

## Summary Report

Global COVID-19 Network | Webinar Learning Series

# Global Epidemiology, Coronavirus Emergence, and its trajectory

## Moderator

- **Dr. Subhash Hira** | Professor of Global Health, University of Washington, Seattle; Sambodhi/ISRN New Delhi

## Speakers\_

- **Dr. Yassa Pierre** | Dean of School of Medicine, University Simon Kimbangu; Visiting Professor in Zambia
- **Dr. Dermot Maher** | Coordinator for research, Capacity Strengthening and Knowledge Management, TDR, World Health Organization, Geneva
- **Dr. Judith Wasserhiet** | Chair of Global Health, University of Washington, Seattle

## Sponsors\_

- **Mr. Sudhanshu Malhotra** | Vice-President, Sambodhi Research and Communications, India
- **Mr. Santosh Gupta** | CEO, Indian Social Responsibility Network, India

## Discussion overview

The first session of the Webinar Learning Series on “Global Epidemiology, Coronavirus Emergence and its trajectory” was attended by speakers and participants from across India, Africa, USA, Belgium and Geneva, bringing together perspectives and exchange on comparative patterns of transmission across geographies and challenges pertaining to testing, prevention and control.

Dr. Subhash Hira, Moderator for the session, introduced the structure along with setting up the context for the webinar. He also followed that up with a short discussion on the four stages of the pandemic and the disproportionate nature of symptomatic and asymptomatic infections in the ratio of 2:8 .

Dr. Dermot Maher, panelist representing the WHO, traced the emergence of the virus from China and its spread across different geographies over a four-month timespan. He discussed the importance of learning from the experiences of other countries, stressing on the case histories of China, South Korea, and Singapore. Concluding by stressing the importance of testing in breaking the chain of transmission, he raised concerns over the low numbers of reported cases in Africa and South-East Asia deliberating whether this was a product of actual low transmissions, or inadequate testing and reporting. He reiterated on the importance of testing and surveillance for all countries as an important public health tool for containment of the virus.

Dr. Pierre Yassa, the second panelist for the webinar from DRC, traced the trajectory of the virus spread in Congo and the distribution across provinces. Stating challenges pertaining to the limited nature of testing facilities, he stressed the need for the funding to establish more labs throughout the region for effective diagnosis. Outlining factors that contributed to the effective containment of Ebola in DRC, Dr. Yassa pointed out how countries could extract valuable lessons in controlling COVID-19.

Lastly, joining us through a pre-recorded presentation, Dr. Judith Wasserhiet of University of Washington-Seattle, shared valuable insights on the importance of increasing the case doubling time of the epidemic in order to flatten the curve. Laying out the basic framework of controlling the reproductive rate of the virus through breaking transmission and immunization, Dr. Wasserhiet concluded with the various steps required for pandemic control. She stressed the importance of global collaboration and partnerships for prevention and control of pandemics, which are, by definition itself, global.

## Detailed summary

### Dr. Subhash Hira

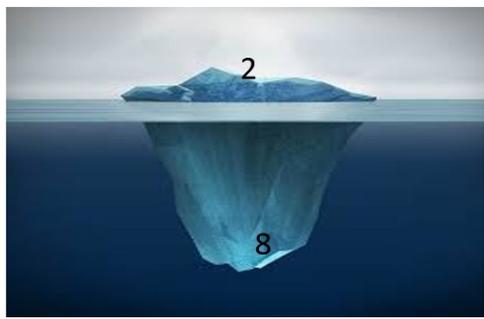
#### Standout Quotes

*“What we see with COVID-19 is a disproportionate split between symptomatic and asymptomatic cases, as the visual of this iceberg depicts. While this is not uncommon for respiratory infections, it greatly adds to the contagiousness of the coronavirus as asymptomatic carriers continue to transmit the infection”.*

[Refer Slide 1]

#### Standout Slides

##### COVID-19 :Dz vs Asymtomatic



Slide 1

##### Four Stages of COVID-19

1. Infection just introduced for first time, generally thru travellers. eg African countries
2. Local transm to close contacts and groups. eg India, SE Asian countries
3. Community transm occurs, generally making it difficult to trace the source of spread.
4. Widespread outbreak when transm goes exponential and has no end in sight. USA, Italy, Spain.

