

From: pathogenomics
Sent: Fri, 2 Sep 2022 15:04:21 +0000
To: Chow, Nancy (CDC/DDID/NCEZID/DFWED); semmlerT@rki.de; toni.whistler@theglobalfund.org; Adam Bradshaw; Henry Dowlen; rgadde@clintonhealthaccess.org; Daniel Bausch; Ana Belen Ibarz; Anita Suresh; Alexandra Bertholet; Sanjida Karim; Rashna Hayat; Swapna Uplekar; 'Eric D'Ortenzio'; nicole.prada@anrs.fr; herve.raoul (herve.raoul@inserm.fr); Leena Inamdar; Stephen Bentley; sandym@gisaid.org; Paul Michael Pronyk; 'Swapna Uplekar'; Sandy MAK; De Alwis Adamberage Ruklanthi; Johnson, Kaitlyn; Pang Junxiong Vincent; cristina.tato@czbiohub.org; patrick.ayscue@czbiohub.org; Catherine Gill (catherine.gill@dfat.gov.au); Kat Knope; Greta Cranston; Ben Howden; Chantel Lin (chantel.lin@unimelb.edu.au); Chittenden, Kendra (ASIA/TS); Anne Liu; Paul Nevin; Sergio Carmona; Chevy Lazenby; Davis, Charles (Todd) (CDC/DDID/NCIRD/ID); MacCannell, Duncan (CDC/DDID/NCEZID/OD); MacNeil, Adam (CDC/DDID/NCIRD/DVD); Armstrong, Gregory (CDC/DDID/NCEZID); Barnes, Nathelia (Tiki) (CDC/DDID/NCEZID/OD); sridhar@igib.in; Francis Amirtharaj Selvaraj; Wiersma, Lidewij (OER); Oumzil Hicham [b](6)
Velampati, Deepika (NIH/NIAID) [C]; Oatts, Connie [b](6) Josie Golding; Ahmed Mohammed Albarraq; MATSUI, Tamano; SHIMADA, Satoshi; IYER, Shilpa; WIJESINGHE, Pushpa Ranjan; KATO, Masaya; NAIDOO, Dhamari; INBANATHAN, Francis Yesurajan; PUKKILA, Jukka Tapani; PEBOODY, Richard; NAHAPETYAN, Karen; ZWETYENGA, Joanna; BARAKAT, Amal; KHAN, Wasiq Mehmood; BULIVA, Evans; NABETH, Pierre; Mendez Rico, Dr. Jairo Andres (WDC); 'vicarian@paho.org'; KOUA, Etien Luc; MONAMELE, Chavely Gwladys; GUMEDE-MOELETSI, Hieronyma Nelisiwe; LO, Baïdy; COULIBALY, Sheick Oumar; HUGONNET, Stéphane Alexandre Louis; COGNAT, Sébastien Bruno Francois; BARNADAS, Céline; SACKS, Jilian; PEREYASLOV, Dmitriy; WARREN, Kathleen (Taylor); YU, Anne; CARTER, Lisa; SAMAAN, Gina; AKANDE, Oluwatosin
Cc: SATHIYAMOORTHY, Vaseeharan; GRAND, Pierre Etienne; MORGAN, Oliver; BERTAGNOLIO, Silvia; DURSKI, Kara Nicole; ZHANG, Wenqing; MULDERS, Mick (WHO/HQ-IVB); PERKINS, Mark; Dr VAN KERKHOVE, Maria; DIOP, Ousmane (Madiagne); FORMENTY, Pierre B.H.; FERNANDEZ, Katya; PEZZOLI, Lorenzo; ROJAS ALVAREZ, Diana; ISMAIL, Nazir; NATHANSON, Carl-Michael; Hassan Damluji SEEK DEVELOPMENT; HEGERMANN-LINDENCRONE, Michala; SHIDEED, Olla; HUVOS, Anne Marie; BRIAND, Sylvie
Subject: RE: Genomics strategy PCG kick-off call: Follow up
Attachments: PCG kickoff meeting attendees.pdf, Genomics Strategy PCG Meeting Slide deck_20220901.pdf

Dear Colleagues,

It was great to connect yesterday and officially kick off the Partners Coordination Group (PCG) for the Global Strategy. Many thanks for your participation.

Please see attached:

- List of institutions in the PCG
- Meeting slide deck

Kindly access the meeting recording [here](#).

As discussed, we will share a Microsoft Form in the coming days to help us collectively decide on priority activities and methodologies for the group.

Our next meeting is scheduled on hold on 3rd November 2022, and subsequently the first Thursday of every second month.

We look forward to working closely with you.

Thank you.

Regards,
Tosin.

-----Original Appointment-----

From: pathogengenomics
Sent: 31 August 2022 19:18
To: Chow, Nancy (CDC/DDID/NCEZID/DFWED); semmlerT@rki.de; toni.whistler@theglobalfund.org; Adam Bradshaw; Henry Dowlen; rgadde@clintonhealthaccess.org; Daniel Bausch; Ana Belen Ibarz; Anita Suresh; Alexandra Bertholet; Sanjida Karim; Rashna Hayat; Swapna Uplekar; 'Eric D'Ortenzio'; nicole.prada@anrs.fr; herve.raoul (herve.raoul@inserm.fr); leena.inamdar@ukhsa.gov.uk; Stephen Bentley; sandym@gisaid.org; Paul Michael Pronyk; De Alwis Adamberage Ruklanthi; Pang Junxiong Vincent; cristina.tato@czbiohub.org; patrick.ayscue@czbiohub.org; Catherine Gill (catherine.gill@dfat.gov.au); Kat Knope; Greta Cranston; Ben Howden; Chantel Lin (chantel.lin@unimelb.edu.au); Kendra Chittenden; Anne Liu; Paul Nevin; Chevy Lazenby; eou8@cdc.gov; fms2@cdc.gov; aho3@cdc.gov; gca3@cdc.gov; ncl7@cdc.gov; sridhar@igib.in; fselvaraj@seha.ae; Wiersma, Lidewij (NSAH); Hicham OUMZIL [b](6) Velampati, Deepika (NIH/NIAID) [C]; [b](6) Josie Golding; Ahmed Mohammed Albarraq; MATSUI, Tamano; SHIMADA, Satoshi; IYER, Shilpa; WIJESINGHE, Pushpa Ranjan; KATO, Masaya; NAIDOO, Dhamari; INBANATHAN, Francis Yesurajan; PUKKILA, Jukka Tapani; PEBODY, Richard; NAHAPETYAN, Karen; ZWETYENGA, Joanna; BARAKAT, Amal; KHAN, Wasiq Mehmood; BULIVA, Evans; NABETH, Pierre; 'Mendez Rico, Dr. Jairo Andres (WDC)'; 'vicarian@paho.org'; KOUA, Etien Luc; MONAMELE, Chavely Gwladys; GUMEDE-MOELTSI, Hieronyma Nelisiwe; LO, Baidy; COULIBALY, Sheick Oumar; HUGONNET, Stéphane Alexandre Louis; COGNAT, Sebastien Bruno Francois; BARNADAS, Céline; SACKS, Julian; PEREYASLOV, Dmitriy; WARREN, Kathleen (Taylor); YU, Anne; CARTER, Lisa; AKANDE, Oluwatosin; SAMAAN, Gina
Cc: SATHIYAMOORTHY, Vaseeharan; grandp@who.int; MORGAN, Oliver; BERTAGNOLIO, Silvia; DURSKI, Kara Nicole; ZHANG, Wenqing; MULDERS, Mick; PERKINS, Mark; Dr VAN KERKHOVE, Maria; diopo@who.int; formentyp@who.int; fernandezk@who.int; pezzolil@who.int; ROJAS ALVAREZ, Diana; ismailn@who.int; nathansonc@who.int; Sandy MAK; Swapna Uplekar; Johnson, Kaitlyn; Sergio Carmona; Oatts, Connie; Hassan Damluji SEEK DEVELOPMENT; HEGERMANN-LINDENCRONE, Michala
Subject: Genomics strategy PCG kick-off call
When: 01 September 2022 14:00-15:00 (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna.
Where: Microsoft Teams Meeting

Dear Colleagues,

Trust you are well.

Please be reminded of our meeting that is scheduled to hold tomorrow **Thursday 1 September 2022 between 14:00 – 15:00 CET**. Kindly see the agenda below:

- Welcome remarks and introductions
 - A representative from each institution/entity is invited to give a quick introduction and outline the portfolio of work relevant to the Strategy
- Setting the scene
- Opportunities for collaboration
- Discussion and moving forward

We look forward to your participation.

Thank you.

Regards,
Tosin, on behalf of the Strategy secretariat

Dear Colleagues,

Thank you for expressing your interest in the [Partners Coordination Group](#) (PCG), to facilitate the implementation of the [Global Genomic Surveillance Strategy for Pathogens with Pandemic and Epidemic Potential 2022-2032](#).

Please join us for kick-off call for this group. This call is aimed at setting a common agenda and rhythm for the group. We look forward to your participation.

Thank you.

Regards,
Tosin, on behalf of the Strategy secretariat

Microsoft Teams meeting

Join on your computer or mobile app

[Click here to join the meeting](#)

Meeting ID: (b)(6)

Passcode: (b)(6)

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Join with a video conferencing device

(b)(6)

Video Conference ID: (b)(6)

[Alternate VTC instructions](#)

[Learn More](#) | [Meeting options](#)

PCG kickoff meeting attendees: 1 September 2022

S/No	Institution	Participants
1.	ANRS Maladies infectieuses émergentes	Eric D-Ortezio Nicole Prada
2.	Asia Pathogen Genomics Initiative (Asia PGI)	Pang Junxiong Vincent
3.	Asia-Pacific Pathogen Genomics Network (APGN)	Chantel Lin
4.	Australia's Dept of Foreign Affairs and Trade	Catherine Gill Kat Knope
5.	Centre for Pathogen Genomics, University of Melbourne	Ben Howden Tuyet Hoang
6.	Chan Zuckerberg Biohub	Cristina Tato
7.	Clinton Health Access Initiative	Renuka Gadde
8.	CSIR- Institute of Genomics and Integrative Biology (CSIR-IGIB)	Sridhar Sivasubbu Rahul Bhoyar Anjali Bajaj
9.	Département de Virologie, Institut National d'Hygiène (INH)	Hicham Oumzil
10.	Duke NUS Medical School	De Alwis Adamberage Ruklanthi
11.	Exemplars in Global Health	Anne Liu
12.	FIND	Daniel Bausch Anita Suresh Swapna Uplekar Alexandra Bertholet Sanjida Karim Amy Wong Ana Belen Ibarz Rashna Hayat Sergio Carmona
13.	Food and Agricultural Organization of the United Nations	Lidewij Wiersma
14.	GISAID at Bioinformatics Institute	Sandy Mak
15.	National Institute of Allergy and Infectious Diseases (NIAID), of the National Institutes of Health, U.S. Department of Health and Human Services	Liliana Brown Deepika Velampati
16.	Public Health Authority, Saudi Arabia	Ahmed Albarraq
17.	Robert Koch Institute, Germany	Torsten Semmler
18.	Rockefeller Foundation	Kaitlyn Johnson
19.	Sanger Institute	Stephen Bentley
20.	Sheikh Khalifa Medical City	Francis Amirtharaj Selvaraj
21.	The Global Fund	Toni Whistler
22.	Tony Blair Institute for Global Change	Henry Dowlen
23.	UK Health Security Agency (New Variant Assessment Platform)	Leena Inamdar

24.	United States Agency for International Development	Kendra Chittenden
25.	US Centers for Disease Control and Prevention	Adam MacNeil (NCIRD) Duncan MacCannell (NCEZID) Nancy Chow (Mycotic)

PCG participating institutions/entities that could not attend on 1 September:

S/No	Institution	Participants
1.	Central Public Health Laboratory, Oman	Hanan Alkindi
2.	Wellcome Trust	Josie Golding



World Health
Organization

Global Genomic Surveillance Strategy

for pathogens with pandemic and
epidemic potential, 2022-2032

Partners Coordination Group
1 September 2022

Agenda

- 
- Welcome remarks and introductions
 - Setting the scene
 - Opportunities for collaboration
 - Discussion and moving forward

Introductions

A representative from each institution/entity is invited to give a quick introduction and outline the portfolio of work relevant to the Strategy



What is the global genomic surveillance strategy for pathogens with pandemic and epidemic potential?

A 10-year unifying framework to strengthen country, regional and global genomic surveillance.



