in early January.

These variants seem to spread more easily and quickly than other variants, which may lead to more cases of COVID-19. An increase in the number of cases puts more strain on health care resources, lead to more hospitalizations and potentially more deaths. Rigorous and increased compliance with COVID-19 protocols is highly recommended.

### 2.0 COVID-19 Vaccination

#### 2.1 Introduction

A vaccine is a biological preparation that improves immunity to a particular disease. Diseases are caused by disease-causing organisms known as a pathogen which are made up of several subparts, usually unique to that specific pathogen and the disease it causes. The subpart of a pathogen that causes the formation of antibodies is called an antigen. The antibodies produced in response to the pathogen's antigen are an important part of the immune system.

Each antibody in our system is trained to recognize one specific antigen. We have thousands of different antibodies in our bodies. Once the antigen-specific antibodies are produced, they work with the rest of the immune system to destroy the pathogen and stop the disease.

Once the body produces antibodies in its primary response to an antigen, it also creates antibody-producing memory cells, which remain alive even after the pathogen is defeated by the antibodies. If the body is exposed to the same pathogen more than once, the antibody response is much faster and more effective than the first time around because the memory cells are ready to pump out antibodies against that antigen.

This means that if the person is exposed to a dangerous pathogen in the future, their immune system will be able to respond immediately, protecting against disease.

## 2.1 How Vaccines Work

Vaccines contain weakened or inactive parts of a particular organism (antigen) that triggers an immune response within the body. This weakened version will not cause the disease in the person receiving the vaccine, but it will prompt their immune system to respond much as it would have on its first reaction to the actual pathogen.

## 2.2 Multiple Dosing

Some vaccines require multiple doses, given weeks or months apart. This is sometimes needed to allow for the production of long-lived antibodies and the development of memory cells. In this way, the body is trained to fight the specific disease-causing organism, building up a memory of the pathogen to rapidly fight it if and when exposed in the future.

Kindly note, the second dose of the AstraZeneca Vaccine which is what is currently available in Kenya, is administered between week 4 and 12 after the first dose. When COVID-19 Vaccine AstraZeneca is given for the first injection, the second injection to complete the vaccination course should also be with COVID-19 Vaccine AstraZeneca.

## 2.3 Herd Immunity

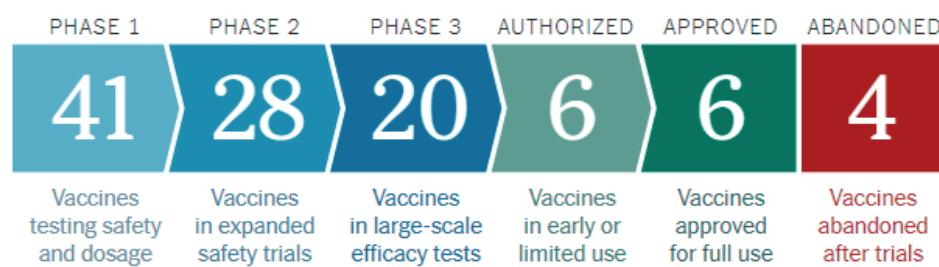
When a lot of people in a community are vaccinated, the pathogen has a hard time circulating because most of the people it encounters are immune. The more people are vaccinated, the less likely people who are unable to be protected by vaccines are at risk of even being exposed to harmful pathogens. This is called herd immunity.

This is especially important for those people who not only can't be vaccinated but may be more susceptible to the diseases we vaccinate against. No single vaccine provides 100% protection, and herd immunity does not provide full protection to those who cannot safely be vaccinated. But with herd immunity, these people will have substantial protection, thanks to those around them being vaccinated.

Vaccinating not only protects yourself but also protects those in the community who are unable to be vaccinated.

## 3.0 COVID-19 VACCINES

As of December 2020, there were over 200 vaccine candidates for COVID-19 being developed. Of these, at least 52 candidate vaccines are in human trials.



