Viral load of SARS-CoV-2 in clinical samples

An outbreak caused by a novel human coronavirus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was first detected in Wuhan in December, 2019, and has since spread within China and to other countries. Real-time RT-PCR assays are recommended for diagnosis of SARS-CoV-2 infection. However, viral dynamics in infected patients are still yet to be fully determined. Here, we report our findings from different types of clinical specimens collected from 82 infected individuals.

Serial samples (throat swabs, sputum, urine, and stool) from two patients in Beijing were collected daily after their hospitalisation (patient 1, days 3–12 post-onset; patient 2, days 4–15 post-onset). These samples were examined by an N-gene-specific quantitative RT-PCR assay, as described elsewhere. The viral loads in throat swab and sputum samples peaked at around 5–6 days after symptom onset, ranging from around $10^4$ to $10^5$ copies per mL during this time (figure A, B). This pattern of changes in viral load is distinct from the one observed in patients with SARS, which normally peaked at around 10 days after onset.

Sputum samples generally showed higher viral loads than throat swab samples. No viral RNA was detected in urine or stool samples from these two patients.

We also studied respiratory samples (nasal [n=1] and throat swabs [n=67], and sputum [n=42]) collected from 80 individuals at different stages of infection. The viral loads ranged from 641 copies per mL to $1.34 \times 10^{13}$ copies per mL, with a median of $7.99 \times 10^4$ in throat samples and $7.52 \times 10^4$ in sputum samples (figure C). The only nasal swab tested in this study (taken on day 3 post-onset) showed a viral load of $1.69 \times 10^5$ copies per mL. Overall, the viral load early after onset was high ($1 \times 10^6$ copies per mL). However, a sputum sample collected on day 8 post-onset from a patient who died had a very high viral load ($1.34 \times 10^{13}$ copies per mL). Notably, two individuals, who were under active surveillance because of a history of exposure to SARS-CoV-2-infected patients showed positive results on RT-PCR a day before onset, suggesting that infected individuals can be infectious before they become symptomatic.

Among the 30 pairs of throat swab and sputum samples available, viral loads were significantly correlated between the two sample types for days 1–3 ($R^2=0.50$, p=0.022), days 4–7 ($R^2=0.93$, p<0.001), and days 7–14 ($R^2=0.95$, p=0.028).

From 17 confirmed cases of SARS-CoV-2 infection with available data (representing days 0–13 after onset), stool samples from nine (53%; days 0–11 after onset) were positive on RT-PCR analysis. Although the viral loads were less than those of respiratory samples (range 550 copies per mL to $1.21 \times 10^6$ copies per mL), precautionary measures should be considered when handling faecal samples.

**Figure**: Viral dynamics of SARS-CoV-2 in infected patients

Viral load (mean [SD]) from serial throat swab and sputum samples in patient 1 (A) and patient 2 (B). (C) Viral load (median [IQR]) in throat and sputum samples collected from 80 patients at different stages after disease onset. (D) Correlation between viral load in throat swab samples and viral load in sputum samples.
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Yang Pan, Daitao Zhang, Peng Yang, *Leo L M Poon, *Quanyi Wang
llmpoon@hku.hk or bjcdcxm@126.com

Beijing Center for Disease Prevention and Control, Beijing 100013, China (YP, DZ, PY, QW); Beijing Research Center for Preventive Medicine, Beijing, China (YP, DZ, PY, QW); School of Public Health, Capital Medical University, Beijing, China (YP, PY); and School of Public Health, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong Special Administrative Region 995077, China (LLMP)


Daily Cumulative 2019-nCoV Hospitalization Rate per 100,000 Wuhan and Hubei

| From: | Giroir, Brett (HHS/OASH) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=A56FCE4755704C4CA031D621B46FD6F7-GIORI, BRE <Brett.Giroir@hhs.gov> |
| SentVia: | Valentine, Steven (HHS/OASH) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=FDS080900F894B1CAF04069BC500DC2-VALENTINE, <Steven.Valentine@hhs.gov> |
| VERCAMMEN, Laurence <VerCammenL@who.int>; | Giroir, Brett (HHS/OASH) /O=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a56fce4755704c4ca031d621b46fd6f7-Giroiri, Bre <Brett.Giroir@hhs.gov>; USA EB Representative (OS/OGA) /o= ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=22ec06a425f1446eaa1a65d1f9b2e60-USA.EbolaRe <USA.EBRep@hhs.gov>; EB Sudan <07906@hotmail.com>; EB Sudan <moh szer@uk.gov>; Dr Amoth (Kenya) <07906@gmail.com>; Dr Amoth (Kenya) 2 <07906@gmail.com>; EB Austria <Clemens.Auer@sozialministerium.at>; Grigsby, Garrett (HHS/OS/OGA) /o= ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7cd78b94d104d4b17b87411aad0e9a003-Grigsby, G <Garrett.Grigsby@hhs.gov>; Ms Ching Ying Kong <kong.ching_ying@moh.gov.sg>; EB Singapore <Benjamin_KOH@moh.gov.sg>; Dr Paris Mancilla (Chile) <enrique.paris@mimsal.cl>; EB Chile <patricio.munoz@mimsal.cl>; Dr Paris Mancilla (Chile) 3 <juanarcarlos.rios@mimsal.cl>; EB Chile <francisco.adiazola@mimsal.cl>; EB Chile <plaza@minrel.gob.cl>; EB Finland <outi.kuivasniemi@stm.fi>; EB Finland <palvi.sillanaukee@stm.fi>; EB Finland <leen 이루라임@formin.fi>; EB Grenada <07906@gmail.com>; EB Australia <Lisa.Studdert@health.gov.au>; EB Australia <Emma.Wood@health.gov.au>; Mr G. Hunt <WHO@health.gov.au>; EB Djibouti <07906@gmail.com>; Dr Tulupotu (Tonga) <07906@gmail.com>; EB Tonga <07906@gmail.com>; Mr Al Owais (UAE) <minister.office@moh.gov.ae>; Mr Essono Ndoutoumou (Gabon) <07906@yahoo.fr>; EB Germany <Bjoern.Kuemmel@bmg.bund.de>; EB Bangladesh <minister@mofhw.gov.bd>; Mciff, Colin (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d5b4da3312934deda21b469a5c64e82e-Mciff, Col <Colin.Mciff@hhs.gov> |
| To: | Ms Lawrence (Guyana) <07906@yahoo.com>; Ms Moretti (Argentina) <07906@gmail.com>; Ms Moretti (Argentina) 2 <internacionales@mimsal.gov.ar>; EB Argentina <jsf@mrecic.gov.ar>; EB Argentina <mariajimena.schaffino@missionarg.ch> Ms Zhang Yang (China) <zhangyang@mhc.gov.cn>; Professeur Gargah (Tunisia) <07906@yahoo.fr>; Professor Grotto (Israel) <tamara.grotto@moh.health.gov.il>; Professor Grotto (Israel) 2 <revital.mimran@moh.gov.il>; Professor Moeoeek (Indonesia) <menkesri@kemkes.go.id>; EB Indonesia <07906@gmail.com>; Professor Rafila (Romania) <arafila@ms.ro>; EB Romania <07906@yahoo.com>; EB Burkina Faso <07906@hotmail.com>; EB Tajikistan <salomudin@mail.ru> |
| CC: | ARMSTRONG, Timothy Peter <armstrongt@who.int>; DURAND STIMPSON, Patricia <stimpsonp@who.int>; KIVEJINJA, Salim <kievejinjas@who.int>; VEA, Gina Rene <veaq@who.int>; OSEI, Jude <oseij@who.int> |
Subject: Strengthening the WHO
Dear Executive Board Colleagues:

On behalf of the United States of America, I am respectfully sharing our “Roadmap” for strengthening the WHO. We recognize there are a number of proposals to strengthen WHO and make it more effective, and all of these proposals should be seriously considered as we look forward to the governing bodies meetings this fall. Please take a few moments to review our proposal and let us know if you have questions or comments. The U.S. Permanent Representative in Geneva, Ambassador Andrew Bremberg, has shared this paper with WHO Director General Tedros, and it has been shared with the co-chairs of the IPPR as well.

I look forward to our discussions in October.

Thank you,

Brett P. Giroir, M.D.
ADM, U.S. Public Health Service
Assistant Secretary for Health (ASH) (HHS)
U.S. Representative, Executive Board, WHO (DOS)

U.S. Department of Health and Human Services
200 Independence Avenue, SW
Washington, DC 20201
Office Phone: 202-690-7694

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Reviewing COVID-19 Response and Strengthening the WHO’s Global Emergency Preparedness and Response

WHO ROADMAP

Introduction

The COVID-19 resolution, adopted at the 73rd World Health Assembly (WHA), calls for global cooperation, unity and solidarity and confirms commitment to meaningful change. Participating countries welcome the announcement of WHO on 9 July 2020 to launch an impartial, independent and comprehensive evaluation by the “independent panel for pandemic preparedness and response” (IPPR) of the global COVID-19 response. We support this approach and suggested an independent review early on in the COVID-19 outbreak. We welcome the aim of the panel to provide timely and concrete recommendations for strengthening future responses and urge all countries to work constructively with the review, whilst not distracting from the immediate response. We commit to work with every country and partner for a safer world where our shared systems and institutions work transparently and collaboratively as intended to improve the global capacity to prevent, respond to and defeat pandemics.

With that in mind, this roadmap sets out areas where we believe there is an opportunity to strengthen the WHO by increasing accountability and its ability to be impartial and objective, improve transparency and its overall effectiveness, by providing it with a more comprehensive set of tools that are fit-for-purpose to address new and emerging threats.

A. Areas for short term progress under existing mandates

Public Health Emergency of International Concern (PHEIC) Declarations
We encourage the WHO to consider a new designation -- the Intermediate Public Health Alert (IPHA) or “amber light” -- as recommended by the Independent Oversight and Advisory Committee (IOAC). We believe WHO can do this through Member State consultations. WHO can use this opportunity to increase collaboration with UN and other partners and to establish a clear and systematic set of rules for activating the broader UN system and global health architecture. The amber light aims at timely communication about evolving threats to Member States and the public, thus encouraging improved reporting, earlier preparation, and better resource allocation.

Clarifying responsibilities around outbreaks
Drawing on IHR Articles 6 (Notification), 7 (Information-sharing during unexpected or unusual public health events), 8 (Consultation), 9 (Other reports) and 10 (Verification), we invite WHO to issue updated guidance for itself, Member States and non-state actors of the expectations, after the initial notification of an event, as part of the new IPHA or under the existing process leading to a PHEIC declaration, including specific timeframes for action. The WHO should continue to promote safe and rapid sample sharing of pathogens of pandemic potential or high risk, including during the assessment phase.

IHR Emergency Committees (EC)
Increased objectivity and impartiality of WHO, including the membership and scope of an EC, tailoring each to a given outbreak and adapting as needed, over the course of each event as new evidence emerges provide a pathway to an improved EC. Additionally, more transparent public accounting of proceedings is important to understand decision making around PHEICs. The ECs
should hold additional meetings, including if requested by an appropriate number of Member States, and be responsive to Member States’ inquiries. Providing written summaries of the discussion in all EC meetings would help build confidence.

**Effective and transparent oversight**
For both the IOAC and Global Preparedness Monitoring Board (GPMB), established jointly by WHO and the World Bank, it is essential that WHO and the World Bank, working with Member States, review and secure their permanent mandates, terms of reference, defined scope of activities and sufficient resourcing.

**Quality and speed of WHO guidance development and issuance**
We appreciate the establishment of a Chief Scientist’s Office at WHO to raise the quality of, and confidence in, guidance documents and normative materials. It should be empowered, in compliance with Framework of Engagement with Non-State Actors (FENSA), with sufficient budget and staffing, and make global expertise available to all levels of WHO.

**Access to Medical Products**
We will work together to expedite the development, approval, manufacture, and distribution of safe, effective and affordable COVID-19 vaccines, diagnostics and therapeutics. Providing access to products for high-risk populations, such as health care workers and vulnerable groups, is key. Once COVID-19 countermeasures are developed, all countries must benefit from equitable access. Based on the experiences with access to medical products for COVID-19, strategies for medical countermeasures for future pandemics could be developed.

**B. Areas for medium and longer-term action**

**I. Preparedness**

**IHR compliance, preparedness, detection and response**
A tool allowing a better understanding of Member State IHR compliance and preparedness may provide needed clarity on areas for additional work. Therefore, we propose consideration of a universal review mechanism for IHR compliance, to encourage countries to view preparedness as fundamental to national and health security as well as incentivize fulfillment of IHR obligations. We encourage the independent review panel, the WHO, and Member States to initiate a discussion on a review process at the earliest opportunity.

**Support on capacity building and resource sustainability**
Any universal periodic review mechanism should promote cooperation and support across countries and partners, especially for low- and middle-income countries seeking to fill core capacity gaps. The review could also look at how international organizations and international financial institutions can better support capacity building through providing and catalyzing funding for national plans and technical expertise, and how countries can support each other, including self-financing.

**II. Response**

**Enhanced Transparency, Accountability and Oversight**
New measures coupled with targeted resources are necessary to respond immediately and transparently to emerging threats. Especially for public health risks with the potential to spread
globally, we need to consider how best to strengthen Member State reporting to WHO, and empower WHO leadership to articulate Member States’ responsibilities in an impartial and objective manner when they are not meeting obligations. It is essential to strengthen oversight mechanisms and clarify mandates to ensure full transparency and participation by Member States, other global health partners and the public.

**WHO Access to Outbreak Areas**
We encourage the independent review panel to consider mechanisms to facilitate more rapid access to outbreak areas for WHO-led response teams to the extent required for a robust public health response, including in the assessment phase. Such access is crucial to the early containment of outbreaks, so recommendations should also look at ways to empower the DG to report and incentivize Member State compliance as a part of this process.

**Handling Travel and Trade Restrictions**
COVID-19 lessons show potential benefits of de-linking travel from trade restrictions under emergency conditions, with the goal of maximizing public health measures while minimizing economic impacts. Ensuring open and safe global transportation routes and securing supply chains to allow delivery of essential products, guaranteeing humanitarian aid access to people in need and continued travel for responders are necessary. We encourage WHO to lead an evidence-based process to develop recommendations on the appropriate role of domestic and international travel restrictions within a suite of preparedness and response interventions, in close consultation with other relevant organizations and tailored to the circumstances of relevant industries, such as cruise ships, air travel and shipping.

**Strengthen effectiveness and sustainability of World Health Emergencies (WHE) Program**
WHE performance has improved since 2016 but needs further strengthening. In particular, we commit to serious consideration of potential budget reforms that would ensure adequate and sustainable financing for WHE and accelerate continued performance gains. The WHO Solidarity Fund and the WHO Foundation are helpful in broadening the donor base, but any new funding sources need Member State oversight.

**III. Health Cooperation**

**One Health cooperation**
We recommend a look at how to improve collaboration on zoonotic diseases among WHO, the Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE), as well as the United Nations Environment Programme (UNEP). The existing tripartite agreement for antimicrobial resistance (AMR) serves as a model and starting point for broader efforts to track and respond to zoonotic diseases, but further action is needed.

**WHO and the United Nations System**
The review provides an opportunity to improve coordination between WHO and relevant organizations in support of the greater preparedness and response collaboration called for in IHR Article 44. Recommendations should focus on improving capacity, accountability, transparency, and coordination, including avoiding competing calls for funding. All partners must work toward shared goals, including UN development system improvement.
From: VERCAMMEN, Laurence <VERcammenL@who.int>

Giori, Brett (HHS/OASH) /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOFH23SPDLT)/cn=Recipients/cn=a56fcoe4755704c4ca031d621b46fd677-Giori, Bre
<Brett.Giori@hhs.gov>

USA EB Representative (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOFH23SPDLT)/cn=Recipients/cn=22e06e425f14486aab1a65d196b2e60-USA.EbolaRe
<USA.EBRep@hhs.gov>

EB Madagascar 1b(6) gmail.com;
EB Sudan b(6) hotmail.com;
EB Sudan b(6) g2mail.com;
Dr Al Saidi (Oman) <minister_office@moh.gov.om>
Dr Amoah (Kenya) b(6) g2mail.com;
Dr Amoah (Kenya) 2 b(6) g2mail.com;
Dr Anthony (Guyana) b(6) g2mail.com;
EB Austria <Clemens.Auer@sozialministerium.at>
Dr Ben Salah (Tunisia) <faical.benselah@ms.tn>

Grigsby, Garrett (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOFH23SPDLT)/cn=Recipients/cn=7cd7b4810d4417b8711aede9023-Grigsby, Gl
<brGarrett.Grigsby@hhs.gov>

Dr Kwape (Botswana) b(6) g2mail.com;
Dr Kwape (Botswana) 2 <lekwaape@gov.bw>
EB Botswana <cmonageng@gov.bw>
Ms Ching Ying Kong <kong.ching.ying@moh.gov.sg>
EB Singapore <Benjamin.KOH@moh.gov.sg>
EB Colombia <lmoscoso@minsalud.gov.co>
Dr Murashko (Russian Federation) <pr.ministra@rosminzdrav.ru>
Dr Paris Mancilla (Chile) <enrique.paris@minsal.cl>
EB Chile <patricio.munoz@minsal.cl>
Dr Paris Mancilla (Chile) 3 <juancarlos.rios@minsal.cl>
EB Chile <francisco.adriazola@minsal.cl>
Iplaza <iplaza@minrel.gob.dz>
EB Finland <oual.kuivasniemi@stm.fi>
EB Finland <paivi sillanaukee@stm.fi>
EB Finland <seero.lahtinen@formin.fi>

To: EB Grenada b(6) g2mail.com;
EB Australia <Emma.Wood@health.gov.au>
Mr G. Hunt <WHO@health.gov.au>
EB Djibouti b(6)@yahoo.fr;
Dr Tuipulotu (Tonga) b(6) g2mail.com;
EB Tonga b(6) g2mail.com;
King Gangil (Republic of Korea) <gkim_1@korea.kr>
EB Ghana b(6) g2mail.com;
Mr Ali Ovais (UAE) <minister.office@moh.gov.ae>
Mr Essono Ndoutoumou (Gabon) b(6)@yahoo.fr;
EB Germany <Bjorn.Kuemmel@bmw.bund.de>
EB Bangladesh <minister@mohfw.gov.bd>
Mciff, Colin (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOFH23SPDLT)/cn=Recipients/cn=d5b4da3312934deda21b469a5d64e824-Mciff, Coli
<brColin.Mciff@hhs.gov>
Ms Edwards (Australia) <caroline.edwards@health.gov.au>
Ms Moretti (Argentina) b(6) g2mail.com;
Ms Moretti (Argentina) 2 <internacionales@minsal.gov.ar>
EB Argentina <jsf@mrecic.gov.ar>
EB Argentina <mariajimena.schiappino@missionarg.ch>
Ms Zhang Yang (China) <zhangyang@hnc.gov.cn>
Professor Grotto (Israel) <itamar.grotto@moh.health.gov.il>
Professor Grotto (Israel) 2 <revital.mimran@moh.gov.il>
Professor Moelook (Indonesia) <menkesri@kemkes.go.id>
EB Indonesia b(6) g2mail.com;
Professor Refila (Romania) <arafila@ms.ro>
EB Romania b(6)@yahoo.com;
EB Burkina Faso b(6) hotmail.com;
Professor Whitty (UK) <chris.whitty@dhs.gov.uk>
EB Tajikistan <salomudin@mail.ru>

??
ARMSTRONG, Timothy Peter <armstrongt@who.int>; 
DURAND STIMPSON, Patricia <stimpsonp@who.int>; 
VEA, Gina Rene <veag@who.int>; 
KIVEJINJA, Salim <kivejinjas@who.int>; 
OSEI, Jude <osei@who.int>; 
GRAF, Diana Nkriote <munorud@who.int>; 
COLIN, Anne, <colina@who.int>; 
CIPRIOTTI, Denise Claire <cipriotzd@who.int>; 
MAYU, Clorinda <mayuc@who.int>; 
ELLISON, Jane Elizabeth <ellisonj@who.int>; 
SCHWARTLANDER, Bernhard F. <schwartlanderb@who.int>; 
Office of the Director-General <DGOOffice@who.int>; 
WALTON, Derek <waltond@who.int>; 
JOHN, Chandrika Rahini <johnc@who.int>; 
ASHFORTH, Nicolas Cameron <ashforthn@who.int>; 
NICHOLSON, Elizabeth Jane <nicholsonj@who.int>; 
SEAR BAN REGISTRY <seabanregistry@who.int>; 
RANA, Bardan Jung <ranab@who.int>; 
AF WCO/BW <afwcbw@who.int>; 
NAMBOZE, Josephine <nambозe@who.int>; 
AF WCO/BF <afwcobf@who.int>; 
DIARRA NAMA, Alimata Jeanne <diarraal@who.int>; 
<opsomschile@paho.org>; 
Leanes, Dr. Fernando (CHI) <leansesf@paho.org>; 
WP CHN WR <wpchinwr@who.int>; 
GALEA, Gauden <galeag@who.int>; 
<colmail@paho.org>; 
tambing <tambingi@paho.org>; 
EM ACO/DJL WR <emacodjlwr@who.int>; 
ZOUJITEN, Ahmed <zoutjena@who.int>; 
AF GA WCO <afgawco@who.int>; 
BAGAYOKO, Magaran Monzon <bagayokom@who.int>; 
AF WCO/GH Official Account <afwcogh@who.int>; 
KIMAMBO, Neema Rusibamayila <kimambon@who.int>; 
<e-mail=guy.paho.org>; 
<adukrow@paho.org>; 
WHO Representative to India <wfindia@who.int>; 
PAYDEN, <payden@who.int>; 
WHO Indonesia <seih300@paho.org>; 
PARANETHARAN, Naratrasamy <paranetharan@who.int>; 
AF KEN WR <afkenwr@who.int>; 
EGGERS, Rudi <eggerr@who.int>; 
AF WCO/MG OFFICE <afwcomgooffice@who.int>; 
NDIAYE, Charlotte Faty <ndiayechar@who.int>; 
EM ACO/OMA WR <emacoomawr@who.int>; 
HUSSAIN, Syed Jaffar <hussains@who.int>; 
WP KO CLO KOR <mpolykorea@who.int>; 
GRBIC, Miljana <grbicm@who.int>; 
EU RUS/SCO <eurusco@who.int>; 
VIJNOVIC, Melita <vujnovicm@who.int>; 
EM ACO/SUD WR <emacosudwr@who.int>; 
ATTIA, Hoda Youssef <attiah@who.int>; 
<whotjk@euro.who.int>; 
KARRIYEVA, Bahtiyigul <karryevas@who.int>; 
SETOYA, Yutaro <setoyay@who.int>; 
<coboton@wprou.who.int>; 
EM ACO/TUN WR <emacotunwr@who.int>; 
SOUTEYRAND, Yves Philippe Henri <souteyrandy@who.int>; 
EB Argentina <internacionales@msal.gov.ar>; 
<6gg@gmail.com>; 
EB Argentina <jsf@mrecic.gov.ar>; 
EB Argentina <mariajimena.schiaffino@missionerg.ch>; 
EB Australia <madeleine.heyward@health.gov.au>; 
EB Australia <naomi.dumbrell@dfat.gov.au>; 
EB Australia <timothy.poletti@dfat.gov.au>; 
Bernhard Fattinger <bernhard.fattinger@bmeia.gv.at>;}
Dear members of the Executive Board,

With reference to the 5th Special Session of the Executive Board, which will open on Monday, 5 October at 12:00 (CET) and close no later than Tuesday, 6 October at 18:00, please find attached a briefing note on the arrangements for the meeting, the Draft Programme of Work, specifications for pre-recorded videos as well as some additional information below:

**Badges**
Kindly let us know if you or another member of your delegation is planning to attend the session in-person by sending an email to hogoverningbodies@who.int by COB Thursday, 1 October. Please note that only one badge per delegation will be issued and this will be available for collection from Monday, 5 October at 8:00 upon presentation of an ID.

**Special arrangements**
If you are planning to travel to the meeting, please let us know if you require a visa support letter by sending an email to visagbs@who.int. WHO understands that the host country may be prepared to facilitate the entry of a very limited number of delegates from abroad who are Officers of the Board or members of delegations that do not have a mission in Geneva. For more information, please contact: Missionsuissecovid19@eda.admin.ch Information on current quarantine measures are available at: https://www.bag.admin.ch/bag/en/home/krankheiten/ausbrueche-epidemien-pandemien/aktuelle-ausbrueche-epidemien/novel-cov/empfehlungen-fuer-reisende/quarantaene-einreisende.html

**Travel entitlements**
Executive Board members can be reimbursed travel expenses in accordance with WHO entitlements. Reimbursement for Executive Board members will be made by direct bank transfer to your bank account, following receipt of your travel itinerary and ticket invoice. Business class is applicable for air tickets from the Executive Board member’s country capital city to Geneva, if flight duration is 6 hours or more, and economy class if flight duration is under 6 hours. First class is applicable for train tickets from the Executive Board member’s country capital city to Geneva. All travel itineraries and bank account details for the session of the Executive Board should be emailed to EBitineraries@who.int during the week of 28 September – 2 October 2020
Pre-recorded videos

Pre-recorded statements may be provided by Member States in place of live interventions, where time zones make real-time participation untenable. These will be played at the end of the verbal statements. Video statements should be received by 2 October (COB) and may be uploaded at the following link: https://proct2.fireeye.com/url?k=7702460e-2b574f1d-77027731-0cc47adb5650-aa7510d36f780d6a&u=https://bit.ly/3hZM8lx Please find the technical specifications attached.