IT AIMS TO:



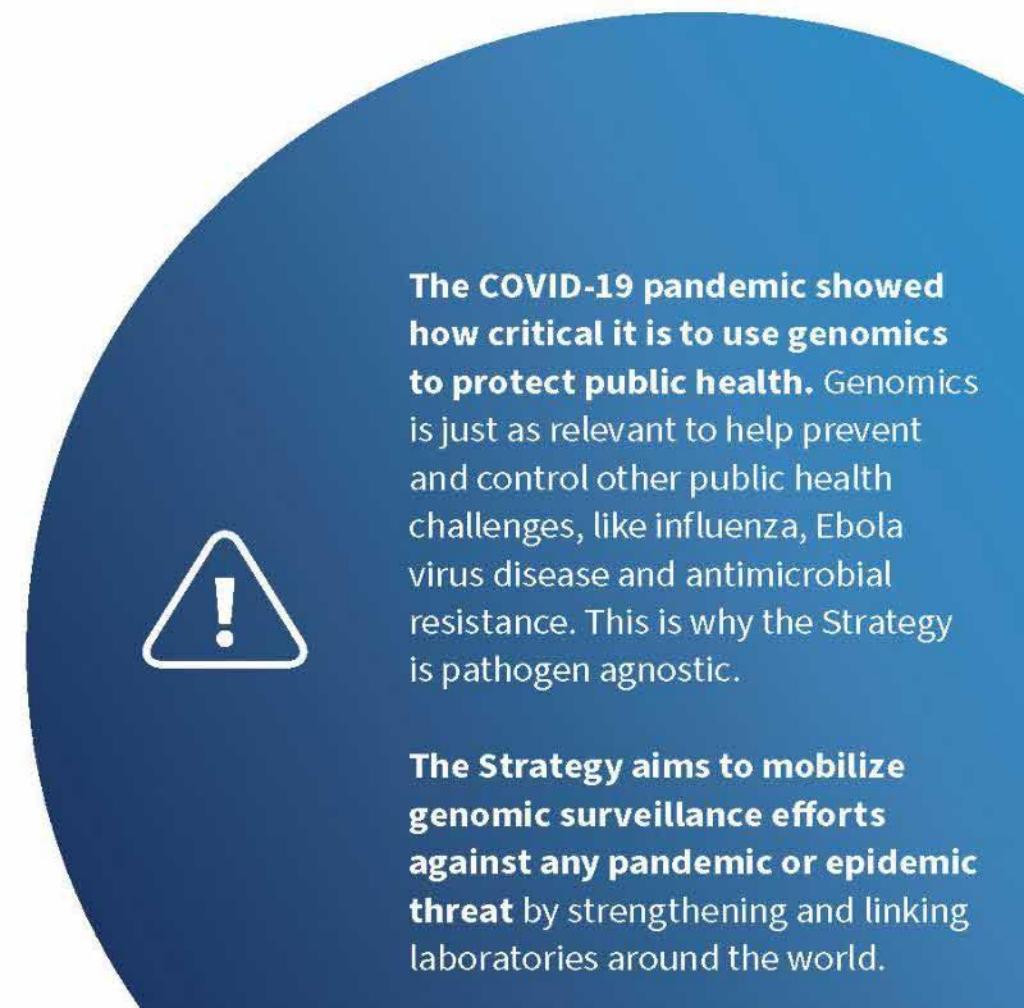
Link and embed pathogen monitoring within broader surveillance systems



Identify opportunities to strengthen and establish capacities and systems



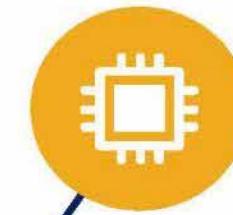
Bring partners and stakeholders together to work on a common vision



The COVID-19 pandemic showed how critical it is to use genomics to protect public health. Genomics is just as relevant to help prevent and control other public health challenges, like influenza, Ebola virus disease and antimicrobial resistance. This is why the Strategy is pathogen agnostic.

The Strategy aims to mobilize genomic surveillance efforts against any pandemic or epidemic threat by strengthening and linking laboratories around the world.

What are the Strategy's goals and objectives?



Objective 1

Improve access to tools for better geographic representation



Objective 2

Strengthen the workforce to deliver at speed, scale and quality



Objective 3

Enhance data sharing and utility for streamlined local to global public health decision making and action



Objective 4

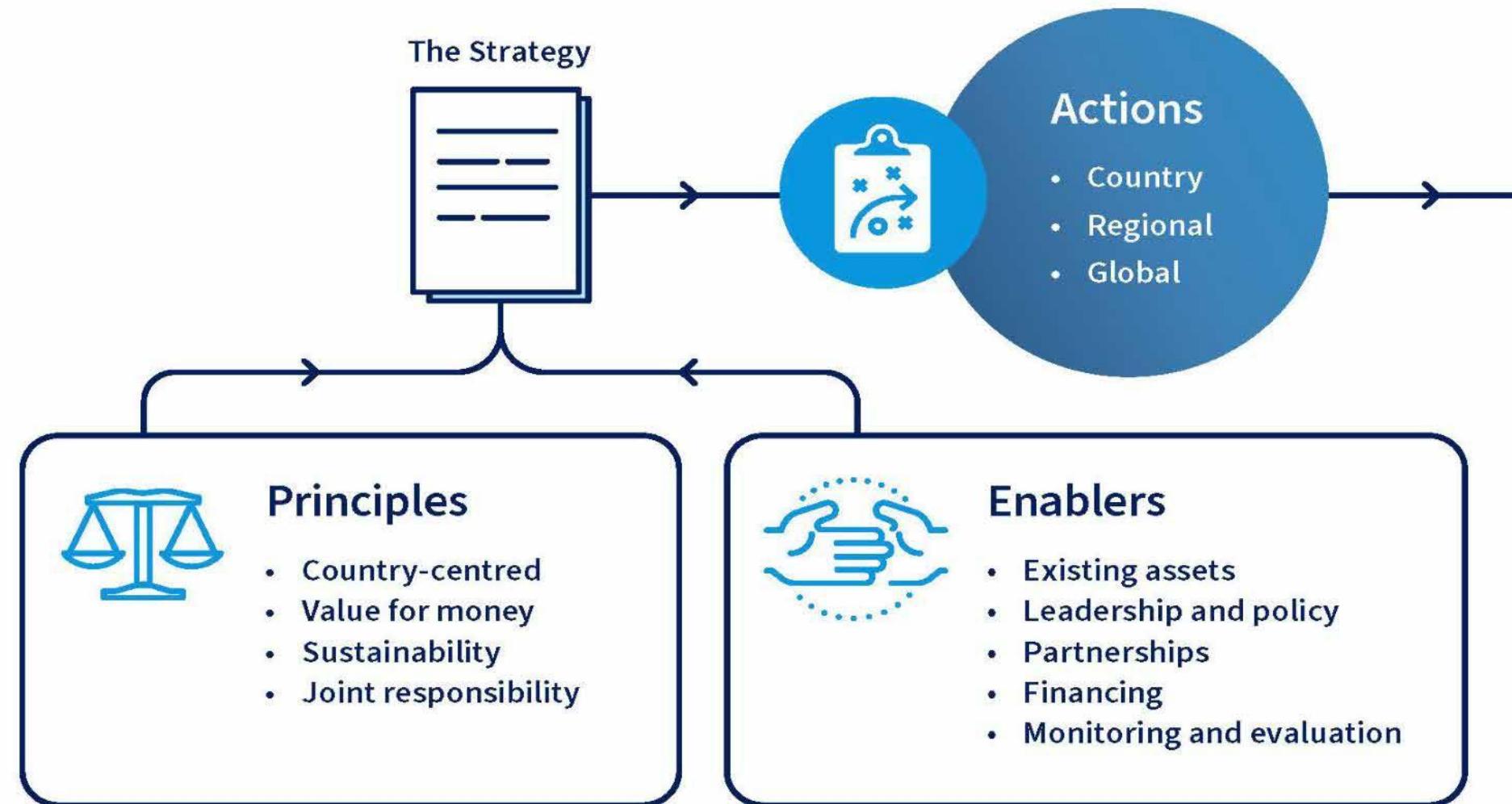
Maximize connectivity for timely value-add in the broader surveillance architecture



Objective 5

Maintain a readiness posture for emergencies

Implementation of this strategy will require a collaborative approach across governments, networks, programmes, and partners for maximal impact and contribution to public health.



Indicative examples:

- Define national needs and stakeholders
- Map and monitor capacity
- Build and sustain genomics infrastructure
- Build or strengthen data collection, management, analysis and sharing
- Establish or maintain data sharing agreements and practice
- Adapt standard reference materials, norms and protocols
- Conduct exercises or reviews to strengthen system functionality
- Monitor implementation using metrics defined globally/locally



MONITORING AND EVALUATION

Monitoring and evaluation are key to understand progress towards and drive the achievement of the strategy's results hierarchy. The Strategy's key measure of success is:

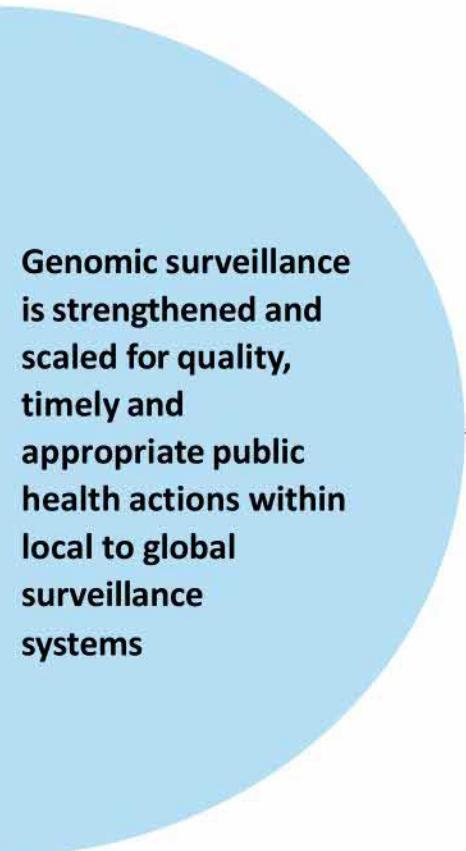
By 2032, all 194 WHO Member States have, or have access to, timely genomic sequencing for pathogens with pandemic and epidemic potential.¹



- 1 Access to genomic sequencing may be through international collaboration including WHO collaborating centres. Timely is defined as triggering genomic sequencing within seven days of event or pathogen detection.

Global indicators monitored for strategy implementation

GOAL



OBJECTIVES



Objective 1

Improve access to tools for better geographic representation



Objective 2

Strengthen the workforce to deliver at speed, scale and quality



Objective 3

Enhance data sharing and utility for streamlined local to global public health decision-making and action



Objective 4

Maximize connectivity for timely value-add in the broader surveillance architecture



Objective 5

Maintain a readiness posture for emergencies

INDICATORS



Indicator 1

Proportion of Member States with timely access to genomic sequencing for pathogens with pandemic or epidemic potential



Indicator 2*

Proportion of Member States participating in a global genomic characterization external quality assessment programme



Indicator 3

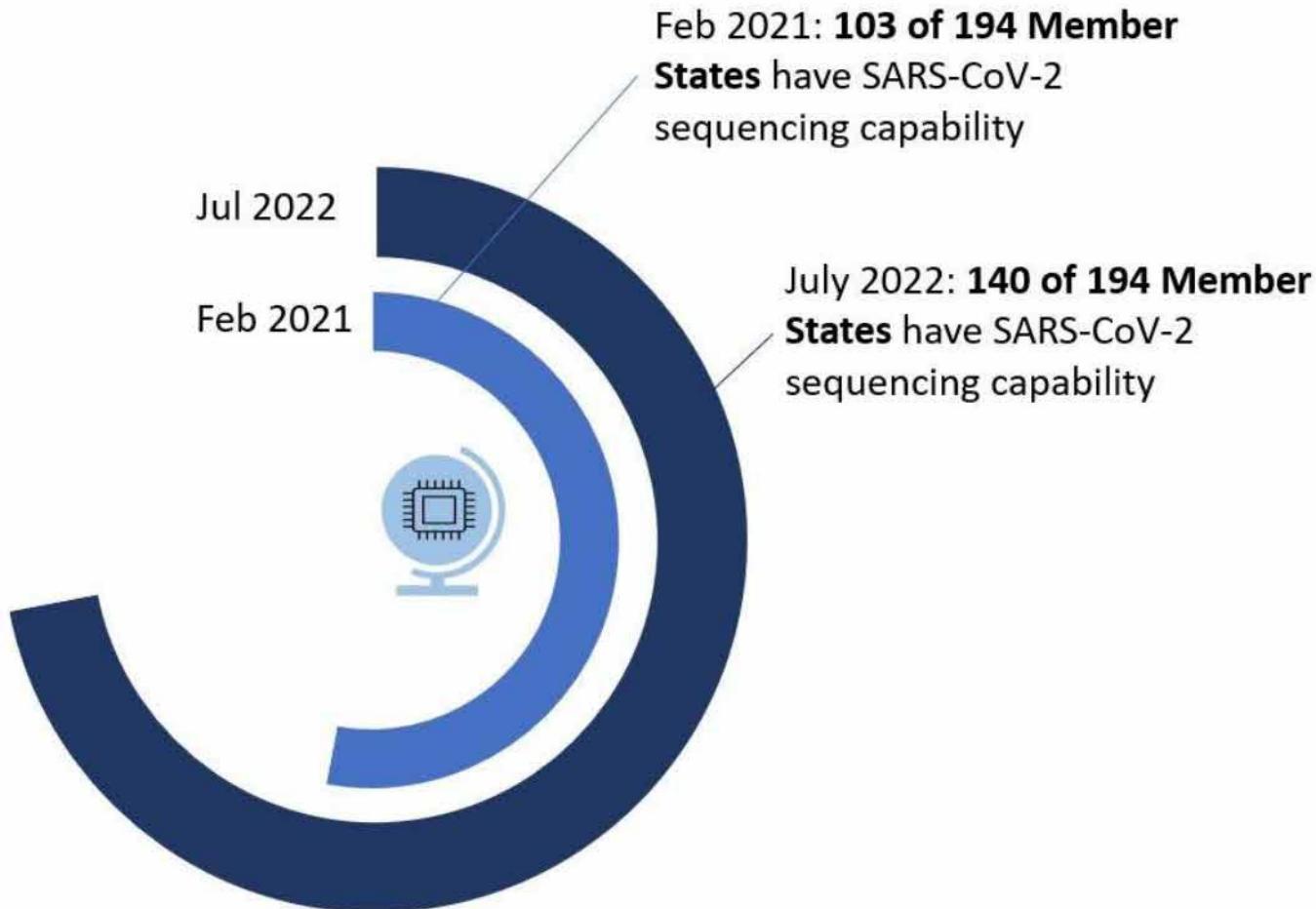
Proportion of Member States sharing pathogen genetic sequence data to a publicly accessible database