Slide 2

### Dr. Dermot Maher

## Standout Quotes

*“China is an important case history in understanding the epidemiology and trajectory of the pandemic. The virus emerged in China, and post institutional measures was the first to curb transmission. It is not the only country to have done it. Korea was also one of the first countries where the virus spread, and then through very rigorous societal measures, they were able to rapidly control the epidemic. This was also seen in Hong Kong and Taiwan”.*

*“The case of Singapore is an important example. It was one of the first to see the beginnings of the epidemic. They instituted very rigorous society-wide measures and turned off the epidemic. However, Singapore is now an example of one of the few countries that is seeing the second wave. Because although Singapore turned off the first wave, they were unable to concentrate on the immigrant workers who are now at the center of the onset of the second wave. If we look around the world, nations should not be wanting to not heed to lessons learned from other nations. Every country has its own experiences, which can serve as lessons for other nations. The second wave experience in Singapore is a pointer to other countries to learn from”.*

*“There is a variable relationship between number of cases reported by a country or territory and the number of cases that are really happening. Different factors affect that relationship. What is very important is the testing policy – how many people are being tested in the country”.*

*“The South East Asia region has observed a slight increase recently. The cases have not expanded as quickly as they have in Europe and America”.*

*“In the WHO Africa region, cases have been reported at quite a low level over the last month. Are we seeing low cases reported because the cases happening are low, or because there are lots of cases which are not being diagnosed and reported?”*

*“We have never in our lifetimes experienced such a phenomenon”.*

*“Testing is essential as a public health response. If I were to summarize control strategies in just three words: Test, Test, and Test! Around the world, very few countries have taken that advice. Probably to the detriment of the control of the pandemic. This was crucial and strongly recommended by the WHO, but a lot countries have not taken this seriously”. [WHO visual – breaking the chain of transmission]*

*“Timing of the testing is important. When you look at the phase of infection, the phase where the virus is detected occurs earlier than the phase of onset of symptoms. This is a very important point. We know that some people have the virus and may well be infected before becoming symptomatic. We still have a lot to find out about the virus, but this is one of the key features. What is the true proportion of people who have the virus before they become symptomatic, what is the duration of that period, and how infectious are they during that period, and how much do those people contribute to overall infection?” [Refer Slide 4]*

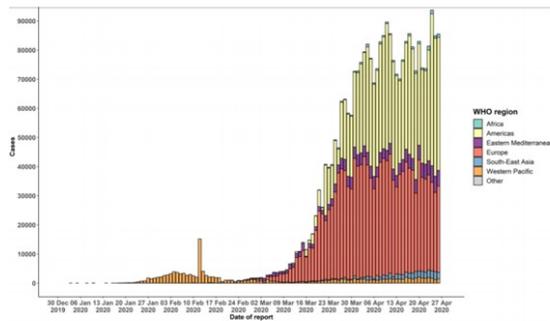
*“Antibody response – How protective is the IgG response, and how long does it last?”*

*“Solidarity clinical trials for COVID treatments are underway by WHO. 4 drugs currently being tested: Remdesivir, Lopinavir/Ritonavir, Lopinavir/Ritonavir with Interferon beta-1a, Chloroquine or Hydroxychloroquine”.*

*“At the time when WHO is trying to raise money for testing, countries are also facing crashing economies and hence have lesser money to contribute to WHO. The USA, the single largest funder of WHO, might also significantly roll-back funding”.*

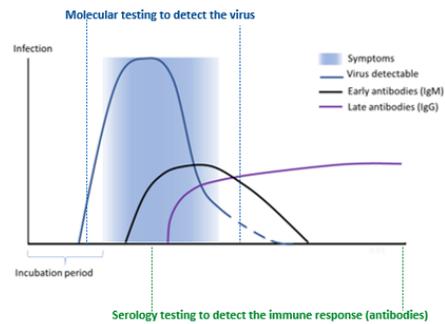
## Standout Slides

Epidemic curve of confirmed COVID-19, by date of report and WHO region through 27 April 2020



