CEPI

Meeting Summary
Joint Coordination Group

Date	Time	Location
Thursday, 18 March 2022	13:00 – 16:00 GMT	Virtual (Zoom)

Participants

JCG Members

Peggy Hamburg, Chair
Mark Feinberg, Advisor
Diadie Maiga, AVAREF
Rajinder Suri, DCVMN
Alexander Preciosio, DCVMN/Instituto Butantan
Marco Cavaleri, EMA
Peter Marks, FDA
Doran Fink, FDA
Bill Rodriguez, FIND
Aurelia Nguyen, GAVI
Sophie Mathewson, GAVI
Thomas Triomphe, IPMFA/Sanofi
Petra Khoury, IFRC
Sidney Wong, MSF
Francisco Viegas, MSF
Andrew Owain Jones, UNICEF
Charlie Weller, Wellcome Trust
Rogerio Gaspar, WHO
Annelies Wilder-Smith, WHO/SAGE
Ana Maria Henao Restrepo, WHO
Vasee Moorthy, WHO

Guests

Gustavo Mendes Lima Santos, ANVISA
Analia Porras, PAHO

CEPI

Richard Hatchett
Nicole Lurie
Melanie Saville
Tim Endy
Emma Wheatley
Gwen Tobert
Adam Hacker
Elen Hoeg
Zoe Adler
Jose Luis Di Fabio
Gabrielle Breugelmans
Alexandru Rotar
Raafat Fahim
Neil Cherian
Elizabeth Rinaldi

Developers (present only for individual closed sessions)

Welcome

JCG Chair Peggy Hamburg convened the meeting and explained that the JCG exists out of recognition that a vaccine is only useful if it addresses a critical need and can actually be delivered. Smooth and swift hand-offs between vaccine ecosystem partners are necessary to achieve this.

CEPI 2.0 and Update on Portfolio Progress

CEPI CEO Richard Hatchett provided an overview of plans for CEPI 2.0 and implications for the work of the JCG and advancing its strategic goals. He described the JCG as key to CEPI's success and noted that these partnerships have deepened throughout the pandemic and there is "thematic continuity" between the JCG and the Access to COVID-19 Tools (ACT) Accelerator. Melanie Saville, CEPI Executive Director of Vaccine Research & Development, provided an overview of progress within the CEPI core portfolio, with a focus on the role of the JCG in advancing its strategic goals in light of lessons from the COVID-19 response.

Key Highlights:

- Examples of key progress through CEPI 1.0 include: three successful Lassa Phase 1 candidates, the first Phase 2 MERS candidate, and two Nipah candidates in clinical testing.
- CEPI pivoted to COVID-19 in 2020, but the relationships and knowledge from the CEPI 1.0 core portfolio and investments in Disease X rapid response platforms helped CEPI hit the ground running. Three CEPI-funded COVID-19 vaccines have reached EUL: Moderna, AstraZeneca, and Novavax.
- CEPI is adapting lessons from COVID-19 into CEPI 2.0 and is now developing a portfolio for broadly protective SARS-CoV-2 and *Betacoronaviruses*. Work in the enabling sciences has also advanced, including the *ENABLE* programme which seeks to better assess Lassa fever incidence across the West African region.
- The pandemic resulted in a delay to the core portfolio, and many of these activities have been moved into CEPI 2.0. Reasons for delay include supply chain constraints, a lack of preclinical subjects/human participants, and business continuity challenges.

Chikungunya Overview

Tim Endy, CEPI Chikungunya Project Lead, provided a brief overview of chikungunya epidemiology and the vaccine development landscape. Chikungunya has a global distribution with the highest known burden of disease in Brazil and India. The case fatality rate is low (<1%) but some 40% of cases result in chronic, debilitating disease. Outbreaks are seasonal, explosive, and under-reported. CEPI has invested in three vaccine candidates with good diversity in terms of technology platforms, target antigen strains, and partners capability/geography: Valneva, IVI/Bharat Biotech, and Themis/MSD. Two of these candidates are in Phase 2b/3 and one is in Phase 2a. There are a number of other (non-CEPI funded) vaccine candidates in the pre-clinical phase, including viral vector, RNA, DNA, protein-based, inactivated, and live attenuated vaccines. Two candidates are in Phase 1 and one is in Phase 3.

CEPI's Chikungunya Candidates

In separate closed sessions, two companies and their manufacturing partners presented overviews of their clinical development plans and progress. Emma Wheatley, CEPI Director of Access and Private Partnerships, gave a brief overview of CEPI's access agreements with the companies.
The components of the agreements include target product profiles suitable for Low- and Middle-Income Countries (LMICs), a pathway to WHOprequalification (PQ), LMIC clinical trial and manufacturing locations, and a CEPI right to stockpile and to increase scale in an outbreak. Pricing principles enable tiered pricing.