Indicator 4*

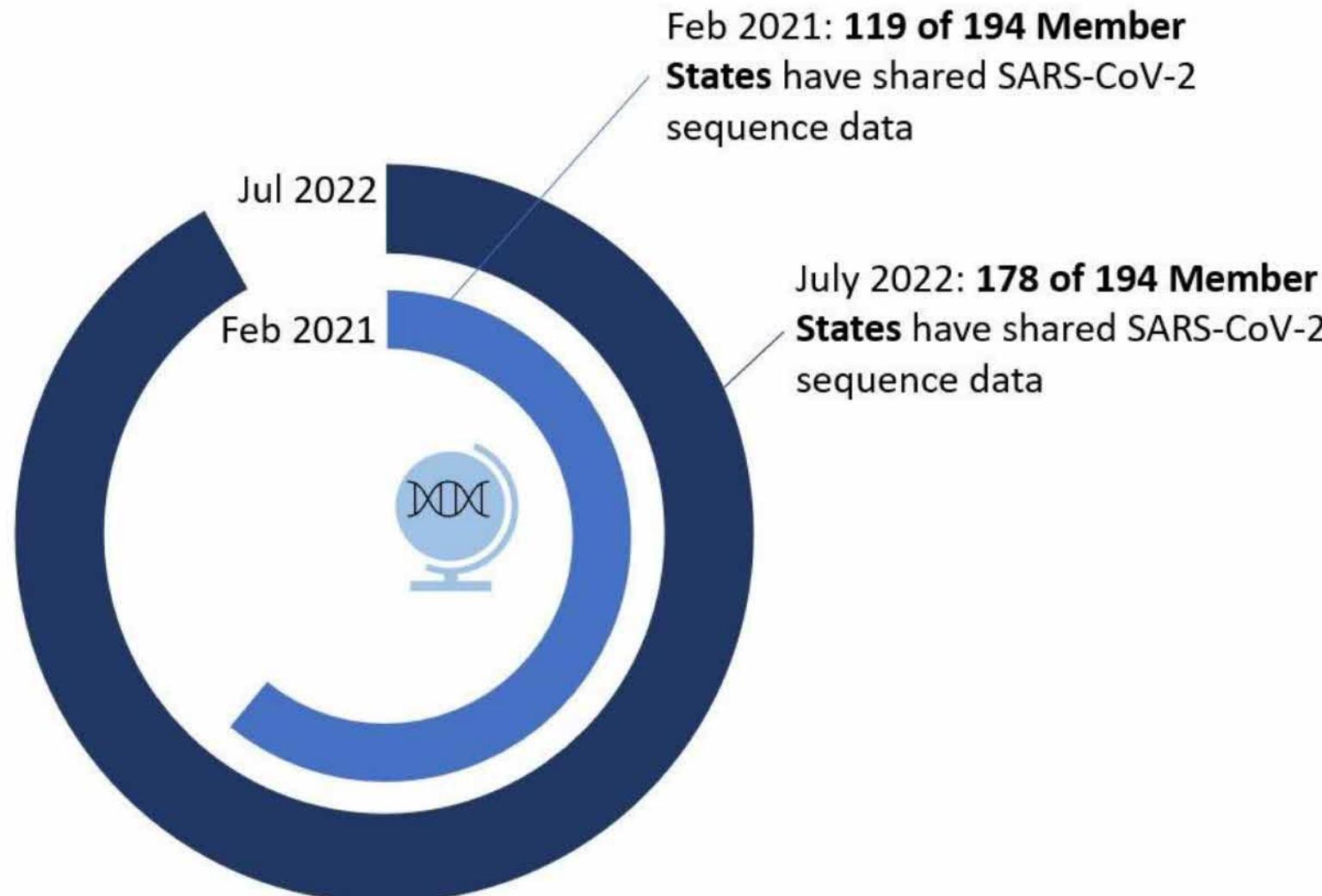
Member States that exercise their pathogen genomic surveillance system readiness for public health emergencies

Gains in WHO Member States sequencing capability: 36% increase in 2021 to 2022



-  138 (71%) Member States
≥1 sequencing lab (≥1 lab has PH surveillance function)
-  2 (1%) Member States
≥1 sequencing lab (no labs with PH surveillance function)
-  36 (19%) Member States
No in-country sequencing capability but timely international referral mechanism established
-  18 (9%) Member States
No capability or referral mechanism established, or unknown

Gains in global SARS-CoV-2 genomic sequence data sharing: 50% increase in 2021 to 2022



Partners Coordination Group: Terms of Reference

Purpose

To facilitate the coherent implementation of the Global Genomic Surveillance Strategy for Pathogens with Pandemic and Epidemic Potential 2022-2032

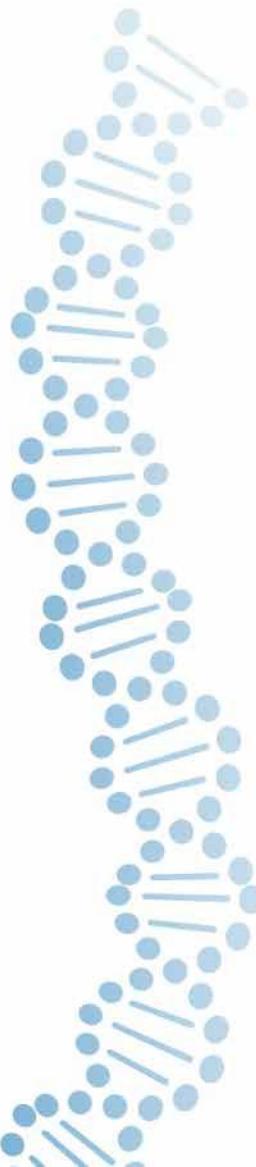


Stakeholder voice in the development, alignment and implementation of short-term and long-term action plans



Foster greater engagement by utilizing the capacities and capabilities of partners to ensure the Strategy can reach its 10-year target*

* All 194 WHO Member States have, or have access to, timely genomic sequencing for pathogens with pandemic & epidemic potential



Functions

1. **Share information** about the implementation of the Strategy, discuss progress made and challenges experienced with view to maximize coherence and efficiency.
2. **Track** progress, risks and gaps with a view to identifying areas for further action, intervention or course correction.
3. Support and undertake **advocacy** on the Strategy.
4. **Interact**, as needed, with different stakeholders on the Strategy.

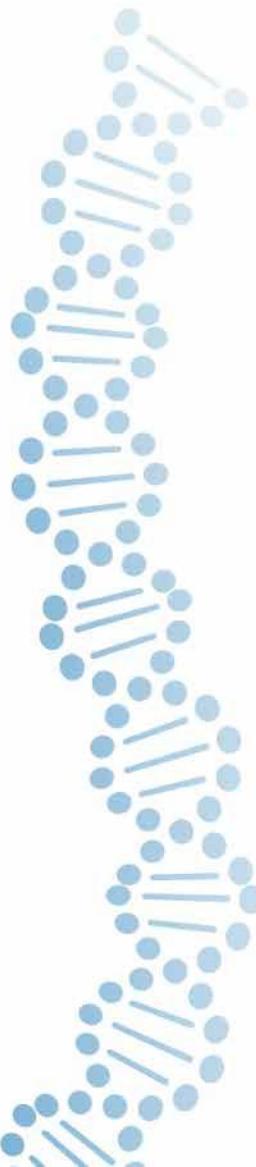
Operations

- Meet virtually bimonthly by Microsoft Teams
- Convened by WHO (co-pilots: Tosin Akande and Lisa Carter)

Strategy coordination forums and teams

Forums	Audience	Frequency	Functions
HQ/RO Coord Group	Internal: WHE HQ & RO teams	Monthly	Implement strategy from WHO perspective: focus on countries, information sharing on regional initiatives (priorities, gaps, needs), develop key products, routine reporting
Partner Coord Group (PCG)	External: Partners & WHO HQ & RO teams	Bimonthly	Coordinate on strategy implementation: information-sharing, alignment, coordination on activities, consider joint products

Beyond information-exchange and coordination, are there opportunities for PCG collaboration to support Strategy implementation?



1. Compendium of Strategy partners (4Ws: who, what, where, when)
2. Global M&E framework to enable joint/coherent monitoring and reporting
3. Triggering development of policy, guidance and supportive tools:
 - Policy briefs (e.g., policy considerations to strengthen genomic surveillance)
 - Guidance for countries on how to develop a national genomics action plan/strategy
 - Costing or capability assessment tools
 - Training materials or case studies
4. Joint annual/biennial reports on Strategy implementation: indicator progress, qualitative reports, case studies
5. Market shaping: welcoming inputs from ACT-A focal points
6. Joint advocacy materials or events in support of countries (consistency for impact)

→ Questions to PCG: what is useful? Anything missing?

Advocacy materials

ISSUE 03 | JULY 2022

WHO's Monthly Operational Update on COVID-19



Staff from the Kingdom of Saudi Arabia National Influenza Centre in action.
Photo credit: Public Health Authority, Kingdom of Saudi Arabia

The Eastern Mediterranean Region reflects on genomic sequencing and its future within integrated surveillance of respiratory viruses

With its multiple variants such as Delta and Omicron, the COVID-19 pandemic highlighted the need for genomic surveillance to monitor virus evolution and its implications on transmission dynamics and response measures like vaccines. Sequencing information provides crucial decision-making information during epidemics and pandemics. On 8–9 June 2022, WHO's Eastern Mediterranean Regional Office convened a meeting in Egypt with partner organizations of 19 countries to discuss the framework for integrated respiratory pathogen surveillance, including the role of genomic surveillance. The regional laboratory focal point set the scene:

"Currently, 19 out of the 22 countries in the Eastern Mediterranean Region have genomic sequencing capabilities. A regional network has been established to enable all countries to have access to sequencing, and to strengthen their capacities coherently and collaboratively to be able to detect, investigate and respond to COVID-19 and other emerging and re-emerging infectious diseases with epidemic and pandemic potential."

Dr Amal Barakat
Regional Laboratory Focal Point, WHO

Continued on next page ...

HEALTH
EMERGENCIES
programme

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Key figures (as of July 2022)

- WHO-led UN Crisis Management Team coordinating 23 UN entities across nine areas of work
- OpenWHO: total of 4.9 million enrolments in 64 national and local languages, including 46 courses dedicated to the COVID-19 response
- 951 million tests delivered via ACTA
- 229 GOARN deployments conducted to support COVID-19 pandemic response
- 12 130 881 147 vaccine doses have been administered as of 12 July 2022
- 4 834 711 126 persons fully vaccinated as of 12 July 2022
- 5 288 330 141 persons vaccinated with at least one dose as of 12 July 2022
- 41 million online data analysed between 15 June 22–14 July 2022 by 490 participants as of 12 July 2022. See [GOARN](#) for the latest COVAX vaccine roll-out data.

For the latest data and information, including trends and data sources, see the [WHO COVID-19 Data and Resources](#).

From the field

Highlights from stories shared by countries in the meeting

Morocco

Following the significant increase in molecular diagnostic capacity for SARS-CoV-2 in the country enabling up to 250 000 tests per day, the National Influenza Centre at the Ministry of Health (MOH) swiftly recognized that the need for SARS-CoV-2 sequencing was also increasing. To address this, Morocco set up a national consortium of four laboratories – two public and two private – to cover different geographic regions in the country.

"The Consortium enables us to address genomic surveillance needs by bringing in the capacities and capabilities of the private sector. This was a major achievement and presents an opportunity for us as we think about the next generation of public health surveillance."

Professor Hisham Ouzmil
National Influenza Centre, Morocco

Oman

The MOH Central Public Health Laboratory (CPHL), which serves as WHO's regional reference laboratory for COVID-19, collaborated with national and local academic partners to strengthen workforce capacities, increase national genomic surveillance coverage, and develop algorithms for selecting cases for sequencing. This helped understand virological trends associated with different sub-populations such as travellers, severely ill patients and cases from different geographic regions.

"Genomics have helped us to better understand the epidemiology of COVID-19 in Oman. Linking genomic data to epidemiological and clinical data, and analyzing trends from other countries maximizes the utility and power of genomics. We are happy to work with other countries, share our experiences and strengthen collaborations as we learn lessons for future pandemic preparedness."

Dr Hanan Alkindi
Central Public Health Laboratory, Oman

Saudi Arabia

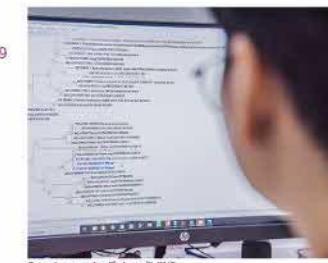
A massive effort was undertaken to expand genomic surveillance to better understand the viral phylo-dynamics in all geographic regions of the country and look at patterns among severe cases, travel-related cases, post-vaccination cases and re-infections.

"More than 60 000 SARS-CoV-2 samples have been sequenced from around the country. We have the opportunity to use the capacity established for various public health threats and are ready for future emergencies."

Dr Ahmed Albarraq
Public Health Authority, Saudi Arabia

Outputs from the meeting and reflections from countries on the role of genomics during the COVID-19 pandemic and future emergencies will enable the Region to plan effectively and focus attention on the future of integrated respiratory pathogen surveillance, inclusive of genomic surveillance. The regional operational framework for integrated surveillance is being finalized and will be available later this year. It will include opportunities for genomic surveillance in the context of the recently launched [Global Genomic Surveillance Strategy for Pathogens with Pandemic and Epidemic Potential, 2022–2032](#).

The 10-year Global Genomic Surveillance strategy will enable countries in the Eastern Mediterranean Region, as well as in other regions, to capitalize on the gains made as part of the response to COVID-19 and to solidify the role of genomics in future public health practice.



Genomic sequencing. Photo credit: WHO

What is Genomic Surveillance?



World Health Organization

Emergency Operations Centre

DR. MIKE RYAN
Executive Director, WHO Health Emergencies Programme

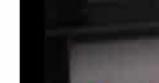
To detect,
track, monitor
and characterise
PATHOGENS



DR. SENJUTI SAHA
Director and Scientist
Child Health Research Foundation
Dhaka, Bangladesh

Using
**GENOMIC
SEQUENCING**
to track
pathogens

What is Genomic Surveillance?



World Health Organization

DR. RICK BRIGHT
CEO, The Rockefeller Foundation's Pandemic Prevention Institute

Track the
EVOLUTION
to note changes

Discussion and next steps



We welcome comments, questions and ideas to maximize PCG utility



Thank you

Acknowledging:

- Member States, partner agencies, and WHO regional and country offices
- Tosin Akande and Lisa Carter (HQ Strategy Secretariat) for inputs

For more information or to engage:

- Email pathogenomics@who.int
- See www.who.int/initiatives/genomic-surveillance-strategy

From: MacCannell, Duncan (CDC/DDID/NCEZID/OD)
Sent: Thu, 1 Sep 2022 00:34:44 +0000
To: GISAID Secretariat
Cc: Hutson, Christina (CDC/DDID/NCEZID/DHCPP); Gigante, Crystal (CDC/DDID/NCEZID/DHCPP); Li, Yu (CDC/DDID/NCEZID/DHCPP); Armstrong, Gregory (CDC/DDID/NCEZID/OD)
Subject: RE: Presentation to SPHERES Consortium on EpiPox?
Attachments: 20200328-SARS-CoV-2 SPHERES.pdf, 20210211-CS_Spheres.pdf

Dear Mr. Bogner,

Thanks for your note.

