Global Health Cast 38
May 23, 2023

Every Week
12.00 noon - CET

Dr. Melvin Sanicas
@Vaccinologist

Prof. Dr. Joe Schmitt
@Prof_Schmitt
What we talk about today

- What to expect with the end of PHE for COVID
- SARS-CoV-2 at the Huanan Seafood Market
- VACCELERATE network
- RSV–bronchiolitis and risk of recurrent wheezing (RW) and asthma
- “Most Infectious Diseases” – Ebola and Marburg Virus
WHAT CAN YOU EXPECT WHEN COVID PHE ENDS?
Surveillance of SARS-CoV-2 at the Huanan Seafood Market

Current Site Vaccinate Site Network Mapping - Overall registered sites
# VACCELERATE Site Network utilisation since set up.

<table>
<thead>
<tr>
<th>Utilisation date</th>
<th>Pathogen</th>
<th>User</th>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2020</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
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<tr>
<td>October 2020</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>February 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
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<tr>
<td>February 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
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<tr>
<td>February 2021</td>
<td>Orthomyxoviridae</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>March 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>March 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>July 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
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<tr>
<td>July 2021</td>
<td>SARS-CoV-2</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
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<tr>
<td>August 2021</td>
<td>SARS-CoV-2</td>
<td>Academic trial</td>
<td>Vaccine trial</td>
</tr>
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<td>SARS-CoV-2</td>
<td>Academic trial</td>
<td>Vaccine trial</td>
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<td>Academic trial</td>
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<td>August 2021</td>
<td>SARS-CoV-2</td>
<td>Academic trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>September 2021</td>
<td>Fungi</td>
<td>Academic epidemiological study</td>
<td>IFI diagnostic and treatment capacity mapping [18]</td>
</tr>
<tr>
<td>March 2022</td>
<td>Streptococcus pneumoniae</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>April 2022</td>
<td>Streptococcus pneumoniae</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>May 2022</td>
<td>Orthomyxoviridae</td>
<td>Industry trial</td>
<td>Vaccine trial</td>
</tr>
<tr>
<td>May 2022</td>
<td>Monkeypox virus</td>
<td>Academic epidemiological study</td>
<td>Monkeypox diagnostic and treatment capacity mapping [17]</td>
</tr>
<tr>
<td>June 2022</td>
<td>Monkeypox virus</td>
<td>Academic epidemiological study</td>
<td>Status of monkeypox-related clinical trials in Germany</td>
</tr>
<tr>
<td>June 2022</td>
<td>Monkeypox virus</td>
<td>Academic epidemiological study</td>
<td>Status of monkeypox-related clinical trials in Europe</td>
</tr>
<tr>
<td>July 2022</td>
<td>Monkeypox virus</td>
<td>Academic epidemiological study</td>
<td>Monkeypox epidemiology in children and adult women at outbreak onset [16]</td>
</tr>
<tr>
<td>August 2022</td>
<td>NA</td>
<td>Academic epidemiological study</td>
<td>Status of Study Nurse courses in Europe</td>
</tr>
<tr>
<td>February 2023</td>
<td>Monkeypox virus</td>
<td>Industrial trial</td>
<td>Feasibility to participate in observational monkeypox paediatric studies</td>
</tr>
<tr>
<td>February 2023</td>
<td>Any</td>
<td>Academic epidemiological study</td>
<td>Priority list of pathogens of interest</td>
</tr>
<tr>
<td>February 2023</td>
<td>SARS-CoV-2</td>
<td>Academic epidemiological study</td>
<td>Long-COVID treatment and follow up capacity mapping</td>
</tr>
<tr>
<td>March 2023</td>
<td>NA</td>
<td>Other</td>
<td>Invitation to study nurse course</td>
</tr>
</tbody>
</table>

IFI, invasive fungal infection; NA, not applicable; SARS-CoV-2, severe acute respiratory syndrome coronavirus 2.
RSV – association with RW/asthma

- Association between severe RSV–bronchiolitis and subsequent increased risk of recurrent wheezing (RW) and asthma.