Best regards,

Dr Timothy Armstrong
Director, Department of Governing Bodies
World Health Organization
CH-1211 Geneva 27
Switzerland
Tel: +412227911274
Mob: [number]
Fax: +41 227914173
email: armstrongt@who.int
Dr Tuipulotu (Tonga) <tuipulotu@gmail.com>;
EB Tonga <bambam@calc.edu.tongatutu.net>
King Ganggil (Republic of Korea) <glkim1@korea.kr>
EB Ghana <aaron.kusi@tsoz.com>
Mr Al Oweis (UAE) <minister.office@moh.gov.ae>
Mr Essono Ndoutoumou (Gabon) <martessono@yahoo.fr>
EB Germany <Bjorn.Kuemmel@bmgi.bund.de>
EB Bangladesh <minister@mohfw.gov.bd>
Mcffe, Colin (HHS/OS/OGA) <colinmcffe@exchange.geek.net>
FYDIBO@HIDFCTL <colinmcffe@exchange.geek.net>
Ms Edwards (Australia) <caroline.edwards@health.gov.au>
Ms Moretti (Argentina) <nora@123456789@gmail.com>
Ms Moretti (Argentina) <tfr@minsal.gov.ar>
EB Argentina <gs@imredc.gov.ar>
EB Argentina <maria@ms.missionarg.ch>
Ms Zhang Yang (China) <zhangyang@nhc.gov.cn>
Professor Grotto (Israel) <lamar.grotto@moh.health.gov.il>
Professor Grotto (Israel) <grotto@whoint.org>
Professor Moeloeke (Indonesia) <menkes@nkemkes.go.id>
EB Indonesia <bambam@calc.edu.tongatutu.net>
Professor Rafila (Romania) <arafila@ms.ro>
EB Romania <bambam@calc.edu.tongatutu.net>
EB Burkina Faso <bambam@calc.edu.tongatutu.net>
Professor Whitty (UK) <chris.whitty@dhsc.gov.uk>
EB Tajikistan <salamuddin@mail.ru>
ARMSTRONG, Timothy Peter <armstrongt@who.int>
DURAND STIMPSON, Patricia <stimpsonp@who.int>
VEA, Gina Rene <veag@who.int>
KIVEJINJA, Salim <kivejinjas@who.int>
OSIE, Jude <jude@who.int>
GRAF, Diane Nikirote <munorud@who.int>
COLIN, Anne <colina@who.int>
CIPRIOTTI, Denise Claire <cipriotttd@who.int>
MAYU, Clarinda <mayu@who.int>
ELLISON, Jane Elisabeth <ellisonj@who.int>
SCHWARTLANDER, Bernhard F. <schwartlanderb@who.int>
Office of the Director-General <DGOffice@who.int>
WALTON, Derek <waltond@who.int>
JOHN, Chandrika Rahini <johnch@who.int>
ASHFORTH, Nicolas Cameron <ashforthn@who.int>
NICHOLSON, Elizabeth Jane <nicholsonj@who.int>
SEAR BAN REGISTRY <searbanregistry@who.int>
RANA, Bardan Jung <rana@who.int>
AF WCO/BW <afwcobw@who.int>
NAMBOZE, Josephine <namboze@who.int>
AF WCO/BF <afwcobf@who.int>
DIARRA NAMA, Alimata Jeanne <diarraan@who.int>
<opsmichilepih@paho.org>
Leanes, Dr. Fernando (CHF) <leanesf@paho.org>
WP CHN WR <wpchnwr@who.int>
GALEA, Gauden <galeag@who.int>
<colmail@paho.org>
tambing <tambing@paho.org>
EM ACO/DJI WR <emapacj@who.int>
ZOUTEIN, Ahmed <zoutena@who.int>
AF GA WCO <afagawco@who.int>
BAGAYOKO, Magaran Monzon <bagayokom@who.int>
AF WCO/GM Official Account <afwco@gm@who.int>
KIMAMBO, Neema Rusibamayilla <kimambo@who.int>
<em-guy.paho.org>
<adukrrow@paho.org>
WHO Representative to India <wrintdia@who.int>
PADDEN, <padden@who.int>
WHO Indonesia <swhoin@who.int>
PARANIETHARAN, Navaratnasamy <paranietharan@who.int>
Draft Programme of Work

5 October 2020- 12:00-15:00 and 16:00-18:00

1. Opening of the session
   - Adoption of the Special procedures for the meeting

2. Adoption of the agenda and method of work

3. Update on implementation of resolution WHA73.1 (2020) on the COVID-19 response
   - Remarks by the Director-General
   - Technical update by the Executive Director, WHO Health Emergencies Programme and the Chief Scientist
   - Discussion

6 October 2020- 12:00-15:00 and 16:00-18:00

4. Update from the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response, the Chair of the Review Committee on the Functioning of the International Health Regulations (2005) during the COVID-19 Response and the Chair of the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme
   - Presentation by the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response
   - Update by the Chair of the IHR Review Committee
   - Update by the Chair of the IOAC
   - Discussion

5. Closure of the meeting
BRIEFING NOTE ON THE 5TH SESSION OF THE EXECUTIVE BOARD (5-6 October)

1. The Director-General and Chair of the Executive Board have decided to convene the 5th Special Session of the Executive Board on the Covid-19 response (EBSS5). The Board will open on Monday 5 October 2020 at 12:00 (CET) and close not later than Tuesday, 6 October at 18:00 (CET). The working hours will be 12:00-15:00 and 16:00-18:00 (CET).

2. EBSS5 will be held using a hybrid meeting format. This means that the Session will be held at WHO headquarters in the Executive Board room, which has the capacity to physically distance a maximum of 51 individuals. EBSS5 will involve having the 34 members of the Board (or another member of the EB member’s delegation, such as a delegate located closer to the meeting venue) physically present with other delegation members, other Member States, and other participants, as appropriate, participating through the virtual platform. Safety measures will be put in place for participants in the room.

3. WHO understands that the host country may be prepared to facilitate the entry of a very limited number of delegates from abroad who are Officers of the Board or members of delegations that do not have a mission in Geneva.

4. Other EB member delegation members, Member States not represented on the Board and other participants, as appropriate, will be able access the meeting through the virtual platform. In order to do so, delegations must register in advance for the meeting and provide a unique email address for each delegate that will access the platform. EBSS5 will also be broadcasted on the WHO website.

5. Interpretation will provided in all Official languages. Delegates are invited to speak slowly and send any statements in advance to interpret@who.int in order to ensure the effective delivery of their statements.

6. Online registration for the meeting opened on 7 September and can be accessed at the following link: https://extranet.who.int/bpnext/mmeetingregistration.aspx, using the following username: EBSSUser, and password: Tle=xu&cuI01AEF2910F.

7. Sessions of the Executive Board are usually held as public meetings, with some exceptions (e.g. elections). It is proposed that EBSS5 be held as a public meeting. However, if circumstances were to arise requiring that a private or restricted meeting be held, then Rule 7 of the EB Rules of Procedure would apply.

8. Documents for the Special Session of the Executive Board, including the annotated provisional agenda, can be accessed on the Internet through the WHO website (http://www.who.int/gb/) as they become available.

9. **Verbal statements:** it is proposed that:
   - Individual statements by members of the Board be limited to three minutes
- Individual statements by all Member States not represented on the Board and Associate Members be limited to two minutes.
- Statements by Observers, representative of invited United Nations and other participating intergovernmental organizations be limited to one minute.
- Regional and group statements will be limited to four minutes.
- To ensure accurate and clear interpretation through the virtual platform, copies of all statements be submitted in advance by email to interpret@who.int. Clearly indicate the name of the delegation/group in the subject line of the email.
- All remote speakers should use headphones and microphones to ensure optimal sound quality for interpreters and listeners.

10. **Written statements** - it is proposed that:
- Member States, Associate Members, Observers, invited representatives of the United Nations and of other participating intergovernmental organizations and non-State actors be invited to post written statements on the website in the language of submission.
- In line with the guidelines for written statements outlined in decision EB146(17), statements be provided in any of the six WHO official languages and should be limited to 500 words for individual statements and 800 words for group statements.
- Participants be invited to highlight in their statement any actions taken towards the implementation of resolution WHA73.1 (2020) on the COVID-19 response.
- Member States submit their statements to statements@who.int
- Non-State actors be encouraged to post their statements in advance, in order that delegations may review their statements before the opening of the session.

11. **Pre-recorded video statements** - It is proposed that:
- While it is envisaged that EBSS5 be an interactive meeting, pre-recorded statements may be provided by Member States in place of live interventions, where time zones make real-time participation untenable.
- Video statements should be received by 2 October (COB) and may be uploaded at the following link: https://bit.ly/3hZM8lx
- The following time limits apply: EB members- 3 minutes; Member States not represented on the Board- 2 minutes; and regional/groups- 4 minutes.
- Video statements be included in the live streaming of EBSS5 and therefore will be included in the official records.

12. **Decision-making**: All decisions of the Executive Board and taken in virtual meetings should as far as possible be taken by consensus. In any event, given the virtual nature of the meeting, no decision shall be taken by secret ballot.

13. **Resolutions/decisions**: In line with Rule 32 of the EB Rules of Procedure, any proposals for draft resolutions or decisions may be introduced 48 hours prior to the opening of the session for sessions of the Board scheduled for two days or less.

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SPECIFICATIONS FOR PRE-RECORDED VIDEOS

Number of videos to produce: One video file
Style: Straight-to-camera
Technical Specifications:

- HD video (preferably 1080/50i)
- Landscape/horizontal format (preferably 16:9)
- MP4 video
- Clean HD audio in stereo mode
- Camera mounted on tripod
- No fade-in or out
- Please do not include any text, logo, emblem or other visual on-screen
- Maximum length: 2 minutes for statements by individual delegations; 4 minutes for regional or group statements

Art direction:

- Video should be framed with the subject looking directly into the camera lens.
- Subject preferably should be seated, with limited movement and gestures
- Framing medium-wide
- Well lit, with even lighting if possible

Additional request:

- To facilitate transitions to the video and to allow for the interpreters to finish before transitioning out of the video, kindly film three static seconds at the beginning of the video before beginning to speak, and allow five static seconds at the end of the clip. During these moments, have the subject look into the camera and not speak
- Kindly note, please read clearly at a moderate speed. Statements by EB members are set at 3 minutes and statements by Member States not represented on the Board are set at 2 minutes.
- Interpretation will be provided in the official languages (Arabic, Chinese, English, French, Russian and Spanish) to help delegates to follow the discussions. Delegates are requested to speak clearly and at a normal speaking pace to enable clear and accurate interpretation through the virtual platform. To ensure accurate and clear interpretation through the virtual platform, copies of all statements should be submitted in advance by email to interpret@who.int. Clearly indicate the name of the country delegation/group in the subject line of the email.
- Video statements will be included in the live streaming of the Health Assembly and therefore will automatically form part of the official record. If participants wish to post a written copy on the WHO website, the transcript should also be sent to statements@who.int.
From: VERCAMMEN, Laurence <vercammenL@who.int>

Giori, Brett (HHS/OASH) /o=ExchangeLabs/ou=Exchange Administrative Group (FYD1B0HF235PDLT)/cn=Recipients/cn=a56f6ce4755704c4ca031d621b465d7d67-Giori, Bre <Brett.Giori@hhs.gov>
USA EB Representative (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYD1B0HF235PDLT)/cn=Recipients/cn=22ec06e425f14486aab1a65d1f96b2e60-USA.EbolaRe <USA.EBRep@hhs.gov>
EB Madagascar 0(63) 069@gmail.com;
EB Sudan 0(66) e@hotmail.com;
EB Sudan 0(66) d@gmail.com;
Dr Al Saidi (Oman) <minister.office@moh.gov.om>
Dr Amoth (Kenya) 0(254) 064@gmail.com;
Dr Amoth (Kenya) 2 0(06) 055@gmail.com;
Dr Anthony (Guyana) 0(66) 045@gmail.com;
EB Austria <Clemens.Auer@sozialministerium.at>
Grigsby, Garrett (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYD1B0HF235PDLT)/cn=Recipients/cn=7cd78b4b10d4175b8711aede9e9023-Grigsby, Gl <Garrett.Grigsby@hhs.gov>
Dr Kwape (Botswana) 0(66) 064@gmail.com;
Dr Kwape (Botswana) 2 0(66) 064@gmail.com;
EB Botswana <bnonaang@b.gov.bw>
Ms Ching Ying Kong <kong.ching.ying@moh.gov.sg>
EB Singapore <Benjamin_KOH@moh.gov.sg>
EB Colombia <lmoscoso@minsalud.gov.co>
Dr Murashko (Russian Federation) <pr.ministra@rosminzdrav.ru>
Dr Paris Mancilla (Chile) <enrique.paris@minsal.cl>
EB Chile <patricio.munoz@minsal.cl>
Dr Paris Mancilla (Chile) 3 0(021) 064@gmail.com;
EB Chile <francisco.adriazola@minsal.cl>
Iplaza <iplaza@minrel.gob.do>
EB Finland <ouri.kuusniemi@stm.fi>
EB Finland <peivi.silanikke@stm.fi>
EB Finland <pero.jalasniemi@stm.fi>
EB Grenada 0(66) 055@gmail.com;
EB Australia <Emma.Wood@health.gov.au>
Mr G. Hunt <WHO@health.gov.au>
EB Djibouti 0(66) 064@yahoo.fr;
Dr Tululutu (Tonga) 0(66) 064@gmail.com;
EB Tonga 0(66) 064@gmail.com;
King Gangilp (Republic of Korea) <gkim.1@korea.kr>
EB Ghana 0(06) 064@uol.com
Mr Al Owais (UAE) <minister.office@moh.gov.ae>
Mr Essono Ndoutonou (Gabon) 0(66) 064@yahoo.fr;
EB Germany <Bjoern.Kuemmel@bmg.bund.de>
EB Bangladesh <minister@mohfw.gov.bd>
Mciff, Colin (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYD1B0HF235PDLT)/cn=Recipients/cn=d5b4da3312934c0d521b469a5d64e82-a-Mciff, Coli <Colin.Mciff@hhs.gov>
Ms Edwards (Australia) <caroline.edwards@health.gov.au>
Ms Moretti (Argentina) <moretti.carlaandrea@gmail.com>
Ms Moretti (Argentina) 2 0(0912) 064@email.ar;
EB Argentina <jfs@mrec.gov.ar>
EB Argentina <marijaljmena.schiappino@missionarg.ch>
Ms Zhang Yang (China) <zhangyang@hhs.gov.cn>
Professeur Gargah (Tunisia) 0(6) 064@yahoo.fr;
Professor Grotto (Israel) <ltamar.grotto@moh.health.gov.il>
Professor Grotto (Israel) 2 0(037) 064@revital.mimran@moh.gov.il>
Professor Moosek (Indonesia) <menkesri@kemkes.go.id>
EB Indonesia 0(6) 064@gmail.com;
Professor Refill (Romania) <arafilla@ms.ro>
EB Romania 0(6) 064@yahoo.com;
EB Burkina Faso 0(6) 064@hotmail.com;
Professor Whitty (UK) <chris.whitty@dincgov.uk>
EB Tajikistan 0(99) 064@email.ru

CC: ARMSTRONG, Timothy Peter <armstrongt@who.int>
Dear Members of the Executive Board,

Please find attached a letter from the Director-General and on behalf of the Chair of the Executive Board regarding the modalities of the forthcoming governing body meetings.

Members of the Executive Board are invited to signal in writing to hggoverningbodies@who.int by 24 September 2020 not later than 18:00 Geneva time any objection to the adoption of the proposals listed in the attached letter.

Best regards,

Dr Timothy Armstrong  
Director, Department of Governing Bodies  
World Health Organization  
CH-1211 Geneva 27  
Switzerland  
Tel: +41227911274  
Mob: +41 794452026  
Fax: +41 227914173  
email: armstrongt@who.int

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**Sender:** VERCAMMIN, Laurence <vercamminl@who.int>

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Email</th>
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<tbody>
<tr>
<td>Gioiri, Brett (HHS/OASH)</td>
<td><a href="mailto:bre@exchange.labs">bre@exchange.labs</a>/ou=Exchange.Administrative.Group (FYDIBOF23SPDLT)/cn=Recipients/cn=a56fcee4755704c4ca031d621b46fd6f7-Giorgi, Bre <a href="mailto:Brett.Gioiri@hhs.gov">Brett.Gioiri@hhs.gov</a></td>
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</tr>
<tr>
<td>EB Madagascar</td>
<td>4(b)(6)@gmail.com</td>
</tr>
<tr>
<td>EB Sudan</td>
<td>4(b)(6)@phom.org.com</td>
</tr>
<tr>
<td>EB Sudan</td>
<td>4(b)(6)@gmail.com</td>
</tr>
<tr>
<td>Dr Al Saidi (Oman)</td>
<td>4(b)(6)@<a href="mailto:ministry.office@moh.gov.com">ministry.office@moh.gov.com</a></td>
</tr>
<tr>
<td>Dr Avello (Kenya)</td>
<td>4(b)(6)@gmail.com</td>
</tr>
<tr>
<td>Dr Amoth (Kenya)</td>
<td>4(b)(6)@gmail.com</td>
</tr>
<tr>
<td>Dr Anthony (Guyana)</td>
<td>4(b)(6)@gmail.com</td>
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<tr>
<td>EB Austria</td>
<td>4(<a href="mailto:clemens.auer@sozialministerium.at">clemens.auer@sozialministerium.at</a>)</td>
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<tr>
<td>Dr Kwaape (Botswana)</td>
<td>4(b)(6)@gmail.com</td>
</tr>
<tr>
<td>Dr Kwaape (Botswana)</td>
<td>4(b)(6)@kwaape.gov.bw</td>
</tr>
<tr>
<td>Dr Botswana <a href="mailto:cmonageng@gov.bw">cmonageng@gov.bw</a></td>
<td></td>
</tr>
<tr>
<td>Ms Ching Ying Kong</td>
<td>4(<a href="mailto:kong_ching_ying@moh.gov.sg">kong_ching_ying@moh.gov.sg</a>)</td>
</tr>
<tr>
<td>EB Singapore</td>
<td>4(b)(6)@moh.gov.sg</td>
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<tr>
<td>EB Colombia</td>
<td>4(b)(6)@minsalud.gov.co</td>
</tr>
<tr>
<td>Dr Murashko (Russian Federation)</td>
<td>4(<a href="mailto:pr.ministra@rosminzdrav.ru">pr.ministra@rosminzdrav.ru</a>)</td>
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Miembros del Consejo Ejecutivo de la
Organización Mundial de la Salud

18 de septiembre de 2020

Señores miembros del Consejo Ejecutivo:

Tengo el honor de referirme, en nombre del Presidente del Consejo Ejecutivo, Dr. Harsh Vardhan, y en el mío propio, a las decisiones WHA73(8) (2020), EB147(9) (2020) y a la decisión del Consejo Ejecutivo de 28 de abril de 2020, en virtud de las cuales los órganos deliberantes decidieron que la reanudación de la 73.a Asamblea Mundial de la Salud y la 147.a reunión del Consejo Ejecutivo, así como la 32.a reunión del Comité de Programa, Presupuesto y Administración, tendrían lugar en las fechas que decidiera el Consejo Ejecutivo, ya fuera en Ginebra o con arreglo a las modalidades definidas por el Consejo.

Como saben, el Consejo Ejecutivo decidió en agosto de 2020 las fechas de las próximas reuniones de los órganos deliberantes. Dado que estas reuniones están muy próximas, ahora también es necesario decidir su modalidad. Recientemente se han solicitado de manera oficiosa las opiniones de los miembros del Consejo Ejecutivo y de otros Estados Miembros sobre las dos opciones de celebración: 1) reuniones híbridas, en las que un miembro de la delegación (normalmente de la Misión Permanente en Ginebra o de una embajada cercana) asiste presencialmente a la reunión y los demás miembros de la delegación participan a través de una plataforma virtual; o 2) reuniones totalmente virtuales, en las que todos los miembros de las delegaciones participan a través de una plataforma virtual. Las observaciones recibidas apuntan a que la opción preferida es la de celebrar reuniones híbridas.

Más recientemente, la Mesa del Consejo Ejecutivo se reunió el 16 de septiembre de 2020 y expresó su preferencia por que las reuniones de los órganos deliberantes se celebraran en un formato híbrido. La Mesa también subrayó la necesidad de promover la equidad en la participación de todos los Estados Miembros.

La decisión de celebrar las próximas reuniones utilizando un formato híbrido tendría las siguientes consecuencias. La 32.a reunión del Comité de Programa, Presupuesto y Administración se celebraría en la Sala del Consejo Ejecutivo de la sede de la OMS, cuya capacidad permite garantizar el distanciamiento físico entre un máximo de 70 personas. A este respecto, los 14 miembros del Comité (u otro miembro de la delegación ante el Comité, como un delegado que se encuentre más cerca del lugar de la reunión) tendrían la oportunidad de estar presentes físicamente. Los demás miembros de las delegaciones ante el Comité, los demás Estados Miembros y los demás participantes, según proceda, participarían a través de la plataforma virtual.

...
De la misma manera, la reanudación de la 147.ª reunión del Consejo Ejecutivo tendría lugar en la Sala del Consejo Ejecutivo de la sede de la OMS. Dada la capacidad limitada de la sala del Consejo Ejecutivo, solo los 34 miembros del Consejo (u otro miembro de la delegación ante el Consejo, como un delegado que se encuentre más cerca del lugar de la reunión) estarían presentes físicamente, mientras que los demás miembros de delegaciones, los demás Estados Miembros y los demás participantes, según proceda, participarían a través de la plataforma virtual.

Con respecto a la reanudación de la 73.ª Asamblea Mundial de la Salud, la OMS ha reservado la Sala del Pleno y la Sala 18 (sala del Comité A) del Palais des Nations durante toda la Asamblea Mundial de la Salud. Las sesiones que se celebren en la Sala del Pleno tendrían un formato híbrido, lo que permitiría la presencia física en la sala de un delegado por Estado Miembro. Dada la limitada capacidad de la Sala 18, las sesiones que se celebren en esa sala tendrían un formato totalmente virtual. De esta manera, los Comités A y B se reunirían simultáneamente, en el supuesto de que los procedimientos especiales adoptados en la apertura de la Asamblea lo permitieran. Se prevé que la Mesa de la Asamblea y la Comisión de Credenciales se reúnan también durante la reanudación de la 73.ª Asamblea Mundial de la Salud, por lo que sería necesario estudiar de antemano los ajustes de los procedimientos especiales. La Secretaría preparará un proyecto inicial para su examen.

En relación con la participación física en todas las reuniones de los órganos deliberantes, se establecerán las medidas de seguridad necesarias, entre ellas el distanciamiento físico y el uso de mascarillas. Se invitaría a las delegaciones a que pidieran que un delegado que se encuentre cerca del lugar de la reunión participara físicamente en ella con el fin de reducir al mínimo los viajes internacionales, en vista de las actuales restricciones a los viajes. La OMS se ha comprometido a colaborar con las autoridades del país anfitrión y entiende que se puede obtener apoyo para facilitar el acceso de los titulares de funciones oficiales y de un número limitado de delegados que no estén presentes en Ginebra. La Secretaría celebrará nuevas consultas con los Estados Miembros sobre las modalidades de las reuniones para promover la equidad en la participación de todas las delegaciones de los Estados Miembros.

En vista de lo anterior, invito por la presente a los miembros del Consejo Ejecutivo a que convengan en decidir las modalidades de las reuniones de los órganos deliberantes correspondientes mediante un procedimiento por escrito.

Por consiguiente, se invita a los miembros del Consejo Ejecutivo a señalar por escrito a la dirección de correo electrónico hgoverningbodies@who.int, a más tardar el 24 de septiembre de 2020 a las 18.00 horas (hora de Ginebra), cualquier objeción a la adopción de las siguientes propuestas, a saber:

1) La reanudación de la 73.ª Asamblea Mundial de la Salud se desarrollará en un formato híbrido;

2) La reanudación de la 147.ª reunión del Consejo Ejecutivo se desarrollará en un formato híbrido;

3) La 32.ª reunión del Comité de Programa, Presupuesto y Administración se celebrará en un formato híbrido.
Si algún miembro del Consejo Ejecutivo presenta una objeción por escrito a la adopción de cualquiera de las propuestas antes mencionadas dentro del plazo establecido, se considerará que dicha propuesta no ha sido adoptada por el Consejo Ejecutivo. En ese caso, la reunión con respecto a la cual se plantee una objeción se celebrará de forma totalmente virtual.