I can't help but notice that your response, while colorful, has failed to address any of the specific concerns I wrote to you about regarding the documentation, curation and management of GISAID records, especially those that seem to have been ingested directly from Genbank without submitter intervention. While we do not have any objections to the practice, we have very legitimate concerns about the ingest mechanism and the measures that GISAID curators undertake to document data provenance and metadata integrity, and how version control is implemented to monitor for updates to these externally-sourced records. Some level of technical consultation is warranted.

This should not be contentious. This should be expected. At face value, GISAID appears to be using an undocumented process to ingest and present CDC public sequences in EpiPox™, and in some instances, appears to be making edits to some of the metadata fields; we are simply seeking to better understand the process. If GISAID TechOps prefers to interface with Dr. Hutson and the CDC MPXV response sequencing and bioinformatics team directly, that's fine. Indeed, preferable. But I think you'll agree that these are important and legitimate technical concerns that warrant discussion or clarification, and they should not be ignored or diminished.

As for the remainder of your email: I normally would not humor its tone or substance. That said, for the record, GISAID leadership and technical operations staff were directly invited to participate in the SPHERES community on multiple occasions, and through multiple contact email addresses. At the very least, this included the initial kickoff and invitation to SPHERES, dated March 28, 2020 (addressed to president@gisaid.org and cheryl@gisaid.org), and a subsequent invitation (addressed to techops@gisaid.org, in response to the email that you cited) dated February 11, 2021. Both emails are copied here as PDFs for your reference, and notably, neither received acknowledgement or reply. As you already follow me on social media, you are doubtless also aware that SPHERES is an open consortium and technical community of practice, and that the engagement of GISAID over the past several years could have happened at any time and would have been very welcomed by a community that often must guess at GISAID's practices or intentions.

I will not pretend to tell you your business, but for an organization ostensibly founded on principles of equity and open data sharing, GISAID would perhaps do well to engage more openly with the public health community on technical matters, to communicate more clearly and without hostility about its processes and governance, and to avoid so frequently undermining its own important contributions to global health and to the calling that we all collectively serve.

Be well. And please, do better.

Sincerely,

Duncan

Duncan R. MacCannell, Ph.D.
CDC/DDID/NCEZID/OAMD

Office of Advanced Molecular Detection

National Center for Emerging & Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

1600 Clifton Road NE, MS-G38
Atlanta, Georgia, USA 30333
dmaccannell@cdc.gov
<http://www.cdc.gov/amd>

[t] 404.639.1949
[f] 404.235.0008
[tw] [@dmaccannell](https://twitter.com/dmaccannell)



From: GISAID Secretariat <secretariat@gisaid.org>
Sent: Wednesday, August 31, 2022 2:51 PM
To: MacCannell, Duncan (CDC/DDID/NCEZID/OD) <fms2@cdc.gov>
Cc: Hutson, Christina (CDC/DDID/NCEZID/DHCPP) <zuu6@cdc.gov>; Gigante, Crystal (CDC/DDID/NCEZID/DHCPP) <lzu1@cdc.gov>; Li, Yu (CDC/DDID/NCEZID/DHCPP) <lay4@cdc.gov>; Armstrong, Gregory (CDC/DDID/NCEZID/OD) <gca3@cdc.gov>
Subject: Re: Presentation to SPHERES Consortium on EpiPox?

Dear Dr. MacCannell,

We've reviewed your email, and in responding to your claims therein also take this opportunity to correct the record.

Candidly, we're surprised by your statement that you "re-extend [to GISAID] an offer to participate" in your SPHERES dialogue because, as you know, no such invitation has ever been extended.

As you also know, when GISAID contacted you on February 10, 2021, to better understand the unsubstantiated claims you made in public fora that GISAID had "received multiple invitations" to participate in your SPHERES meetings, you failed to demonstrate that you had, in fact, sent even one invitation (let alone "multiple"). Instead, you merely provided a broken link to a Slack workspace – a far cry from what any reasonable person would consider an invitation to give a presentation. Except for today's email there is simply no evidence that you have ever invited

GISAID to present at any of your SPHERES meetings. I'm sure you can understand why we must respectfully question your motives underlying today's sudden offer.

Moreover, a quick glance at your social media accounts is all one needs to observe your relentless efforts to perpetuate baseless claims that seek to undermine the credibility of GISAID and its staff, and attempt to whittle away at GISAID's existence. Such behavior meaningfully erodes confidence in *any* individual, but especially someone charged with aiding public health efforts.

Well over two and a half years into the COVID-19 pandemic, GISAID continues to receive complaints from data submitters and community members about the divisive nature of your comments both in public and non-public settings. In April 2020 when the U.S. and the world reeled from an exploding number of COVID-19 cases, GISAID felt compelled and on the advice of the U.S. Department of State reached out to CDC leadership to ensure that your personal ambitions would not undermine GISAID's critical role, nor the CDC's longstanding relationship with the Initiative it helped build.

We hope you understand that for the time being GISAID will maintain its focus on well-established engagement channels with the US-based science community (both in academia and in public health settings) in a manner that continues to exude confidence.

Concerning Dr. Hutson: Rest assured, our colleagues have already indicated in their response that GISAID looks forward to discussing how to best support the work of the Testing Task Force for the hMpxV response and her team in Atlanta. This will be an opportunity to confirm GISAID's standardized nomenclature with regard to proposed hMpxV classification.

Respectfully,

The GISAID Initiative

*Real-Time Communication in Disease Prevention
a Nonprofit Public-Private-Partnership*
<https://gisaid.org/>

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From: "MacCannell, Duncan (CDC/DDID/NCEZID/OD)" <fms2@cdc.gov>
Date: Wednesday, August 31, 2022 at 07:47
To: "techdev@gisaid.org" <techdev@gisaid.org>
Cc: "Hutson, Christina (CDC/DDID/NCEZID/DHCPP)" <zuu6@cdc.gov>, "Gigante, Crystal (CDC/DDID/NCEZID/DHCPP)" <lu1@cdc.gov>, "Li, Yu (CDC/DDID/NCEZID/DHCPP)" <lay4@cdc.gov>, Gregory Armstrong <gca3@cdc.gov>
Subject: Presentation to SPHERES Consortium on EpiPox?

Hi there, GISAID technical team –

As always, thank you for all of your hard work.

Would it be possible to get a presentation and/or technical dialogue started about the population of the EpiPox™ database?

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We would appreciate a better understanding of this process.

If it's convenient, I'd welcome a presentation from GISAID Technical Operations staff on a future SPHERES call, which includes much of the US academic and public health communities, and we enthusiastically re-extend an offer to participate in the biweekly calls and Slack community. I think we'd also welcome a recurring technical update from GISAID staff on EpiPox™/EpiCoV™/EpiRSV™ on these calls, if it is of interest to your group.

Many thanks for your consideration.

Sincerely,

Duncan

Duncan R. MacCannell, Ph.D.

CDC/DDID/NCEZID/OAMD

Office of Advanced Molecular Detection

National Center for Emerging & Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

1600 Clifton Road NE, MS-G38 [t] 404.639.1949
Atlanta, Georgia, USA 30333 [f] 404.235.0008
dmaccannell@cdc.gov [tw] [@dmaccannell](https://twitter.com/dmaccannell)
<http://www.cdc.gov/amd>



MacCannell, Duncan (CDC/DDID/NCEZID/OD)

From: MacCannell, Duncan (CDC/DDID/NCEZID/OD)
Sent: Saturday, March 28, 2020 10:28 AM
To: MacCannell, Duncan (CDC/DDID/NCEZID/OD)
Subject: SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES)

Importance: High

Follow Up Flag: Flag for follow up
Flag Status: Completed

The SARS-CoV-2 pandemic represents one of the greatest challenges in the history of our country and the world.

I am reaching out to you because of your established leadership in SARS-CoV-2 sequencing, your commitment to rapid open data sharing, and your demonstrated willingness to bring resources and expertise to bear to help the nation meet this unprecedented threat.

To help accelerate the use of near-realtime pathogen genomic data throughout the pandemic response, CDC's Advanced Molecular Detection (AMD) program (<https://www.cdc.gov/amd>) is establishing an open genomics consortium to spearhead and organize public health sequencing and response efforts across the United States. This consortium, **SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES)**, is intended to help coordinate and support sequencing at state and local public health laboratories across the country, and to better engage clinical, academic and commercial laboratories that are sequencing – or planning to sequence -- SARS-CoV-2 at any scale. With this coalition, we hope to improve communication and knowledge-sharing between US laboratories, to develop consensus guidance on data and metadata standards, to reduce barriers to bioinformatic analysis and data sharing, and to better align sequencing requirements and resource needs with different sources of funding, technology, expertise and other means of support.

The SPHERES consortium will be built around eight core objectives:

1. To bring together a **network of sequencing laboratories**, bioinformatics capacity and subject matter expertise under the umbrella of a **massive and coordinated public health sequencing effort**.
2. To **accelerate data generation and sharing**, including the rapid release of high-quality viral sequence data from clinical and public health laboratories into **both NCBI and GISAID** repositories in near-realtime.
3. To provide a common forum for public, private and academic institutions to **share protocols, methods, bioinformatic tools, standards and best practices**. (Some initial resources have already been assembled at: https://github.com/CDCgov/SARS-CoV-2_Sequencing).
4. To **identify and prioritize capabilities and resource needs across the network**, and to align sources of federal, non-governmental and private sector funding and support with areas of greatest impact and need.
5. To improve **coordination of genomic sequencing** between institutions and jurisdictions, and to enable **resilience and failover capacity across the network**.
6. To establish consistent **data and metadata standards**, including **streamlined repository submission processes**, sample prioritization criteria, and a framework **for shared, privacy-compliant unique case identifiers**.
7. To align with **global sequencing and bioinformatics efforts**, including the recently-announced COG-UK, and any relevant global sequencing and standards efforts (eg: PHA4GE <https://doi.org/10.20944/preprints202001.0107.v1>).

8. To champion concepts of **openness, standards-based analysis and rapid data sharing throughout the US and across the global pandemic response.**

Actions requested of you: By 4/1/2020, please acknowledge your willingness to participate in this consortium by replying to this email, and indicate any additional contacts from your institution that should be included. It is understood that your participation in this consortium does not necessarily imply a firm commitment of resources. Please share any issues or concerns with me directly – they will not be shared.

Expected follow-up from us: By 4/4/2020, we will provide organizational details and participants, login information for a dedicated virtual workspace, and we will begin an initial assessment of sequencing throughput, coverage, needs and capacity across the consortium members.

This country is home to some of the most advanced clinical, commercial and public health laboratories in the world, and some of the brightest and most innovative companies, institutions and academic research centers. Throughout this pandemic -- and long afterwards -- we will be defined by our collective determination, compassion and our willingness to both collaborate and lead. For those of us who work in public health and pathogen genomics, our actions over the coming weeks and months may be the most consequential and important work of our lifetimes, helping to understand and mitigate this pandemic as it unfolds, and working to protect the health and safety of millions of Americans, and the interconnected billions who share our planet and our lives.

Together, we have the resources and expertise to launch a coordinated national sequencing strategy. And together, we can meet the many challenges ahead.

We hope you'll join us.

Sincerely,

Duncan

Duncan R. MacCannell, Ph.D.
OAMD CDC/DDID/NCEZID/OD

Office of Advanced Molecular Detection
National Center for Emerging & Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

1600 Clifton Road NE, MS-G38
Atlanta, Georgia, USA 30333
dmaccannell@cdc.gov
<http://www.cdc.gov/amd>

[t] 404.639.1949
[f] 404.235.0008
[tw] [@dmaccannell](#)



MacCannell, Duncan (CDC/DDID/NCEZID/OD)

From: MacCannell, Duncan (CDC/DDID/NCEZID/OD)
Sent: Thursday, February 11, 2021 8:53 AM
To: techops@gisaid.org
Subject: RE: CS Spheres

Importance: High

Dear GISAID TechOps –

Many thanks for your email. We'd be delighted to have GISAID participation and technical perspective on our Slack and on our community calls.

At the highest level, SPHERES is simply meant to coordinate and ensure consistent, open data across dozens of labs that are sequencing SARS-CoV-2 across the United States. We spend a lot of time working on data standards and protocols, and on ensuring that timely sequence data is openly shared and maximally available to public health and the broader research community. We're also working to improve engagement and collaboration between academia and state/local/federal public health – both in the context of the pandemic response, and for the long-term.

My apologies for any miscommunication. We included both Cheryl Bennett and Peter Bognar on the original call to action that established SPHERES, dated March 28th, 2020 (email copied below for your reference). While we did not receive a response from them (or anyone that identified with the GISAID organization), we admittedly did not follow up aggressively with any of the groups that failed to respond. That said, SPHERES does include a number of members that sit on the GISAID scientific advisory and database boards, and is an open consortium model by design -- so the door has always been open for broader GISAID participation. This openness has been a strength: over 150 state and local health departments, universities, institutions and companies have approached us and joined since the launch of the consortium last spring.

This is the current magic link to join the SPHERES Slack workspace: https://join.slack.com/t/cspheres/shared_invite/zt-lb6m2l8j-Gt8tIJ10~WGYSVNvkCGunw

The recurring Zoom invite and past meeting notes should be posted/pinned on the #meetings channel. They're usually weekly on Wednesday afternoons at 1pm ET/10am PT.

Please let me know if you have any issues gaining access to either.

Welcome!

Sincerely,

Duncan

From: GISAID TechOps <techops@gisaid.org>
Sent: Wednesday, February 10, 2021 4:12 PM
To: MacCannell, Duncan (CDC/DDID/NCEZID/OD) <fms2@cdc.gov>
Subject: CS Spheres

Dear Prof. MacCannell:

It has come to our attention that during a Spheres chat earlier today, GISAID's name came up, and you indicated that GISAID had been invited to participate. No one at GISAID recalls having seen that invitation.

We would be happy to participate and do whatever we can to help. Please let us know when the next call is scheduled.