Slide 3

Testing COVID-19 infection  
The timing of testing is important



Slide 4

## Dr. Pierre Yassa

### Standout Quotes

*“Since we do not have a vaccine yet, the reproductive rate of the virus will have to be contained through reducing the contacts or exposure. This included social distancing norms, quarantining, wearing masks, hand washing etc. This was also the means through which we fought Ebola in west Africa”.*

*“Currently in DRC, there is only one testing lab facility operational in the capital city of Kinshasa. Samples have to be transported by air from other regions to this facility”.*

### Lessons from Ebola:

- **Research.** During the Ebola outbreak, research on treatments and vaccines as well as monitoring of usage of masks were underway.
- **Test results turned around quickly.** We had rapid testing at the point of care and the results were shared within rapid time intervals.
- **Licensed Vaccine.** A vaccine for Ebola was developed and doctors were therefore protected. Other medical resources and equipment were present.
- **Effectiveness of the vaccine.** The vaccines used were 90% successful.
- **Support to survivors.** Effective care and support was provided to patients who recovered through regularized visits every month for six months and every three months for one year.
- **Community engagement.** Ebola was contained owing to the co-ordination and support of all community members who contributed.
- **Funding.** Ebola received strong funding for testing, setting up equipment and other medical resources.

### Standout Slides

## How to end the COVID 19 IN CONGO and challenges

- Viral & serological testing ( Only one Lab in Kinshasa???)
- Contact tracing
- Therapeutic & prophylactic drugs ( Prof Raoul Protocol only)
- Vaccines Not available
- Delivery & surveillance systems In place
- Monitoring & evaluation established and working
- Sustained funding for pandemic disease ( very weak)
- preparedness programs & research ( drafted)

Slide 5

## Dr. Judith Wasserhiet

### Standout Quotes

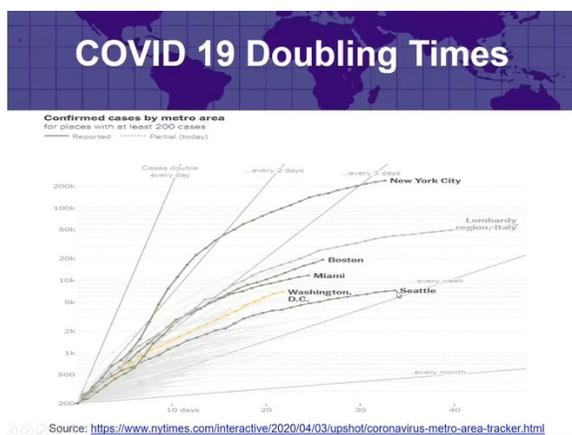
*“We need to think about increasing the case doubling time of national and localized epidemics as a means of flattening the curve. For the US, from a doubling time of roughly 2-3 days the curve has shifted to a span of every 9-10 days. Most US metros reflect the same estimates. Here is where we see the first signs of beginning to control the epidemic”. [Refer to Slide 7]*

*“One thing I learnt as an infectious disease physician and epidemiologist, is that if you want to beat a virus, you actually have to think like a virus”. [Refer to Slide 8]*

*“We need sustained funding for pandemic disease preparedness programs and research, something that we have never had despite a series of pandemic disease outbreaks previously”.*

*“Pandemics by definition are global. Hence, we need ongoing global collaboration for prevention and control”.*

### Standout Slides



Slide 6

- Link to essential human functions (eg: breathing, sex)
- Travel under cover (asymptomatic, minimally or pre-symptomatic transmission)
- Stay infectious as long as possible
- Be slow to kill (or severely debilitate) your host
- Keep changing your appearance

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Slide 7

Social distancing behavior,  
hand washing, masks

$$1 \leq c$$

$$\beta D$$

Vaccines & treatment

- $R_0$  = reproductive rate
- $\beta$  = transmission efficiency
- $c$  = contact (exposure) rate
- $D$  = duration of infectiousness

Brunham & Plummer. A general model of STD epidemiology & implications for control. Med Clin North Am 1990;74:1339-52

Slide 8

## Ending the Pandemic & De-escalating

- Viral & serological testing (ideally home-based)
- Contact tracing (IT-assisted?)
- Therapeutic & prophylactic drugs
- Vaccines
- Delivery & surveillance systems
- Monitoring & evaluation
- Sustained funding for pandemic disease preparedness programs & research
- Global collaboration for prevention & control

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Slide 9