Si en el plazo fijado no se recibe ninguna objeción por escrito de ningún miembro del Consejo Ejecutivo, se considerará que las propuestas antes mencionadas han sido válidamente adoptadas por el Consejo Ejecutivo.

Les ruego acepten, señores miembros del Consejo Ejecutivo, el testimonio de mi más alta consideración.

Dr. Tedros Adhanom Ghebreyesus
Director General
Уважаемые члены Исполнительного комитета!

От имени Председателя Исполнительного комитета д-ра Харша Вардхана и себя лично имею честь сослаться на решения WHA73(8) (2020 г.) и EB147(9) (2020 г.), а также решение Исполнительного комитета от 28 апреля 2020 г., в которых руководящие органы постановили, что возобновленная семидесятая третья сессия Всемирной ассамблеи здравоохранения и 147-я сессия Исполнительного комитета, а также 32-е совещание Комитета Исполнкома по программным, бюджетным и административным вопросам будут проведены в Женеве или в иной форме и в такие сроки, которые будут определены Исполнительным комитетом.

Как известно, в августе 2020 г. Исполнительный комитет определил сроки проведения предстоящих заседаний руководящих органов. Поскольку сроки проведения заседаний быстро приближаются, необходимо принять решения относительно их формы. Недавно в неофициальном порядке были запрошены мнения членов Исполнительного комитета и других государств-членов относительно двух форм проведения заседаний: (1) проведение заседаний в гибридном формате, при котором по одному члену делегации (обычно работник постоянного представительства в Женеве или посольства, расположенного поблизости) лично присутствует на заседаниях, а остальные члены делегации участвуют в работе посредством виртуальной платформы; и (2) проведение заседаний в полностью виртуальном формате, при котором все члены делегаций участвуют в работе заседаний посредством виртуальной платформы. Согласно полученным ответам, предпочтение отдано проведению заседаний в гибридном формате.

Недавно, 16 сентября 2020 г., должностные лица Исполнительного комитета провели совещание, на котором ими было отдано предпочтение проведению заседаний в гибридном формате. Кроме того, должностные лица подчеркнули необходимость обеспечения равного участия всех государств-членов.

Принятие решения о проведении предстоящих заседаний в гибридном формате означает следующее. Тридцать второе совещание КПБАВ будет проведено в штаб-квартире ВОЗ, в зале заседаний Исполнительного комитета, в котором может быть обеспечено физическое дистанцирование максимум 70 человек. Таким образом, на совещании смогут лично присутствовать 14 членов КПБАВ (или других членов делегаций членов КПБАВ, например делегаты, место пребывания которых находится недалеко от места проведения заседаний). Другие члены делегаций членов КПБАВ, другие государства-члены и иные соответствующие участники смогут принять участие посредством виртуальной платформы.
Возобновленная 147-я сессия Исполкома будет аналогичным образом проведена в штаб-квартире ВОЗ, в зале заседаний Исполнительного комитета. Учитывая ограниченную вместимость зала заседаний Исполнительного комитета, на сессии смогут лично присутствовать только 34 члена Исполкома (или других членов делегаций членов Исполкома, например делегаты, место пребывания которых находится недалеко от места проведения заседаний), в то время как другие члены делегаций, другие государства-члены и иные соответствующие участники смогут принять участие посредством виртуальной платформы.

Что касается возобновленной семьдесят третьей сессии Всемирной ассамблеи здравоохранения, то ВОЗ забронировала на все время работы Ассамблеи здравоохранения зал пленарных заседаний и зал 18 (зал заседаний Комитета А) Дворца наций. Заседания, которые состоятся в зале пленарных заседаний, будут проходить в гибридном формате, что позволит лично присутствовать по одному делегату от каждого государства-члена. Учитывая ограниченную вместимость зала 18, заседания, которые состоятся в этом зале, будут проходить в полностью виртуальном формате. Таким образом, заседания комитетов A и B смогут проходить одновременно при том условии, что это будет допущено специальной процедурой, которая будет принята при открытии сессии Ассамблеи. Предполагается, что во время возобновленной семьдесят третьей сессии Всемирной ассамблеи здравоохранения также состоятся заседания Генерального комитета и Комитета по проверке полномочий, и поэтому потребуется заранее обсудить изменения специальной процедуры. Sekretariatom будет подготовлен для рассмотрения предварительный проект изменений.

В связи с личным участием делегатов в заседаниях руководящих органов будут приняты необходимые меры безопасности, включая обеспечение физического дистанционирования и масочного режима. В свете текущих ограничений на поездки делегациям рекомендуется ограничить до минимума международные поездки и направить для личного участия по одному делегату, место пребывания которого находится недалеко от места проведения заседаний. ВОЗ стремится сотрудничать с властями принимающей страны и, насколько это возможно, может быть оказана поддержка для обеспечения доступа должностных лиц, а также ограниченного числа членов делегаций, не представленных в Женеве. Секретariat продолжит консультации с государствами-членами относительно формы проведения заседаний в целях обеспечения равного участия делегаций всех государств-членов.

В свете вышеизложенного предлагаю членам Исполнительного комитета принять посредством письменной процедуры решение о форме проведения заседаний руководящих органов.

Таким образом, членам Исполнительного комитета предлагается сообщить в письменной форме не позднее 18:00 (по южнекскому времени) 24 сентября 2020 г. на адрес электронной почты hqgoverningbodies@who.int о любых возражениях против принятия следующего предложения:

(1) возобновленная семьдесят третья сессия Всемирной ассамблеи здравоохранения проводится в гибридном формате;
(2) возобновленная 147-я сессия Исполнительного комитета проводится в гибридном формате;

(3) тридцать второе совещание Комитета по программным, бюджетным и административным вопросам проводится в гибридном формате.

В случае, если к указанной дате какой-либо член Исполнительного комитета сообщает в письменной форме о возражении против принятия любого из вышеизложенных предложений, такое предложение будет считаться не принятым Исполнительным комитетом. В этом случае заседание, в отношении которого было выдвинуто возражение, будет проведено в полностью виртуальном формате.

В случае, если к указанной дате от членов Исполнительного комитета не поступит никаких письменных возражений, вышеизложенные предложения будут считаться надлежащим образом принятыми Исполнительным комитетом.

С уважением,

Генеральный директор
д-р Тедрос Адханом Гебрейесус
Membres du Conseil exécutif de l’Organisation mondiale de la Santé

18 septembre 2020

Mesdames et Messieurs les membres du Conseil exécutif,


Comme vous le savez, le Conseil exécutif a fixé en août 2020 les dates des prochaines réunions des organes directeurs. Alors que ces réunions approchent à grands pas, il faut maintenant en déterminer aussi les modalités. Récemment, il a été demandé de façon informelle aux membres du Conseil exécutif et aux autres États Membres de faire connaître leur point de vue sur les deux options suivantes : 1) l’organisation de réunions hybrides – auxquelles un membre par délégation (qui se trouve généralement à la mission permanente à Genève ou dans une ambassade à proximité) assiste physiquement et les autres membres de la délégation participent par des moyens virtuels, ou 2) l’organisation de réunions totalement virtuelles, auxquelles tous les membres de chaque délégation participent par des moyens virtuels. Il ressort des observations reçues que les réunions hybrides sont l’option préférée.

Les membres du Bureau du Conseil exécutif se sont réunis le 16 septembre 2020 et ont indiqué préférer que les réunions des organes directeurs se tiennent suivant des modalités hybrides. Ils ont également souligné qu’il fallait faire en sorte que tous les États Membres participent équitablement aux réunions.

L’organisation des prochaines réunions selon des modalités hybrides, si elle était décidée, aurait les conséquences suivantes. La cent trente-deuxième réunion du Comité du budget, du programme et de l’administration aurait lieu au Siège de l’OMS dans la salle du Conseil exécutif, dont la capacité permet de garantir une distance physique entre 70 personnes au maximum. À cet égard, les 14 membres du Comité (ou un autre membre de la délégation au Comité, par exemple un délégué qui se trouve plus près du lieu de la réunion) auraient la possibilité d’être physiquement présents. Les autres membres des délégations au Comité, les autres États Membres et les autres participants, le cas échéant, participeraient par des moyens virtuels.

De la même manière, la reprise de la cent quarante-septième session du Conseil exécutif aurait lieu au Siège de l’OMS dans la salle du Conseil exécutif. Compte tenu de la capacité limitée de cette salle, seuls les 34 membres du Conseil (ou un autre membre de la délégation au Conseil, par exemple un délégué qui se trouve plus près du lieu de la réunion) seraient physiquement présents, et les autres membres des délégations, les autres États Membres et les autres participants, le cas échéant, participeraient par des moyens virtuels.

Pour la participation physique à toutes les réunions des organes directeurs, les mesures de sécurité nécessaires, y compris la distanciation physique et le port du masque, seraient instaurées. Les délégations seraient invitées à demander à un délégué se trouvant près du lieu de la réunion de participer physiquement à cette réunion et à éviter autant que possible les voyages internationaux, compte tenu des restrictions actuelles. L’OMS s’engage à collaborer avec les autorités du pays hôte et sait qu’il est envisageable d’obtenir un soutien pour faciliter l’accès des titulaires de fonctions officielles et d’un nombre limité de délégués qui ne sont pas présents à Genève. Le Secrétariat mènerait d’autres consultations avec les États Membres sur les modalités des réunions afin que toutes les délégations des États Membres puissent y participer de façon équitable.

Compte tenu de ce qui précède, j’invite les membres du Conseil exécutif à convenir des modalités d’organisation des réunions en question selon une procédure écrite.

En conséquence, les membres du Conseil exécutif sont invités à communiquer par écrit à l’adresse électronique hgogoverningbodies@who.int d’ici au 24 septembre 2020 à 18 heures (heure de Genève) au plus tard toute objection à l’adoption des propositions suivantes :

1) la reprise de la Soixante-Treizième Assemblée mondiale de la Santé se déroulera selon des modalités hybrides ;
2) la reprise de la cent quarante-septième session du Conseil exécutif se déroulera selon des modalités hybrides ;
3) la trente-deuxième réunion du Comité du programme, du budget et de l’administration se déroulera selon des modalités hybrides.

Si un Membre du Conseil exécutif élève une objection par écrit à l’adoption de l’une quelconque des propositions ci-dessus dans le délai fixé, celle-ci sera considérée comme n’ayant pas été adoptée par le Conseil exécutif. En ce cas, la réunion pour laquelle une objection est élevée se déroulera de façon totalement virtuelle.

Si aucun Membre du Conseil exécutif n’élève d’objection par écrit dans le délai fixé, les propositions ci-dessus seront considérées comme ayant été adoptées par le Conseil exécutif.

Veuillez agréer, Mesdames et Messieurs les membres du Conseil exécutif, l’assurance de ma considération distinguée.

[Signature]

Docteur Tedros Adhanom Ghebreyesus
Directeur général
Members of the Executive Board of the World Health Organization

18 September 2020

Dear Members of the Executive Board,

I have the honour to refer, on behalf of the Chair of the Executive Board, Dr Harsh Vardhan, and myself to decisions WHA73(8) (2020), EB147(9) (2020) and to the Executive Board’s decision of 28 April 2020, through which the governing bodies decided that the resumed sessions of the Seventy-third World Health Assembly (WHA73) and Executive Board at its 147th session (EB147), as well as the 32nd meeting of the Programme Budget and Administration Committee (PBAC32), would be held at such dates and either in Geneva or through such means as to be decided by the Executive Board.

As you know, the Executive Board decided in August 2020 on the dates of the forthcoming governing body meetings. As these meetings are quickly approaching, decisions are also now needed on the modalities of the meetings. Recently, the views of the Executive Board members and other Member States have been informally solicited on the two options of holding: (1) hybrid meetings – where one delegation member (usually based in the Permanent Mission in Geneva or in an embassy close by) attends the meeting in-person and other delegation members participate through a virtual platform, or (2) fully virtual meetings, where all delegation members participate through a virtual platform. The comments received have favoured the option of holding hybrid meetings.

Most recently, the Officers of the Executive Board met on 16 September 2020 and expressed a preference for the governing body meetings to be held using a hybrid format. The Officers also emphasized the need to promote equity of participation of all Member States.

A decision to hold the forthcoming meetings using a hybrid format would have the following implications. PBAC32 would be held at WHO headquarters in the Executive Board room, which has the capacity to physically distance a maximum of 70 people. In this regard, the 14 members of the PBAC (or another member of the PBAC member’s delegation, such as a delegate located closer to the meeting venue) would have the opportunity to be physically present. Other PBAC delegation members, other Member States and other participants, as appropriate, would participate through the virtual platform.

In the same manner, the resumed session of EB147 would be held at WHO headquarters in the Executive Board room. Given the limited capacity of the Executive Board room, the session would involve having only the 34 members of the Board (or another member of the EB member’s delegation, such as a delegate located closer to the meeting venue) physically present with other delegation members, other Member States, and other participants, as appropriate, participating through the virtual platform.

With respect to the resumed session of WHA73, WHO has reserved Plenary Hall and Room 18 (Committee A room) at the Palais des Nations for the duration of the Health Assembly. Meetings conducted in Plenary Hall would have a hybrid format, allowing one delegate per
Member State to be physically present in the room. Given the limited room capacity of Room 18, meetings held in that room would have a fully virtual format. In this way, Committees A and B would meet concurrently, assuming the special procedures adopted at the opening of the Assembly would allow. It is envisaged that the General Committee and Credentials Committee would also meet during the resumed session of WHA73 and that, therefore, adjustments to special procedures would need to be discussed in advance. An initial draft will be prepared by the Secretariat for consideration.

In relation to the physical participation in all governing body meetings, required safety measures would be put in place, including physically distancing and face masks. Delegations would be encouraged to request that a delegate located near the meeting venue participates physically in the meeting and minimize international travel, in view of current travel restrictions. WHO is committed to working with the host country authorities and understands that support may be available to help facilitate the access of officer bearers, as well as a limited number of delegates that do not have a presence in Geneva. The Secretariat would hold further consultations with Member States on the modalities of the meetings to promote equity of participation by all Member State delegations.

In view of the foregoing, I hereby invite the Members of the Executive Board to agree to decide on the modalities of the governing bodies meetings concerned by means of a written procedure.

Accordingly, Members of the Executive Board are invited to signal in writing to the following email address hqgoverningbodies@who.int by 24 September 2020 not later than 18:00 (Geneva time) any objection to the adoption of the following proposals, namely that:

1. the resumed session of the Seventy-third World Health Assembly be held by means of a hybrid format;
2. the resumed session of 147th session of the Executive Board be held by means of a hybrid format;
3. the Thirty-second meeting of the Programme, Budget and Administration Committee be held by means of a hybrid format.

If any Member of the Executive Board objects in writing to the adoption of any of the proposals set out above by the set date, then that proposal will be considered not to have been adopted by the Executive Board. In that case, the meeting in relation to which an objection is raised will be held using a fully virtual format.

In absence of the receipt by the set date of any written objection from any Member of the Executive Board, the proposals set out above will be considered to have been validly adopted by the Executive Board.

Yours faithfully,

Dr Tedros Adhanom Ghebreyesus
Director-General
尊敬的执行委员会各位委员：

我谨代表执行委员会主席 Harsh Vardhan 博士和我个人提及 WHA73(8)号（2020年）、EB147(9)号（2020年）决定和执行委员会于2020年4月28日作出的决定，其中理事会决定第七十三届世界卫生大会和执行委员会第147届会议的续会以及规划、预算和行政委员会第三十二次会议应在执行委员会决定的日期在日内瓦或通过其它方式举行。

如您所知，执行委员会于2020年8月确定了即将举行的理事机构会议的日期。随着会议临近，现在仍需就会议召开方式作出决定。最近，已经非正式征求了执行委员会委员和其他会员国对以下两种举办方式的意见：(1)混合会议——代表团一名成员（通常来自日内瓦常驻团或附近使馆）在会场出席会议，代表团其他成员通过虚拟平台参加；或(2)完全虚拟会议，所有代表团成员通过虚拟平台参加。通过收到的意见来看，倾向于混合会议这一选项。

最近，执行委员会主席团成员于2020年9月16日举行会议，表示希望理事机构会议以混合方式召开。主席团成员还强调需要促进所有会员国的公平参与。

决定采用混合方式举行即将召开的会议将会产生以下影响。规划、预算和行政委员会第三十二次会议将在世卫组织总部执行委员会会议室举行，会议室最多可容纳70人。鉴于此，该委员会的14名成员（或委员会成员代表团的另一名成员，如靠近会场的一名代表）将有机会在会场参会。委员会代表团其他成员、其他会员国和其他参与者将通过虚拟平台参会。

同样，执行委员会第147届会议续会在世卫组织总部执行委员会会议室举行。鉴于执行委员会会议室的容纳人数有限，仅由执行委员会34名成员（或执行委员会委员代表团的另一名成员，如靠近会场的一名代表）亲自现场参会，代表团其他成员、其他会员国和其他与会者将通过虚拟平台参会。

至于第七十三届世界卫生大会续会，世卫组织根据卫生大会会期在万国宫预定了全体会议大厅和第18号会议室（甲委员会会议室）。在全体会议大厅举行的会议将采用混合方式，允许每个会员国派一名代表亲临会场。鉴于第18号会议室的容纳人数有限，在该会议室举行的会议将完全采用虚拟方式。这样，假定大会开幕时通过的特别程序允许，甲乙委员会将同时开会。预计会务委员会和全权证书委员会也将在第七十三届世界卫生大会续会期间举行会议，因此，需要事先讨论特别程序的调整问题。秘书处将编写初稿供大会审议。
关于在现场参加所有理事机构会议，将会采取必要的安全措施，包括保持身体距离和戴口罩。鉴于目前仍存在旅行限制，鼓励各代表团要求会场附近的代表亲临现场参加会议，并尽量减少国际旅行。世卫组织致力于与东道国当局合作，并理解可能需要提供一定支持，以便利益相关方成员以及在日内瓦没有常设代表的少数代表的出入。秘书处将继续与会员国就会议举办方式进一步进行协商，以促进所有会员国代表团的公平参与。

鉴于上述情况，我现请执行委员会各位委员同意通过书面程序就理事机构会议的举办方式作出决定。

因此，请执行委员会各位委员至迟在2020年9月24日18:00（日内瓦时间）之前发邮件至hqgoverningbodies@who.int，就以下建议提出任何书面反对意见，即：

1. 第七十三届世界卫生大会续会通过混合方式举行；

2. 执行委员会第147届会议续会通过混合方式举行；

3. 规划、预算和行政委员会第三十二次会议通过混合方式举行。

如果执行委员会任何委员在规定日期之前对上述建议提出书面反对意见，这些建议将被视为没有获得执行委员会通过。在这种情况下，存有异议的会议将通过完全虚拟的方式举行。

如果在规定日期前没有收到执行委员会任何委员的书面反对意见，上述建议将被视为已得到执行委员会的有效通过。

您诚挚的，

[签名]

总干事
谭德塞博士

2020年9月18日
أعضاء المجلس التنفيذي لمنظمة الصحة العالمية

18 أيلول/سبتمبر 2020

السادة أعضاء المجلس التنفيذي الموقون،

تحية طيبة وبعد،

أُプリン، بالإشارة، إلينا دائمًا عن رئيس المجلس التنفيذي، الدكتور هاينز فارنر، والأعمال والمعلومات المقدمة إلى المقررين البري وافقان، والمقرر الذي أتخذته اجتماعات المجلس التنفيذي في 28 نيسان/أبريل 2020، والتي سارات قرارات الأجهزة الرئيسية استثنائًا للدور الثالثة والسبعين لجمعية الصحة العالمية والدورات السابقة والأربعين بعد المائة للمجلس التنفيذي، فضلًا عن الاجتماع الثاني والثلاثين للجنة البرنامج والمنزلي والإدارة. في مواعيد بحثها المجلس التنفيذي لتعقدها إن شاء أو بأي وسيلة أخرى يقرها المجلس التنفيذي.

وكم تعلمون فقد حدد المجلس التنفيذي في 28 نيسان/أبريل 2020 مواعيد انعقاد الاجتماعات المقررة للأجهزة الرئيسية، ومع اقتراب هذه المواعيد، يتبع الألب في طرقنا عندها. وقد قدمت بشكل رسي مؤخرا آراء أعضاء المجلس التنفيذي والدول الأعضاء بشأن القضايا التالية لعقد الاجتماعات: (1) اجتماعات مختلفة، حيث يحضر الاجتماع الشخصي أحد أعضاء الوفد الشخصي في البعثة الدائمة للدولة في جنيف أو في أي سفارتين قريبة (عامة) فيما يشارك أعضاء الوفد الأخرين من خلال منصة افتراضية، أو (2) اجتماعات افتراضية بالكامل، حيث يشارك جميع أعضاء الوفد في الاجتماع من خلال منصة افتراضية. وقد أبدت التغليفاد الورادة تفضيلها لخُبر عقد الاجتماعات المختلطة.

واتحاد أعضاء المكتب المجلس التنفيذي مؤخرًا في 18 أيلول/سبتمبر 2020، وأعربوا عن تفضيلهم لعقد اجتماعات الأجهزة الرئيسية من صيغة مختلفة، مشددين على الحاجة إلى تعزيز الإنصاف في المشاركة لجميع الدول الأعضاء.

ويترتب على قرار عند الاجتماعات المقررة في صيغة مختلفة ما يلي: سيعقد الاجتماع الثاني والثلاثين للجنة البرنامج والمنزلي والإدارة في قاعة المجلس التنفيذي في المقر الرسمي للمنظمة، التي تبع 70 شخصًا كحد أقصى من الاتصالات على PANI. وفي هذا الصدد، ستكون فرصة الحضور الشخصي لأعضاء اللجان (أو أي عضو آخر من وفد الدولة العضو في اللجنة، من قبل المنذوب الأقرب إلى مكان الاجتماع) ومستشار أعضاء الوفد الأخرين من وفد الدولة العضو وغيرهم من المشاركين، حسب الاقتضاء، من خلال المنصة الافتراضية.

وعلل المواقع ذاتها، ستتعقد الدورة المستنفدة السابقة والأربعين بعد المائة للمجلس التنفيذي في قاعة المجلس التنفيذي في المقر الرسمي للمنظمة. ونظراً للسعة المحدودة لقاعة المجلس التنفيذي، ستكون الدورة على الحضور الشخصي للأعضاء 24 للمجلس فقط (أو أي عضو آخر من وفد الدولة العضو في المجمع، من قبل المنذوب الأقرب إلى مكان الاجتماع) فيما سيشارك أعضاء الوفد الأخرين والدول الأعضاء الأخرى وغيرهم من المشاركين، حسب الاقتضاء، من خلال المنصة الافتراضية.

Organización Mundial de la Salud - World Health Organization
Всемирная организация здравоохранения - 世界卫生组织 - Organisation mondiale de la Santé
أما بالنسبة للدورة المستفيدة لجمعية الصحة العالمية الثالثة والسبعين، فقد حزمت المنظمة قاعة الجلسات العامة والقاعة 18 (قاعة اللجنة 3) في قصر الأمم للمدة التي تستغرقها جمعية الصحة. وستُعقد الاجتماعات في قاعة الجلسات العامة بصورة مختلفة، حيث سينقسم الحضور الشخصي في القاعة لمendor واحد من كل دولة عضو. ونظراً للضرورة المحددة للقاعة 18، فإن الاجتماعات ستُعقد في هذه القاعة ستكون شكلًا افتراضياً بالكامل. وذلك سيستلزم استعداد الاجتماعات الخاصة الممتد عند افتتاح الجماعة، ومن المتوقع أن تُعقد اللجنة العامة ولجنة أوراق الاعتماد كذلك أثناء الدورة المستفيدة لجمعية الصحة العالمية الثالثة والسبعين، ويتبع بالتناو مناقشة التصويتات الأولية إدخالها على الاجراءات الخاصة بسرعة.

وستعد الأمانة مسودة أولية بهذا الشأن للنظر فيها.

وفيما يتعلق بالمشاركة الحضورية في مساجل الاجتماعات الأجهزة الرئاسية، سوف تُطبق تدابير السلامة اللازمة، بما يشمل التنسيق البديني والكامل. وتُشجع الوفود على اختيار المندوب الأقرب إلى مكان الاجتماع للمشاركة الحضورية في الاجتماع وذلك يقلل الحاجة إلى السفر الدولي في ظل ظروف السفر الحالية، وتلتزم المنظمة بالعمل مع سلطات البلد المضيف وتركز أن من الممكن تقديم الدعم للمساعدة على تيسير سفر أعضاء المكتب ومحدود من المندوبين غير الموجودين في جنيف، وستجري الأمانة مشاركات إضافية مع الدول الأعضاء بشأن طريقة الوفود.

وعليه، فإن أعضاء المجلس التنفيذي مدعوون إلى إرسال إشعار خطي على عنوان البريد الإلكتروني التالي:
hqgoverningbodies@who.int

(بتوقيت جينيف)، لإبداء أي اعتراض على اعتبار المقترحات التالية:

(1) تُعقد الدورة المستفيدة لجمعية الصحة العالمية الثالثة والسبعين في صيغة مختلطة;

(2) تُعقد الدورة المستفيدة السابعة والأربعين بعد المائة للمجلس التنفيذي في صيغة مختلطة;

(3) يُعقد الاجتماع الثاني والثلاثون للجنة البرنامج والميزانية والإدارة في صيغة مختلطة.

