INTERNATIONAL COVID-19 CONFERENCE: LESSONS LEARNED

May 14th, 2021
7:30AM - 3:30PM PT
<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM</td>
<td>Introductory Remarks</td>
</tr>
<tr>
<td>7:45 AM</td>
<td>Keynote Speaker</td>
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<tr>
<td>8:00 AM</td>
<td>Session 1: Public Health</td>
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<tr>
<td>9:00 AM</td>
<td>Session 2: Data &amp; Research</td>
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<td>10:00 AM</td>
<td>15-Minute Break</td>
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<tr>
<td>10:15 AM</td>
<td>Special Session: The Patient Perspective</td>
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<tr>
<td>10:30 AM</td>
<td>Session 3: Clinical Care</td>
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<tr>
<td>11:30 AM</td>
<td>Session 4: Health Disparities</td>
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<td>12:30 PM</td>
<td>15-Minute Break</td>
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<tr>
<td>12:45 PM</td>
<td>Session 5: Vaccines</td>
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<td>1:45 PM</td>
<td>Session 6: Mental Health</td>
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<td>2:45 PM</td>
<td>Summary Panel</td>
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<td>3:15 PM</td>
<td>Closing Remarks</td>
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Introductory Remarks

May 14th, 2021
7:30 AM to 7:45 AM (Pacific Time)
First Keynote Talk

May 14th, 2021

7:45 AM to 8:00 AM (Pacific Time)
Lessons from COVID-19 in Peru

Dr. Patty Garcia, MD, MPH
Dean of the School of Public Health, Cayetano Heredia University
Lessons from Rwanda’s COVID-19 Response

Stanford Center for Asian Research and Care and the Center for Innovation in Global Health

May 14, 2021

Agnes Binagwaho, M.D., M(Ped), Ph.D.
Vice Chancellor, University of Global Health Equity
Senior Lecturer, Department of Global Health and Social Medicine, Harvard Medical School
Clinical Professor of Pediatrics, Geisel School of Medicine at Dartmouth

Twitter @agnesbinagwaho
Overview

**Main objective:** Discuss the four pillars of Rwanda’s COVID-19 response, with the goal of sharing lessons for the current pandemic and any future health threats. (Status in Rwanda – 24,486 cases & 342 deaths as of May 13, 2021)

**Structure:**
- Explore how Rwanda focused on making decisions based on science;
- Discuss Rwanda’s equity approach as a key component of its successful COVID-19 preparedness and response efforts;
- Discuss the foundational role trust plays in response to health crises;
- Examine the role of Rwanda’s strong healthcare system in mitigating the indirect impacts of the pandemic on health service delivery.
1) Evidence Based Decision-Making

a) Adoption of known evidence-based interventions

b) Understanding and adapting to local contextual factors
   - Low-income country ($820 GDP per capita)
   - Large informal sector (64%)
   - Land-locked

c) Adaptation of guidelines based on spread of the disease

d) Vaccine priority list based on scientific risk calculation
   - Frontline and healthcare workers
   - The elderly
   - People with underlying conditions
   - Overcrowded populations
     (e.g. refugee camps, prisons)

2) Equity Based Approach

Equitable Access to COVID-19 health services

- Free testing and contact tracing for all at risk.
- Quarantine, isolation and treatment all provided at no cost.
- **Why?** Those who can't afford to access these services will not.

Financial Assistance to the Most Vulnerable

- Local leaders identify at-risk households in each village.
- Welfare support in Kigali during lockdowns: 150,000 in January 2021.
- Gov’t officials forfeited their April 2020 salaries to support the financial relief program and were followed by many.
- Cash transfers to informal sector workers, tax relief for all, delayed rent and utility payments
3) Leveraging Trust in the Health System

Building community **trust** in the public health system through **participatory**, **human centered policies**, and a decision making process that focuses on the **vulnerable**.

Greater **access** to quality health services; better health **outcomes**; reduced mortality, improved life expectancy.

**Consistency in communication at all levels – political and technical**

Increased **health-seeking behavior**; **compliance** with gov’t guidelines; **adherence** to treatment regimens.
4) Resilient Health System

Leveraging Existing Strategies

Examples: Ambulance for patient transport; Mass campaigns; Tracking missing cases of vaccinations

Decentralized Healthcare System

Bringing the care to where people live (especially relevant during periods of movement restriction)

Vaccination Coverage for Key Antigens, 2019-2020

Source: Données du Ministère de la Santé 2016
Thank you!
Laboratory and Epidemiology Communications

Cluster-Based Approach to Coronavirus Disease 2019 (COVID-19) Response in Japan, from February to April 2020

Elucidate “avenue” of transmission="super spreading event"

Important notice for preventing COVID-19 outbreaks.

Avoid the "Three Cs"!

1. Closed spaces with poor ventilation.
2. Crowded places with many people nearby.
3. Close-contact settings such as close-range conversations.

One of the key measures against COVID-19 is to prevent occurrence of clusters. Keep these "Three Cs" from overlapping in daily life.

