A scientific framework for epidemic and pandemic research preparedness

Vaccine research response to Pathogen X

Third consultation - January 19, 2024
1 pm – 5:30 pm Central European Time (CET)

DRAFT Agenda
BACKGROUND
Since 2015, the WHO has implemented a comprehensive global research strategy and
preparedness plan known as the WHO R&D Blueprint for Epidemics. A centrepiece of this work is
the WHO pathogen priority list which ensures research efforts are concentrated on diseases with
epidemic or pandemic potential where medical countermeasures and limited or non-existent.
Since November 2022, a new approach has been implemented, focusing on entire classes of
viruses or bacteria rather than individual pathogens. Around 200+ scientists from 53 countries are
independently evaluating the evidence related to 30 viral families, one core group of bacteria,
and “Pathogen X” – an unknown pathogen with the potential to trigger a severe global
epidemic. This new approach will also help identify representative viruses (or prototypes) within a
viral family as a pathfinder in generating evidence and filling knowledge gaps that may then
apply to other viruses of threat in the same family¹.

Improved pandemic preparedness could be achieved by proactively managing emerging virus
threats focused on four discreet activities using currently available tools:
- discovery and surveillance,
- targeted basic research,
- translational research and product development, and
- clinical trial infrastructure and deployment capacity.

Many have proposed a variety of approaches including promoting basic research, translational
research, coordination of access to data, and development of prototype vaccines among
others. Coordinating and accelerating global research must promote universal values. Regarding
a collaborative effort to ensure access to MCMs during pandemics, some have emphasized the
importance of speed and sometimes cost in responding to future pandemics. It is equally
important to take a broader view that recognizes the primary importance of quality, equity in
access, and trust in the products' safety and efficacy. As a community, we need to explore the
different scientific challenges openly and broadly, discuss the scientific solutions being proposed;
outline the various potential actions and what problem(s) each action will address². A series of
four consultations have been planned to discuss these matters.

OBJECTIVES OF THE CONSULTATIONS
- To review the state of the art and the scientific opportunities and challenges
- To outline cross-cutting scientific actions are needed (globally and at the country level) to
  address the development challenges.
- To discuss and clarify the utility of establishing generalizable research approaches relative
to specific product development within viral families.

First consultation - January 9, 2024
A Scientific Framework for Epidemics and Pandemics Preparedness
Second consultation - January 18, 2024
Critical research for priority pathogens with epidemic potential
Third consultation - January 19, 2024
Vaccine research response to pathogen X
Fourth consultation – February 2024
Addressing uncertainty during epidemics and pandemics by generating randomized evidence

Disclaimer - During these meetings, we will not discuss specific national or international initiatives
or define or discuss the elements of global governance.

¹ https://www.who.int/teams/blueprint/who-r-and-d-blueprint-for-epidemics
² https://cdn.who.int/media/docs/default-source/documents/r-d-blueprint-meetings/global-research-and-innovation-for-health-
  emergencies_report-2023.pdf?sfvrsn=9341366_2
### A scientific framework for epidemic & pandemic preparedness

**Chairperson:** Philip Krause

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Proposed Speakers</th>
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<tr>
<td>13:00 – 13:05</td>
<td><strong>Welcoming remarks</strong></td>
<td>Michael J Ryan&lt;br&gt;Executive Director WHO Health Emergencies programme</td>
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### SCIENTIFIC APPROACHES TO ADDRESS UNCERTAINTY