إذا أبدى أي عضو في المجلس التنفيذي اعتراضه كتابياً على اعتبار أي من المقترحات الوارد أعلاه في عضو، فإنه ملزمة جميع الأعضاء لمتابعة هذا المقترح، وفي هذه الحالة، سيُعقد الاجتماع المُعنوب عليه في صيغة افتراضية بالكامل.

وما لم يرد أي اعتراض كتابياً من أي عضو في المجلس التنفيذي بحلول أجل المحدد، فسُميت أن المقترحات المذكورة أعلاه قد اعتبدها المجلس التنفيذي حسب الأصول.

وتفضلوا بقبول التقدير والاحترام،

الدكتور تيدروس أدهانوم غيبرسوس
المدير العام

Organización Mundial de la Salud • World Health Organization
Всемирная организация здравоохранения • 世界卫生组织 • Organisation mondiale de la Santé
Members of the Executive Board of
the World Health Organization

30 October 2020

Dear Members of the Executive Board,

I have the honour to refer, on behalf of the Chair of the Executive Board, Dr Harsh Vardhan, and myself to decisions WHA73(8) (2020), EB147(9) (2020), through which the governing bodies decided that the resumed sessions of the Seventy-third World Health Assembly (WHA73) and Executive Board at its 147th session (EB147), would be held at such dates and either in Geneva or through such means as to be decided by the Executive Board.

As you know, the Executive Board decided in August 2020 on the dates of the forthcoming governing body meetings and in September 2020, further decided on having these meeting using a hybrid format—where one delegation member would attend the meeting in-person and other delegation members would participate through a virtual platform.

However, due to the epidemiological situation in Geneva and around the world and recent advice that, for health reasons, the resumed sessions of the Seventy-third World Health Assembly and Executive Board should now meet using a fully virtual format, Dr Harsh Vardhan consulted with the Officers of the Executive Board, who support the move to a fully virtual format.

In view of the foregoing, I hereby invite the Members of the Executive Board to agree to decide on the format of the governing bodies meetings concerned by means of a written procedure.

Accordingly, Members of the Executive Board are invited to signal in writing to the following email address hqgoverningbodies@who.int by 3 November 2020 not later than 18:00 (Geneva time) any objection to the adoption of the following proposals, namely that:

1. The resumed session of the Seventy-third World Health Assembly be held by means of a virtual format;

2. The resumed session of 147th session of the Executive Board be held by means of a virtual format;

If any Member of the Executive Board objects in writing to the adoption of any of the proposals set out above by the set date, then that proposal will be considered not to have been adopted by the Executive Board.
In absence of the receipt by the set date of any written objection from any Member of the Executive Board, the proposals set out above will be considered to have been validly adopted by the Executive Board.

Finally, as you may be aware, revision of the special procedures to regulate the conduct of virtual meetings with respect to the resumed sessions of the Seventy-third World Health Assembly and the 147th Executive Board, respectively, is currently on going. A Member State Briefing has been scheduled for Tuesday, 3 November 2020 with the view to discuss and finalize the abovementioned special procedures prior to their submission to a silence procedure next week.

Yours faithfully,

[Signature]

Dr Tedros Adhanom Ghebreyesus
Director-General
From: VERCAMMEN, Laurence <VercammenL@who.int>

Giori, Brett (HHS/OASH) /oa=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a56f4e4755704c4ca031d621b46fd6f7-Giori, Bre <Brett.Giori@hhs.gov>; USA EB Representative (OS/OGA) /oa=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=22ec06fa425f14486aab1a65d1f9b2e60-USA.EbolaRe <USA.EBRep@hhs.gov>; EB Sudan (b)6) b@hotmail.com>; EB Sudan (b)6) b@gmail.com>; EB Oman (Kenya) (b)6) b@gmail.com>; Dr Amoth (Kenya) (b)6) b@gmail.com>; Dr Amoth (Kenya) (b)6) b@gmail.com>; Dr Anthony (Guyana) (b)6) b@gmail.com>; EB Austria <Clemens.Auer@sozialministerium.at>; Dr Ben Salah (Tunisia) <falcal.bensalah@ms.tn>; Grigsby, Garrett (HHS/OAG) /oa=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7cd79b3810d4b17b8711aeede9e9023-Griggsby, Gil <Garrett.Grigsby@hhs.gov>; Dr Kwaape (Botswana) (b)6) b@gmail.com>; Dr Kwaape (Botswana) (b)6) b@gmail.com>; EB Botswana (b)6) b@gmail.com>; EB Colombia <bmcoscota@minsalud.gov.co>; Dr Murashko (Russian Federation) <pr.ministra@rosminzdrav.ru>; Dr Paris Mancilla (Chile) <enrique.paris@minsal.cl>; EB Chile <patricio.munoz@minsal.cl>; Dr Paris Mancilla (Chile) (b)6) b@gmail.com>; CHI-Adriazola <francisco.adriazola@minsal.cl>; CHI-Plaza <iplaza@minrel.go.cl>; Dr Puthucheary (Singapore) <janil@mci.gov.sg>; EB Singapore <Benjamin_KOH@moh.gov.sg>; EB Finland (b)6) b@gmail.com>; EB Finland <peivi.sillanaukee@stm.fi>; EB Finland <eero.laitinen@formin.fi>; EB Grenada <ntcsteele@gmail.com>; EB Australia <Emma.Wood@health.gov.au>; Mr G. Hunt <WHO@health.gov.au>; EB Djibouti <b)6) b@gmail.com>; Dr Tulupolotu (Tonga) (b)6) b@gmail.com>; EB Tonga (b)6) b@gmail.com>; EB Chair <hfm@gov.in>; Dr Vardhan (India) (b)6) b@gmail.com>; EB India <mittal.sachin@gov.in>; King Ganglip (Republic of Korea) <gkim_1@korea.kr>; EB Ghana (b)6) b@gmail.com>; Mr Al Owais (UAE) <minister.office@moh.gov.ae>; Mr Braba (Guinea-Bissau) (b)6) b@gmail.com>; Mr Essono Ndoutoumou (Gabon) (b)6) b@gmail.com>; EB Germany <Bjoern.Kuemmel@bmg.bund.de>; EB Bangladesh <minister@mohfw.gov.bd>; Mcff, Colin (HHS/OS/OGA) /oa=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7d9b4be331294f2deda21b469a56f4e82a-Mcff, Colin <Colin.Mcff@hhs.gov>; Ms Edwards (Australia) <caroline.edwards@health.gov.au>; Ms Moretti (Argentina) <moretti.carlaandrea@gmail.com>; Ms Moretti (Argentina) (b)6) b@gmail.com>; EB Argentina <jsf@mrcdc.gov.ar>; EB Argentina <mariajimena.schaffino@missionarg.ch>; Ms Zhang Yang (China) <zhangyang@nhc.gov.cn>; Professor Grotto (Israel) <tamar.grotto@moh.health.gov.il>; Professor Grotto (Israel) (b)6) b@gmail.com>; Professor Moeleek (Indonesia) <menkesri@kemkes.go.id>; EB Indonesia (b)6) b@gmail.com>; Professor Rafilla (Romania) <arafilla@ms.ro>; EB Romania (b)6) b@gmail.com>; EB Burkina Faso (b)6) b@gmail.com>; EB Burkina Faso (b)6) b@gmail.com>; EB Burkina Faso (b)6) b@gmail.com>; EB Burkina Faso (b)6) b@gmail.com>; Professor Whitty (UK) <chris.whitty@dhsc.gov.uk>;
EB Tajikistan <salomudin@mail.ru>;
Professor Rakovoyovai Hanitra (Madagascar) $\text{b}(\text{b})$@yahoo.fr>;
??

SEAR BAN REGISTRY <sebanregistry@who.int>;
RANA, Bardan Jung <ranab@who.int>;
AF WCO/BW <afwcobw@who.int>;
NAMBOZE, Josephine <nambozej@who.int>;
AF WCO/BF <afwcobf@who.int>;
DIARRA NAMA, Almeta Jeanne <diarraal@who.int>;
<opsomschlie@paho.org>;
Leanes, Dr. Fernando (CHI) <leanesf@paho.org>;
WP CHN WR <wpchrwr@who.int>;
GALEA, Gauden <galeag@who.int>;
<colmail@paho.org>;
tambingi <tambingi@paho.org>;
EM ACO/DJI WR <emacoджwr@who.int>;
ZOUITEN, Ahmed <zoutena@who.int>;
AF GA WCO <afgawco@who.int>;
BAGAYOKO, Magaran Monzon <bagayokom@who.int>;
AF WCO/GH Official Account <afwcogh@who.int>;
KIMAMBO, Neema Rusibamayila <kimambon@who.int>;
<email@guv.paho.org>;
<adukrowr@paho.org>;
WHO Representative to India <wridinda@who.int>;
PAYDEN, <payden@who.int>;
WHO Indonesia <seWHIndonesia@who.int>;
PARANIETHARAN, Navaratnasamy <paranietharan@who.int>;
AF KEN WR <afkenwr@who.int>;
EGGERS, Rudi <eggensr@who.int>;
AF WCO/FG OFFICE <afwcofgoffice@who.int>;
NDIAYE, Charlotte Faty <ndiayechar@who.int>;
EM ACO/OMA WR <emacoomawr@who.int>;
HUSSAIN, Syed Jaffar <hussains@who.int>;
WP RO CLO KOR <wprocalykor@who.int>;

CC: GRBIC, Miljana <grbicm@who.int>;
EU RUS/SCO <eurusco@who.int>;
VIJNOVIC, Melita <vijnovicm@who.int>;
EM ACO/SUD WR <emacosudwr@who.int>;
ATTA, Hoda Youssef <attah@who.int>;
<whotjk@euro.who.int>;
KARYEVA, Battygul <karyeyab@who.int>;
SETOYA, Yutaro <setoyay@who.int>;
<dleton@wprc.who.int>;
EM ACO/TUN WR <emacotunwr@who.int>;
SOUTEYRAND, Yves Philippe Henri <souteyrandy@who.int>;
EB Argentina <internacionales@msa.gov.ar>;
{b}(0)

EB Argentina <jsf@minrec.gov.ar>;
EB Argentina <mariajmena.schiavino@missionarg.ch>;
EB Australia <madeleine.heyward@health.gov.au>;
EB Australia <naomi.dumbrell@dfet.gov.au>;
EB Australia <timothy.poletti@dfat.gov.au>;
Bernhard Fattinger <bernhard.fattinger@bmeia.gv.at>;
<petra.vincke-koroschetz@bmeia.gv.at>;
EB Bangladesh <wadud.akanda@moa.gov.bd>;
EB Bangladesh <mohiuddin.kayes@moa.gov.bd>;
smautie@ads.intra.who.int {b}(0)gmail.com>;
EB Botswana {b}(0)gmail.com>;
EB Burkina Faso <line.ouedraogo@missionburkinafaso-ch.org>;
EB Gabon <b}(0)yahoo.fr>;
<cserazzi@minrel.gob.cl>;
EB Chile <rmate@minrel.gob.cl>;
{b}(0)smtp@minrel.gob.cl>;
EB China {b}(0)gmail.com>;
EB China {b}(0)gmail.com>;
EB China <intorgs@nhec.gov.cn>;
Dear Members of the Executive Board,

Please find attached the translation in the five other official languages of the letter from the Director-General and on behalf of the Chair of the Executive Board regarding the modalities of the forthcoming governing body meetings.

Members of the Executive Board are invited to signal in writing to hqgoverningbodies@who.int by Tuesday, 3 November 2020 not later than 18:00 Geneva time any objection to the adoption of the proposals listed in the attached letter.

Best regards,

Dr Timothy Armstrong
Director, Department of Governing Bodies
World Health Organization
CH-1211 Geneva 27
Switzerland
Tel: +41227911274
Mob: +417676914173
Fax: +41 22 791 14173
email: armstrongt@who.int

From: VERCAMMEN, Laurence
Sent: Friday, October 30, 2020 8:43 PM
To: Admiral Giroir (USA) <brett.giroir@hhs.gov>; Admiral Giroir (USA) 2 <USA.EBRep@hhs.gov>; Dr Akram (Sudan) 3 <b@c@gmail.com>; Dr Akram (Sudan) 2 <b@c@gmail.com>; Dr Al Saidi (Oman) <minister.office@moh.gov.om>; Dr Amoth (Kenya) <b@c@gmail.com>; Dr Amoth (Kenya) 2 <b@c@gmail.com>; Dr Anthony (Guyana) <b@c@gmail.com>; Dr Auer (Austria) <Clemens.Auer@sozialministerium.at>; Dr Ben Salah (Tunisia) <faical.bensalah@rns.tn>; Dr Grigsby (USA) <garrett.grigsby@hhs.gov>; Dr Kwape (Botswana) 3 <b@c@gmail.com>; Dr Kwape (Botswana) 2 <lekwape@gov.bw>; Dr Kwape (Botswana) 3 <cmonageng@gov.bw>; Dr Moscoso (Colombia) <lmoscoso@minsalud.gov.co>; Dr Murashko (Russian Federation) <pr.ministra@rosminzdrav.ru>; Dr Paris Mancilla (Chile) <enrique.paris@minsal.cl>; Dr Paris Mancilla (Chile) 2 <patricio.munoz@minsal.cl>; Dr Paris Mancilla (Chile) 3 <juancarlos.rios@minsal.cl>; Dr Paris
Mancilla (Chile) 4 <francisco.adriazola@minsal.cl>; Dr Paris Mancilla (Chile) 5 <iplaza@minrel.gob.cl>; Dr Puthucheary (Singapore) <janil@mic.gov.sg>; Dr Puthucheary (Singapore) <benjamin_KOH@moh.gov.sg>; Dr Sillanaukee (Finland) <outi.kuivasniemi@stm.fi>; Dr Sillanaukee (Finland) 2 <eero.lahtinen@formin.fi>; Dr Steele (Grenada) <bradj@gmail.com>; Dr Studdert (Australia) 2 <Emma.wood@health.gov.au>; Dr Studdert (Australia) 3 <who@health.gov.au>; Dr Tourab (Djibouti) <bradj@gmail.com>; Dr Tuipulotu (Tonga) <bradj@gmail.com>; Dr Tuipulotu (Tonga) 2 <bradj@gmail.com>; Dr Vardhan (India) <hfm@gov.in>; Dr Vardhan (India) 2 <psothfm@gov.in>; Dr Vardhan (India) 3 <mittal.sachin@gov.in>; King Ganglip (Republic of Korea) <glkim_1@korea.kr>; Mr Agymen Manu (Ghana) <bradj@aol.com>; Mr Al Owais (uae) <minister.office@moh.gov.ae>; Mr Braba (Guinea-Bissau) <bradj@gmail.com>; Mr Essono Ndoutoumou (Gabon) <bradj@yahoo.fr>; Mr Kuemmel (Germany) <bradj@kuenmel@bmkg.bund.de>; Mr Maleque (Bangladesh) <bradj@mohfw.gov.bd>; Mr Mciff (usa) <collin.mciff@hhs.gov>; Ms Edwards (Australia) <bradj@health.gov.au>; Ms Moretti (Argentina) 2 <internaciones@minsal.gov.ar>; Ms Moretti (Argentina) 3 <jsf@mrecic.gov.ar>; Ms Moretti (Argentina) 4 <mariajimena.schaffino@missionarg.ch>; Ms Zhang Yang (china) <bradj@nhs.gov.cn>; Professor Grotto (Israel) <tamar.grotto@moshealth.gov.il>; Professor Grotto (Israel) 2 <revital.mirmam@moh.gov.il>; Professor Moeloe (Indonesia) <bradj@kemkes.go.id>; Professor Moeloe (Indonesia) <bradj@gmail.com>; Professor Rafila (Romania) <bradj@ms.ro>; Professor Rafila (Romania) 2 <bradj@gmail.com>; Professor Traore (Burkina Faso) <bradj@hotmail.com>; Professor Whitty (UK) <chris.whitty@dhsc.gov.uk>; Professor Yusufi (tajikistan) <bradj@mail.ru>; ProfessorRakoyovao Hanitralla (Madagascar) <bradj@yahoo.fr>

Cc: SEAR BAN REGISTRY <sebanregistry@who.int>; RANA, Bardan Jung <bradj@who.int>; AF WCO/BW <bradj@wco.org>; NAMBOZE, Josephine <bradj@wco.org>; AF WCO/BF <bradj@wco.org>; DIARRA NAMA, Alimata Jeanne <bradj@wco.org>; opsomschile@paho.org; leanesf@paho.org; who.chn@wpro.who.int; GALEA, Gauden <bradj@wco.org>; colmail@paho.org; tambing@paho.org; EM ACO/DJI WR <bradj@wco.org>; ZOUTEN, Ahmed <bradj@wco.org>; AF GA WCO <bradj@wco.org>; BAGAYOKO, Magaran Monzon <bradj@wco.org>; AF WCO/GH Official Account <bradj@wco.org>; KIMAMBO, Neema Rusibamayila <bradj@wco.org>; e-mail@guy.paho.org; adukroww@paho.org; WHO Representative to India <bradj@wco.org>; PAYDEN, <bradj@wco.org>; WHO Indonesia <bradj@wco.org>; PARANIETHARAN, Naravatnasamy <bradj@wco.org>; AF KEN WR <bradj@wco.org>; EGGERGS, Rudi <bradj@wco.org>; afwcomofficew@wims.who.int; NDIAYE, Charlotte Faty <bradj@wco.org>; EM ACO/OMA WR <bradj@wco.org>; Jaffar Hussain Syed <bradj@wco.org>; who.kor@wpro.who.int; GRBIC, Miljana <bradj@wco.org>; EU RUS/SO <bradj@wco.org>; VUJNOVIC, Melita <bradj@wco.org>; EM ACO/SUD WR <bradj@wco.org>; ATTA, Hoda Youssef <bradj@wco.org>; whotjk@euro.who.int; KARRIEV, Bahtyguyl <bradj@wco.org>; SETOYA, Yutaro <bradj@wco.org>; cloton@wpro.who.int; EM ACO/TUN WR <bradj@wco.org>; SOUTEYRAND, Yves Philippe Henri <bradj@wco.org>; internacionales@msal.gov.ar;

'mariajimena.schaffino@missionarg.ch' <mariajimena.schaffino@missionarg.ch>; Madeleine.Heyward@health.gov.au; Dumbrell, Naomi (Naomi.Dumbrell@dfat.gov.au) <bradj@dfat.gov.au>; Poletti, Timothy (Timothy.Poletti@dfat.gov.au) <bradj@dfat.gov.au>; 'berrnhard.fattinger@bmeia.gv.at' <berrnhard.fattinger@bmeia.gv.at>; petra.vincke-koroschetz@bmeia.gv.at; "wadud.akanda@mofa.gov.bd" <bradj@wco.org>; mohiuddin.kayes@mofa.gov.bd<bradj@gmail.com; <bradj@gmail.com; line.ouedraogo@missionburkinafaso-ch.org; Ferdinand MANGONGO <bradj@yahoo.fr>
Dear Members of the Executive Board,

Please find attached a letter from the Director-General and on behalf of the Chair of the Executive Board regarding the modalities of the forthcoming governing body meetings.

Members of the Executive Board are invited to signal in writing to hqgoverningbodies@who.int by Tuesday, 3 November 2020 not later than 18:00 Geneva time any objection to the adoption of the proposals listed in the attached letter.

Subject: WHO: Format of governing body meetings (resumed WHA73 and EB147)
The translation of this letter in the five other official languages will be communicated as soon as they become available.

Best regards,

Dr Timothy Armstrong  
Director, Department of Governing Bodies  
World Health Organization  
CH-1211 Geneva 27  
Switzerland  
Tel: +412279111274  
Mob: +41 227914173  
Fax: +41 227914173  
email: armstrongt@who.int
CIPRIOTT, Denise Claire <cipriottd@who.int>;
MAYU, Clorinda <mayuc@who.int>;
LEWIS, Cindi <lewisc@who.int>;
Office of the Director-General <DGOffice@who.int>;
ABDELAZIZ, Samah <aazizs@who.int>;
BATINA, Nadege Laure Eminence <batina@who.int>;
BRUINDU, Grazia <brundug@who.int>;
CHAHAN, Sharat <chahansh@who.int>;
DRAEME-AVIGNON, Pamela Suzanne <dramehp@who.int>;
EL SHAZLY, Hala <elshazlyh@who.int>;
ERIKSEN, Mirona <eriksenmm@who.int>;
MABRY, Ruth Minda <mabryr@who.int>;
MALISI, Catherine <malisic@who.int>;
Maria Pia Catalano <catalanp@who.int>;
-, Anand Mohan <guntaan@who.int>;
Davoli, Monica Zaccarelli (WDC) <davolimon@paho.org>;
NAMGYAL, Pem <namgyalpe@who.int>;
PAM, Willy <palmw@who.int>;
PEREY, Elline <PereyE@who.int>;
PRATT, Angela <pratta@who.int>;
SHARMA, Renu <sharmar@who.int>;
SOTSKOV, Vladlena <sotskovv@who.int>;
TAKAZAANA, Paimamoyro Sharon <takazaanap@who.int>;
ELLISON, Jane Elizabeth <ellisonj@who.int>;
WALTON, Derek <wattond@who.int>;
GRANZIERA, Egle <GranziereE@who.int>;
ASHFORTH, Nicolas Cameron <ashforthn@who.int>;
NICHOLSON, Elizabeth Jane <nicholsonj@who.int>;
JOHN, Chandrika Rahini <johnc@who.int>;
??

Sent Date: 2020/11/02 16:33:04
Delivered Date: 2020/11/02 16:34:16
Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd. (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=AC87C0EC2D2741A69764E52F6CB4CA95-ELVANDER,
E>

Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>
Billet, Courtney (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=cb5c51123f2f1b98b61a37383994a8dcourtney.bi
Routh, Jennifer (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=2dd951ed5be4f1f93276a338e2b0b08-jennifer.ro
<jennifer.routh@nih.gov>
Handley, Gray (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=3fac3cd775e8442ba613cbbab2b90a15-gray.handle
<handlegr@niaid.nih.gov>
Date: 2020/02/27 12:50:00
Priority: Normal
Type: Note

Thanks Cliff!

From: Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>
Sent: Thursday, February 27, 2020 12:49 PM
To: Billet, Courtney (NIH/NIAID) [E] <billetc@niaid.nih.gov>; Routh, Jennifer (NIH/NIAID) [E]
<jennifer.routh@nih.gov>
Cc: Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Handley, Gray (NIH/NIAID) [E]
<handlegr@niaid.nih.gov>

Courtney/Jen,

FYI - may want to pass this up the chain. Dr. Fauci has a hard copy of the most recent version of the report. When I get the final I will forward to you.

+ Erica/Gray so OGA is aware.

Cliff

Begin forwarded message:

From: "AYLWARD, Raymond Bruce J." <aylwardb@who.int>
Date: February 27, 2020 at 11:25:02 AM EST
To: "Alexander SEMENNOV (b)(6)@gmail.com" [b](6)@gmail.com>, "Chikwe IHEKWEAZU (chikwe.ihekweazu@ncdc.gov.ng)" <chikwe.ihekweazu@ncdc.gov.ng>, "Lane, Cliff (NIH/NIAID) [E]" <clane@niaid.nih.gov>, "Zhou, Weigong (CDC/DDID/NCIRD/ID)" <waz6@CDC.GOV>, "Dale FISHER (b)(6)@nus.edu.sg" [b](6)@nus.edu.sg>, "Dr Hitoshi TAKAHASHI (takajin@nih.go.jp)" [takajin@nih.go.jp], "LEE Jong-Koo (docmohw@snu.ac.kr)"
Dear Joint Mission colleagues,

I enjoyed all of the emails of the last days knowing you’ve each arrived home (and continue to be healthy!)

To update you on plans for the release of the Joint Mission Report:

- There were a couple of small changes needed to the English version to reflect Chinese translation (e.g. footnotes for COVID-19 as in China they use ‘novel coronavirus pneumonia’; titles of some Chinese colleagues, etc). We have also agreed to remove the references section and just have a line that simply says references are available on request. Otherwise it would have been too complicated and slow to sort out which we keep/leave.

- China and WHO have also agreed in principle to simultaneously release the FINAL FINAL document at 0900hr Geneva time tomorrow, 28 February 2020.

- I have just sent the slightly edited version back to China which they will review and finalize the translation of overnight. I will then send you the ‘final final’ version first thing in the morning!

Thanks for your patience and with warmest regards from a chilly Geneva,

Bruce
Dear Dr Tedros,

On behalf of the entire team, it is my honor to share with you the attached Report of the WHO-China Joint Mission on COVID-19.

In submitting this final version of the report, I would like to extend my tremendous gratitude to my Co-Lead Dr LIANG Wannian (copied), whose deep experience and wisdom were crucial as we distilled our vast findings into the overall assessment and major recommendations.