The risk of occurrence of clusters is particularly high when the "Three Cs" overlap!

In addition to the "Three Cs" items used by multiple people should be disinfected.
Confirmed cases and effective reproduction number
From 1/15/2020 to current
Japan

Waves have kept coming…….
What’s wrong?
Specific to 🇯🇵

• Factors associated with behaviour change

• Vaccine roll-out  (But not just us)

• Transparency
Second Wave in India
Challenges in Clinical care

Dr Giridhara R Babu
Professor,
Head-Lifecourse Epidemiology,
Indian Institute of Public Health
PHFI Bengaluru
Multiples Waves across the Globe including India

Number of moderate cases considering 15% as moderate cases: 546,094

Number of severe cases considering 5% as severe cases: 182,032
Treatment strategy for COVID-19

Suspect COVID-19 case

Mild
- Covid care center
- Test for COVID-19
  - Positive: Home Isolation or CCC
  - Negative: Shift to confirmed section of CHC, shift to CDH if necessary

Moderate
- Dedicated Covid Health center
- Test for COVID-19
  - Positive: Shift to confirmed section of CHC, shift to CDH if necessary
  - Negative: Remain in ICU facility

Severe
- Covid Hospital with ICU facility
- Test for COVID-19
  - Positive: Remain in ICU facility
  - Negative: Deaths

Factors:
- Mild & moderate distress
- Severe distress
- Lack of Beds
- Late Detection
- Deaths
Current Status

Oxygen

- Daily production capacity 7,100 tonnes of v/s total demand 3,842 tonnes.
- Logistics, availability and Distribution is a problem
- Solutions in place
  - Armed Forces
  - Industrial support
  - Indian Railways, trucks
  - Oxygen concentrators

Health System

- Overcrowding of critical care facilities
- Barriers of access to services and medicines,
- Lack of public health knowledge and stigma
- Shortage of hospital beds, medicines,
- Shortage of vaccine supply
- Crematorium are overwhelmed
Lessons learnt

- Public health services need an upgrade.
- Strengthen Primary healthcare services
- Hire the Frontline health workers
- Step up the critical care capacity
  - Steroids
  - Oxygen
- Continue public health regulations
  - No substitute for masks, hand hygiene

Oxygen demand and supply

<table>
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<tr>
<th>Daily consumption (MT)*</th>
<th>Daily production capacity (MT)</th>
<th>Current stocks (MT) (Medical and Industrial)</th>
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<tbody>
<tr>
<td>3,842</td>
<td>7,287</td>
<td>50,000</td>
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* Data as of 14 April 2021. Source: MoHFW
Lesson learnt from second wave

**Vaccination:** need improved supply

**Better Pandemic Preparedness**

**Surveillance system**

Health workforce

**Concurrent** Genetic sequencing

**Improve data governance**

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**3E strategy**

Efficient Entry into hospitals (Community Triage)
Efficient Exit (Discharge)
Empower the Hospitals in the Ward.
Detection of airborne SARS-CoV-2 and risk to healthcare workers in Bangladeshi hospitals

Christopher LeBoa
CARE: International COVID-19 Conference
May 13, 2021
Role of aerosols in Sars-CoV-2 transmission

- Increasing acknowledgement of aerosol transmission of COVID-19
  - Several papers looking at environmental sampling of air in hospitals
    - Essentially positive controls
    - All artificially ventilated spaces

- WHO recommendations for naturally ventilated settings:
  - > 12 air changes per hour
  - > 60 L/s/p (CO₂ ppm < 500)
Our Study

Goals

1. Assess ability to detect COVID in aerosol form in naturally ventilated health care setting and assess relationship of ventilation with positivity

2. Understand drivers of ventilation in these settings

3. Estimate risk to health care workers

Data Collection:

- Collect 30 minute air samples from middle of room >1 m from ground and any patient
- Analyze samples using qPCR
  - CDC optimized assay
  - Two daily negative controls
- Collect ventilation parameters in each room
  - CO₂
  - People
  - Windows/ doors
Sars-CoV-2 recovery from samples

<table>
<thead>
<tr>
<th>COVID space</th>
<th>Type of sampling space</th>
<th>n</th>
<th>Positivity</th>
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<tbody>
<tr>
<td>COVID</td>
<td>ICU</td>
<td>9</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>Open ward</td>
<td>24</td>
<td>17%</td>
</tr>
<tr>
<td></td>
<td>Private room</td>
<td>18</td>
<td>22%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>14</td>
<td>7%</td>
</tr>
<tr>
<td>Non-COVID</td>
<td>Outpatient department</td>
<td>12</td>
<td>50%</td>
</tr>
<tr>
<td></td>
<td>Open ward</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>86</td>
<td>16 (19%)</td>
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PR: 0.88 (95% CI: 0.3 - 2.6)
Ventilation in sampling spaces
Risk of SARS-CoV-2 infection over 40-hour time period, by type sampling space

Note: Gray lines are Wells Riley simulation-specific averages of the median risk by type of sampling space. Yellow line is the overall median over time and the yellow area is the 95%