13:05 – 13:15 Introduction and objectives of the meeting<br>Philip Krause

### ADDITIONAL SCIENTIFIC RESEARCH PRIORITIES FOR A PATHOGEN (DISEASE X) CAUSING A PANDEMIC

**What pre-pandemic research would help accelerate the development and access to vaccines?**

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<tr>
<td>13:25-13:35</td>
<td><strong>Second consultation</strong>&lt;br&gt;Critical research for priority pathogens with epidemic potential</td>
<td>Philip Krause</td>
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<td>13:35 – 14:05</td>
<td><strong>Vaccine platforms</strong>&lt;br&gt;What platforms have the potential to be useful in the context of a pandemic and why?</td>
<td>Panel discussion moderated by Philip Krause&lt;br&gt;- Kizzmekia Corbett (Harvard University, US)&lt;br&gt;- Xiao LIN (Sinovac)&lt;br&gt;- Jeff Fu (Codagenix)&lt;br&gt;- Rajeev Dhere (SSI)&lt;br&gt;- Paul Torkehagen (Medigen)&lt;br&gt;- David Weiner (Wistar Institute)&lt;br&gt;- Teresa Lambe (University of Oxford, UK)&lt;br&gt;- Neil King (University of Washington, US)&lt;br&gt;- Chris Parks (IAVI)</td>
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<td>14:05-14:15</td>
<td><strong>Adjuvants</strong> – advantages and scientific challenges</td>
<td>Martin Friede (WHO)</td>
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<td>14:15-14:35</td>
<td>Time needed to develop products with adjuvants, can it be shortened?</td>
<td>Panel discussion moderated by Martin Friede&lt;br&gt;- Nathalie Garcon&lt;br&gt;- Marco Cavaleri (EMA)&lt;br&gt;- Dan Wolfe (BARDA, US)</td>
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<td>14:35-14:45</td>
<td>Advanced manufacturing and approaches to scale-up supply, beyond expanding the number of manufacturing sites?</td>
<td>Subash Kapre TBC</td>
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<td>14:45 – 15:15</td>
<td>Where are we with expanding manufacturing capacity to ensure equity?</td>
<td>Panel discussion moderated by Marie Paule Kieny (Medicines Patent Pool)</td>
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## A scientific framework for epidemic & pandemic preparedness

### Proposed Speakers
- Petro Terblanche (Afrigen)
- Moreena Makhoana (Biovac)
- Nicolas Collin (VFI, Geneva)
- Marco Krieger (FIOCRUZ, Brazil)
- Alan Brooks (Bridges to Development)
- Philippe-Alexandre Gilbert (Gates Foundation)*

### Time | Topic | Proposed Speakers
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15:15 – 15:45 | How can regulators prepare and what are they doing to prepare?  
- What is considered in the same product?  
- What needs complete development?  
- Are we prepared? | Panel discussion moderated by Marco Cavaleri (EMA)  
Yang Pan (CED NMPA, China)  
Peter Weina (CBER FDA, US)  
Tohlang Sehloho (SAHPRA, South Africa)  
Dean Smith (Health Canada)

### What priority research should be triggered immediately after the declaration of the pandemic?

15:45 – 15:55 | Identifying antigens from contemporary viral isolates that are well characterized: scientific challenges | Cheryl Bennett (GISAID) TBC

15:55 – 16:05 | Collaborative basic research to study viral structures for vaccines development | Priyamvada Acharya (Duke University, US)

16:05 – 16:15 | Development of diagnostics and validated reference materials | Isabella Eckerle (University of Geneva, Switzerland)


16:25 – 16:35 | Assays to accelerate vaccines development - WHO Network experience during COVID | Simon Funnell, Cesar Munoz Fontela, William Dowling

16:35 – 17:05 | What research could have been done better during COVID?  
- How to incorporate knowledge about antigen - in real time - in the design of vaccines?  
- What studies can inform safety discussions? | Panel discussion moderated by Barney Graham  
Carlos Alvarez (Universidad Nacional de Colombia)  
Valdilea Veloso (FIOCRUZ, Brazil)  
Helen Rees (University of Wits., South Africa)  
Narendra Arora (Incien, India)  
Isabel Oliver (UKHSA, UK)  
Samba Sow (CVD, Mali)  
Deborah Williamson (UKHSA, UK) TBC
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| 17:05 – 17:15 | **Coordinating all areas of research**  
WHO Global Research & Forum | Ana Maria Henao Restrepo (WHO)          |
| 17:15 – 17:30 | **Conclusions and next steps**                | Philip Krause                          |
| 17:30   | **END OF MEETING**                             |                                        |

*Indicates a recorded presentation*