You will be aware that Dr Liang and I have had the opportunity to present the findings and recommendations of this report to the Honorable Minister of Health, Dr MA Xiaowei, while in Wuhan on 23 February.

I must also thank our Deputy Team Leader Dr WANG Bin and our international team members, all of whom are also copied on this note. I would like to extend a further and very special thank you to our team members from China who gave so tirelessly and generously of their vast knowledge of the unfolding outbreak in China as well as their specific areas of technical expertise.

Dr Tedros, this was truly a Joint Mission, with national and international team members working closely together throughout, and particularly to consolidate their respective sections of this report in the final days of the Mission. Please know that the attached findings and recommendations reflect the collective opinion of the entire team, all of whom have been closely engaged in its writing and finalization.

We share a common hope that the findings contained herein can help inform the global work you are leading to stem the ongoing international spread of COVID-19.

Regards

Bruce
Thanks so much. That’s very helpful and good advice to follow. The data is in fact very revealing.

Cheers.

Erika

On Feb 28, 2020, at 10:50 AM, Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov> wrote:

Thanks Cliff.
Cheers.

Erika

From: Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>
Sent: Friday, February 28, 2020 9:48 AM
To: Routh, Jennifer (NIH/NIAID) [E] <jennifer.routh@nih.gov>
Cc: Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Billet, Courtney (NIH/NIAID) [E] <billettcniaid.nih.gov>; Handley, Gray (NIH/NIAID) [E] <handleygr@niaid.nih.gov>
Subject: Fwd: NEW - FOR PUBLIC RELEASE: WHO-China Joint Mission on COVID-19
Couple of corrections and edits

From: Brennan, Patrick (OS/APSA) <Patrick.Brennan@hhs.gov>

Sent: Tuesday, February 4, 2020 2:25 PM

To: Chang, William (HHS/OGC) <William.Chang@hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] <africa@niaid.nih.gov>; Redfield, Robert R. (CDC/OD) <olx1@cdc.gov>

CC: Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Hall, Bill (HHS/APSA) <bill.hall@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>

Subject: RE: For review by 5 PM if possible: draft Sec. Azar and Sec. Pompeo op-ed

Date: 2020/02/04 14:55:34

Importance: High

Priority: Urgent

Type: Note
Subject: For review by 5 PM if possible: draft Sec. Azar and Sec. Pompeo op-ed

Dr. Redfield and Dr. Fauci, and OGC,

If possible, please let me know if you can clear this by 5 PM, so we can send it over to State.

Thank you!

- Patrick
Witheld pursuant to exemption
(b)(6)
of the Freedom of Information Act
Withheld pursuant to exemption
(b)(5)
of the Freedom of Information Act
Thanks!

From: Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>
Sent: Sunday, February 9, 2020 3:32 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Cc: Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Fauci, Anthony (NIH/NIAID) [E] <afauci@nih.gov>; Handley, Gray (NIH/NIAID) [E] <handleygr@nih.gov>; Lane, Cliff (NIH/NIAID) [E] <clane@nih.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Lerner, Andrea (NIH/NIAID) [E] <andrea.lerner@nih.gov>
Subject: Re: WHO-China Delegation coordination

Hi Garrett – can-do.

Cheers,

Erika

Erika Elvander
Director, Asia and the Pacific
Office of Global Affairs, HHS
Sent from my iPhone

On Feb 9, 2020, at 3:08 PM, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Many thanks!!

Sent from my iPhone

On Feb 9, 2020, at 2:14 PM, Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov> wrote:

Many thanks for any insights you can provide.

Very respectfully,

Hilary Marston

Hilary D. Marston, MD MPH
Medical Officer and Policy Advisor for Global Health
Immediate Office of the Director
<table>
<thead>
<tr>
<th>Sender:</th>
<th>Grigsby, Garrett (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBonjour23SPDLT)/cn=RECIPIENTS/cn=7CD788B481D44B17B8711AADEA9A023-GRIGSBY, GL <a href="mailto:Garrett.Grigsby@hhs.gov">Garrett.Grigsby@hhs.gov</a></th>
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<td>Lane, Cliff (NIH/NAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBonjour23SPDLT)/cn=Recipients/cn=11a17e6ee68e425392d98ba9cd5e1945-cliff.lane <a href="mailto:clane@niaid.nih.gov">clane@niaid.nih.gov</a>;</td>
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<td>Kerr, Lawrence (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBonjour23SPDLT)/cn=Recipients/cn=8ce9de2e7497472bb75889df6e262c86-kerr, lawre <a href="mailto:Lawrence.Kerr@hhs.gov">Lawrence.Kerr@hhs.gov</a>;</td>
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<td>Lerner, Andrea (NIH/NAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBonjour23SPDLT)/cn=Recipients/cn=C3e7875e3f649fcae6003db0034b158-andrea.fern <a href="mailto:andrea.lerner@nih.gov">andrea.lerner@nih.gov</a></td>
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</table>

| Sent Date: | 2020/02/09 17:27:56 |
| Delivered Date: | 2020/02/09 17:27:57 |
Thank you, Gray!

From: Handley, Gray (NIH/NAID) [E] <handleygr@niaid.nih.gov>
Sent: Sunday, February 9, 2020 3:28 PM
To: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Cc: Fauci, Anthony (NIH/NAID) [E] <afauci@niaid.nih.gov>; Lane, Cliff (NIH/NAID) [E] <clane@niaid.nih.gov>; Lerner, Andrea (NIH/NAID) [E] <andrea.lerner@nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Marston, Hilary (NIH/NAID) [E] <hilary.marston@niaid.nih.gov>; Graham, Barney (NIH/VRC) [E] <bgraham@mail.nih.gov>
Subject: RE: WHO-China Delegation coordination
We will update if and when there is more to report.

Gray

From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Sunday, February 9, 2020 3:09 PM
To: Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Cc: Fauci, Anthony (NIH/NIAID) [E] <afauci@niah.d.nih.gov>; Handley, Gray (NIH/NIAID) [E] <handleygr@niaid.nih.gov>; Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>; Lerner, Andrea (NIH/NIAID) [E] <andrea.lerner@nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>
Subject: RE: WHO-China Delegation coordination

Definitely more info to come!

Larry

From: Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>
Sent: Sunday, February 9, 2020 2:14 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Many thanks for any insights you can provide.

Very respectfully,

Hilary Marston

Hilary D. Marston, MD MPH
Medical Officer and Policy Advisor for Global Health
Immediate Office of the Director
National Institute of Allergy and Infectious Diseases

Email: hilary.marston@nih.gov
<table>
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<th>(FYDIBOHF23SPDLT)/cn=Recipients/cn=<a href="mailto:93be476c17024bbcb5bc5b4add01fe6a8-hilary.marsto@nih.gov">93be476c17024bbcb5bc5b4add01fe6a8-hilary.marsto@nih.gov</a>;</th>
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<td><strong>2020/02/09 17:28:53</strong></td>
</tr>
</tbody>
</table>
Dr F,

From: Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>
Sent: Sunday, February 9, 2020 6:24 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Harrison, Brian (HHS/IOS) <Brian.Harrison@hhs.gov>
Cc: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Redfield, Robert R. (CDC/OD) <olx1@cdc.gov>; Kadlec, Robert (OS/ASPR/10) <Robert.Kadlec@hhs.gov>; Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>
Subject: RE: WHO advance team on coronavirus on way to China - Tedros tweet

2020/02/09 18:34:47
Priority: Normal
Type: Note
Anthony S. Fauci, MD
Director
National Institute of Allergy and Infectious Diseases
Building 31, Room 7A-03
31 Center Drive, MSC 2520
National Institutes of Health
Bethesda, MD 20892-2520
Phone: (301) 496-2263
FAX: (301) 496-4409
E-mail: fauci@niaid.nih.gov

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From: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Sent: Sunday, February 9, 2020 6:03 PM
To: Harrison, Brian (HHS/IOS) <Brian.Harrison@hhs.gov>
Cc: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Zbley, Kyle (HHS/OS/OGA) <Kyle.Zbley@hhs.gov>; Redfield, Robert R. (CDC/OD) <Redfield@cdc.gov>; Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>; Kadlec, Robert (OS/ASPR/O) <Robert.Kadlec@hhs.gov>; Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>
Subject: FW: WHO advance team on coronavirus on way to China - Tedros tweet

Many thanks, Bernard! I know I’ll be asked, so I will pass your email up the chain...

Take care and thanks again!

From: SCHWARTLANDER, Bernhard F. <schwartlanderb@who.int>
Sent: Sunday, February 9, 2020 5:59 PM
Hi Garrett,

With my warmest wishes

Bernhard

Dr Bernhard Schwartländer
Chef de Cabinet
World Health Organization

On 9 Feb 2020, at 23:24, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Bernard,

Hope you had a good weekend.

Any additional information will be deeply appreciated.

Thanks!

From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Sunday, February 9, 2020 5:03 PM
UPDATE 1-WHO advance team on coronavirus on way to China - Tedros tweet

Stephanie Nebehay
By Stephanie Nebehay

GENEVA, Feb 9 (Reuters) - An advance team of international experts led by the World Health Organization (WHO) has left for Beijing to help investigate China’s coronavirus epidemic, the Geneva-based agency said on Sunday.

WHO director-general Tedros Adhanom Ghebreyesus, who made a trip to Beijing for talks with President Xi Jinping and Chinese ministers in late January, returned with an agreement on sending an international mission.

But it has taken nearly two weeks to get the government’s green light on its composition, which was not announced, other than to say that WHO veteran Dr. Bruce Aylward, a Canadian epidemiologist and emergencies expert, was heading it.

“I’ve just been at the airport seeing off members of an advance team for the @WHO-led #2019nCoV international expert mission to #China, led by Dr Bruce Aylward, veteran of past public health emergencies,” Tedros said in a tweet from Geneva.

Dr. Sylvie Briand, who accompanied Tedros last month and stayed behind for talks with top Chinese health officials, told Reuters last week that they were discussing a list of experts with China.

“Because it is a joint mission, they need to be on board, it’s not just an international group going there. We have about 15 people,” said Briand, director of Global Infectious Hazard Preparedness at WHO.

China raised the death toll from the coronavirus outbreak to 811 on Sunday, passing the number killed globally by the SARS epidemic, as authorities made plans for millions of people returning to work after an extended Lunar New Year break.

The virus, which has spread to two dozen countries, has killed some 2% of more than 37,550 cases worldwide, with 99 percent of infections in China, WHO figures show.

The WHO declared the outbreak a global emergency on Jan. 30, days after the Chinese central government imposed a lockdown on 60 million people in Hubei province and its capital Wuhan, epicentre of the virus that emerged in December in a seafood market.

Tedros said on Saturday that he hoped the team would include experts from the U.S. Centers for Disease Control (CDC).

“It has to be meaningful on the ground,” Lawrence Gostin, professor of global health law at Georgetown Law, said in an interview in Geneva this week.

Gostin called for a “genuine partnership with transparent flows of information and accountability for the response”, adding that there should be a strong CDC presence.

“CDC has got no peer in terms of its experience and technical expertise in dealing with international outbreaks,” he said.

“But the other benefit is the smart diplomacy, what it could signal is that despite all of our differences in ideology, trade, politics, that when faced with a common threat to humanity, we come together as a human community to tackle it,” Gostin said.
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BIOGRAPHICAL SKETCH

David M. Morens serves as Senior Advisor to the Director, National Institute of Allergy and Infectious Diseases, National Institutes of Health.

He received the A.B. degree (Psychology) in 1969 and the M.D. degree in 1973, both from the University of Michigan.

He is Board Certified in Pediatrics (1978) and in Preventive Medicine (1980), with fellowship training in pediatric infectious diseases and additional training in virology.

Dr. Morens served as a United States Public Health Service officer in CDC’s Epidemic Intelligence Service from 1976-1978; then served as a virologist in CDC’s Bureau of Laboratories, including two years studying Lassa fever in Sierra Leone, West Africa; and served as Chief of CDC’s Respiratory & Special Pathogens Branch, where he also represented the National Center for Infectious Diseases on CDC’s AIDS Task Force.

From 1982-1998 Dr. Morens served at the University of Hawai’i, in the School of Medicine as Professor of Tropical Medicine, and as Professor and Chairman, Department of Family Practice & Community Health; in the School of Public Health as Professor and Chairman, Epidemiology Department; and in the College of Natural Sciences as Professor of Microbiology.

In 1998 he joined the National Institute of Allergy and Infectious Diseases, where he remains on active duty in the United States Public Health Service.

Dr. Morens is past President of the American Epidemiological Society and current Chairman of the American Committee on Arthropod-Borne Viruses. He has authored hundreds of scientific articles in major biomedical journals. His career interest for over 40 years has been the study of emerging infectious diseases. He speaks and writes frequently on numerous aspects of emerging diseases, on viral disease pathogenesis, and on the history of medicine and public health.
Curriculum Vitae

David M. Morens

Summary Page, 1 December 2015

Address
Senior Advisor to the Director, Office of the Director, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 31 Center Drive, Building 31, Room 7A-03, Bethesda, Maryland 20892-2520; Phone: 301 496 6253; Fax: 301 496 4409; Cell phone: 240 495 1783; email: dm270q@nih.gov or dmorens@niaid.nih.gov. (Assistants: Ms. Meaghan Vance, Ms. Kelley Henry); Home Address: 4624 Nottingham Drive, Chevy Chase, Maryland 20815-5345; Phone:

Degrees/Certification

Professional Experience, Summary
U.S. Centers for Disease Control, 1976-1982, To Chief, Respiratory & Special Pathogens Branch; University of Hawai‘i, 1982–, Professor & Head, Epidemiology Department, School of Public Health; Professor, Department of Tropical Medicine, School of Medicine; Professor, Department of Microbiology, College of Natural Sciences; Medical Officer, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 1998–; Senior Associate, Johns Hopkins University, School of Public Health, 2002–.

Professional Societies
American Association for the Advancement of Science; American Association for the History of Medicine; American Epidemiological Society; American Society of Tropical Medicine and Hygiene; Hawai‘i Society for the History of Medicine & Public Health; Infectious Disease Society of America (Fellow); International Society for Infectious Diseases; Pacific Circle, International Union of the History and Philosophy of Science; Washington Academy of Medicine; Washington Society for the History of Medicine; Wellcome Library Centre for the History of Medicine.

Research Interests
Emerging infectious diseases; viral disease pathogenesis; diseases of unknown etiology; history of public health and medicine; epidemiology; dengue; influenza.

Funded Research
1982-1998, University of Hawai‘i: Principal Investigator, Co-Investigator or Consultant on 37 investigator-initiated research grants with total funding of $8,624,338.

Publications
280+ indexed publications; 125+ additional non-indexed publications, proceedings, and articles in government documents.
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I. Biographical Information

A. Personal Information

Date of Birth

Place of Birth

Marital Status

Languages English; French (intermediate fluency)

National Service U. S. Public Health Service, to Commander, 1976-1982
U. S. Public Health Service, to Captain, 1998-

Medical Licensure Hawai‘i 04335 (medical practice)
AM2595671 (federal controlled substances)
E00205 (Hawai‘i controlled substances)

B. Degrees and Professional Certification

Diploma 1966 Groves High School, Birmingham, Michigan

A.B. 1969 University of Michigan, Honors College,
College of Literature, Science and the Arts.
Major: Psychology

M.D. 1973 University of Michigan School of Medicine

Diploma 1973 National Board of Medical Examiners
Diploma Number 1135704

Diploma 1978 American Board of Pediatrics
Diploma Number 021707

Diploma 1980 American Board of Preventive Medicine
Diploma Number 40636

Diploma 1987 American College of Epidemiology

Licensure 1992 Clinical Laboratory Director, U.S. Public Health
Service, CLIA Number 12D0695909
II. Professional Positions, Reverse Chronological Order

2017- Councillor, American Committee on Arthropod-Borne Viruses
2015- Fellow, American Society of Tropical Medicine & Hygiene
2011- Secretary-Treasurer, American Epidemiological Society
2010-2011 President, American Epidemiological Society
2005- Fellow, Washington Academy of Medicine
2002- Senior Associate, School of Public Health, Johns Hopkins University
2001- Fellow, Infectious Disease Society of America
1999- Vice-President, Florida Health Research, Inc.
1998- National Institute of Allergy & Infectious Diseases, National Institutes of Health,
1993-1999 President, Hawai‘i Health Activities, Inc.
1982-1999 University of Hawai‘i, Honolulu, Hawai‘i
1997-1998: Professor, Department of Microbiology, College of Natural Sciences
1989-1998: Head, Section of Epidemiology
1987-1998: Professor, Department of Public Health Sciences, School of Public Health
1987-1998: Professor, Department of Tropical Medicine & Medical Microbiology, School of Medicine
1987-1990: Professor, Department of Family Practice & Community Health, School of Medicine; Acting Chairman 1988-1990
1982-1987: Associate Professor, Department of Tropical Medicine & Medical Microbiology, School of Medicine
1978-1982 Attending Physician, Grady Memorial Hospital, Atlanta, Georgia
1978-1982 Clinical Assistant Professor, Emory University School of Medicine, Atlanta, Georgia
1976-1982 Medical Officer, U.S. Centers for Disease Control, Atlanta, Georgia
1981-1982: Acting Chief, Respiratory & Special Pathogens Branch, Viral Diseases Division, Center for Infectious Diseases; Division Director: Gary R. Noble, M.D., M.P.H.
1981: Medical Officer, Office of the Director, Viral Diseases Division, Center for Infectious Diseases; Director: Robert L. Kaiser, M.D., M.P.H.

1979-1980: Medical Officer, Lassa Fever Research Project, Kenema, Sierra Leone; Program Directors: Karl M. Johnson, M.D., Michael B. Gregg, M.D., M.P.H.

1978-1979: Medical Officer, Virology Division, Bureau of Laboratories; Division Director: Walter R. Dowdle, Ph.D.

1977-1979: Preventive Medicine Resident; Program Directors: H. Bruce Dull, S.M. Hyg.; Donald R. Hopkins, M.D., M.P.H.

1976-1978: Medical Epidemiologist, Epidemic Intelligence Service, Viral Diseases Division, Bureau of Epidemiology; Director: Philip S. Brachman, M.D.

1975-1976 Clinical Associate, Children’s Psychiatric Center, Ann Arbor, Michigan

1975-1976 Fellow, Pediatric Infectious Diseases, University of Michigan Medical Center; Section Director: Joseph V. Baublis, M.D., Ph.D.

1974-1975 Pediatrics Resident, University of Michigan Medical Center, Ann Arbor; Chairman: William J. Oliver, M.D.

1973-1974 Pediatrics Resident, University of Hawai‘i, Kauikeōlani Children’s Hospital, Honolulu, Hawai‘i; Chairman: S.L. Hammar, M.D.
III. Funded Research, University of Hawai‘i, 1982-1999


8. 1985-1986: Principal Investigator, Rockefeller Foundation, Grant GA HS 8429, *Support of Prospective Cohort Studies of Dengue in Populations of Indonesian Children* ($35,000)


13. 1986-1987: Principal Investigator, University of Hawai‘i Research Council Grant, *Risk Factors for Parkinson’s Disease in Hawai‘i* ($3,500)

14. 1986-1987: Sponsor (on behalf of Lenora W. M. Loo), *Parkinson’s Disease Foundation Grant, The Relationship of Parkinson’s Disease to Industrial Exposures in Hawai‘i* ($1,000)
15. 1987: Principal Investigator, University of Hawai‘i Educational Innovations Fund, Invited Member, International Expert Panel, Society for Ancient Medicine ($928)


17. 1987-1988: Principal Investigator, Faculty Award in Gerontology, University of Hawai‘i, Office of the Vice President for Academic Affairs, Occupational Chemical Exposures As A Risk Factor for Parkinson’s Disease in Hawai‘i ($1,000)

18. 1988-1989: Co-Investigator, Centers for Disease Control, Grant 4160-18, Center for Health Promotion & Disease Prevention ($311,000)


21. 1991-1996: Principal Investigator, National Institute of Neurological Disorders & Stroke, National Institutes of Health, Grant RO1 NS30371, Environmental and Dietary Antecedents of Parkinson Disease ($450,528)

22. 1991-1992: Principal Investigator, University of Hawai‘i Research Relations Fund, Grant B-712, Plague of Athens Monograph ($1,000)

23. 1991-1993: Consultant, University of Hawai‘i Research Council Grant, Epidemiologic Survey of Tuberculosis on Palau ($9,500)


25. 1992-1993: Co-Investigator, Center for Prevention Services, Centers for Disease Control Grant, TB Prevention and Control Elimination Program ($25,000)

26. 1993-1995: Principal Investigator, University of Hawai‘i Research Council, Grant B-734, Charles Ives Historical Biographical Research Project ($1,500)

27. 1994-1996: Co-Investigator, Fogarty International Center, National Institutes of Health, Grant TW 00013, A Collaborative AIDS Program Between UCLA, the University of Hawai‘i, and the East-West Center ($197,200)


29. 1995: Principal Investigator, President’s Educational Improvement Fund, Development of a “Mobile” HIV/AIDS Instructional Curriculum ($2,750)


34. 1996-1999: Co-Investigator, Community Foundation Grant, Development of DNA *Fingerprinting Analysis of Mycobacterium tuberculosis Strains in Hawai‘i* ($34,000)

35. 1996-1999: Co-Investigator, Lē‘ahi Trust Grant, *Amplification-Based DNA Fingerprinting for Strain Identification and Epidemiology of Mycobacterium Tuberculosis* ($20,000)


37. 2000: Co-Investigator, Laboratory of Microbial Structure and Function, National Institute of Allergy and Infectious Diseases, National Institutes of Health, *Epidemiological Surveillance of Group A Strep Pharyngitis and Impetigo* ($300,000)
V. Publications.

Indexed Papers, Books, Text Chapters


50. Morens DM. Fifth disease: still hazy after all these years. [Editorial]. *JAMA* 1982;248:553-554.


211. Morens DM, Taubenberger JK. Historical thoughts on influenza viral ecosystems, or behold a pale horse, dead dogs, failing fowl, and sick swine. *Influenza Other Resp Vir* 2010;4:327-337.


Carlin EP, Machalaba C, Long KC, Berthe FCJ, Morens D, Karesh WB. Building resilience to biothreats. (Submitted Lancet Global Health)


Bean R, Morens DM, Taubenberger JK, Memoli R. Intranasal inactivated influenza vaccination: an old technology revisited. (Submitted to Vaccine)

Morens DM, Taubenberger JK. Another novel coronavirus escapes Pandora’s box. (Submitted to NEJM)
APPENDICES A, B, C, and D
(For use by University of Hawai’i only)
APPENDIX A.

Other Publications and Documents, Including Non-Refereed and *MMWR* Publications, Government Reports, Consultant Reports, and Others


34. Morens DM, Bryan JA. *Rift Valley fever in the Arab Republic of Egypt.* Report to the Director, United States Centers for Disease Control, Atlanta, Georgia, 26 September 1978.


38. Morens DM. *Proposal for clarification of the role of CMV in patients with Kaposi sarcoma and opportunistic infections.* Report to the Director, Centers for Infectious Diseases, United States Centers for Disease Control, Atlanta, Georgia, 31 July 1981.


40. Morens DM, Dowdle WR, Bennett JV. *Summary of the workshop on Kaposi’s sarcoma.* Report to the Director, United States Centers for Disease Control, Atlanta, Georgia, 15 September 1981.

41. Morens DM. *The effects of inhaled isobutyl nitrite on the immunologic status of laboratory mice.* Report to the Director, Center for Infectious Diseases, United States Centers for Disease Control, Atlanta, Georgia, 9 November 1981.


45. Morens DM. *A proposal for laboratory investigation of Kaposi sarcoma/ opportunistic infections and “lymphadenopathy syndrome” patients to search for an hypothesized microbial agent causing immunodepression.* Report to the Director, Center for Infectious Diseases, United States Centers for Disease Control, Atlanta, Georgia, 10 March 1982.