The World Health Organization (WHO) has to date approved three vaccines for deployment, namely: Pfizer BionTech, Moderna and AstraZeneca while a few other vaccines are finalizing trials and will be reviewed for registration soon. The above vaccines require two doses for optimal immunogenicity and efficacy. Recently, the US approved the Johnson & Johnson Vaccines. It requires only one dose.

### 3.1 Types of Vaccines

**There are 4 main types of COVID-19 vaccines.**

#### **mRNA vaccines :**

Messenger RNA is a sequence of genetic code which our bodies use all the time – it tells our cells what proteins to build so they can function. To produce an RNA vaccine, scientists develop a synthetic version of the virus messenger RNA. Two RNA COVID-19 vaccines have been approved for use: Pfizer-BioNTech and Moderna. Both have reported high levels of vaccine efficacy – around 95%.

#### **Protein subunit vaccines :**

Include harmless pieces (proteins) of the virus that cause COVID-19 instead of the entire germ. Once vaccinated, our immune system recognizes that the proteins don't belong in the body and begins making antibodies. If we are ever infected in the future, memory cells will recognize and fight the virus. Some of the most advanced COVID-19 vaccines using this approach include Novavax and the Chinese Academy of Sciences.

#### **Vector vaccines :**

Contain a weakened virus that is altered by introducing part of the disease-causing virus' genetic code, such as the code for COVID-19's 'spike' protein. The harmless virus transports the code into our cells in a similar way to RNA vaccines which then start to produce the protein. This triggers an immune response, priming our immune system to attack the real virus later. Oxford-AstraZeneca is the first viral vector vaccine to be approved for COVID-19. Johnson & Johnson is also a vector vaccine

#### **'Whole' virus vaccines**

These vaccines could be:

- ◊ Inactivated; a version of the virus is inactivated by being exposed to heat, chemicals or radiation.
- ◊ Virus-like particle; a version of the virus, closely resembling the real thing, is created artificially, however it doesn't contain any genetic material, so it's not infectious

Some of the most advanced inactivated COVID-19 vaccines in development include Sinovac, Bharat Biotech and two by Sinopharm.

### 3.2 How COVID-19 Vaccines Work

COVID-19 vaccines help our bodies develop immunity to the virus that causes COVID-19 without us having to get the illness. It typically takes a few weeks for the body to produce antibodies. Therefore, it is possible that a person could be infected with the virus that causes COVID-19 just before or just after vaccination and then gets sick because the vaccine did not have enough time to provide protection.

Sometimes after vaccination, the process of building immunity can cause symptoms, such as fever. These symptoms are normal and are a sign that the body is building immunity.

### 3.3 COVID-19 Vaccination Side Effects

Approved COVID-19 vaccines are safe, effective and are closely monitored by the authorising bodies. Like all medicines, COVID-19 vaccines can cause side effects, although not everybody gets them. Most side effects are mild to moderate in nature and resolve within a few days.

- ◊ **Very Common (may affect more than 1 in 10 people)** – Tenderness, pain, warmth, itching or bruising where the injection is given, generally feeling unwell, feeling tired, chills or feeling feverish, headache, nausea, joint pain or muscle ache.
- ◊ **Common (may affect up to 1 in 10 people)** – swelling, redness or a lump at the injection site, fever, vomiting or diarrhoea, flu-like symptoms, such as high temperature, sore throat, runny nose, cough and chills\*
- ◊ **Uncommon (may affect up to 1 in 100 people)** – Dizziness, decreased appetite, abdominal pain, enlarged lymph nodes, excessive sweating, itchy skin or rash.
- ◊ **Rare** – Severe allergic reaction (anaphylaxis)