Sincerely,

GISAID TechOps

Sent: Saturday, March 28, 2020 10:28 AM

To: MacCannell, Duncan (CDC/DDID/NCEZID/OD) <fms2@cdc.gov>

Subject: SARS-CoV-2 Sequencing for Public Health Emergency Response, Epidemiology and Surveillance (SPHERES)

Importance: High

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Sincerely,

Duncan

Duncan R. MacCannell, Ph.D.
OAMD CDC/DDID/NCEZID/OD

[Office of Advanced Molecular Detection](#)
National Center for Emerging & Zoonotic Infectious Diseases
Centers for Disease Control and Prevention

1600 Clifton Road NE, MS-G38
Atlanta, Georgia, USA 30333
dmaccannell@cdc.gov
<http://www.cdc.gov/amd>

[t] 404.639.1949
[f] 404.235.0008
[tw] [@dmaccannell](#)



From: SCHWARTZ, Lauren
Sent: Sun, 17 Jul 2022 02:59:22 +0000
To: Ioannis Sitaras; rahmed; Alter, Galit; raul.andino; Ana Atti; Maria Baca Estrada (maria.baca-estrada@canada.ca); wael.bahnan; baihe (baihe@nmpa.gov.cn); rbaric (rbaric@email.unc.edu); ellie.barnes; dbarouch (dbarouch@bidmc.harvard.edu); amy.bei; cheryl (cheryl@gisaid.org); valentina.bernasconi@cepi.net; antonio; bertozzi; Kevin Bewley (Kevin.bewley@phe.gov.uk); shinjini.bhatnagar (shinjini.bhatnagar@thsti.res.in); pbieniasz@mail.rockefeller.edu; Birdi, Harsimrat (PHAC/ASPC); cblish; Bok, Karin (NIH/VRC) [E]; sboyd1; Boyle, David; Bozick, Brooke (NIH/NIAID) [E]; BRADYG1; BRANGEL, Polina; gurpreet.brar; Aodhan.Breathnach; christian.brechot (christian.brechot@pasteur.fr); Eeva Broberg (Eeva.Broberg@ecdc.europa.eu); Christine Bruce (Christine.bruce@phe.gov.uk); Brys, April (OS/ASPR/BARDA); Mihaela BUDA; wendy.burgers; Busch, Dr. Michael; sid.byrareddy; Miles Carroll; tdcarroll; Carroll, Darin (CDC/DDID/NCEZID/DSR); Cassels, Fred; Javier Castillo-Olivares Pallardo; Cavalieri Marco (Marco.Cavalieri@ema.europa.eu); Breeze.Cavell; Meera Chand; Monalisa Chatterji (MONALISA.CHATTERJI@gatesfoundation.org); Emmanuelle Charton (emmanuelle.charton@edqm.eu); Chiu, Charles; Chu, May; Amy Chung; Carolyn Clark (carolyn.clark@cepi.net); Viviana Cobos Jimenez; Daniel Cohen (dancohen@tauex.tau.ac.il); NiaConlon@stjames.ie; Corbett, Kizzmekia; Manuel Antonio Franco Cortes (mafranco@javeriana.edu.co); COSTA, Alejandro Javier; Coughlin, Melissa (CDC/DDID/NCIRD/DVD); soizic.courcier; shane@lji.org; Crozier, Ian (NIH) [C]; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP); Lisa@amicitiam.com; Peter Daszak; de los Santos, Tala; t.desilva; De wit, Emmie (NIH/NIAID) [E]; Hélène Decaluwe; Degrace, Marciela (NIH/NIAID) [E]; Delgado Vazquez.Rafael (rafael.delgado@salud.madrid.org); joe; jderisi; diane.descamps@aphp.fr; mit666666 (mit666666@pitt.edu); carlota.dobano; Donis, Ruben (OS/ASPR/BARDA); katie.doores (katie.doores@kcl.ac.uk); William Dowling (william.dowling@cepi.net); Drosten, Christian; Dugan, Vivien (CDC/DDID/NCIRD/ID); susie.dunachie; epstein@ecohealthalliance.org; Erlandson, Karl (OS/ASPR/BARDA); Camille Escadafal; nicolas.escriou; Falzarano, Darryl; Jason Fernandes; andres.finzi (andres.finzi@umontreal.ca); FLEMING Olivia; Florence, Clint (NIH/NIAID) [E]; Forbes, Nicole (PHAC/ASPC); douglas_fox; Fredericksen, Brenda (OS/ASPR/BARDA); Frieman, Matthew; Jacqueline.Fryer; Simon Funnell (simon.funnell@phe.gov.uk); Luc.Gagnon (Luc.Gagnon@nexelis.com); Galloway, Summer (CDC/DDID/NCIRD/ID); Garcia, Mayra (FDA/CDRH); PINTO DE SÁ GASPAR, Rogerio Paulo; Gerber, Susan I. (CDC/DDID/NCEZID/DFWED); Volker.gerdts (Volker.gerdts@usask.ca); GILBERT Nick; Siri.Goepel; Goldblatt, David; Karen Gooch; guy.gorochov@sorbonne-universite.fr; Graham, Barney (NIH/VRC) [E]; Grebe, Eduard; elwyn.griffiths@cepi.net; Griffiths, Anthony; Alba Grifoni; gregory.d.gromowski.civ (gregory.d.gromowski.civ@mail.mil); Guthrie, Erica (CDC/DDID/NCIRD/ID); B.L. Haagmans (b.haagmans@erasmusmc.nl); Victoria.Hall; Hanson, Carl@CDPH; Theodora Hatzioannou; Helfand, Rita (CDC/DDID/NCEZID/OD); HENAO RESTREPO, Ana Maria; Hensley, Lisa (NIH/NIAID) [V]; julian.hiscox; dh2994; Hodgson, Paul; Holbrook, Michael (NIH/NIAID) [C]; johan.holst@cepi.net;
[b](6) Hu, Tom (OS/ASPR/BARDA); Hyde, Terri (CDC/DDPHSIS/CGH/GID); IRAHETA SIGUENZA, Raul Emilio; REIRELAND (REIRELAND@mail.dstl.gov.uk); Iturriza-Gomara, Miren; ASIyer@mgh.harvard.edu; jacobsen.hmp; William James; Jayashankar, Lakshmi (OS/ASPR/BARDA); Youngmee Jee [b](6) Jernigan, Daniel B. (CDC/DDPHSS/OD); sile.johnson; Johnson, Reed (NIH/NIAID) [E]; c.jolly; Kainulainen, Markus Henrikki (CDC/DDID/NCEZID/DHCPP); hassen.kared; YOSHIHIRO KAWAOKA; KAZI, Fatema; Kelvin, Alyson; Kemp, Troy (NIH/NCI) [C]; alankhoo.imr; jakim; Jacqueline Kirchner (Jacqueline.Kirchner@gatesfoundation.org); amy.kistler; paul.klenerman; KNEZEVIC, Ivana; M.P.G. Koopmans (m.koopmans@erasmusmc.nl); Kovacs, Gerald (OS/ASPR/BARDA) (CTR); Krammer, Florian; Phil Krause (phil@Drkrause.com); Shelly Krebs (skrebs@hivresearch.org); Krishnan, Ramya (PHAC/ASPC); Nevan.Krogan; Amy ES Kuehn; Greg Kulnis (Greg.Kulnis@nexelis.com); Arun Kumar (arun.kumar@cepi.net); renuka.kumar; pawinee.k@redcross.or.th; Teresa Lambe

(teresa.lambe@ndm.ox.ac.uk); Landau, Nathaniel; Lathey, Janet (NIH/NIAID) [E]; Yann Le Duff (Yann.LeDuff@nibsc.org); Leader, Troy; leejooyeon (leejooyeon@korea.kr); Lee, William T (HEALTH); LEI, Dianliang; MSLEVER (MSLEVER@dstl.gov.uk); changguili (changguili@aliyun.com); lyhchengdu (lyhchengdu@163.com); liyl (liyl@cde.org.cn); limhy0919 (limhy0919@korea.kr); Little, James (OS/ASPR/BARDA); liub (liub@cde.org.cn); Long, James (OS/ASPR/BARDA) (CTR); a.luttick; nl404; Julian Ma; MacGill, Tracy (FDA/OC); ramadany; m.maini; Karen Makar (Karen.Makar@gatesfoundation.org); Malkevich, Nina (OS/ASPR/BARDA) (CTR); Mary.Matheson@phe.gov.uk; Giada Mattiuzzo (Giada.Mattiuzzo@nibsc.org); MCCORMW; jmclellan (jmclellan@austin.utexas.edu); McDermott, Adrian (NIH/VRC) [E]; McElrath MD PhD, Julie; Lorna McInroy; Guruprasad; Angeliki Melidou (angeliki.melidou@ecdc.europa.eu); jwm1 (jwm1@pitt.edu); Liz Miller (Liz.Miller@lshtm.ac.uk); Chris Miller (cjmiller@ucdavis.edu); Philip Minor (b)(6); MIYAZAKI-KRAUSE, Ryoko; Kayvon Modjarrad (kmodjarrad@eidresearch.org); Diana Molino; david.montefiori@duke.edu; pennym@nicd.ac.za; Morabito, Kaitlyn (NIH/DMID) [E]; Clare.Morris@nibsc.org; Morris, Mary Kate@CDPH; Sarah Mudrak, Ph.D.; MULDERS, Mick (WHO/HQ-IVB); Cesar Munoz-Fontela (munozfontela@bniitm.de); Munster, Vincent (NIH/NIAID) [E]; I.a.munthe; Alltalents Murahwa; Myers, Todd (FDA/OC); aysegul.nalca.civ (aysegul.nalca.civ@mail.mil); scott.napper (scott.napper@usask.ca); MNELSON (MNELSON@dstl.gov.uk); Pontus Nordenfelt; Norris, Philip; Oberste, Steve (CDC/DDID/NCIRD/DVD); O'Donnell, Kyle (NIH/NIAID) [F]; pilailuk.o (pilailuk.o@dmse.mail.go.th); Okba, Nisreen; Olinger, Gene; engeong.ooi; melanie.ott; Ashley Otter; Jae Ouk Kim (jokim@ivi.int); Mark Page (Mark.Page@nibsc.org); gustavo.f.palacios.civ (gustavo.f.palacios.civ@mail.mil); Pallansch, Mark A. (CDC/DDID/NCIRD/DVD); Panayampalli, Subbian Satheshkumar (CDC/DDID/NCEZID/DHCPP); qiang.pan-hammarstrom@ki.se; Paxton, Bill; Rebecca.Payne2; a.peden; Peden, Keith (FDA/CBER); sheila.a.peel2.civ (sheila.a.peel2.civ@mail.mil); malik (malik@hku.hk); PERKINS, Mark; Perlman, Stanley; Eloise Phillips; Supaporn Phumiamorn (supaporn.p@dmse.mail.go.th); satish.pillai; Pinto, Ligia (NIH/NCI) [C]; margaret.l.pitt.civ (margaret.l.pitt.civ@mail.mil); mireille.plamondon@canada.ca; Pollakis, Georgios; Post, Diane (NIH/NIAID) [E]; JLPRIOR (JLPRIOR@dstl.gov.uk); Rashid, Sujatha; arimoin (arimoin@g.ucla.edu); Catherine Riou; RIVEROS BALTA, Ximena; Nicola Rose (Nicola.Rose@nibsc.org); alexander.rouvinski; arjun.rustagi; Kathryn Ryan; Sabourin, Carol (OS/ASPR/BARDA); SACKS, Jilian; SALAMI, Kolawole; Marc L Salit (msalit@stanford.edu); tom.salisbury; SANDS, Anita; erica (erica@iji.org); SATHIYAMOORTHY, Vaseeharan; Sharon Schendel (schendel@iji.org); Schmaljohn, Connie (NIH/NIAID) [E]; Nicole.Schneiderhan; Barbara.Schnierle (Barbara.Schnierle@pei.de); PScott (PScott@eidresearch.org); gavin.screaton; alex@iji.org; Shi, Pei yong; Shivji Ragini (Ragini.Shivji@ema.europa.eu); sujan@iji.org; Amy C. Shurtleff (amy.c.shurtleff@cepi.net); YOO, Si Hyung; alex.sigal@ahri.org; GSimmons; viviana.simon; Natalie Sippl; Smith, Ashley (OS/ASPR/BARDA); Manki Song (mksong@ivi.int); sastanley; Stemmy, Erik (NIH/NIAID) [E]; Stone, Mars; STRÖHER, Ute; dave.stuart; SUBISSI, Lorenzo; Suthar, Mehul; Mark.sutton; tcs38@psu.edu; I.swadling; SWAMINATHAN, Soumya; Charlotte Thålin; Thornburg, Natalie (CDC/DDID/NCIRD/DVD); tracey.thue (tracey.thue@usask.ca); Georgia Tomaras, Ph.D.; Tong, Suxiang (Sue) (CDC/DDID/NCIRD/DVD); g.towers; Alain Townsend; Townsend, Michael B. (CDC/DDID/NCEZID/DHCPP); Julia Tree (Julia.Tree@phe.gov.uk); john.c.trefry.civ (john.c.trefry.civ@mail.mil); Jakob.Tripert; Turtle, Lance; Tuthill, Mark (RTH) OUH; sophie.doak; Vandenberghe, Luk; Sylvie VAN DER WERF; eric.vangieson@darpa.mil; prof.vasan; ym.vasilev; David Vaughn (David.Vaughn@gatesfoundation.org); Aurelia Vessiere; Merryn Voysey (merryn.voysey@paediatrics.ox.ac.uk); Wadford, Debra (CDC cdph.ca.gov); wangjz (wangjz@nifdc.org.cn); wangyc (wangyc@nifdc.org.cn); linfa.wang (linfa.wang@duke-nus.edu.sg); Wang, Tony (FDA/CBER); Weir, Jerry P. (FDA/CBER); daniela@iji.org; gweiss@uci.edu; Wentworth, David E. (CDC/DDID/NCIRD/ID); DWESEMANN; (b)(6) Kurt Wibmer; wilsonp@uchicago.edu; Windsor, William; Wolfram, Larry (NIH/NIAID) [E]; David Wood (b)(6) xumiaobj (xumiaobj@126.com); XU, Xiyan; solomon.yimer@cepi.net; tlying

(tlying@fudan.edu.cn); Yu, Elaine; Yusibov, Vidadi (OS/ASPR/BARDA) (CTR); zlshi (zlshi@wh.iov.cn); ZHOU, Tiequn; zbrumme

Cc: Lauren Schwartz (lauren@gormanconsulting.org); Teresa Lambe; Lorna McInroy; Yates, Jennifer L (HEALTH); Camila Macedo Cincotta; Kevin Bewley; David Montefiori, Ph.D.; Jernigan, Daniel B. (CDC/DDPHSS/OD); Georgia Tomaras, Ph.D.