66. Morens DM. Report to the Governor’s Committee on AIDS. Response to Public Inquiry on Waterborne HIV, 4 March 1993.


80. Morens DM, Bernier R. Who was Peter Panum? [Interview]. The Epidemiology Monitor 1999:4,8.

81. Morens DM. Influenza vaccine failure? ProMED-mail editorial comment, 13 March 1999.

82. Morens DM. Influenza, virulent: Nepal (Western). ProMED-mail editorial comment, 16 March 1999.

83. Morens DM. Influenza vaccine failure? ProMED-mail editorial comment, 16 March 1999.

84. Morens DM. Influenza vaccine failure? ProMED-mail editorial comment, 21 March 1999.

86. Morens DM. Influenza H5N1, avian: China (Hong Kong). ProMED-mail editorial comment, 29 March 1999.

87. Morens DM. Influenza A(H9n2), bird-to-human - China (Guandong). ProMED-mail editorial comment, 9 April 1999.


90. Morens DM. Influenzavirus vaccine. ProMED-mail editorial comment, 31 May 1999.

91. Morens DM. Influenza A - USA (Alaska), Canada (Yukon). ProMED-mail editorial comment, 3 June 1999.


93. Morens DM. Influenza, cruise ships - USA (Alaska); Canada (Yukon). ProMED-mail editorial comment, 3 July 1999.

94. Morens DM. Influenza-like illness, Australia (Tasmania). ProMED-mail editorial comment, 5 August 1999.

95. Morens DM. Influenza - USA (Texas ex Puerto Rico). ProMED-mail editorial comment, 5 August 1999.

96. Morens DM. Influenza A (H9N2), bird-to-human - China (Hong Kong). ProMED-mail editorial comment, 5 August 1999.


101. Morens DM. Streptococcus suis, human infection - China (Hong Kong). ProMED-mail posting, 9 October 1999.

102. Morens DM. Streptococcus suis, human infection - China (Hong Kong). FSNET posting, 10 October 1999.

103. Morens DM. Influenza H3N2 pig to human? - China (Hong Kong). ProMED-mail editorial comment, 21 October 1999.


105. Morens DM. Influenza, forecasting model. ProMED-mail editorial comment, 23 December 1999.

106. Morens D. Influenzavirus A, 1918 strain detected again - Norway. ProMED-mail editorial comment, 1 January 2000.


116. Morens DM. Influenza, veteran's home: USA (Nebraska). *ProMED-mail* editorial comment, 4 April 2002.


118. Influenza: Congo DR (Kinshasa). *ProMED-mail* editorial comment, 13 February 2003.

119. Morens DM, Bernier R. When was epidemiology born? Perhaps before John Snow, according to one observer. [Interview]. *The Epidemiology Monitor* 2003;24(5):3,6,9.


APPENDIX B.

Presentations at National/International Meetings


9. Tom MC, Morens DM, Marchette NJ, Burke DS, Larsen LK, Halstead SB. Infection of peripheral blood leukocytes (PBL) from susceptible human donors with 13 dengue type 2 strains isolated from ill humans with and without DSS. Lack of relationship between disease severity and ability of virus to grow in susceptible PBL. Presented at the 33rd annual meeting of the American Society of Tropical Medicine and Hygiene, Baltimore, 4 December 1984.


14. Morens DM, Marchette NJ, Halstead SB. Antibody-dependent infection enhancement of dengue serotypes 1, 2, 3, and 4 by flavivirus group-reactive monoclonal antibodies. Presented at the 35th annual meeting of the American Society of Tropical Medicine and Hygiene, Denver, Colorado, 10 December 1986.


41. Morens DM. The worst of times and the best of times: HIV and AIDS in the Pacific region. Presented at the 8th annual meeting of the AIDS Panels, Japan-U.S. Cooperative Program in the Medical Sciences, Baltimore, 26 January 1996.


46. Morens DM. Dengue, dengue with hemorrhage, and dengue hemorrhagic fever. Presented to the Fiji School of Medicine, Suva, Fiji, 6 August 1996.


57. Morens DM. Measles in Fiji, 1875. Presented to the Fiji School of Medicine, 3 August 1999.


60. Morens DM. NEREIDs – Newly Emerging and Re-Emerging Infectious Diseases. Presented to the National Aeronautics and Space Administration, 24 January 2000.


81. Morens DM. Death in the Cannibal Islands, 1875. Presented to the Penn State University School of Medicine, Hershey, Pennsylvania, 6 November 2002.


88. Morens DM. Research funding opportunities at the U.S. National Institutes of Health. Presented to the faculty of the Universidad Autónoma de Yucatán Centro de Investigaciones Regionales Dr. Hideyo Noguchi, Mérida, México, 2 October 2003.

89. Morens DM. Cholera morbus Comes to Paris, 1832. The first modern “tropical” emerging infectious disease. Presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, 4 December 2003.


93. Morens DM. Vaccine research and development for international travel. Presented to the National Aeronautics and Space Administration, 2 April 2004.

94. Morens DM. Death in the “Cannibal Islands”, 1875: an infectious confrontation between Pacific civilizations. Historical presentation in remembrance of Dr. Ozzie Bushnell and Dr. Charles Judd and other historians of the Pacific. Presented to the public, Fiji School of Medicine, Suva, Fiji, 8 September 2004.

95. Morens DM. Dengue and DHF, clinical picture, epidemiology, and pathogenesis. Presented to the National University Hospital, Singapore, 20 September 2004.

96. Morens DM. “Medical detectives” and epidemic investigation at the CDC (results of a three week course on discovering new diseases). Presented to the National University Hospital, Singapore, 30 September 2004.


100. Morens DM. The Road to Singapore: getting ready for the REDI Centre. Presented to the Office of the Director, Division of Clinical Research, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, Maryland, 11 February 2005.


102. Morens DM. “Medical detectives” and epidemic investigation at the CDC (results of a three week course on discovering new diseases). Presented to the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 31 March 2005.


106. Morens DM. Epidemiology in the NIAID Division of Microbiology and Infectious Diseases (DMID). Presented to the Blue Ribbon Epidemiology Panel, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 17 October 2005.

107. Morens DM. Major Albert B. Sabin, the Armed Forces Epidemiology Board, and epidemic dengue in Hawai'i, 1943-1944. A crash program to find the cause of dengue fever during World War II. Preliminary findings based on new data from the Albert B. Sabin Archives. Presented at the annual meeting of the American Society of Tropical Medicine and Hygiene, Baltimore, Maryland, 12 December 2005.


123. Morens DM. New terminology, old problem: "newly emerging and re-emerging infectious diseases" (NEREIDS) in human history. Presented to the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, Maryland, 1 May 2008.


146. Morens DM. Historical thoughts on influenza ecosystems, or Behold a Pale Horse, dead dogs, sick swine, and failing fowl. Presented at the Centers for Disease Control and Prevention, Atlanta, Georgia, 2 June 2010.


149. Morens DM. The Second Coming of pH1N1 Pandemic Influenza. Presented to the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, Bethesda, Maryland, 5 October 2010.


151. Morens DM. Feldman and Langmuir Lectures. Presented at the 84th annual meeting of the American Epidemiological Society, Atlanta, Georgia, 31 March and 1 April 2011.

152. Morens DM. The forgotten indispensible man: Joe Kinyoun and the birth of NIH. Presented at History of Medicine seminar, National Library of Medicine, NIH, Bethesda, Maryland, 26 September 2011.


156. Morens DM. The forgotten indispensible man: Joe Kinyoun and the birth of NIH. Presented at INRO 2012, National Institutes of Health, Bethesda, Maryland, 9 February 2012.


158. Morens DM. “Medical detectives”& disease discovery (or, what a three week CDC course taught me about microbiology). Presented to the Laboratory of Infectious Diseases, National Institute of Allergy and Infectious Diseases, National Institutes of Health, 28 February 2012.


162. Morens DM. Some thoughts posed by Dr. Åhrén’s presentation on Joseph Kinyoun and the origins of NIH. Presented to the Fourth Annual Stetten Symposium, History of the NIH, Bethesda, Maryland, 6 June 2012.

163. Morens DM. The history of contagion: is contagion catching up with you? Presented as the Alfred S. Evans Lecture, University of Michigan, Ann Arbor, Michigan, 18 July 2012.


168. Morens DM. The road taken: single steps, roads to Mandalay, and bridges at San Luis Rey. Presented at the 7th Annual NIAID Fellow’s Retreat, National Institutes of Health, Bethesda, Maryland, 12 April 2013.


171. Morens DM. NIAID’s interest in infectious disease and immunoology research in East Asia and the Pacific. Presented to the e-ASIA First Scientific Advisory Council meeting, Kuala Lumpur, Malaysia, 21 February 2014.


175. Morens DM. Newly-emerging and re-emerging infectious diseases: why we should be scared and what we can do. Presented at the International Conference on One Medicine, One Science, Minneapolis, Minnesota, 28 April 2014.

176. Morens DM. Newly-emerging and re-emerging infectious diseases: why we should be scared and what we can do. Presented at the Riderwood Science and Technology Lecture Series, Silver Spring, Maryland, 1 May 2014.


178. Influenza – old epidemics and emerging viruses (or, behold a pale horse, dead dogs, failing fowl, and sick swine). Presented to the Johns Hopkins University School of Public Health, 7 May 2014.


180. Morens D. A history of contagion. Presented to the University of Hawai‘i School of Medicine, Department of Tropical Medicine & Medical Microbiology, 5 June 2014.


189. Morens DM. Animal Crackers in My Soup, or what mammalian influenza viruses are trying to tell us about human disease. Presented to the Johns Hopkins University Department of Epidemiology, Baltimore, Maryland, 8 April 2015.


197. Morens DM. Animal Crackers in My Soup, or what mammalian influenza viruses are trying to tell us about human disease. Presented to the Johns Hopkins University Department of Epidemiology, Baltimore, Maryland, 11 May 2016.


201. Morens DM. Zika, Ebola, and other emerging diseases. Presented at the Uniformed Services University of the Health Sciences, Bethesda, Maryland, 13 July 2016.


204. Morens DM. Collaborate. Presented at the NEIDL Inaugural Symposium, Boston University, Boston, Massachusetts, 20 September 2016.


217. Morens DM. Animal Crackers in My Soup, or what mammalian influenza viruses are trying to tell us about human disease. Presented to the Johns Hopkins University Department of Epidemiology, Baltimore, Maryland, 10 May 2017.


224. Morens DM. Unhappy 100th birthday! The Mother of All Pandemics lives on. Presented at the 91st annual meeting of the American Epidemiological Society, Baltimore, Maryland, 22 March 2018.

225. Morens DM. The John Ring LaMontagne Lecture. The Mother of All Pandemics Turns 100. Presented at the National Institutes of Health, Bethesda, Maryland, 10 April 2018.


227. Morens DM. The mother of all pandemics and her naughty children: 100 years of behaving badly. Presented to the Johns Hopkins University School of Public Health, Baltimore, Maryland, 9 May 2018.


229. Morens DM. Are we prepared for the next pandemic? Presented at the Scowcroft Institute, Bush School of Government and Public Policy, College Station, Texas, 15 October 2018.


236. Morens DM. Toward a “universal” influenza vaccine, or, how to bake a cake without a recipe. Presented to NIAID, NIH, Rockville, Maryland, 24 October 2019.
## APPENDIX C. Other Service & Professional Activities, Chronological

<table>
<thead>
<tr>
<th>Year</th>
<th>Activity</th>
</tr>
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<tbody>
<tr>
<td>1976-1978</td>
<td>Development of Reye Syndrome National Surveillance System &amp; Kawasaki Disease National Surveillance System, Centers for Disease Control, Atlanta, Georgia</td>
</tr>
<tr>
<td>1978-</td>
<td>Member, EIS Alumni Association</td>
</tr>
<tr>
<td>1981-1982</td>
<td>Coordinator, KS-OI (AIDS) Task Force, Center for Infectious Diseases, Centers for Disease Control, Atlanta, Georgia</td>
</tr>
<tr>
<td>1981-1982</td>
<td>Chairman, Viral Nosocomial Infections Committee, Center for Infectious Diseases, Centers for Disease Control, Atlanta, Georgia</td>
</tr>
<tr>
<td>1982-1991</td>
<td>Medical Director of Laboratories, Lē‘ahi Hospital, Honolulu, Hawai‘i</td>
</tr>
<tr>
<td></td>
<td>Vice-Chairman, Infection Control Committee, Lē‘ahi Hospital, Honolulu, Hawai‘i</td>
</tr>
<tr>
<td>1983-1984</td>
<td>Staff Physician, Waikīkī Health Center, Honolulu, Hawai‘i</td>
</tr>
<tr>
<td>1983-</td>
<td>Member, American Committee for Arthropod-borne Viruses</td>
</tr>
<tr>
<td>1986-1994</td>
<td>Member, Preventive Medicine Residency Advisory Committee, University of Hawai‘i</td>
</tr>
<tr>
<td>1987-1998</td>
<td>University of Hawai‘i Committees: Committee on Human Studies; Interdisciplinary Faculty AIDS Group; Student Affairs Committee, School of Public Health; Policy Council, School of Public Health; Member, Dean’s Committee on Reorganization of the Biomedical Sciences, School of Medicine; Curriculum Committee, School of Public Health; HIV/AIDS Research Group; Others</td>
</tr>
<tr>
<td>1987-1999</td>
<td>Member, U.S. Committee for Scientific Exchange with Vietnam</td>
</tr>
<tr>
<td>1987-1988</td>
<td>Member, Mayor’s Advisory Committee on AIDS, Honolulu, Hawai‘i</td>
</tr>
<tr>
<td>1987-1989</td>
<td>Member, Task Force on Sexually Transmitted Diseases, Governor’s Task Group on Health Promotion and Disease Prevention, State of Hawai‘i</td>
</tr>
<tr>
<td>1987-1989</td>
<td>Chairman, Task Force on Surveillance and Control of Infectious Diseases, Governor’s Task Group on Health Promotion and Disease Prevention, State of Hawai‘i</td>
</tr>
<tr>
<td>1987-1989</td>
<td>Member, AIDS Advisory Committee to the Director, Hawai‘i Department of Health</td>
</tr>
<tr>
<td>1987-1989</td>
<td>Advisor, Hawai‘i Pneumococcal Disease Initiative, Hawai‘i Department of Health</td>
</tr>
<tr>
<td>1987-1994</td>
<td>Member, National Education Association</td>
</tr>
<tr>
<td>1987-1994</td>
<td>Member, National Council on Higher Education</td>
</tr>
<tr>
<td>1988-1989</td>
<td>Subcommittee Member, Hawai‘i Governor’s Committee on AIDS</td>
</tr>
</tbody>
</table>
1989-1996  Member, Damien Foundation Exchange Committee, University of Hawai‘i/Prince Leopold Institute, Antwerp, Belgium

1989  Member, Organizing Committee, 37th Annual Meeting, American Society of Tropical Medicine & Hygiene

1990-1991  Member, Needle Exchange Oversight Committee, State of Hawai‘i

1990-1991  Chairman, Impacts on Society Subcommittee, Needle Exchange Oversight Committee, State of Hawai‘i

1990-1998  Consultant, City & County of Honolulu

1991-1998  Staff Physician, Diamond Head Clinic

1991-1999  Member, Pacific Basin Respiratory Virus Research Group

1991-1994  Member, Board of Directors, University of Hawai‘i Professional Assembly

1992-1998  Member, Outside Review Panel, Committee on Human Studies, University of Hawai‘i

1992-2004  Staff Member, HADI (“Health For All” Development International), Manila, The Philippines

1992-  Founding Member, Hawai‘i Society for the History of Medicine & Public Health

1992-1998  Medical Director of Laboratories, Diamond Head Health Center, Honolulu, Hawai‘i; CLIA #12D0695909

1994-1995  Consultant, Warner Brothers Studios, Burbank, California

1994  Workshop Co-Coordinator, Application of Epidemiology to Decision-Making and Policy Formulation for Control of HIV/AIDS, East-West Center Program on Population, University of Hawai‘i, University of California at Los Angeles, Honolulu, Hawai‘i, 20 June - 1 July 1994

1995  Workshop Co-Coordinator, Epidemiology, Policy and Control of HIV/AIDS, East-West Center Program on Population, University of Hawai‘i, University of California at Los Angeles, Chulalongkorn College of Public Health, Bangkok, Thailand, 4-15 September 1995


1995  Workshop Co-Coordinator, Developing Policy to Control HIV in Asia, East-West Center Program on Population, University of Hawai‘i, University of California at Los Angeles, Chulalongkorn College of Public Health, Bangkok, Thailand, 2-13 September 1996

1996-1998  Member, Graduate Council, and Member, Program Subcommittee, Graduate Council, University of Hawai‘i

1996-  Member, WHO Advisory Panel for Certification of Eradication of Poliomyelitis

1997  Commendation Medal, United States Army


1997-1998 Judge, Annual Biomedical Sciences Symposium, University of Hawai‘i

1997-1998 Panel Member, Distinguished Lecturer Series, Office of the Chancellor, University of Hawai‘i

1998- Member, Foundation for Advanced Education in the Sciences

1999- Moderator, Pro-MED

1999- Member, The Victory Services Association, London, England

1999- Member, Cosmos Club

2000 Commendation Medal, United States Public Health Service

2001-2006 Research consultant, American University, Betty Bennett, Ph.D., biography project on Mary Shelley and Percy Bysshe Shelley


2002-2004 NIH Representative, Secretary's Emergency Response Team on Bioterrorism, U.S. Department of Health and Human Services

2002-2004 Scientific Steering Committee, U. S. Army Medical Research Institute of Infectious Diseases, Ft. Detrick, Frederick, Maryland

2002- Associate Editor, *Emerging Infectious Diseases*


2005-2008 Program Manager, Viral Diseases Panel, U.S.-Japan Cooperative Medical Sciences Program

2005-2015 Fellow, Washington Academy of Medicine

2006 Secretary of Health and Human Services, Distinguished Service Award

2010-2011 President, American Epidemiological Society

2010- Member, One Health Academy

2011-2017 Secretary-Treasurer, American Epidemiological Society
<table>
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<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>2013</td>
<td>NASA Decadal Review, Immunology Section</td>
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<td>2014</td>
<td>NASA Group Achievement Award</td>
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<tr>
<td>2015</td>
<td>Fellow, American Society of Tropical Medicine &amp; Hygiene</td>
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<tr>
<td>2016</td>
<td>NIAID Individual Merit Award</td>
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<tr>
<td>2016-2018</td>
<td>Consultant, National Museum of Natural History; Outbreak! Project/Exhibit</td>
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<tr>
<td>2016-2017</td>
<td>Member, National Science &amp; Technology Council Task Force on Science and Technology for Zika Vector Control, Office of Science and Technology Policy, The White House, Washington, D.C.</td>
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<tr>
<td>2017</td>
<td>Meritorious Service Medal, United States Public Health Service</td>
</tr>
<tr>
<td>2018</td>
<td>NIH Director’s Award</td>
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<tr>
<td>2018</td>
<td>NIAID Director’s Award</td>
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<tr>
<td>2019-</td>
<td>Chair, American Committee on Arthropod-Borne Viruses</td>
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Appendix D. Teaching & Training

1968-1969  University of Michigan, Department of Psychology, Psy 566: Dynamics of Mental Illness

1978  Centers for Disease Control, Bureau of Epidemiology, Course: Epidemiology

1978-1979  Emory University, Department of Preventive Medicine, Course: Epidemiology

1986-1998  University of Hawai'i Graduate Faculty, Biomedical Sciences Graduate Program

1992-1998  University of Hawai‘i Graduate Faculty, Interdisciplinary Biomedical Science Graduate Program

1986-1998  University of Hawai‘i School of Public Health,
              PH 661 - Epidemiology Study Design Critique
              PH 662 - Epidemiology & Control of AIDS
              PH 663 - Principles of Epidemiology I
              PH 664 - Principles of Epidemiology II
              PH 665 - Chronic Disease Epidemiology
              PH 666 - Seminar in Infectious Disease Control
              PH 667 - Laboratory Aspects of Viral Diseases
              PH 668 - Laboratory Aspects of Bacterial Diseases
              PH 788 - Seminar in Public Health Sciences
              PH 792 - Special Topics in Epidemiology
              PH 797 - Explorations: Epidemiology

1986-1998  University of Hawai‘i School of Medicine,
              FPCH 511 - Community Health Problems
              FPCH 522 - Community Health Concepts & Methods
              FPCH 545 - Topics in Community Health
              TM 512 - Unit 2 Infectious Disease Elective
              TM 514 - Immunology/Infectious Disease Elective
              TM 515 - Unit 5 Infectious Disease Elective
              TM 605 - Tropical Medicine & Medical Microbiology (Virology; Bacteriology)
              TM 690 - Seminar in Tropical Medicine
              TM 705 - Special Topics in Tropical Medicine
              Problem Based Learning Program, Resource Faculty, Colloquia, Curriculum Development

1986-1998  University of Hawai‘i Undergraduate:
              EL 124 - Latin & Greek Basis of Scientific Terminology
              HSSW 480 - The AIDS Epidemic & the Human Condition

1994-1997  NIH AIDS International Training Courses
              Annual Southeast Asian HIV/AIDS training workshops, Honolulu or Bangkok, 1994

1999-  NIH FAES Graduate Course: Emerging Infectious Diseases

2005  Southeast Asian Epidemiology Training Program, REDI Centre, Singapore: course development and instruction
Dear WHO,

In the intervening hours, it has been determined that Dr. Lane will curtail his work in Japan to join the WHO Mission in Beijing.

One challenge will be issuance of a visa because he will have no working hours on the ground in Tokyo.

Dr. Lane will have the completed visa request form; so hopefully he will be able to obtain a visa upon arrival in Beijing.

Please provide guidance about how this visa issuance upon arrival can be accomplished.

Thank you.

F. Gray Handley
Associate Director for International Research Affairs
National Institute of Allergy and Infectious Diseases
National Institute of Health
U.S. Department of Health and Human Services

Tel: 301 594 6128 5601 Fishers Lane, Room 1E50
Dear WHO,

Dr. Cliff Lane has shared the invitation letter he just received from your office. He is in transit to Japan where he has been asked to assist with rapid implementation of a study of the drug remdesivir as a therapeutic intervention for COVID-19, within the context of the current cases in that country. Due to the importance of this study, Dr. Lane may not be able to participate in the WHO Mission to be undertaken next week in China.

Therefore, would it be possible for Dr. David Morens, who also was nominated to serve on this mission by the U.S. Department of Health and Human Services, to serve on the mission rather than Dr. Lane? Dr. Morens is a senior clinical scientist in the Office of the Director of the National Institute of Allergy and Infectious Diseases. His CV and passport face page are attached. If Dr. Morens serves on this mission, he is prepared to be in Beijing on Monday February 17, 2020.

Thank you for your consideration. We look forward to your response.

F. Gray Handley
Associate Director for International Research Affairs
National Institute of Allergy and Infectious Diseases
National Institute of Health
U.S. Department of Health and Human Services

Tel: 301 594 6128 5601 Fishers Lane, Room 1E50
Fax: 301 480 2954 Bethesda, MD 20892-9802
handleygr@niaid.nih.gov
any other storage devices. National Institute of Allergy and Infectious Diseases shall not accept liability for any statements made that are sender's own and not expressly made on behalf of the NIAID by one of its representatives.

---------- Forwarded message ----------

From: Office of the Director-General <DGOffice@who.int>
Date: 13 February 2020 at 19:24:39 CET
Subject: Letter from WHO Director-General, Dr Tedros Adhanom Ghebreyesus
To: cliff.lane@nih.gov
Cc: SCHWARTLANDER, Bernhard F. <schwartlanderb@who.int>, DRURY, Patrick Anthony <druryp@who.int>, Geneva, US Mission <GenevaUSmission@state.gov>, Carson, Tracy L (Geneva) <CarsonTL@state.gov>

Dear Dr Lane,

Please find attached for your kind and urgent attention, a letter from Dr Tedros Adhanom Ghebreyesus, Director-General of the World Health Organization.
Best regards.

Office of the Director-General
World Health Organization

Sender: Handley, Gray (NIH/NIAID) [E] <handleygr@niaid.nih.gov>
Recipient: Erika.Evander@hhs.gov;
Marston, Hilary (NIH/NIAID) [E] /=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bbbc5b44ad01fe6a8-hilary.mars <hilary.marston@nih.gov>;
Dominique, Joyelle (NIH/NIAID) [E] /=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=8150106c52451adad12b8060cc8234e2-joyelle.dom <joyelle.dom@nih.gov>;
Auchincloss, Hugh (NIH/NIAID) [E] /=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=461887d846044781b60857f28ef01c8-hugh.auchin <auchinclossh@nih.gov>;
Morens, David (NIH/NIAID) [E] /=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c5f62f6e322d4e5f8e6a03a5ec93243-david.morens <dmorens@niaid.nih.gov>

Sent Date: 2020/02/13 16:19:13
Delivered Date: 2020/02/13 16:20:03
**Thursday, 13FEB 2020 4:47 PM EST**

**Passengers:** HENRY CLIFFORD LANE

**Agency Record Locator:** [Redacted]

**>>ViewTrip**

**>>TSA PreCheck**

*Please do not reply to this email. This is an unattended email box*

Omega World Travel must be notified within 24 hours regarding corrections. Thank you.

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<td>Frequent Flyer Number: [Redacted]</td>
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<td>United Airlines Confirmation number is L4XHCJ</td>
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<td>Equipment: Boeing 767 Jet</td>
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<td></td>
<td>DEPARTS NRT TERMINAL 2 - ARRIVES PEK TERMINAL 3</td>
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<td>NO HOTEL BOOKED FOR BEIJING CHINA</td>
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<td>CALL 10-811-800-501-9478</td>
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Thank you for booking with Omega World Travel.

Check-in time are 90 minutes prior to departure.

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OmegaTravel.com Federal Services-Hotel/Car/Air/Rail
855-566-9310 7A-10P EST
855-566-9310 Emergency
From outside U.S. 703-359-8869 Collect
Check carrier website for change/cancel and baggage policies.