- Causal relationship remains unproven.
  - Retrospective population-based cohort study (339,814 children),
  - Bronchiolitis during the first 2 years of life (regardless of etiology and severity) was associated with at least a 3-fold increased risk of RW/asthma at 2–4 years and an increased prevalence of asthma at ≥5 years of age.
  - Risk similar in children with mild bronchiolitis as in those with hospitalized RSV-bronchiolitis and was higher in children with hospitalized non-RSV-bronchiolitis. The rate of RW/asthma was higher when bronchiolitis occurred after the first 6 months of life.
  - However, 60% of hospitalized bronchiolitis cases setting were due to RSV

- Results support the hypothesis of a shared predisposition to bronchiolitis (irrespective of etiology) and RW/asthma.
Association between previous bronchiolitis during the first 2 years of life and subsequent risk of asthma or RW, children aged 2–4 years, stratified by type of bronchiolitis

<table>
<thead>
<tr>
<th>Exposure</th>
<th>OR (95% CI)</th>
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</thead>
<tbody>
<tr>
<td>No-PB</td>
<td>1</td>
</tr>
<tr>
<td>PC-PB</td>
<td>3.02 (2.95 to 3.09)</td>
</tr>
<tr>
<td>Severe RSV-PB</td>
<td>3.25 (3.06 to 3.45)</td>
</tr>
<tr>
<td>Severe miscellaneous-PB</td>
<td>3.87 (3.46 to 4.34)</td>
</tr>
<tr>
<td>Severe non-RSV-PB</td>
<td>4.17 (3.83 to 4.54)</td>
</tr>
</tbody>
</table>

PB: registered bronchiolitis in primary care or hospital
PC: first bronchiolitis consultation at primary care
The most infectious diseases the WHO has identified to date:

✓ Nipah virus **Check out GHC 33**
✓ Crimean-Congo hemorrhagic fever **Check out GHC 34**
✓ Lassa fever **Check out GHC 35**
✓ Rift Valley fever **Check out GHC 36**
✓ Zika **Check out GHC 37**
  - Ebola and Marburg
  - Middle East respiratory syndrome (MERS)
  - Severe acute respiratory syndrome (SARS)

Disease X (any unknown pathogen that could cause a future outbreak)
The most infectious diseases the WHO has identified to date:

- Nipah virus Check out GHC 33
- Crimean-Congo hemorrhagic fever Check out GHC 34
- Lassa fever Check out GHC 35
- Rift Valley fever Check out GHC 36
- Zika Check out GHC 37
  - **Ebola and Marburg**
HOW DOES EBOLA SPREAD?

1. Through open wounds on the skin
2. Touching sick or dead animals
3. Touching a person infected with Ebola
4. Touching the vomit of an infected person
5. Touching the feces or urine of an infected person
6. Having sexual intercourse with an infected person
7. Sharing utensils and food with an infected person
8. Touching the bedding of an infected person
9. Touching the clothes of an infected person

https://www.unicef.org/uganda/how-does-ebola-spread
HOW DOES ONE GET EBOLA?

BY COMING INTO DIRECT CONTACT WITH:

1. Body fluids of a person who is sick with or has died from Ebola (blood, vomit, urine, feces, sweat, semen, saliva, etc)

2. Objects contaminated with the virus (needles, medical equipment)

3. Infected fruit bats or primates

4. Possibly from contact with semen from a man who has recovered from Ebola (by having oral, vaginal or anal sex)

https://www.unicef.org/uganda/how-does-ebola-spread
A person infected with Ebola is **only contagious** when they begin to have one or more symptoms of the disease.

After **21 days**, if an exposed person does not develop symptoms, they will **NOT** become sick with Ebola.
HOW IS EBOLA TRANSMITTED FROM ANIMALS TO HUMANS?

1. The Ebola virus is transmitted to humans through infected bush-meat, such as bats and monkeys.

2. The Ebola virus is easily transmitted from animals to humans during hunting, slaughtering and preparing of the meat.

During an Ebola outbreak, avoid bush-meat, as it can infect you with Ebola.
6 WAYS TO PREVENT EBOLA

EBOLA IS A DANGEROUS VIRUS BUT CAN BE AVOIDED EASILY!

1. AVOID PHYSICAL CONTACT WITH PEOPLE SHOWING SYMPTOMS OF THE EBOLA VIRUS

2. WASH YOUR HANDS REGULARLY WITH CLEAN WATER AND SOAP

3. KEEP AWAY FROM (FRUIT)BATS, MONKEYS, DEAD ANIMALS AND BUSH MEAT

4. ANIMAL PRODUCTS SHOULD BE THOROUGHLY COOKED BEFORE CONSUMPTION

5. INFORM HEALTH AUTHORITIES IMMEDIATELY IN CASE OF CONTACT WITH EXPECTED OR CONFIRMED EBOLA CASES

6. ONLY TRAVEL TO AREAS WHERE THERE IS AN EBOLA OUTBREAK IN CASE OF URGENT NEED

https://www2.devp.org/en/articles/development-other-victim-ebola-virus
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