Subject: RE: WHO Working Group on COVID-19 Assays

Dear All,

Please find below the agenda for this week's WHO working group on COVID-19 assays group call.

Best,
Lauren - Bill, Simon and César

Agenda for WHO working group on COVID-19 assays group call Wednesday July 20 2:30PM CET (Geneva Time)

1. Lance Turtle (Univ of Liverpool) – *Evolution of long-term hybrid immunity in healthcare workers after different COVID-19 vaccine regimens: a longitudinal observational cohort study*
2. Naomi Coombes (UK HSA) - *The CEPI funded Agility project: update*
3. Clare Jolly (UCL) - *Enhanced innate immune suppression by SARS-CoV-2 Omicron subvariant BA.4 and BA.5*

-----Original Appointment-----

From: SCHWARTZ, Lauren
Sent: Wednesday, June 15, 2022 1:54 PM
To: SCHWARTZ, Lauren; isitara1@jhmi.edu; rahmed@emory.edu; galter@partners.org; raul.andino@ucsf.edu; Ana.Atti@phe.gov.uk; maria.baca-estrada@canada.ca; Wael Bahnan; baihe@nmpa.gov.cn; rbaric@email.unc.edu; [REDACTED] dbarouch@bidmc.harvard.edu; amy.bei@yale.edu; cheryl@gisaid.org; valentina.bernasconi@cepi.net; antonio@duke-nus.edu.sg; bertozzi@stanford.edu; Kevin.Bewley@phe.gov.uk; shinjini.bhatnagar@thsti.res.in; pbieniasz@mail.rockefeller.edu; harsimrat.birdi@phac-aspc.gc.ca; cblish@stanford.edu; karin.bok@nih.gov; sboyd1@stanford.edu; dboyle@path.org; brooke.bozick@nih.gov; BRADYG1@tcd.ie; BRANGEL, Polina; gurpreet.brar@cepi.net; Aodhan.Breathnach@stgeorges.nhs.uk; christian.brechot@pasteur.fr; Eeva Broberg; Christine.bruce@phe.gov.uk; April.Brys@hhs.gov; BUDA Mihaela; wendy.burgers@uct.ac.za; MBusch@vitalant.org; sid.byrareddy@unmc.edu; Miles Carroll; tdcarroll@ucdavis.edu; zuz4@cdc.gov; fcassels@path.org; fjc37@cam.ac.uk; Marco.Cavalieri@ema.europa.eu; Breeze.Cavell@phe.gov.uk; Meera.Chand@phe.gov.uk; MONALISA.CHATTERJI@gatesfoundation.org; emmanuelle.charton@edqm.eu; charles.chiu@ucsf.edu; MAY.CHU@CUANSCHUTZ.EDU; awchung@unimelb.edu.au; carolyn.clark@cepi.net; [REDACTED] [b](6) dancohen@tauex.tau.ac.il; NiaConlon@stjames.ie; Corbett, Kizzmekia; mafranco@javeriana.edu.co; COSTA, Alejandro Javier; htq4@cdc.gov; [REDACTED] [b](6) hane@lji.org; ian.crozier@nih.gov; lad7@cdc.gov; Lisa@amicitiam.com; daszak@ecohealthalliance.org; tdelossantos@path.org; t.desilva@sheffield.ac.uk; emmie.dewit@nih.gov; helene.decaluwe@umontreal.ca; marciela.degrace@nih.gov; rafael.delgado@salud.madrid.org; joe@czbiohub.org; [REDACTED] [b](6) diane.descamps@aphp.fr; mit666666@pitt.edu; carlota.dobano@isglobal.org; Ruben.Donis@hhs.gov;

katie.doores@kcl.ac.uk; william.dowling@cepi.net; christian.drosten@charite.de; lny1@cdc.gov; susie.dunachie@ndm.ox.ac.uk; epstein@ecohealthalliance.org; Karl.Erlandson@hhs.gov; Camille.Escadafal@finddx.org; nicolas.escriou@pasteur.fr; darryl.falzarano@usask.ca; jason.fernandes@hc-sc.gc.ca; andres.finzi@umontreal.ca; ofleming@exseed.ed.ac.uk; clint.florence@nih.gov; nicole.forbes@phac-aspc.gc.ca; douglas_fox@berkeley.edu; Brenda.Fredericksen@hhs.gov; MFrieman@som.umaryland.edu; Jacqueline.Fryer@nibsc.org; simon.funnell@ukhsa.gov.uk; Luc.Gagnon@nexelis.com; SGalloway@cdc.gov; Mayra.Garcia@fda.hhs.gov; Rogério Gaspar; bhx1@cdc.gov; Volker.gerdts@usask.ca; Nick.Gilbert@ed.ac.uk; Siri.Goepel@med.uni-tuebingen.de; d.goldblatt@ucl.ac.uk; karen.gooch@phe.gov.uk; guy.gorochov@sorbonne-universite.fr; barney.graham@nih.gov; EGrebe@vitalant.org; elwyn.griffiths@cepi.net; ahgriff@bu.edu; agrifoni@lji.org; gregory.d.gromowski.civ@mail.mil; ilj2@cdc.gov; b.haagmans@erasmusmc.nl; Victoria.Hall@phe.gov.uk; Carl.Hanson@cdph.ca.gov; thatzio@rockefeller.edu; rzh7@cdc.gov; HENAO RESTREPO, Ana Maria; lisa.hensley@nih.gov; julian.hiscox@liverpool.ac.uk; dh2994@cumc.columbia.edu; paul.hodgson@usask.ca; Michael.holbrook@nih.gov; johan.holst@cepi.net; (b)(6) Tom.Hu@hhs.gov; tkh4@cdc.gov; IRAHETA SIGUENZA, Raul Emilio; REIRELAND@mail.dstl.gov.uk; miturrizagomara@path.org; ASiyer@mgh.harvard.edu; (b)(6) william.james@path.ox.ac.uk; Lakshmi.Jayashankar@hhs.gov; Youngmee Jee; djernigan@cdc.gov; Sile Johnson; johnsonreed@niaid.nih.gov; c.jolly@ucl.ac.uk; ydm9@cdc.gov; hassen.kared@medisin.uio.no; yoshihiro.kawaoka@wisc.edu; KAZI, Fatema; Kelvin, Alyson; kemptj@mail.nih.gov; (b)(6) Jiae Kim; Jacqueline.Kirchner@gatesfoundation.org; amy.kistler@czbiohub.org; paul.klenerman@medawar.ox.ac.uk; 'KNEZEVIC, Ivana'; m.koopmans@erasmusmc.nl; Gerald.Kovacs@hhs.gov; florian.krammer@mssm.edu; phil@drkrause.com; skrebs@hivresearch.org; ramya.krishnan@phac-aspc.gc.ca; Nevan.Krogan@ucsf.edu; amy.kuehn@wisc.edu; Greg.Kulnis@nexelis.com; arun.kumar@cepi.net; renuka.kumar@gladstone.ucsf.edu; pawinee.k@redcross.or.th; teresa.lambe@ndm.ox.ac.uk; Nathaniel.Landau@nyulangone.org; janet.lathey@nih.gov; Yann.LeDuff@nibsc.org; bleader@path.org; leejooyeon@korea.kr; william.lee@health.ny.gov; LEI, Dianliang; MSLEVER@dstl.gov.uk; changguili@aliyun.com; lyhchengdu@163.com; liyl@cde.org.cn; limhy0919@korea.kr; James.Little@hhs.gov; liub@cde.org.cn; James.Long@hhs.gov; a.luttick@360biolabs.com; nl404@cam.ac.uk; jma@sgul.ac.uk; Tracy.MacGill@fda.hhs.gov; ramadany@sfda.gov.sa; m.maini@ucl.ac.uk; Karen.Makar@gatesfoundation.org; Malkevich, Nina (OS/ASPR/BARDA) (CTR; Mary.Matheson@phe.gov.uk; Giada.Mattiuzzo@nibsc.org; MCCORMW@tcd.ie; jmclellan@austin.utexas.edu; adrian.mcdermott@nih.gov; jmcelrat@fredhutch.org; lorna.mcinroy@phe.gov.uk; gmedigeshi@thsti.res.in; angeliki.melidou@ecdc.europa.eu; jwm1@pitt.edu; Liz.Miller@lshtm.ac.uk; cjmiller@UCDAVIS.EDU; (b)(6) MIYAZAKI-KRAUSE, Ryoko; kmodjarrad@eidresearch.org; diana.molino@inserm.fr; david.montefiori@duke.edu; pennym@nicd.ac.za; kaitlyn.dambach@nih.gov; Clare.Morris@nibsc.org; MaryKate.Morris@cdph.ca.gov; sarah.mudrak@duke.edu; MULDERS, Mick (WHO/HQ-IVB); munoz-fontela@bnitm.de; vincent.munster@nih.gov; l.a.munthe@medisin.uio.no; Alltalents.Murahwa@finddx.org; Todd.Myers@fda.hhs.gov; aysegul.nalca.civ@mail.mil; scott.napper@usask.ca; MNELSON@dstl.gov.uk; Pontus Nordenfelt; PNorris@vitalant.org; mbo2@cdc.gov; kyle.o'donnell@nih.gov; pilailuk.o@dmse.mail.go.th; nisreen.okba@mssm.edu; golinger@MRIGLOBAL.ORG; engeong.ooi@duke-nus.edu.sg; melanie.ott@gladstone.ucsf.edu; Ashley.Otter@phe.gov.uk; jokim@ivi.int; Mark.Page@nibsc.org; gustavo.f.palacios.civ@mail.mil; map1@cdc.gov; xdv3@cdc.gov; qiang.pan-hammarstrom@ki.se; w.a.paxton@liverpool.ac.uk; Rebecca.Payne2@newcastle.ac.uk; a.peden@sheffield.ac.uk; Keith.Peden@fda.hhs.gov; sheila.a.peel2.civ@mail.mil; malik@hku.hk; PERKINS, Mark; stanley-perlman@uiowa.edu;

eloise.phillips@ndm.ox.ac.uk; supaporn.p@dmsc.mail.go.th; satish.pillai@ucsf.edu; pintol@mail.nih.gov; margaret.l.pitt.civ@mail.mil; mireille.plamondon@canada.ca; g.pollakis@liverpool.ac.uk; postd@niaid.nih.gov; JLPRIOR@dstl.gov.uk; srashid@atcc.org; arimoin@g.ucla.edu; cr.riou@uct.ac.za; Alina Ximena Riveros Balta; Nicola.Rose@nibsc.org; Alexander Rouvinski; arjun.rustagi@stanford.edu; Kathryn.ryan@phe.gov.uk; Carol.Sabourin@hhs.gov; SACKS, Julian; SALAMI, Kolawole; msalit@stanford.edu; tom.salusbury@dhsc.gov.uk; SANDS, Anita; erica@lji.org; SATHIYAMOORTHY, Vaseeharan; schendel@lji.org; connie.schmaljohn@nih.gov; Nicole.Schneiderhan@nmi.de; Barbara.Schnierle@pei.de; PScott@eidresearch.org; gavin.screaton@medsci.ox.ac.uk; alex@lji.org; peshi@UTMB.EDU; Ragini.Shivji@ema.europa.eu; sujan@lji.org; amy.c.shurtleff@cepi.net; YOO, Si Hyung; alex.sigal@ahri.org; GSimmons@vitalant.org; viviana.simon@mssm.edu; Natalie.Sippl@ecdc.europa.eu; Ashley.Smith1@hhs.gov; mksong@ivi.int; sastanley@berkeley.edu; erik.stemmy@nih.gov; MStone@vitalant.org; STRÖHER, Ute; dave.stuart@strubi.ox.ac.uk; SUBISSI, Lorenzo; mehul.s.suthar@emory.edu; Mark.sutton@phe.gov.uk; tcs38@psu.edu; l.swadling@ucl.ac.uk; SWAMINATHAN, Soumya; charlotte.thalin@sll.se; nax3@cdc.gov; tracey.thue@usask.ca; georgia.tomaras@duke.edu; sot1@cdc.gov; g.towers@ucl.ac.uk; alain.townsend@imm.ox.ac.uk; gbu3@cdc.gov; Julia.Tree@phe.gov.uk; john.c.trefry.civ@mail.mil; Jakob.Tripert@fu-berlin.de; Lance.Turtle@liverpool.ac.uk; Mark.Tuthill@ouh.nhs.uk;

(b)(6) uk_vandenberge@meei.harvard.edu; sylvie.van-der-werf@pasteur.fr; eric.vangieson@darpa.mil; prof.vasan@york.ac.uk; ym.vasilev@rpharm.ru; David.Vaughn@gatesfoundation.org; Aurelia.Vessiere@finddx.org; merryn.voysey@paediatrics.ox.ac.uk; Debra.Wadford@cdph.ca.gov; wangjz@nifdc.org.cn; wangyc@nifdc.org.cn; linfa.wang@duke-nus.edu.sg; tony.wang@fda.hhs.gov; Jerry.Weir@fda.hhs.gov; daniela@lji.org; gweiss@uci.edu; gll9@cdc.gov; DWESEMANN@BWH.HARVARD.EDU;

(b)(6) KurtW@nicd.ac.za; wilsonp@uchicago.edu; Windsor, William; larry.wolfraim@nih.gov (b)(6) xumiaobj@126.com; XU, Xiyan; solomon.yimer@cepi.net; tlying@fudan.edu.cn; EYu@vitalant.org; Vidadi.Yusibov@hhs.gov; zlshi@wh.iov.cn; ZHOU, Tiequn; zbrumme@sfu.ca

Cc: lauren@gormanconsulting.org; Teresa Lambe; Lorna McInroy; Yates, Jennifer L (HEALTH); Camila Macedo Cincotta; Kevin Bewley; David Montefiori, Ph.D.; Jernigan, Daniel B. (CDC/DDPHSS/OD); Georgia Tomaras, Ph.D.

Subject: WHO Working Group on COVID-19 Assays

When: Wednesday, July 20, 2022 2:30 PM-4:00 PM (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna.

Where: (b)(6)

Agenda to follow.