Ticket/Invoice Information:

Ticket for: HENRYCLIFFORD LANE
Date issued: 02/12/2020 Invoice nbr: 120305
Ticket Nbr: 0167512898041 Electronic: Yes Amount: 2386.05 USD
Base: 2288.00 USD US Tax: 37.80 USD GST/HST Tax: 0.00 XT Tax: 60.25 USD
Charged to: VI**********65723

Service Fee: HENRYCL LANE
Date issued: 02/12/2020
Document Nbr: (b)(6) Amount: 54.89 USD

Total Tickets: 2386.05
Total Fees: 54.89
Total Amount: 2440.94

Changes to airline reservations may result in an increase in fare and/or carrier penalties.
Click here for travel health advisories
Click here for travel alerts and warnings

Proper documentation is required for entry into arrival country. Airport fees may be collected upon arrival or departure.
To view US Department of Transportation website listing the countries requiring or permitting application of insecticides on aircraft
Click Here

Facebook
Instagram
If it is from today - yes.
I just received a pdf I will forward as well.

On Feb 28, 2020, at 9:42 AM, Routh, Jennifer (NIH/NIAID) [E] <jennifer.routh@nih.gov> wrote:

Is this the final report?

Jennifer Routh [E]
News and Science Writing Branch
Office of Communications and Government Relations
National Institute of Allergy and Infectious Diseases (NIAID)
NIH/HHS
31 Center Drive Room 7A17C
Bethesda, MD 20892
Direct: (301) 496-8327
jennifer.routh@nih.gov

Disclaimer: The information in this e-mail and any of its attachments is confidential and may contain sensitive information. It should not be used by anyone who is not the original intended recipient. If you have received this e-mail in error please inform the sender and delete it from your mailbox or any other storage devices. The National Institute of Allergy and Infectious Diseases shall not accept liability for any statements made that are sender's own and not expressly made on behalf of the NIAID by one of its representatives.
Courtney/Jen,

FYI - may want to pass this up the chain. Dr. Fauci has a hard copy of the most recent version of the report. When I get the final I will forward to you.

+ Erica/Gray so OGA is aware.

Cliff

Begin forwarded message:

From: "AYLWARD, Raymond Bruce J." <aylwardb@who.int>
Date: February 27, 2020 at 11:25:02 AM EST
To: "Alexander SEMENOV" <aleks@google.com>, "Chikwe IHEKWEAZU" <chikwe.ihekweazu@ncdc.gov.ng>, "Lane, Cliff (NIH/NIAID)" <clane@niah.nih.gov>, "Zhou, Weigong (CDC/DDID/NCIRD/ID)
<br/w> <wz@gov>"<wz@gov>, "Dale FISHER" <dfs@nus.edu.sg>, "Hitoshi TAKAHASHI" <takahashinohgo.jp>, "LEE Jong-Koo" <docmowh@snu.ac.kr>, "Natalia PSHENICHNYA" <natalia-pshenichnaya@yandex.ru>, "Tim ECKMANNS" <EckmannsT@rki.de>, gmleung <gmleung@hku.hk>
Cc: "Dr VAN KERKHOVE, Maria" <vankerkhovem@who.int>, "XING, Jun" <xingj@who.int>, "MINHAS, Raman" <minhasr@who.int>, "POOLE, Marcia" <poolem@who.int>, "STERN, Gabriella" <sterg@who.int>, "DRURY, Patrick Anthony" <druryp@who.int>, "SCHWARTLANDER, Bernhard F." <schwartlanderb@who.int>

Dear Joint Mission colleagues,

I enjoyed all of the emails of the last days knowing you’ve each arrived home (and continue to be healthy!)

To update you on plans for the release of the Joint Mission Report:

- There were a couple of small changes needed to the English version to reflect Chinese translation (e.g. footnotes for COVID-19 as in China they use ‘novel coronavirus pneumonia’; titles of some Chinese colleagues, etc). We have also agreed to remove the references section and just have a line that simply says references are available on request. Otherwise it would have been too complicated and slow to sort out which we keep/leave.

- China and WHO have also agreed in principle to simultaneously release the FINAL FINAL document at 0900hr Geneva time tomorrow, 28 February 2020.

- I have just sent the slightly edited version back to China which they will review and finalize the translation of overnight. I will then send you the ‘final final’ version first thing in the morning!
Thanks for your patience and with warmest regards from a chilly Geneva,

Bruce

From: AYLWARD, Raymond Bruce J.
Sent: Thursday, February 27, 2020 00:04
To: GHEBREYESUS, Tedros Adhanom <drtedros@who.int>
Cc: KASAI, Takeshi <kasait@who.int>; 'liangwn@nhc.gov.cn' <liangwn@nhc.gov.cn>; 'wangbin20081234@163.com' <wangbin20081234@163.com>; Alexander SEMENOV <b(x)d(6)________@gmail.com>; (b(x)d(6)________@gmail.com); Chikwe IHEKWEAZU (chikwe.ihekweazu@ncdc.gov.ng) <chikwe.ihekweazu@ncdc.gov.ng>; Clifford LANE (cliff.lane@nih.gov) <cliff.lane@nih.gov>; 'Zhou, Weigong (CDC/IDID/NCIRD ID)' <waz6@cdc.gov>; Dale FISHER <b(x)d(6)________@nus.edu.sg> b(x)d(6)________@nus.edu.sg; Dr Hitoshi TAKAHASHI (takajin@nih.go.jp) <takajin@nih.go.jp>; LEE Jong-Koo (docmohw@snu.ac.kr) <docmohw@snu.ac.kr>; Natalia PSHENICHNYA (natalia-pshenichnaya@yandex.ru) <natalia-pshenichnaya@yandex.ru>; Tim ECKMANN <EckmannsT@rki.de> <EckmannsT@rki.de>; XING, Jun <xingj@who.int>; gmleung <gmleung@hku.hk>; Dr VAN KERKHOVE, Maria <vankerkhovem@who.int>; RYAN, Michael. J. <ryanm@who.int>; SCHWARTLANDER, Bernhard F. <schwartlanderb@who.int>
Importance: High

Dear Dr Tedros,

On behalf of the entire team, it is my honor to share with you the attached Report of the WHO-China Joint Mission on COVID-19.

In submitting this final version of the report, I would like to extend my tremendous gratitude to my Co-Lead Dr LIANG Wannian (copied), whose deep experience and wisdom were crucial as we distilled our vast findings into the overall assessment and major recommendations.

You will be aware that Dr Liang and I have had the opportunity to present the findings and recommendations of this report to the Honorable Minister of Health, Dr MA Xiaowei, while in Wuhan on 23 February.

I must also thank our Deputy Team Leader Dr WANG Bin and our international team members, all of whom are also copied on this note. I would like to extend a further and very special thank you to our team members from China who gave so tirelessly and generously of their vast knowledge of the unfolding outbreak in China as well as their specific areas of technical expertise.

Dr Tedros, this was truly a Joint Mission, with national and international team members working closely together throughout, and particularly to consolidate their respective sections of this report in the final days of the Mission. Please know that the attached findings and recommendations reflect the collective opinion of the entire team, all of whom have been closely engaged in its writing and finalization.
We share a common hope that the findings contained herein can help inform the global work you are leading to stem the ongoing international spread of COVID-19.

Regards

Bruce

<table>
<thead>
<tr>
<th>Sender: Lane, Cliff (NIH/NIAID) [E]</th>
<th><a href="mailto:clane@niaid.nih.gov">clane@niaid.nih.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Recipient: Routh, Jennifer (NIH/NIAID) [E]</td>
<td><a href="mailto:jennifer.routh@nih.gov">jennifer.routh@nih.gov</a></td>
</tr>
<tr>
<td>Recipient: Billet, Courtney (NIH/NIAID) [E]</td>
<td><a href="mailto:courtney.billet@niaid.nih.gov">courtney.billet@niaid.nih.gov</a></td>
</tr>
<tr>
<td>Recipient: Elvander, Erika (OS/OGA)</td>
<td><a href="mailto:Erika.Elvander@hhs.gov">Erika.Elvander@hhs.gov</a></td>
</tr>
<tr>
<td>Recipient: Handley, Gray (NIH/NIAID) [E]</td>
<td><a href="mailto:gray.handle@niaid.nih.gov">gray.handle@niaid.nih.gov</a></td>
</tr>
</tbody>
</table>

| Sent Date: 2020/02/28 09:46:11 |
| Delivered Date: 2020/02/28 09:46:36 |
From: Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>

To: Evaluation Only, Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd.up
(FYDIBQHF23SPDLT)/cn=Recipients/cn=2dd951edf9be461f93276b338e2b0b08-jennifer.ro
<jennifer.routh@nih.gov>
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(FYDIBQHF23SPDLT)/cn=Recipients/cn=ac87c0ec2d2741a69764e52f6cb4ca95-Elvander, E
<Erika.Elvander@hhs.gov>;
Billet, Courtney (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
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<billetc@niaid.nih.gov>;
Handley, Gray (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBQHF23SPDLT)/cn=Recipients/cn=3fac3cd775e8442ba613bcbab2b90a15-gray.handle
<handleyr@niaid.nih.gov>

CC: 

Subject: Fwd: NEW - FOR PUBLIC RELEASE: WHO-China Joint Mission on COVID-19

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Sender: Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>

Recipient: Routh, Jennifer (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBQHF23SPDLT)/cn=Recipients/cn=2dd951edf9be461f93276b338e2b0b08-jennifer.ro
<jennifer.routh@nih.gov>;
Elvander, Erika (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
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<Erika.Elvander@hhs.gov>;
Billet, Courtney (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
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<billetc@niaid.nih.gov>;
Handley, Gray (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBQHF23SPDLT)/cn=Recipients/cn=3fac3cd775e8442ba613bcbab2b90a15-gray.handle
<handleyr@niaid.nih.gov>

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16-24 February 2020
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I. The Mission

Goal and Objectives

The overall goal of the Joint Mission was to rapidly inform national (China) and international planning on next steps in the response to the ongoing outbreak of the novel coronavirus disease (COVID-19) and on next steps in readiness and preparedness for geographic areas not yet affected.

The major objectives of the Joint Mission were as follows:

- To enhance understanding of the evolving COVID-19 outbreak in China and the nature and impact of ongoing containment measures;
- To share knowledge on COVID-19 response and preparedness measures being implemented in countries affected by or at risk of importations of COVID-19;
- To generate recommendations for adjusting COVID-19 containment and response measures in China and internationally; and
- To establish priorities for a collaborative programme of work, research and development to address critical gaps in knowledge and response and readiness tools and activities.

Members & Method of Work

The Joint Mission consisted of 25 national and international experts from China, Germany, Japan, Korea, Nigeria, Russia, Singapore, the United States of America and the World Health Organization (WHO). The Joint Mission was headed by Dr Bruce Aylward of WHO and Dr Wannian Liang of the People’s Republic of China. The full list of members and their affiliations is available in Annex A. The Joint Mission was implemented over a 9-day period from 16-24 February 2020. The schedule of work is available in Annex B.

The Joint Mission began with a detailed workshop with representatives of all of the principal ministries that are leading and/or contributing to the response in China through the National Prevention and Control Task Force. A series of in-depth meetings were then conducted with national level institutions responsible for the management, implementation and evaluation of the response, particularly the National Health Commission and the China Centers for Disease Control and Prevention (China CDC). To gain first-hand knowledge on the field level implementation and impact of the national and local response strategy, under a range of epidemiologic and provincial contexts, visits were conducted to Beijing Municipality and the provinces of Sichuan (Chengdu), Guangdong (Guangzhou, Shenzhen) and Hubei (Wuhan). The field visits included community centers and health clinics, country/district hospitals, COVID-19 designated hospitals, transportation hubs (air, rail, road), a wet market, pharmaceutical and personal protective equipment (PPE) stocks warehouses, research institutions, provincial health commissions, and local Centers for

1 In the Chinese version of this report, COVID-19 is referred to throughout as novel coronavirus pneumonia or NCP, the term by which COVID-19 is most widely known in the People’s Republic of China.
Disease Control (provincial and prefecture). During these visits, the team had detailed discussion and consultations with Provincial Governors, municipal Mayors, their emergency operations teams, senior scientists, frontline clinical, public health and community workers, and community neighbourhood administrators. The Joint Mission concluded with working sessions to consolidate findings, generate conclusions and propose suggested actions.

To achieve its goal, the Joint Mission gave particular focus to addressing key questions related to the natural history and severity of COVID-19, the transmission dynamics of the COVID-19 virus in different settings, and the impact of ongoing response measures in areas of high (community level), moderate (clusters) and low (sporadic cases or no cases) transmission.

The findings in this report are based on the Joint Mission’s review of national and local governmental reports, discussions on control and prevention measures with national and local experts and response teams, and observations made and insights gained during site visits. The figures have been produced using information and data collected during site visits and with the agreement of the relevant groups. References are available for any information in this report that has already been published in journals.

The final report of the Joint Mission was submitted on 28 February 2020.

II. Major findings

The major findings are described in six sections: the virus, the outbreak, transmission dynamics, disease progression and severity, the China response and knowledge gaps. More detailed descriptions of technical findings are provided in Annex C.

The virus

On 30 December 2019, three bronchoalveolar lavage samples were collected from a patient with pneumonia of unknown etiology – a surveillance definition established following the SARS outbreak of 2002-2003 – in Wuhan Jinyintan Hospital. Real-time PCR (RT-PCR) assays on these samples were positive for pan-Betacoronavirus. Using Illumina and nanopore sequencing, the whole genome sequences of the virus were acquired. Bioinformatic analyses indicated that the virus had features typical of the coronavirus family and belonged to the Betacoronavirus 2B lineage. Alignment of the full-length genome sequence of the COVID-19 virus and other available genomes of Betacoronavirus showed the closest relationship was with the bat SARS-like coronavirus strain BatCov RaTG13, identity 96%.

Virus isolation was conducted with various cell lines, such as human airway epithelial cells, Vero E6, and Huh-7. Cytopathic effects (CPE) were observed 96 hours after inoculation. Typical crown-like particles were observed under transmission electron microscope (TEM) with negative staining. The cellular infectivity of the isolated viruses could be completely neutralized by the sera collected from convalescent patients. Transgenic human ACE2 mice and Rhesus monkey intranasally challenged by this virus isolate induced multifocal pneumonia with interstitial hyperplasia. The COVID-19 virus was subsequently detected and isolated in the lung and intestinal tissues of the challenged animals.
Whole genome sequencing analysis of 104 strains of the COVID-19 virus isolated from patients in different localities with symptom onset between the end of December 2019 and mid-February 2020 showed 99.9% homology, without significant mutation (Figure 1).

Figure 1. Phylogenetic analysis of the COVID-19 virus and its closely related reference genomes

Note: COVID-19 virus is referred to as 2019-nCoV in the figure, the interim virus name WHO announced early in the outbreak.

Post-mortem samples from a 50-year old male patient from Wuhan were taken from the lung, liver, and heart. Histological examination showed bilateral diffuse alveolar damage with cellular fibromyxoid exudates. The lung showed evident desquamation of pneumocytes and hyaline membrane formation, indicating acute respiratory distress syndrome (ARDS). Lung tissue also displayed cellular and fibromyxoid exudation, desquamation of pneumocytes and pulmonary oedema. Interstitial mononuclear inflammatory infiltrates, dominated by lymphocytes, were seen in both lungs. Multinucleated syncytial cells with atypical enlarged pneumocytes characterized by large nuclei, amphophilic granular cytoplasm, and prominent nucleoli were identified in the intra-alveolar spaces, showing viral cytopathic-like changes. No obvious intranuclear or intracytoplasmic viral inclusions were identified.

The outbreak

As of 20 February 2020, a cumulative total of 75,465 COVID-19 cases were reported in China. Reported cases are based on the National Reporting System (NRS) between the
National and Provincial Health Commissions. The NRS issues daily reports of newly recorded confirmed cases, deaths, suspected cases, and contacts. A daily report is provided by each province at 0300hr in which they report cases from the previous day.

The epidemic curves presented in Figures 2 and 3 are generated using China’s National Infectious Disease Information System (IDIS), which requires each COVID-19 case to be reported electronically by the responsible doctor as soon as a case has been diagnosed. It includes cases that are reported as asymptomatic and data are updated in real time. Individual case reporting forms are downloaded after 2400hr daily. Epidemiologic curves for Wuhan, Hubei (outside of Wuhan), China (outside Hubei) and China by symptom onset are provided in Figure 2.

![Epidemiologic curve](image)

**Figure 2** Epidemiologic curve of COVID-19 laboratory confirmed cases, by date of onset of illness, reported in China, as of 20 February 2020
Figure 3 presents epidemic curves of laboratory-confirmed cases, by symptom onset and separately by date of report, at 5, 12, and 20 February 2020. Figures 2 and 3 illustrate that the epidemic rapidly grew from 10-22 January, reported cases peaked and plateaued between 23 January and 27 January, and have been steadily declining since then, apart from the spike that was reported on 1 February (note: at a major hospital in Wuhan, fever clinic patients fell from a peak of 500/day in late January to average 50/day since mid-February).

**Figure 3.** Epidemic curves by symptom onset and date of report as of 5 February (top panel), 12 February (middle panel) and 20 February 2020 (lower panel) for laboratory confirmed COVID-19 cases for all of China

Based on these epidemic curves, the published literature, and our on-site visits in Wuhan (Hubei), Guangdong (Shenzhen and Guangzhou), Sichuan (Chengdu), and Beijing, the Joint Mission team has made the following epidemiological observations:
Demographic characteristics
Among 55,924 laboratory confirmed cases reported as of 20 February 2020, the median age is 51 years (range 2 days-100 years old; IQR 39-63 years old) with the majority of cases (77.8%) aged between 30–69 years. Among reported cases, 51.1% are male, 77.0% are from Hubei and 21.6% are farmers or laborers by occupation.

Zoonotic origins
COVID-19 is a zoonotic virus. From phylogenetics analyses undertaken with available full genome sequences, bats appear to be the reservoir of COVID-19 virus, but the intermediate host(s) has not yet been identified. However, three important areas of work are already underway in China to inform our understanding of the zoonotic origin of this outbreak. These include early investigations of cases with symptom onset in Wuhan throughout December 2019, environmental sampling from the Huanan Wholesale Seafood Market and other area markets, and the collection of detailed records on the source and type of wildlife species sold at the Huanan market and the destination of those animals after the market was closed.

Routes of transmission
COVID-19 is transmitted via droplets and fomites during close unprotected contact between an infector and infectee. Airborne spread has not been reported for COVID-19 and it is not believed to be a major driver of transmission based on available evidence; however, it can be envisaged if certain aerosol-generating procedures are conducted in health care facilities. Fecal shedding has been demonstrated from some patients, and viable virus has been identified in a limited number of case reports. However, the fecal-oral route does not appear to be a driver of COVID-19 transmission; its role and significance for COVID-19 remains to be determined. Viral shedding is discussed in the Technical Findings (Annex C).

Household transmission
In China, human-to-human transmission of the COVID-19 virus is largely occurring in families. The Joint Mission received detailed information from the investigation of clusters and some household transmission studies, which are ongoing in a number of Provinces. Among 344 clusters involving 1308 cases (out of a total 1836 cases reported) in Guangdong Province and Sichuan Province, most clusters (78%-85%) have occurred in families. Household transmission studies are currently underway, but preliminary studies ongoing in Guangdong estimate the secondary attack rate in households ranges from 3-10%.

Contact Tracing
China has a policy of meticulous case and contact identification for COVID-19. For example, in Wuhan more than 1800 teams of epidemiologists, with a minimum of 5 people/team, are tracing tens of thousands of contacts a day. Contact follow up is painstaking, with a high percentage of identified close contacts completing medical observation. Between 1% and 5% of contacts were subsequently laboratory confirmed cases of COVID-19, depending on location. For example:

- As of 17 February, in Shenzhen City, among 2842 identified close contacts, 2842 (100%) were traced and 2240 (72%) have completed medical observation. Among the close contacts, 88 (2.8%) were found to be infected with COVID-19.
As of 17 February, in Sichuan Province, among 25493 identified close contacts, 25347 (99%) were traced and 23178 (91%) have completed medical observation. Among the close contacts, 0.9% were found to be infected with COVID-19.

As of 20 February, in Guangdong Province, among 9939 identified close contacts, 9939 (100%) were traced and 7765 (78%) have completed medical observation. Among the close contacts, 479 (4.8%) were found to be infected with COVID-19.

Testing at fever clinics and from routine ILI/SARI surveillance
The Joint Mission systematically enquired about testing for COVID-19 from routine respiratory disease surveillance systems to explore if COVID-19 is circulating more broadly and undetected in the community in China. These systems could include RT-PCR testing of COVID-19 virus in influenza-like-illness (ILI) and severe acute respiratory infection (SARI) surveillance systems, as well as testing of results among all visitors to fever clinics.

In Wuhan, COVID-19 testing of ILI samples (20 per week) in November and December 2019 and in the first two weeks of January 2020 found no positive results in the 2019 samples, 1 adult positive in the first week of January, and 3 adults positive in the second week of January; all children tested were negative for COVID-19 although a number were positive for influenza. In Guangdong, from 1-14 January, only 1 of more than 15000 ILI/SARI samples tested positive for the COVID-19 virus. In one hospital in Beijing, there were no COVID-19 positive samples among 1910 collected from 28 January 2019 to 13 February 2020. In a hospital in Shenzhen, 0/40 ILI samples were positive for COVID-19.

Within the fever clinics in Guangdong, the percentage of samples that tested positive for the COVID-19 virus has decreased over time from a peak of 0.47% positive on 30 January to 0.02% on 16 February. Overall in Guangdong, 0.14% of approximately 320,000 fever clinic screenings were positive for COVID-19.

Susceptibility
As COVID-19 is a newly identified pathogen, there is no known pre-existing immunity in humans. Based on the epidemiologic characteristics observed so far in China, everyone is assumed to be susceptible, although there may be risk factors increasing susceptibility to infection. This requires further study, as well as to know whether there is neutralising immunity after infection.

The transmission dynamics
Inferring from Figures 2 and 3, and based on our observations at the national and provincial/municipal levels during the Joint Mission, we summarize and interpret the transmission dynamics of COVID-19 thus far. It is important to note that transmission dynamics of any outbreak are inherently contextual. For COVID-19, we observe four major types of transmission dynamics during the epidemic growth phase and in the post-control period, and highlight what is known about transmission in children, as follows:
Transmission in Wuhan

Early cases identified in Wuhan are believed to have acquired infection from a zoonotic source as many reported visiting or working in the Huanan Wholesale Seafood Market. As of 25 February, an animal source has not yet been identified.

At some point early in the outbreak, some cases generated human-to-human transmission chains that seeded the subsequent community outbreak prior to the implementation of the comprehensive control measures that were rolled out in Wuhan. The dynamics likely approximated mass action and radiated from Wuhan to other parts of Hubei province and China, which explains a relatively high $R_0$ of 2-2.5.

The cordon sanitaire around Wuhan and neighboring municipalities imposed since 23 January 2020 has effectively prevented further exportation of infected individuals to the rest of the country.

Transmission in Hubei, other than Wuhan

In the prefectures immediately adjoining Wuhan (Xiaogan, Huanggang, Jingzhou and Ezhou), transmission is less intense. For other prefectures, due to fewer transport links and human mobility flows with Wuhan, the dynamics are more closely aligned with those observed in the other areas of the country. Within Hubei, the implementation of control measures (including social distancing) has reduced the community force of infection, resulting in the progressively lower incident reported case counts.

Transmission in China outside of Hubei

Given Wuhan’s transport hub status and population movement during the Chinese New Year (chunyun), infected individuals quickly spread throughout the country, and were particularly concentrated in cities with the highest volume of traffic with Wuhan. Some of these imported seeds generated limited human-to-human transmission chains at their destination.

Given the Wuhan/Hubei experience, a comprehensive set of interventions, including aggressive case and contact identification, isolation and management and extreme social distancing, have been implemented to interrupt the chains of transmission nationwide. To date, most of the recorded cases were imported from or had direct links to Wuhan/Hubei. Community transmission has been very limited. Most locally generated cases have been clustered, the majority of which have occurred in households, as summarized above.

Of note, the highly clustered nature of local transmission may explain a relatively high $R_0$ (2-2.5) in the absence of interventions and low confirmed case counts with intense quarantine and social distancing measures.

Special settings

We note that instances of transmission have occurred within health care settings prisons and other closed settings. At the present time, it is not clear what role these settings and groups play in transmission. However, they do not appear to be major drivers of the overall epidemic dynamics. Specifically, we note:
(a) **Transmission in health care settings and among health care workers (HCW)** – The Joint Mission discussed nosocomial infection in all locations visited during the Mission. As of 20 February 2020, there were 2,055 COVID-19 laboratory-confirmed cases reported among HCW from 476 hospitals across China. The majority of HCW cases (88%) were reported from Hubei.