### 3.4 Comparative table of different COVID-19 vaccines

Company	Type	Dose	Effectiveness	Storage	Other Vaccines using this technology
Pfizer-BioNtech	RNA	2	95%	Minus 20C for 6months and 2 to 8C for up to 30days	None licensed
Moderna	RNA	2	95%	Minus 70C and 2 to 8C for up to 5days	
Oxford AstraZeneca	Viral vector	2	62%	2-8°C	Ebola
CanSino biologics	Viral vector	2	66%	2-8°C	
Gamaleya Research Institute	Viral vector	2	92%	2-8°C	
Johnson & Johnson	Viral vector	1	66%	2-8°C	
Sinovac	Whole virus-inactivated	2	79%	2-8°C	Whooping cough, rabies, Hepatitis A, HPV
Bharat Biotech	Whole virus-inactivated	2	Not available	2-8°C	
Sinopharm	Whole virus-inactivated	2	79%	2-8°C	
Medicago Inc	Whole virus-virus like particle	2	Not available	2-8°C	
Novavax	Protein Subunit	2	89%	2-8°C	Hepatitis B
Chinese Academy of Science	Protein Subunit	2	74%	2-8°C	

### 3.5 COVID-19 Vaccine Eligibility

- ◊ COVID-19 vaccines are approved for use in adults aged 16 years and above. (AstraZeneca is approved for 18 years and above)
- ◊ Vaccination can be offered to people who have had COVID-19 in the past.
- ◊ Vaccination can be offered to people with underlying conditions including HIV
- ◊ **Pregnancy and breastfeeding:** There is limited data on the use of COVID-19 Vaccine in pregnant and nursing mothers and the concerned should discuss with their healthcare provider whether to vaccinate or not. The American College of Obstetricians and Gynecologists (ACOG) recommends that the COVID-19 vaccine should not be withheld from pregnant or breastfeeding individuals.
- ◊ People with a severe allergic reaction to any component of the COVID-19 vaccine should NOT receive the vaccine.
- ◊ People with a severe allergic reaction to any vaccine or injectable (intramuscular or intravenous) medication should consult with their health provider to assess risk prior to receiving the COVID-19 vaccine.
- ◊ Everyone else with severe allergic reactions to foods, oral medications, latex, pets, insects, and environmental triggers may get vaccinated.

### 3.6 COVID-19 Vaccination Prioritized Groups

To promote COVID-19 vaccine equity and access, the WHO's Strategic Advisory Group of Experts on Immunization has determined the below as the priority groups.

- ◊ Frontline workers in health and social care settings
- ◊ People over the age of 65
- ◊ People under the age of 65 who have underlying health conditions that put them at a higher risk of death.

### 3.7 Kenya COVID-19 Vaccine Distribution Plan

The National Emergency Response Committee and the Kenya National Immunization Technical Advisory Group endorsed the introduction of the COVID-19 vaccine in Kenya. Subsequently, the Ministry of Health, Kenya issued a National COVID-19 Vaccines Deployment and Vaccination Plan in Jan 2021.

Kenya plans to vaccinate 30% (or 15.8Million) of a total population of 49,070,876 by the end of June 2023 in 3 phases.

**Phase I:** the initial COVID-19 vaccine supply will be limited. Early vaccination will focus on administration sites that can reach prioritized populations with as much throughput as possible- Levels IV, V and VI hospitals estimated at 5% of the total facilities (Approx. 284 GoK and 195 Private Health Facilities (HF) );

**Phase II:** will focus on administration sites most effectively able to assess comorbidities. Level III and above (Approx. 1,302 GoK and 2,582 Private HFs).

**Phase III:** will focus on all immunizing facilities (Approx. 4,338 GoK and 3,539 Private HFs) to achieve equity.

#### Phase I (Q3 & Q4, FY 2020/2021)

- Vaccine supply limited
- Focus: Rapidly reaching critical target populations
- Priority Group: Front line Health Care Workers (HCWs- Including CHWs) Critical/ Essential Workers
- Target Population: 1.25 Million

#### Phase II (FY 2021/2022)

- Larger number of vaccine doses available
- Focus: Rapidly reaching target populations most vulnerable to severe disease and death
- Priority Group: Persons >50 years and those >18 years with co-morbidities
- Target population: 9.76 Million

#### Phase III (FY 2022/2023)

- Sufficient supply of vaccine doses
- Focus: Ensuring equitable vaccination of other vulnerable groups
- Priority Groups: Persons > 18 years in congregate settings, Hospitality and tourism industry
- Target Population: 9.8 Million

Kenya will consider negative storage temperature vaccines during phase II and III. Individuals will need to receive at least 2 doses of vaccine; During the rollout, the Ministry of Health will hold a second dose reserve to ensure that the individual receives the same vaccine. Key milestones on the rollout are as shown in the figure below.