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(Brazil)
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Meeting ID: (b)(6)

From: SCHWARTZ, Lauren
Sent: Sun, 25 Sep 2022 17:59:38 +0000
To: Fredericksen, Brenda (OS/ASPR/BARDA); Forbes, Nicole (PHAC/ASPC); Krishnan, Ramya (PHAC/ASPC); a.lutnick; alex.sigal@ahri.org; (b)(6) Rashid, Sujatha; carlota.dobano; Brys, April (OS/ASPR/BARDA); Hu, Tom (OS/ASPR/BARDA); Long, James (OS/ASPR/BARDA) (CTR); Malkevich, Nina (OS/ASPR/BARDA) (CTR); Donis, Ruben (OS/ASPR/BARDA); Erlandson, Karl (OS/ASPR/BARDA); Jayashankar, Lakshmi (OS/ASPR/BARDA); Kovacs, Gerald (OS/ASPR/BARDA) (CTR); Little, James (OS/ASPR/BARDA); Sabourin, Carol (OS/ASPR/BARDA); Smith, Ashley (OS/ASPR/BARDA); Yusibov, Vidadi (OS/ASPR/BARDA) (CTR); douglas_fox; sastanley; Cesar Munoz-Fontela (munoz-fontela@bnitm.de); Griffiths, Anthony; Kimsey, Paul (CDC cdph.ca.gov); Javier Castillo-Olivares Pallardo; Angeliki Melidou (angeliki.melidou@ecdc.europa.eu); Dugan, Vivien (CDC/DDID/NCIRD/ID); Galloway, Summer (CDC/DDID/NCIRD/ID); Oberste, Steve (CDC/DDID/NCIRD/DVD); Tong, Suxiang (Sue) (CDC/DDID/NCIRD/DVD); Townsend, Michael B. (CDC/DDID/NCEZID/DHCPP); Wentworth, David E. (CDC/DDID/NCIRD/ID); liyl (liyl@cde.org.cn); liub (liub@cde.org.cn); Hanson, Carl@CDPH; Morris, Mary Kate@CDPH; Wadford, Debra (CDC cdph.ca.gov); Carroll, Darin (CDC/DDID/NCEZID/DSR); Coughlin, Melissa (CDC/DDID/NCIRD/DVD); Damon, Inger K. (CDC/DDID/NCEZID/DHCPP); Gerber, Susan I. (CDC/DDID/NCEZID/DFWED); Guthrie, Erica (CDC/DDID/NCIRD/ID); Helfand, Rita (CDC/DDID/NCEZID/OD); Hyde, Terri (CDC/DDPHSIS/CGH/GID); Jernigan, Daniel B. (CDC/DDPHSS/OD); Pallansch, Mark A. (CDC/DDID/NCIRD/DVD); Panayampalli, Subbian Satheshkumar (CDC/DDID/NCEZID/DHCPP); Thornburg, Natalie (CDC/DDID/NCIRD/DVD); valentina.bernasconi@cepi.net; Carolyn Clark (carolyn.clark@cepi.net); William Dowling (william.dowling@cepi.net); elwyn.griffiths@cepi.net; johan.holst@cepi.net; Arun Kumar (arun.kumar@cepi.net); Amy C. Shurtleff (amy.c.shurtleff@cepi.net); solomon.yimer@cepi.net; gurpreet.brar; Drosten, Christian; Chu, May; Windsor, William; dh2994; soizic.courcier; prof.vasan; joe; amy.kistler; eric.vangieson@darpa.mil; tom.salusbury; REIRELAND (REIRELAND@mail.dstl.gov.uk); MSLEVER (MSLEVER@dstl.gov.uk); MNELSON (MNELSON@dstl.gov.uk); JLPRIOR (JLPRIOR@dstl.gov.uk); john.c.trefry.civ (john.c.trefry.civ@mail.mil); antonio; engeong.ooi; Georgia Tomaras, Ph.D.; Sarah Mudrak, Ph.D.; david.montefiori@duke.edu; linfa.wang (linfa.wang@duke-nus.edu.sg); Eeva Broberg (Eeva.Broberg@ecdc.europa.eu); Natalie Sippl; epstein@ecohealthalliance.org; Peter Daszak; Mihaela BUDA; Emmanuelle Charton (emmanuelle.charton@edqm.eu); Cavalieri Marco (Marco.Cavalieri@ema.europa.eu); Shivji Ragini (Ragini.Shivji@ema.europa.eu); Suthar, Mehul; rahmed; B.L. Haagmans (b.haagmans@erasmusmc.nl); M.P.G. Koopmans (m.koopmans@erasmusmc.nl); Garcia, Mayra (FDA/CDRH); PHil Krause (phil@Drkrause.com); MacGill, Tracy (FDA/OC); Myers, Todd (FDA/OC); Peden, Keith (FDA/CBER); Wang, Tony (FDA/CBER); Weir, Jerry P. (FDA/CBER); SACKS, Jilian; Alltalents Murahwa; Aurelia Vessiere; Camille Escadafal; McElrath MD PhD, Julie; Jakob.Trimpert; tlyng (tlyng@fudan.edu.cn); Monalisa Chatterji (MONALISA.CHATTERJI@gatesfoundation.org); Jacqueline Kirchner (Jacqueline.Kirchner@gatesfoundation.org); Karen Makar (Karen.Makar@gatesfoundation.org); David Vaughn (David.Vaughn@gatesfoundation.org); cheryl (cheryl@gisaid.org); christian.brechot (christian.brechot@pasteur.fr); dbarouch (dbarouch@bidmc.harvard.edu); Corbett, Kizzmekia; Vandenberghe, Luk; DWESEMANN; ASiyer@mgh.harvard.edu; Maria Baca Estrada (maria.baca-estrada@canada.ca); Jason Fernandes; mireille.plamondon@canada.ca; malik (malik@hku.hk); Manuel Antonio Franco Cortes (mafranco@javeriana.edu.co); guy.gorochov@sorbonne-universite.fr; Diana Molino; nicolas.escriou; Sylvie VAN DER WERF; Youngmee Jee (b)(6) alankhoo.imr; Supaporn Phumiamorn (supaporn.p@dmsc.mail.go.th); Jae Ouk Kim (jokim@ivi.int); Manki Song (mksong@ivi.int); Viviana Cobos Jimenez; Ioannis Sitaras; jacobsen.hmp; qiang.pan-hammarstrom@ki.se; Charlotte Thålin; katie.doores (katie.doores@kcl.ac.uk); leejooyeon (leejooyeon@korea.kr); limhy0919 (limhy0919@korea.kr); shane@lji.org; Alba Grifoni; erica (erica@lji.org); Sharon Schendel

(schendel@lji.org); alex@lji.org; daniela@lji.org; sujan@lji.org; Lance.Turtle@liverpool.ac.uk; Liz Miller (Liz.Miller@lshtm.ac.uk); wael.bahnan; Pontus Nordenfelt; Krammer, Florian; Olinger, Gene; Okba, Nisreen; viviana.simon; Rebecca.Payne2; Luc.Gagnon (Luc.Gagnon@nexelis.com); Greg Kulnis (Greg.Kulnis@nexelis.com); Post, Diane (NIH/NIAID) [E]; Bozick, Brooke (NIH/NIAID) [E]; Degrace, Marciela (NIH/NIAID) [E]; Florence, Clint (NIH/NIAID) [E]; Lathey, Janet (NIH/NIAID) [E]; Stemmy, Erik (NIH/NIAID) [E]; Wolfram, Larry (NIH/NIAID) [E]; Crozier, Ian (NIH) [C]; Hensley, Lisa (NIH/NIAID) [V]; Holbrook, Michael (NIH/NIAID) [C]; Johnson, Reed (NIH/NIAID) [E]; Schmaljohn, Connie (NIH/NIAID) [E]; De wit, Emmie (NIH/NIAID) [E]; Munster, Vincent (NIH/NIAID) [E]; Bok, Karin (NIH/VRC) [E]; Graham, Barney (NIH/VRC) [C]; adrian.mcdermott (adrian.mcdermott@nih.gov); Morabito, Kaitlyn (NIH/DMID) [E]; Jacqueline.Fryer; Yann Le Duff (Yann.LeDuff@nibsc.org); Giada Mattiuzzo (Giada.Mattiuzzo@nibsc.org); Philip Minor (b)(6) Clare.Morris@nibsc.org; Mark Page (Mark.Page@nibsc.org); Nicola Rose (Nicola.Rose@nibsc.org); pennym@nicd.ac.za; changguili (changguili@aliyun.com); lyhchengdu (lyhchengdu@163.com); wangjz (wangjz@nifdc.org.cn); wangyc (wangyc@nifdc.org.cn); xumiaobj (xumiaobj@126.com); Kemp, Troy (NIH/NCI) [C]; O'Donnell, Kyle (NIH/NIAID) [F]; Pinto, Ligia (NIH/NCI) [C]; pilailuk.o (pilailuk.o@dmsc.mail.go.th); Nicole.Schneiderhan; baihe (baihe@nmpa.gov.cn); Lee, William T (HEALTH); Landau, Nathaniel; Tuthill, Mark (RTH) OUH; ellie.barnes; Miles Carroll; susie.dunachie; William James; paul.klenerman; Alain Townsend; Boyle, David; de los Santos, Tala; Leader, Troy; Cassels, Fred; Iturriza-Gomara, Miren; Barbara.Schnierle (Barbara.Schnierle@pei.de); Birdi, Harsimrat (PHAC/ASPC); Ana Atti; Kevin Bewley (Kevin.bewley@phe.gov.uk); Breeze.Cavell; Meera Chand; Karen Gooch; Victoria.Hall; Lorna McInroy; Ashley Otter; Kathryn Ryan; Mark.sutton; Kurt Wibmer; tcs38@psu.edu; Christine Bruce (Christine.bruce@phe.gov.uk); Simon Funnell (simon.funnell@phe.gov.uk); Julia Tree (Julia.Tree@phe.gov.uk); Mary.Matheson@phe.gov.uk; Alter, Galit (b)(6) Theodora Hatzioannou; pbieniasz@mail.rockefeller.edu; Daniel Cohen (dancohen@tauex.tau.ac.il); Delgado Vazquez.Rafael (rafael.delgado@salud.madrid.org); ramadany; t.desilva; 伊藤靖; zbrumme; ym.vasilev; Julian Ma; NiaConlon@stjames.ie; Aodhan.Breathnach; bertozi; cblish; sboyd1; arjun.rustagi; Marc L Salit (msalit@stanford.edu); pawinee.k@redcross.or.th; alexander.rouvinski; shinjini.bhatnagar (shinjini.bhatnagar@thsti.res.in); Guruprasad; BRADYG1; MCCORMW; Catherine Riou; FLEMING Olivia; sophie.doak; julian.hiscox; Paxton, Bill; Pollakis, Georgios; andres.finzi (andres.finzi@umontreal.ca); sile.johnson; dave.stuart; Merryn Voysey (merryn.voysey@paediatrics.ox.ac.uk); a.peden; Siri.Goepel; tdcarroll; Chris Miller (cjmiller@ucdavis.edu); gweiss@uci.edu; c.jolly; m.maini; l.swadling; g.towers; arimoin (arimoin@g.ucla.edu); raul.andino; Chiu, Charles; renuka.kumar; melanie.ott; satish.pillai; jderisi; Busch, Dr. Michael; Nevan.Krogan; jmclellan (jmclellan@austin.utexas.edu); wilsonp@uchicago.edu; GILBERT Nick; diane.descamps@aphp.fr; Goldblatt, David; nl404; wendy.burgers; Perlman, Stanley; Frieman, Matthew; Amy Chung; Hélène Decaluwe; hassen.kared; l.a.munthe; Eloise Phillips; gavin.screaton; mit666666 (mit666666@pitt.edu); jwm1 (jwm1@pitt.edu); Kelvin, Alyson; YOSHIHIRO KAWAOKA; Amy ES Kuehn; rbaric (rbaric@email.unc.edu); Teresa Lambe (teresa.lambe@ndm.ox.ac.uk); sid.byrareddy; Kainulainen, Markus Henrikki (CDC/DDID/NCEZID/DHCPP); aysegul.nalca.civ (aysegul.nalca.civ@mail.mil); gustavo.f.palacios.civ (gustavo.f.palacios.civ@mail.mil); margaret.l.pitt.civ (margaret.l.pitt.civ@mail.mil); Shi, Pei yong; Falzarano, Darryl; Volker.gerdts (Volker.gerdts@usask.ca); Hodgson, Paul; scott.napper (scott.napper@usask.ca); tracey.thue (tracey.thue@usask.ca); Lisa@amicitiam.com; Norris, Philip; GSimmons; Yu, Elaine; Grebe, Eduard; Stone, Mars; gregory.d.gromowski.civ (gregory.d.gromowski.civ@mail.mil); Shelly Krebs (skrebs@hivresearch.org); Kayvon Modjarrad (kmodjarrad@eidresearch.org); sheila.a.peel2.civ (sheila.a.peel2.civ@mail.mil); PScott (PScott@eidresearch.org); COSTA, Alejandro Javier; HENAO RESTREPO, Ana Maria; PERKINS, Mark; RIVEROS BALTA, Ximena; SATHIYAMOORTHY, Vaseeharan; YOO, Si Hyung; SUBISSI, Lorenzo; David Wood (b)(6) ZHOU, Tiequn; MIYAZAKI-KRAUSE, Ryoko; MULDERS, Mick (WHO/HQ-

IVB); SALAMI, Kolawole; SANDS, Anita; STRÖHER, Ute; IRAHETA SIGUENZA, Raul Emilio; PINTO DE SÁ GASPAR, Rogerio Paulo; KNEZEVIC, Ivana; SWAMINATHAN, Soumya; BRANGEL, Polina; KAZI, Fatema; LEI, Dianliang; XU, Xiyan; jakim; zlshi (zlshi@wh.iov.cn); amy.bei

Cc: Hiscox, Julian; Kathryn Ryan; Lorna McInroy; Turtle, Lance; Teresa Lambe; Kevin Bewley; Nalca, Aysegul CIV USARMY USAMRIID (USA); Galloway, Summer (CDC/DDID/NCIRD/ID); Breeze Cavell; Georgia Tomaras, Ph.D.; Ho, David D.; Wendy Burgers; jonas.schmid; Theodora Hatzioannou; Shi, Pei yong

Subject: RE: WHO Working Group on COVID-19 Assays

Dear All,

Please find below the agenda for this week's WHO working group on COVID-19 assays group call.