Chikungunya Outbreak Preparedness

Nicki Lurie, CEPI Executive Director of Preparedness and Response, explained the opportunity we have as a set of partners coming together to think about the respective roles that our organisations play and to think through the fact that, at the end of the day, we will not have achieved our access goals unless countries that want and need vaccine can actually get it. System-wide preparedness to launch a vaccine response to Chikungunya outbreaks is particularly imperative given that they emerge and evolve rapidly. Gwen Tobert, CEPI Emergency Response Senior Manager, therefore asked meeting participants to think through how we can preposition ourselves by identifying process and data gaps needing closure as well as roles, responsibilities, and timelines to do so. She emphasized that this will be an iterative conversation in the months ahead.

Key Takeaways:

- While the COVID-19 experience introduced myriad innovations in vaccine development, procurement, regulation, and deployment, Chikungunya is a very different pathogen, and we should not assume all of these innovations will be appropriate.
- If vaccines are going to be used in outbreak settings, either pre- or post-licensure, careful advanced planning is needed to ensure vaccine deployment is timely. This planning should ideally be linked to methods of assessing effectiveness.
- There are a number of actions that should be done in advance to **clarify a shared set of expectations and requirements**. This includes defining 1) what evidence regulators and communities will require, both pre- and post-licensure in their countries; 2) identifying organisations that can develop that evidence; 3) discussions with countries and regulators about the extent of the data package required for licensure, rolling review, and packaging/labelling requirements; 4) understanding the timing and requirements for a WHO/SAGE recommendation for use; 5) determining a strategy for managing indemnity and liability (I&L); and 6) identifying procurement and finance pathways. With regard to evidence generation to support licensure, further discussions are needed to ensure alignment between EMA, US FDA and potential outbreak countries. With regard to I&L, CEPI is working with others through GHSA and COVAX Partners to provide assistance on embedding I&L frameworks in countries to enable swift access to licensed products in an outbreak.
- Given low case fatality rates, it is **questionable whether the WHO would declare a Public Health Emergency of International Concern (PHEIC) for a Chikungunya outbreak and hence the WHO Emergency Use Listing (EUL) procedure may not be an option**. National authorities would therefore be required to make decisions regarding licensure or rely on stringent regulatory authority approvals. Discussions with national regulatory authorities as Phase 3 data become available will be helpful in supporting decision making should an outbreak occur prior to formal licensure. In the absence of licensure, other mechanisms of deployment should be considered such as expanded access, or compassionate use or randomised trials. The utility and circumstances for using each mechanism should be fully explored and evaluated in advance of any future outbreak.
- We must consider and discuss with regulators a **portfolio of study design options to confirm effectiveness post-licensure** in different settings and epidemiologies. The WHO is working on a framework for the evaluation of vaccines in situations where placebo controlled trials cannot be used, but the timing and scope of this framework development is not yet clear.
- To support any of these methodologies, we need to ensure there is **sufficient infrastructure to conduct surveillance to know when an outbreak is occurring and collect reliable data**. Development of a surveillance and testing strategy for deployment (pre- or post-licensure) is important to respond quickly, support evidence generation, and potentially allocate scarce doses in an outbreak. However, weak surveillance and a dearth of Chikungunya diagnostic

tools makes this challenging. FIND is working on this portfolio, but there is not a lot of funding in this area.

- **Several questions need to be answered for organisations to make procurement decisions**, including: (1) what is the demand from countries? (2) what is the vaccination strategy and is there interest in routine immunisation or a global or regional stockpile? (3) what does the product profile look like? (4) what does the market look like? (5) what is the expected timing of a SAGE recommendation? Procurement is also more complex for Chikungunya vaccines because most affected countries are not Gavi-supported. A conversation between major procurement agencies such as UNICEF, PAHO, and multilateral development banks could look at building on existing initiatives such as the Vaccine Independence Initiative and the PAHO Revolving Fund to pool financing and mitigate financial risks. Regardless, it will be important to understand the preconditions for procurement and stockpiling, either inside or outside of a Gavi context.

Access Outside an Outbreak and Planning for a Stockpile

Ensuring LMIC access to licensed Chikungunya vaccines outside an outbreak, as soon as possible post-licensure, is also a critical goal for CEPI. Emma Wheatley explained CEPI's proposal to drive this access by supporting evidence generation and manufacturing capability in affected territories. Emma posed several questions to the group for consideration in follow-up conversations:

1) Does CEPI's approach make sense as a way to accelerate access?
2) Who should be involved in the planning and implementation of these activities, and what do timelines look like?
3) Do partners agree that there should be a regional approach to stockpiling given the speed of outbreaks and, if so, how should that be financed?

Future Plans for the JCG

Recognising that activities under CEPI 2.0 are just getting underway and that discussions are ongoing in a number of fora about the best way to organise and position the world to respond to the next pandemic threat, Nicki Lurie and Richard Hatchett urged the JCG to think about how it might start evolving: Who else should be involved, as we think about end-to-end hand-offs? What roles should the JCG play and what role would each partner like to play in supporting those?

Closing

Peggy Hamburg thanked the group for a robust conversation and encouraged everyone to think about ways to increase education and awareness building at every level about the importance of threats like Chikungunya and the opportunities to reduce them. She then summarised the potential Chikungunya preparedness activities the group had identified in four "buckets": Enabling sciences, clinical and regulatory, demand and procurement, and allocation and distribution. CEPI will conduct follow-up discussions with partners to clarify roles, responsibilities, and timelines.