Key Timelines and Milestones for the Rollout of COVID-19 Vaccine in Kenya

No.	Milestones	Jan				Feb				Mar				Apr				May				Jun			
		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	Training of Subcounty HMTs and Health Workers																								
6	Arrival of Phase I doses of vaccines & Distribution to service delivery points																								
7	Launch of the COVID Vaccination in Country																								
8	Community Mobilization to create demand for the COVID Vaccine																								
9	Airing of Print and Electronic Messages & Bulk Messaging																								
10	Implementation Level Monitoring Visits																								

### **3.8 Arrival of COVID-19 Vaccine in Kenya**

1.02 million doses of the AstraZeneca-Oxford COVID-19 vaccine arrived at Jomo Kenyatta International Airport, in Nairobi just before midnight on 2nd March 2021. The vaccines were transported by UNICEF as part of the COVAX facility, which aims to provide equitable access to vaccines for all countries around the world.

The vaccines arrived on Qatar Airways flight QR1341, which was met at the airport by senior Kenya Government officials led by Cabinet Secretary for Health Hon Mutahi Kagwe, UNICEF Representative to Kenya Maniza Zaman and World Health Organisation (WHO) Representative to Kenya Dr Rudi Eggers. This is the first consignment of 1.02 million doses is part of an initial allocation to Kenya of 3.56 million doses.

### **3.9 Procurement of COVID-19 Vaccines**

At present, all COVID-19 vaccine procurement is being done purely via the government and none via private supply/ imports. This is to ensure broad and equitable access to the vaccine at nonprofit for the duration of the pandemic. The government will distribute the vaccines in Kenya as highlighted above.

### **3.10 Vaccine Costs**

The COVID-19 vaccine cost is estimated to be between Kes 240 to Kes 6,000 per dose depending on the type and the amount procured at a time. The AstraZeneca vaccine is the most affordable while Sinovac is on the higher side.

### **4.0 COVID-19 Vaccine Insurance Coverage**

COVID 19 vaccines are currently not covered by insurance largely due to the fact the Government of Kenya is catering for the entire vaccine costs. As your trusted broker, Minet Kenya is in discussion with the underwriters to push for coverage should the Government of Kenya be unable to cater for the vaccine costs in future and private importation is allowed.

### **Bottom Line**

Safe and effective vaccines will be a gamechanger: but for the foreseeable future, we must continue to wear masks, physically distance, avoid crowds and apply other health measures. Being vaccinated doesn't mean that we can throw caution to the wind and put ourselves and others at risk, particularly because it is still not clear the degree to which the vaccines can protect not only against disease but also against infection and transmission. Stopping a pandemic requires using all the tools available.

### **Dissemination of Information**

Minet recommends employers disseminate this communication and other relevant information to their staff to manage the spread of misinformation and allay any staff uncertainties.

Additionally, Minet Kenya will be inviting clients to our interactive webinars with key information and facts about COVID-19 Vaccination conducted by relevant medical professionals.

#### **Source:**

<https://www.cdc.gov/coronavirus/2019-ncov/transmission/variant.html>

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines>

<https://www.who.int/csr/don/31-december-2020-sars-cov2-variants/en/>

<https://ourworldindata.org/covid-vaccinations>

<https://www.cdc.gov/coronavirus/2019-ncov/vaccines/expect/after.html>

<https://www.unicef.org/kenya/press-releases/over-1-million-covid-19-vaccine-doses-arrive-nairobi-via-covax-facility>

<https://www.health.go.ke/cs-kagwe-receives-first-covid-19-vaccine-consignment/>

<https://yalehealth.yale.edu/yale-covid-19-vaccine-program/who-should-and-shouldnt-get-covid-19-vaccine>

National COVID-19 Vaccines Deployment and Vaccination Plan, 2021