

The background of the slide features a microscopic view of cells and virus particles. The cells are shown in various stages of division and are rendered in shades of blue and cyan. The virus particles are spherical and covered in small, protruding spikes, also in shades of blue and cyan. The overall background is a dark blue gradient.

COVID-19

Pandemic

Awareness & Prevention

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What is COVID-19

- ❑ A Virus, Coronavirus of Family *Coronaviridae*
- ❑ New virus called “SARS-CoV-2 or COVID-19
- ❑ Origin: Wuhan, China – outbreak Nov 2019
- ❑ Causes Infection of Lower Respiratory Tract, Lungs
- ❑ Infects all ages, races, gender, social groups
- ❑ Cause of present Pandemic
- ❑ Similar to other Coronaviruses:
 - Severe Acute Respiratory Syndrome (SARS)
 - Middle Eastern Respiratory Syndrome (MERS)



Case Comparison

Global Confirmed COVID-19 Cases

2,167,955

Global COVID-19 Deaths

146,055

Global Fatality Rate

6.7%

Confirmed Cases Deaths Fatality Rate

Liberia

73

7

8.2%

Guinea

438

1

1.2%

Cote D'Ivoire

688

6

0.8%

Sierra Leone

15

0

0%

Symptoms of COVID-19 Infection

PRE-SYMPTOMATIC

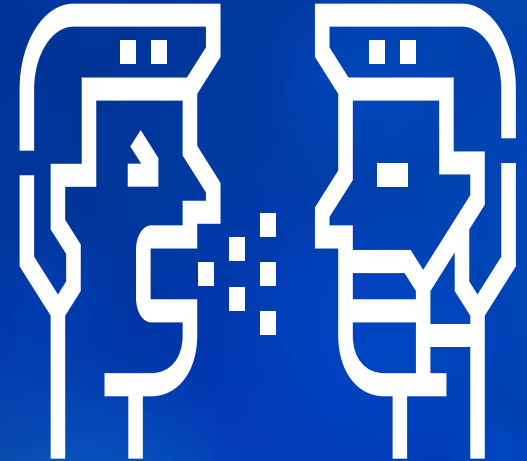
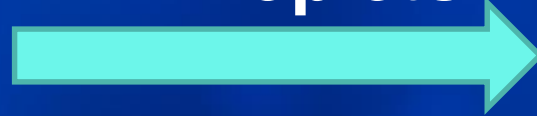
ASYMPTOMATIC

- Fever : $>100.4^{\circ}\text{F}$ (38°C)
- Coughing, Sneezing
- Chest pain
- Laboured Breathing
- Body ache, Fatigue
- Diarrhea
- Nausea
- Vomiting, etc.

Transmission of COVID-19

- Coughing
- Sneezing
- Talking

Air Droplets



- Virus on surfaces
- Touching face, nose, mouth

Course of Infection

MILD

- ❑ About 81% of Patients
- ❑ Mild Symptoms, Pneumonia

SEVERE

- ❑ About 14 - 50% of Patients
- ❑ Shortness of Breath, Lung Image

CRITICAL

- ❑ About 5% of Patients
- ❑ Respiratory Failure, Shock
- ❑ Multiorgan Dysfunction

- ❑ **The elderly and people with underlying health conditions most affected**

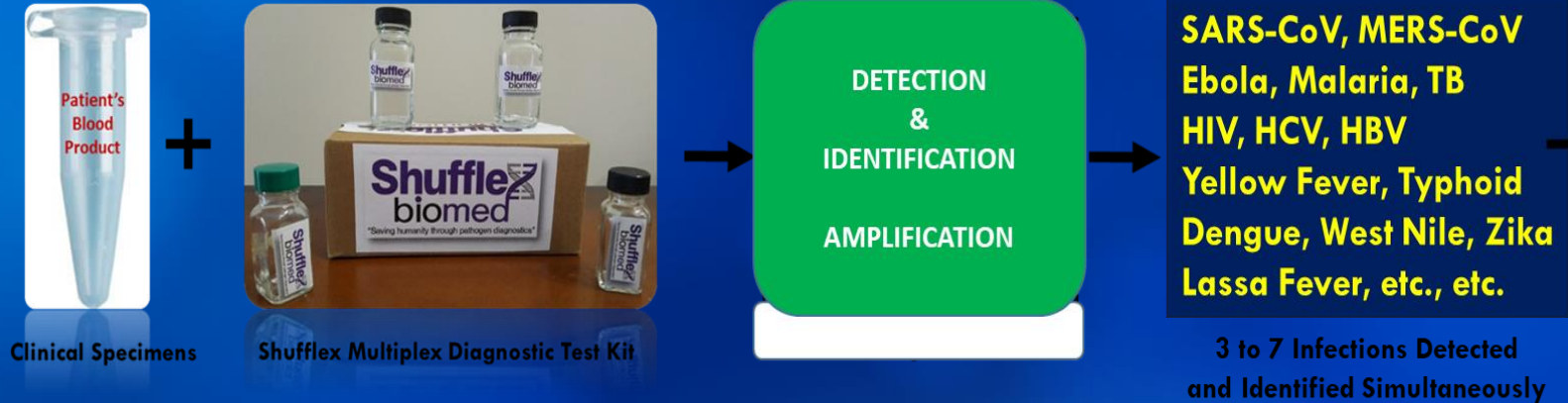
Diagnosis of COVID-19



- ❑ Differential Clinical symptoms
- ❑ Laboratory, Molecular Biology
- ❑ Diagnostic devices
- ❑ (Rapid Tests, X-rays, CT)

Detection & Identification of 3 – 7 Infections in 10 – 40 Minutes

Illustrations of Shufflex Biomed Detection System – The NYAN-TEST



- ❑ Test results in 10-40 min
- ❑ Easy and simple to use
- ❑ Accurate and sensitive
- ❑ Tests up to 50 samples/hr
- ❑ Portable, light weight

Treatment

(Symptomatic)

- ❑ Fever-reducing drugs
- ❑ Acetaminophen (Tylenol)
- ❑ Paracetamol
- ❑ Cuba's Alpha Interferon 2b, etc.,
- ❑ Assisted Respiration - Ventilator
- ❑ **No Chloroquine, Hydroxychloroquine now**
- ❑ **No Ibuprofen**
- ❑ **No Antibiotics (don't work for Viruses)**

Prevention & Mitigation

(Implementation: Consider local, cultural, socio-economic realities)

- Lock Down
- Stay-At-Home
- Curfew

- Mass Testing
- Isolation
- Quarantine
- Treatment

Vaccines Development in Progress

Prevention & Mitigation Cont'd

- ❑ Wear Face Mask, Shield
- ❑ Hand-Washing with soap
- ❑ Hand-Sanitizing with >65% Alcohol/Gel
- ❑ Social-Physical Distancing >6-7 feet
- ❑ No Hand-Shaking, No Hugging
- ❑ Sneeze/Cough in inner angle of elbow



N95 Mask



Surgical Mask



African Prints Mask

- ❑ Ingenious use of local resources
- ❑ Provide PPEs for health workers
- ❑ Support health frontline workers
- ❑ Support Public Health Institutes

SHUFFLEX BIOMED TEAM

Chief Medical & Scientific
Officer

Board of
Advisors/Directors

Legal, Business, &
Administrative

Innovation & Molecular
Diagnostic



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