Best,
Lauren - Bill, Simon and César

Agenda for WHO working group on COVID-19 assays group call Wednesday September 28 2:30PM CET (Geneva Time)

1. Jonas Schmid (Univ Zurich) - *Distinct immune signatures discriminate SARS-CoV-2 vaccine combinations*
2. Theodora Hatzioannou (Rockefeller Univ) - *Epistasis lowers the genetic barrier to SARS-CoV-2 neutralizing antibody escape*
3. Pei yong Shi (UTMB) - *Neutralization of SARS-CoV-2 Omicron sublineages by 4 doses of mRNA vaccine*

-----Original Appointment-----

From: SCHWARTZ, Lauren
Sent: Tuesday, September 6, 2022 4:11 PM
To: SCHWARTZ, Lauren; Brenda.Fredericksen@hhs.gov; nicole.forbes@phac-aspc.gc.ca; ramya.krishnan@phac-aspc.gc.ca; a.luttick@360biolabs.com; alex.sigal@ahri.org; (b)(6) srashid@atcc.org; carlota.dobano@isglobal.org; April.Brys@hhs.gov; Tom.Hu@hhs.gov; James.Long@hhs.gov; Malkevich, Nina (OS/ASPR/BARDA) (CTR; Ruben.Donis@hhs.gov; Karl.Erlandson@hhs.gov; Lakshmi.Jayashankar@hhs.gov; Gerald.Kovacs@hhs.gov; James.Little@hhs.gov; Carol.Sabourin@hhs.gov; Ashley.Smith1@hhs.gov; Vidadi.Yusibov@hhs.gov; douglas_fox@berkeley.edu; sastanley@berkeley.edu; munoz-fontela@bnitm.de; ahgriff@bu.edu; Paul.Kimsey@cdph.ca.gov; fjc37@cam.ac.uk; angeliki.melidou@ecdc.europa.eu; lny1@cdc.gov; SGalloway@cdc.gov; mbo2@cdc.gov; sot1@cdc.gov; gbu3@cdc.gov; gll9@cdc.gov; liyl@cde.org.cn; liub@cde.org.cn; Carl.Hanson@cdph.ca.gov; MaryKate.Morris@cdph.ca.gov; Debra.Wadford@cdph.ca.gov; zuz4@cdc.gov; htq4@cdc.gov; lad7@cdc.gov; bhx1@cdc.gov; ilj2@cdc.gov; rzh7@cdc.gov; tkh4@cdc.gov; djernigan@cdc.gov; map1@cdc.gov; xdv3@cdc.gov; nax3@cdc.gov; valentina.bernasconi@cepi.net; carolyn.clark@cepi.net; william.dowling@cepi.net; elwyn.griffiths@cepi.net; johan.holst@cepi.net; arun.kumar@cepi.net; amy.c.shurtleff@cepi.net; solomon.yimer@cepi.net; gurpreet.brar@cepi.net; christian.drosten@charite.de; MAY.CHU@CUANSCHUTZ.EDU; Windsor, William; dh2994@cumc.columbia.edu; (b)(6) prof.vasan@york.ac.uk; joe@czbiohub.org; amy.kistler@czbiohub.org; eric.vangieson@darpa.mil; tom.salisbury@dhsc.gov.uk; REIRELAND@mail.dstl.gov.uk; MSLEVER@dstl.gov.uk; MNELSON@dstl.gov.uk; JLPRIOR@dstl.gov.uk;

john.c.trefry.civ@mail.mil; antonio@duke-nus.edu.sg; engeong.ooi@duke-nus.edu.sg;
georgia.tomaras@duke.edu; sarah.mudrak@duke.edu; david.montefiori@duke.edu; linfa.wang@duke-nus.edu.sg; Eeva Broberg; Natalie.Sippl@ecdc.europa.eu; epstein@ecohealthalliance.org;
daszak@ecohealthalliance.org; BUDA Mihaela; emmanuelle.charton@edqm.eu;
Marco.Cavaleri@ema.europa.eu; Ragini.Shivji@ema.europa.eu; mehul.s.suthar@emory.edu;
rahmed@emory.edu; b.haagmans@erasmusmc.nl; m.koopmans@erasmusmc.nl;
Mayra.Garcia@fda.hhs.gov; phil@drkrause.com; Tracy.MacGill@fda.hhs.gov; Todd.Myers@fda.hhs.gov;
Keith.Peden@fda.hhs.gov; tony.wang@fda.hhs.gov; Jerry.Weir@fda.hhs.gov; SACKS, Jilian;
Alltalents.Murahwa@finddx.org; Aurelia.Vessiere@finddx.org; Camille.Escadafal@finddx.org;
jmcelrat@fredhutch.org; Jakob.Tripert@fu-berlin.de; tlying@fudan.edu.cn;
MONALISA.CHATTERJI@gatesfoundation.org; Jacqueline.Kirchner@gatesfoundation.org;
Karen.Makar@gatesfoundation.org; David.Vaughn@gatesfoundation.org; cheryl@gisaid.org;
christian.brechot@pasteur.fr; dbarouch@bidmc.harvard.edu; Corbett, Kizzmekia;
luk_vandenbergh@meei.harvard.edu; DWESEMANN@BWH.HARVARD.EDU; ASiyer@mgh.harvard.edu;
maria.baca-estrada@canada.ca; jason.fernandes@hc-sc.gc.ca; mireille.plamondon@canada.ca;
malik@hku.hk; mafranco@javeriana.edu.co; guy.gorochov@sorbonne-universite.fr;
diana.molino@inserm.fr; nicolas.escriou@pasteur.fr; sylvie.van-der-werf@pasteur.fr; Youngmee Jee;
(b)(6) supaporn.p@dmsc.mail.go.th; jokim@ivi.int; mksong@ivi.int;
(b)(6) isitara1@jhmi.edu; (b)(6) qiang.pan-hammarstrom@ki.se; charlotte.thalin@sll.se; katie.doores@kcl.ac.uk; leejooyeon@korea.kr;
limhy0919@korea.kr; shane@lji.org; agrifoni@lji.org; erica@lji.org; schendel@lji.org; alex@lji.org;
daniela@lji.org; sujan@lji.org; Lance.Turtle@liverpool.ac.uk; Liz.Miller@lshtm.ac.uk; Wael Bahnan;
Pontus Nordenfelt; florian.krammer@mssm.edu; golinger@MRIGLOBAL.ORG; nisreen.okba@mssm.edu;
viviana.simon@mssm.edu; Rebecca.Payne2@newcastle.ac.uk; Luc.Gagnon@nexelis.com;
Greg.Kulnis@nexelis.com; postd@niaid.nih.gov; brooke.bozick@nih.gov; marciela.degrace@nih.gov;
clint.florence@nih.gov; janet.lathey@nih.gov; erik.stemmy@nih.gov; larry.wolfram@nih.gov;
ian.crozier@nih.gov; lisa.hensley@nih.gov; Michael.holbrook@nih.gov; johnsonreed@niaid.nih.gov;
connie.schmaljohn@nih.gov; emmie.dewit@nih.gov; vincent.munster@nih.gov; karin.bok@nih.gov;
barney.graham@nih.gov; adrian.mcdermott@nih.gov; kaitlyn.dambach@nih.gov;
Jacqueline.Fryer@nibsc.org; Yann.LeDuff@nibsc.org; Giada.Mattiuzzo@nibsc.org;
(b)(6) Clare.Morris@nibsc.org; Mark.Page@nibsc.org; Nicola.Rose@nibsc.org;
pennym@nicd.ac.za; changguili@aliyun.com; lyhchengdu@163.com; wangjz@nifdc.org.cn;
wangyc@nifdc.org.cn; xumiaobj@126.com; kemptj@mail.nih.gov; kyle.o'donnell@nih.gov;
pintol@mail.nih.gov; pilailuk.o@dmsc.mail.go.th; Nicole.Schneiderhan@nmi.de; baihe@nmpa.gov.cn;
william.lee@health.ny.gov; Nathaniel.Landau@nyulangone.org; Mark.Tuthill@ouh.nhs.uk;
ellie.barnes@ndm.ox.ac.uk; Miles Carroll; susie.dunachie@ndm.ox.ac.uk; william.james@path.ox.ac.uk;
paul.klenerman@medawar.ox.ac.uk; alain.townsend@imm.ox.ac.uk; dboyle@path.org;
tdelossantos@path.org; bleader@path.org; fcassels@path.org; miturrizagomara@path.org;
Barbara.Schnierle@pei.de; harsimrat.birdi@phac-aspc.gc.ca; Ana.Atti@phe.gov.uk;
Kevin.Bewley@phe.gov.uk; Breeze.Cavell@phe.gov.uk; Meera.Chand@phe.gov.uk;
karen.gooch@phe.gov.uk; Victoria.Hall@phe.gov.uk; lorna.mcinroy@phe.gov.uk;
Ashley.Otter@phe.gov.uk; Kathryn.ryan@phe.gov.uk; Mark.sutton@phe.gov.uk; KurtW@nicd.ac.za;
tcs38@psu.edu; Christine.bruce@phe.gov.uk; simon.funnell@ukhsa.gov.uk; Julia.Tree@phe.gov.uk;
Mary.Matheson@phe.gov.uk; galter@partners.org; (b)(6);
thatziio@rockefeller.edu; pbieniasz@mail.rockefeller.edu; dancohen@tauex.tau.ac.il;
rafael.delgado@salud.madrid.org; ramadany@sfda.gov.sa; t.desilva@sheffield.ac.uk;
yasushii@belle.shiga-med.ac.jp; zbrumme@sfu.ca; ym.vasilev@rpharm.ru; jma@sgul.ac.uk;
NiaConlon@stjames.ie; Aodhan.Breathnach@stgeorges.nhs.uk; bertozzi@stanford.edu;

cblish@stanford.edu; sboyd1@stanford.edu; arjun.rustagi@stanford.edu; msalit@stanford.edu; pawinee.k@redcross.or.th; Alexander Rouvinski; shinjini.bhatnagar@thsti.res.in; gmedigeshi@thsti.res.in; BRADYG1@tcd.ie; MCCORMW@tcd.ie; cr.riou@uct.ac.za; ofleming@exseed.ed.ac.uk; (b)(6) julian.hiscox@liverpool.ac.uk; w.a.paxton@liverpool.ac.uk; g.pollakis@liverpool.ac.uk; andres.finzi@umontreal.ca; Sile Johnson; dave.stuart@strubi.ox.ac.uk; merryn.voysey@paediatrics.ox.ac.uk; a.peden@sheffield.ac.uk; Siri.Goepel@med.uni-tuebingen.de; tdcarroll@ucdavis.edu; cjmiller@UCDAVIS.EDU; gweiss@uci.edu; c.jolly@ucl.ac.uk; m.maini@ucl.ac.uk; l.swadling@ucl.ac.uk; g.towers@ucl.ac.uk; arimoin@g.ucla.edu; raul.andino@ucsf.edu; charles.chiu@ucsf.edu; renuka.kumar@gladstone.ucsf.edu; melanie.ott@gladstone.ucsf.edu; satish.pillai@ucsf.edu; (b)(6) MBusch@vitalant.org; Nevan.Krogan@ucsf.edu; jmclellan@austin.utexas.edu; wilsonp@uchicago.edu; Nick.Gilbert@ed.ac.uk; diane.descamps@aphp.fr; d.goldblatt@ucl.ac.uk; nl404@cam.ac.uk; wendy.burgers@uct.ac.za; stanley-perlman@uiowa.edu; MFrieman@som.umaryland.edu; awchung@unimelb.edu.au; helene.decaluwe@umontreal.ca; hassen.kared@medisin.uio.no; l.a.munthe@medisin.uio.no; eloise.phillips@ndm.ox.ac.uk; gavin.screaton@medsci.ox.ac.uk; mit666666@pitt.edu; jwm1@pitt.edu; Kelvin, Alyson; yoshihiro.kawaoka@wisc.edu; amy.kuehn@wisc.edu; rbaric@email.unc.edu; teresa.lambe@ndm.ox.ac.uk; sid.byrareddy@unmc.edu; ydm9@cdc.gov; aysegul.nalca.civ@mail.mil; gustavo.f.palacios.civ@mail.mil; margaret.l.pitt.civ@mail.mil; peshi@UTMB.EDU; darryl.falzarano@usask.ca; Volker.gerdt@usask.ca; paul.hodgson@usask.ca; scott.napper@usask.ca; tracey.thue@usask.ca; Lisa@amicitiam.com; PNorris@vitalant.org; GSimmons@vitalant.org; EYu@vitalant.org; EGrebe@vitalant.org; MStone@vitalant.org; gregory.d.gromowski.civ@mail.mil; skrebs@hivresearch.org; kmodjarrad@eidresearch.org; sheila.a.peel2.civ@mail.mil; PScott@eidresearch.org; COSTA, Alejandro Javier; HENAO RESTREPO, Ana Maria; PERKINS, Mark; RIVEROS BALTA, Ximena; SATHIYAMOORTHY, Vaseeharan; YOO, Si Hyung; SUBISSI, Lorenzo; dj56wood@gmail.com; ZHOU, Tiequn; MIYAZAKI-KRAUSE, Ryoko; MULDERS, Mick (WHO/HQ-IVB); SALAMI, Kolawole; SANDS, Anita; STRÖHER, Ute; IRAHETA SIGUENZA, Raul Emilio; Rogério Gaspar; 'KNEZEVIC, Ivana'; SWAMINATHAN, Soumya; BRANGEL, Polina; KAZI, Fatema; LEI, Dianliang; XU, Xiyan; Jiae Kim; zlshi@wh.iov.cn; amy.bei@yale.edu

Cc: Hiscox, Julian; Kathryn Ryan; Lorna McInroy; Turtle, Lance; Teresa Lambe; Kevin Bewley; Nalca, Aysegul CIV USARMY USAMRIID (USA); Galloway, Summer (CDC/DDID/NCIRD/ID); Breeze Cavell; Georgia Tomaras, Ph.D.; Ho, David D.; Wendy Burgers; jonas.schmid@immunology.uzh.ch

Subject: WHO Working Group on COVID-19 Assays

When: Wednesday, September 28, 2022 2:30 PM-4:00 PM (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna.

Where: (b)(6)

Agenda to follow.

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