Remarkably, more than 40,000 HCW have been deployed from other areas of China to support the response in Wuhan. Notwithstanding discrete and limited instances of nosocomial outbreaks (e.g. a nosocomial outbreak involving 15 HCW in Wuhan), transmission within health care settings and amongst health care workers does not appear to be a major transmission feature of COVID-19 in China. The Joint Mission learned that, among the HCW infections, most were identified early in the outbreak in Wuhan when supplies and experience with the new disease was lower. Additionally, investigations among HCW suggest that many may have been infected within the household rather than in a health care setting. Outside of Hubei, health care worker infections have been less frequent (i.e. 246 of the total 2055 HCW cases). When exposure was investigated in these limited cases, the exposure for most was reported to have been traced back to a confirmed case in a household.

The Joint Team noted that attention to the prevention of infection in health care workers is of paramount importance in China. Surveillance among health care workers identified factors early in the outbreak that placed HCW at higher risk of infection, and this information has been used to modify policies to improve protection of HCW.

(b) **Transmission in closed settings** – There have been reports of COVID-19 transmission in prisons (Hubei, Shandong, and Zhejiang, China), hospitals (as above) and in a long-term living facility. The close proximity and contact among people in these settings and the potential for environmental contamination are important factors, which could amplify transmission. Transmission in these settings warrants further study.

*Children*

Data on individuals aged 18 years old and under suggest that there is a relatively low attack rate in this age group (2.4% of all reported cases). Within Wuhan, among testing of ILI samples, no children were positive in November and December of 2019 and in the first two weeks of January 2020. From available data, and in the absence of results from serologic studies, it is not possible to determine the extent of infection among children, what role children play in transmission, whether children are less susceptible or if they present differently clinically (i.e. generally milder presentations). The Joint Mission learned that infected children have largely been identified through contact tracing in households of adults. Of note, people interviewed by the Joint Mission Team could not recall episodes in which transmission occurred from a child to an adult.

The signs, symptoms, disease progression and severity

Symptoms of COVID-19 are non-specific and the disease presentation can range from no symptoms (asymptomatic) to severe pneumonia and death. As of 20 February 2020 and
based on 55924 laboratory confirmed cases, typical **signs and symptoms** include: fever (87.9%), dry cough (67.7%), fatigue (38.1%), sputum production (33.4%), shortness of breath (18.6%), sore throat (13.9%), headache (13.6%), myalgia or arthralgia (14.8%), chills (11.4%), nausea or vomiting (5.0%), nasal congestion (4.8%), diarrhea (3.7%), and hemoptyisis (0.9%), and conjunctival congestion (0.8%).

People with COVID-19 generally develop signs and symptoms, including mild respiratory symptoms and fever, on an average of 5-6 days after infection (mean incubation period 5-6 days, range 1-14 days).

Most people infected with COVID-19 virus have mild disease and recover. Approximately 80% of laboratory confirmed patients have had **mild to moderate disease**, which includes non-pneumonia and pneumonia cases, 13.8% have **severe disease** (dyspnea, respiratory frequency ≥30/minute, blood oxygen saturation ≤93%, PaO2/FiO2 ratio <300, and/or lung infiltrates >50% of the lung field within 24-48 hours) and 6.1% are **critical** (respiratory failure, septic shock, and/or multiple organ dysfunction/failure). **Asymptomatic infection** has been reported, but the majority of the relatively rare cases who are asymptomatic on the date of identification/report went on to develop disease. The proportion of truly asymptomatic infections is unclear but appears to be relatively rare and does not appear to be a major driver of transmission.

**Individuals at highest risk** for severe disease and death include people aged over 60 years and those with underlying conditions such as hypertension, diabetes, cardiovascular disease, chronic respiratory disease and cancer. Disease in **children** appears to be relatively rare and mild with approximately 2.4% of the total reported cases reported amongst individuals aged under 19 years. A very small proportion of those aged under 19 years have developed severe (2.5%) or critical disease (0.2%).

As of 20 February, 2114 of the 55,924 laboratory confirmed cases have died (**crude fatality ratio** [CFR]² 3.8%) (note: at least some of whom were identified using a case definition that included pulmonary disease). The overall CFR varies by location and intensity of transmission (i.e. 5.8% in Wuhan vs. 0.7% in other areas in China). In China, the overall CFR was higher in the early stages of the outbreak (17.3% for cases with symptom onset from 1-10 January) and has reduced over time to 0.7% for patients with symptom onset after 1 February (Figure 4). The Joint Mission noted that the standard of care has evolved over the course of the outbreak.

Mortality increases with age, with the highest mortality among people over 80 years of age (CFR 21.9%). The CFR is higher among males compared to females (4.7% vs. 2.8%). By occupation, patients who reported being retirees had the highest CFR at 8.9%. While patients who reported no comorbid conditions had a CFR of 1.4%, patients with comorbid conditions had much higher rates: 13.2% for those with cardiovascular disease, 9.2% for diabetes, 8.4% for hypertension, 8.0% for chronic respiratory disease, and 7.6% for cancer.

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² The Joint Mission acknowledges the known challenges and biases of reporting crude CFR early in an epidemic.
Data on the progression of disease is available from a limited number of reported hospitalized cases (Figure 5). Based on available information, the median time from symptom onset to laboratory confirmation nationally decreased from 12 days (range 8-18 days) in early January to 3 days (1-7) by early February 2020, and in Wuhan from 15 days (10-21) to 5 days (3-9), respectively. This has allowed for earlier case and contact identification, isolation and treatment.

Figure 5. Pattern of disease progression for COVID-19 in China
Note: the relative size of the boxes for disease severity and outcome reflect the proportion of cases reported as of 20 February 2020. The size of the arrows indicates the proportion of cases who recovered or died. Disease definitions are described above. Moderate cases have a mild form of pneumonia.
Using available preliminary data, the median time from onset to clinical recovery for mild cases is approximately 2 weeks and is 3-6 weeks for patients with severe or critical disease. Preliminary data suggests that the time period from onset to the development of severe disease, including hypoxia, is 1 week. Among patients who have died, the time from symptom onset to outcome ranges from 2-8 weeks.

An increasing number of patients have recovered; as of 20 February, 18264 (24%) reported cases have recovered. Encouragingly, a report on 20 February from the Guangdong CDC suggests that of 125 severe cases identified in Guangdong, 33 (26.4%) have recovered and been released from hospital, and 58 (46.4%) had improved and were reclassified as having mild/moderate disease (i.e. + milder pneumonia). Among severe cases reported to date, 13.4% have died. Early identification of cases and contacts allows for earlier treatment.

The China response

Upon the detection of a cluster of pneumonia cases of unknown etiology in Wuhan, the CPC Central Committee and the State Council launched the national emergency response. A Central Leadership Group for Epidemic Response and the Joint Prevention and Control Mechanism of the State Council were established. General Secretary Xi Jinping personally directed and deployed the prevention and control work and requested that the prevention and control of the COVID-19 outbreak be the top priority of government at all levels. Prime Minister Li Keqiang headed the Central Leading Group for Epidemic Response and went to Wuhan to inspect and coordinate the prevention and control work of relevant departments and provinces (autonomous regions and municipalities) across the country. Vice Premier Sun Chunlan, who has been working on the frontlines in Wuhan, has led and coordinated the frontline prevention and control of the outbreak.

The prevention and control measures have been implemented rapidly, from the early stages in Wuhan and other key areas of Hubei, to the current overall national epidemic. It has been undertaken in three main phases, with two important events defining those phases. First, COVID-19 was included in the statutory report of Class B infectious diseases and border health quarantine infectious diseases on 20 January 2020, which marked the transition from the initial partial control approach to the comprehensive adoption of various control measures in accordance with the law. The second event was the State Council’s issuing, on 8 February 2020, of The Notice on Orderly Resuming Production and Resuming Production in Enterprises, which indicated that China’s national epidemic control work had entered a stage of overall epidemic prevention and control together with the restoration of normal social and economic operations.

The first stage

During the early stage of the outbreak, the main strategy focused on preventing the exportation of cases from Wuhan and other priority areas of Hubei Province, and preventing the importation of cases by other provinces; the overall aim was to control the source of infection, block transmission and prevent further spread. The response mechanism was initiated with multi-sectoral involvement in joint prevention and control measures. Wet markets were closed, and efforts were made to identify the zoonotic source. Information on the epidemic was notified to WHO on 3 January, and whole genome sequences of the COVID-19 virus were shared with WHO on 10 January. Protocols for COVID-19 diagnosis and
treatment, surveillance, epidemiological investigation, management of close contacts, and laboratory testing were formulated, and relevant surveillance activities and epidemiological investigations conducted. Diagnostic testing kits were developed, and wildlife and live poultry markets were placed under strict supervision and control measures.

The second stage

During the second stage of the outbreak, the main strategy was to reduce the intensity of the epidemic and to slow down the increase in cases. In Wuhan and other priority areas of Hubei Province, the focus was on actively treating patients, reducing deaths, and preventing exportations. In other provinces, the focus was on preventing importations, curbing the spread of the disease and implementing joint prevention and control measures. Nationally, wildlife markets were closed and wildlife captive-breeding facilities were cordoned off. On 20 January, COVID-19 was included in the notifiable report of Class B infectious diseases and border health quarantine infectious diseases, with temperature checks, health care declarations, and quarantine against COVID-19 instituted at transportation depots in accordance with the law. On 23 January, Wuhan implemented strict traffic restrictions. The protocols for diagnosis, treatment and epidemic prevention and control were improved; case isolation and treatment were strengthened.

Measures were taken to ensure that all cases were treated, and close contacts were isolated and put under medical observation. Other measures implemented included the extension of the Spring Festival holiday, traffic controls, and the control of transportation capacity to reduce the movement of people; mass gathering activities were also cancelled. Information about the epidemic and prevention and control measures was regularly released. Public risk communications and health education were strengthened; allocation of medical supplies was coordinated, new hospitals were built, reserve beds were used and relevant premises were repurposed to ensure that all cases could be treated; efforts were made to maintain a stable supply of commodities and their prices to ensure the smooth operation of society.

The third stage

The third stage of the outbreak focused on reducing clusters of cases, thoroughly controlling the epidemic, and striking a balance between epidemic prevention and control, sustainable economic and social development, the unified command, standardized guidance, and scientific evidence-based policy implementation. For Wuhan and other priority areas of Hubei Province, the focus was on patient treatment and the interruption of transmission, with an emphasis on concrete steps to fully implement relevant measures for the testing, admitting and treating of all patients. A risk-based prevention and control approach was adopted with differentiated prevention and control measures for different regions of the country and provinces. Relevant measures were strengthened in the areas of epidemiological investigation, case management and epidemic prevention in high-risk public places.

New technologies were applied such as the use of big data and artificial intelligence (AI) to strengthen contact tracing and the management of priority populations. Relevant health insurance policies were promulgated on "health insurance payment, off-site settlement, and financial compensation". All provinces provided support to Wuhan and priority areas in Hubei Province in an effort to quickly curb the spread of the disease and provide timely clinical treatment. Pre-school preparation was improved, and work resumed in phases and
batches. Health and welfare services were provided to returning workers in a targeted and ‘one-stop’ manner. Normal social operations are being restored in a stepwise fashion; knowledge about disease prevention is being popularized to improve public health literacy and skills; and a comprehensive program of emergency scientific research is being carried out to develop diagnostics, therapeutics and vaccines, delineate the spectrum of the disease, and identify the source of the virus.

Knowledge gaps

Since the start of the COVID-19 outbreak, there have been extensive attempts to better understand the virus and the disease in China. It is remarkable how much knowledge about a new virus has been gained in such a short time. However, as with all new diseases, and only 7 weeks after this outbreak began, key knowledge gaps remain. Annex D summarizes the key unknowns in a number of areas including the source of infection, pathogenesis and virulence of the virus, transmissibility, risk factors for infection and disease progression, surveillance, diagnostics, clinical management of severe and critically ill patients, and the effectiveness of prevention and control measures. The timely filling of these knowledge gaps is imperative to enhance control strategies.

III. Assessment

The Joint Mission drew four major conclusions from its work in China and four major conclusions from its knowledge of the broader global response to COVID-19. Recommendations are offered in five major areas to inform the ongoing response globally and in China.

The China Response & Next Steps

1. **In the face of a previously unknown virus, China has rolled out perhaps the most ambitious, agile and aggressive disease containment effort in history.** The strategy that underpinned this containment effort was initially a national approach that promoted universal temperature monitoring, masking, and hand washing. However, as the outbreak evolved, and knowledge was gained, a science and risk-based approach was taken to tailor implementation. Specific containment measures were adjusted to the provincial, county and even community context, the capacity of the setting, and the nature of novel coronavirus transmission there.

While the fundamental principles of this strategy have been consistent since its launch, there has been constant refinement of specific aspects to incorporate new knowledge on the novel coronavirus, the COVID-19 disease, and COVID-19 containment, as rapidly as that knowledge has emerged. The remarkable speed with which Chinese scientists and public health experts isolated the causative virus, established diagnostic tools, and determined key transmission parameters, such as the route of spread and incubation period, provided the vital evidence base for China’s strategy, gaining invaluable time for the response.
As striking, has been the uncompromising rigor of strategy application that proved to be a hallmark in every setting and context where it was examined. There has also been a relentless focus on improving key performance indicators, for example constantly enhancing the speed of case detection, isolation and early treatment. The implementation of these containment measures has been supported and enabled by the innovative and aggressive use of cutting edge technologies, from shifting to online medical platforms for routine care and schooling, to the use of 5G platforms to support rural response operations.

2. **Achieving China’s exceptional coverage with and adherence to these containment measures has only been possible due to the deep commitment of the Chinese people to collective action in the face of this common threat. At a community level this is reflected in the remarkable solidarity of provinces and cities in support of the most vulnerable populations and communities. Despite ongoing outbreaks in their own areas, Governors and Mayors have continued to send thousands of health care workers and tons of vital PPE supplies into Hubei province and Wuhan city.**

At the individual level, the Chinese people have reacted to this outbreak with courage and conviction. They have accepted and adhered to the starkest of containment measures – whether the suspension of public gatherings, the month-long ‘stay at home’ advisories or prohibitions on travel. Throughout an intensive 9-days of site visits across China, in frank discussions from the level of local community mobilizers and frontline health care providers to top scientists, Governors and Mayors, the Joint Mission was struck by the sincerity and dedication that each brings to this COVID-19 response.

3. **China’s bold approach to contain the rapid spread of this new respiratory pathogen has changed the course of a rapidly escalating and deadly epidemic. A particularly compelling statistic is that on the first day of the advance team’s work there were 2478 newly confirmed cases of COVID-19 reported in China. Two weeks later, on the final day of this Mission, China reported 409 newly confirmed cases. This decline in COVID-19 cases across China is real.**

Several sources of data support this conclusion, including the steep decline in fever clinic visits, the opening up of treatment beds as cured patients are discharged, and the challenges to recruiting new patients for clinical trials. Based on a comparison of crude attack rates across provinces, the Joint Mission estimates that this truly all-of-Government and all-of-society approach that has been taken in China has averted or at least delayed hundreds of thousands of COVID-19 cases in the country. By extension, the reduction that has been achieved in the force of COVID-19 infection in China has also played a significant role in protecting the global community and creating a stronger first line of defense against international spread. Containing this outbreak, however, has come at great cost and sacrifice by China and its people, in both human and material terms.

While the scale and impact of China’s COVID-19 operation has been remarkable, it has also highlighted areas for improvement in public health emergency response capacity.
These include overcoming any obstacles to act immediately on early alerts, to massively scale-up capacity for isolation and care, to optimize the protection of frontline health care workers in all settings, to enhance collaborative action on priority gaps in knowledge and tools, and to more clearly communicate key data and developments internationally.

4. China is already, and rightfully, working to bolster its economy, reopen its schools and return to a more normal semblance of its society, even as it works to contain the remaining chains of COVID-19 transmission. Appropriately, a science-based, risk-informed and phased approach is being taken, with a clear recognition and readiness of the need to immediately react to any new COVID-19 cases or clusters as key elements of the containment strategy are lifted.

Despite the declining case numbers, across China every province, city and community visited is urgently escalating their investments in acute care beds and public health capacity. It is crucial that this continues. Fifty thousand infected COVID-19 patient are still under treatment, across the country. However, the Joint Mission has come to understand the substantial knowledge, experience and capacities that China has rapidly built during this crisis. Consequently, it endorses China’s working assumption that in most provinces and municipalities it should soon be possible to manage a resurgence in COVID-19 cases, using even more tailored and sustainable approaches that are anchored in very rapid case detection, instant activation of key containment activities, direct oversight by top leadership, and broad community engagement.

As China works to resume a more normal level of societal and economic activity, it is essential that the world recognizes and reacts positively to the rapidly changing, and decreasing, risk of COVID-19 in the country. China’s rapid return to full connectivity with the world, and to full productivity and economic output, is vital to China and to the world. The world urgently needs access to China’s experience in responding to COVID-19, as well as the material goods it brings to the global response. It is even more urgent now, with escalating COVID-19 outbreaks outside of China, to constantly reassess any restrictions on travel and/or trade to China that go beyond the recommendations of the IHR Emergency Committee on COVID-19.

The Global Response & Next Steps

1. The COVID-19 virus is a new pathogen that is highly contagious, can spread quickly, and must be considered capable of causing enormous health, economic and societal impacts in any setting. It is not SARS and it is not influenza. Building scenarios and strategies only on the basis of well-known pathogens risks failing to exploit all possible measures to slow transmission of the COVID-19 virus, reduce disease and save lives.

COVID-19 is not SARS and it is not influenza. It is a new virus with its own characteristics. For example, COVID-19 transmission in children appears to be limited compared with influenza, while the clinical picture differs from SARS. Such differences, while based on limited data, may be playing a role in the apparent efficacy of rigorously
applied non-pharmaceutical, public health measures to interrupt chains of human-to-human transmission in a range of settings in China. The COVID-19 virus is unique among human coronaviruses in its combination of high transmissibility, substantial fatal outcomes in some high-risk groups, and ability to cause huge societal and economic disruption. For planning purposes, it must be assumed that the global population is susceptible to this virus. As the animal origin of the COVID-19 virus is unknown at present, the risk of reintroduction into previously infected areas must be constantly considered.

The novel nature, and our continuously evolving understanding, of this coronavirus demands a tremendous agility in our capacity to rapidly adapt and change our readiness and response planning as has been done continually in China. This is an extraordinary feat for a country of 1.4 billion people.

2. **China’s uncompromising and rigorous use of non-pharmaceutical measures to contain transmission of the COVID-19 virus in multiple settings provides vital lessons for the global response. This rather unique and unprecedented public health response in China reversed the escalating cases in both Hubei, where there has been widespread community transmission, and in the importation provinces, where family clusters appear to have driven the outbreak.**

Although the timing of the outbreak in China has been relatively similar across the country, transmission chains were established in a wide diversity of settings, from megacities in the north and south of the country, to remote communities. However, the rapid adaptation and tailoring of China’s strategy demonstrated that containment can be adapted and successfully operationalized in a wide range of settings.

China’s experience strongly supports the efficacy and effectiveness of anchoring COVID-19 readiness and rapid response plans in a thorough assessment of local risks and of utilizing a differentiated risk-based containment strategy to manage the outbreak in areas with no cases vs. sporadic cases vs. clusters of cases vs. community-level transmission. Such a strategy is essential for ensuring a sustainable approach while minimizing the socio-economic impact.

3. **Much of the global community is not yet ready, in mindset and materially, to implement the measures that have been employed to contain COVID-19 in China. These are the only measures that are currently proven to interrupt or minimize transmission chains in humans. Fundamental to these measures is extremely proactive surveillance to immediately detect cases, very rapid diagnosis and immediate case isolation, rigorous tracking and quarantine of close contacts, and an exceptionally high degree of population understanding and acceptance of these measures.**

Achieving the high quality of implementation needed to be successful with such measures requires an unusual and unprecedented speed of decision-making by top leaders, operational thoroughness by public health systems, and engagement of society.
Given the damage that can be caused by uncontrolled, community-level transmission of this virus, such an approach is warranted to save lives and to gain the weeks and months needed for the testing of therapeutics and vaccine development. Furthermore, as the majority of new cases outside of China are currently occurring in high and middle-income countries, a rigorous commitment to slowing transmission in such settings with non-pharmaceutical measures is vital to achieving a second line of defense to protect low income countries that have weaker health systems and coping capacities.

The time that can be gained through the full application of these measures – even if just days or weeks – can be invaluable in ultimately reducing COVID-19 illness and deaths. This is apparent in the huge increase in knowledge, approaches and even tools that has taken place in just the 7 weeks since this virus was discovered through the rapid scientific work that has been done in China.

4. The time gained by rigorously applying COVID-19 containment measures must be used more effectively to urgently enhance global readiness and rapidly develop the specific tools that are needed to ultimately stop this virus.

COVID-19 is spreading with astonishing speed; COVID-19 outbreaks in any setting have very serious consequences; and there is now strong evidence that non-pharmaceutical interventions can reduce and even interrupt transmission. Concerningly, global and national preparedness planning is often ambivalent about such interventions. However, to reduce COVID-19 illness and death, near-term readiness planning must embrace the large-scale implementation of high-quality, non-pharmaceutical public health measures. These measures must fully incorporate immediate case detection and isolation, rigorous close contact tracing and monitoring/quarantine, and direct population/community engagement.

A huge array of COVID-19 studies, scientific research projects and product R&D efforts are ongoing in China and globally. This is essential and to be encouraged and supported. However, such a large number of projects and products needs to be prioritized. Without prioritizing, this risks compromising the concentration of attention and resources and collaboration required to cut timelines by precious weeks and months. While progress has been made, the urgency of the COVID-19 situation supports an even more ruthless prioritization of research in the areas of diagnostics, therapeutics and vaccines.

Similarly, there is a long list of proposed studies on the origins of COVID-19, the natural history of the disease, and the virus’s transmission dynamics. However, the urgency of responding to cases and saving lives makes it difficult for policy makers to consider and act on such comprehensive lists. This can be addressed by balancing studies with the immediate public health and clinical needs of the response. Studies can be prioritized in terms of the largest knowledge gaps that can be most rapidly addressed to have greatest immediate impact on response operations and patient management. This suggests prioritizing studies to identify risk factors for transmission in households, institutions and the community; convenience sampling for this virus in the population using existing surveillance systems; age-stratified sero-epidemiologic surveys; the analysis of clinical case series; and cluster investigations.
IV. Major Recommendations

For China

1. Maintain an appropriate level of emergency management protocols, depending on the assessed risk in each area and recognizing the real risk of new cases and clusters of COVID-19 as economic activity resumes, movement restrictions are lifted, and schools reopen;

2. Carefully monitor the phased lifting of the current restrictions on movement and public gatherings, beginning with the return of workers and migrant labor, followed by the eventual reopening of schools and lifting other measures;

3. Further strengthen the readiness of emergency management mechanisms, public health institutions (e.g. CDCs), medical facilities, and community engagement mechanisms to ensure sustained capacity to immediately launch containment activities in response to any resurgence in cases;

4. Prioritize research that rapidly informs response and risk management decisions, particularly household and health care facility studies, age-stratified sero-epidemiologic surveys and rigorous investigation of the animal-human interface; establish a centralized research program to fast-track the most promising rapid diagnostics and serologic assays, the testing of potential antivirals and vaccine candidates, and Chinese engagement in selected multi-country trials; and

5. As the country with the greatest knowledge on COVID-19, further enhance the systematic and real-time sharing of epidemiologic data, clinical results and experience to inform the global response.

For countries with imported cases and/or outbreaks of COVID-19

1. Immediately activate the highest level of national Response Management protocols to ensure the all-of-government and all-of-society approach needed to contain COVID-19 with non-pharmaceutical public health measures;

2. Prioritize active, exhaustive case finding and immediate testing and isolation, painstaking contact tracing and rigorous quarantine of close contacts;

3. Fully educate the general public on the seriousness of COVID-19 and their role in preventing its spread;

4. Immediately expand surveillance to detect COVID-19 transmission chains, by testing all patients with atypical pneumonias, conducting screening in some patients with upper respiratory illnesses and/or recent COVID-19 exposure, and adding testing for the COVID-19 virus to existing surveillance systems (e.g. systems for influenza-like-illness and SARI); and
5. Conduct multi-sector scenario planning and simulations for the deployment of even more stringent measures to interrupt transmission chains as needed (e.g. the suspension of large-scale gatherings and the closure of schools and workplaces).

For uninfected countries

1. Prepare to immediately activate the highest level of emergency response mechanisms to trigger the all-of-government and all-of-society approach that is essential for early containment of a COVID-19 outbreak;

2. Rapidly test national preparedness plans in light of new knowledge on the effectiveness of non-pharmaceutical measures against COVID-19; incorporate rapid detection, largescale case isolation and respiratory support capacities, and rigorous contact tracing and management in national COVID-19 readiness and response plans and capacities;

3. Immediately enhance surveillance for COVID-19 as rapid detection is crucial to containing spread; consider testing all patients with atypical pneumonia for the COVID-19 virus, and adding testing for the virus to existing influenza surveillance systems;

4. Begin now to enforce rigorous application of infection prevention and control measures in all healthcare facilities, especially in emergency departments and outpatient clinics, as this is where COVID-19 will enter the health system; and

5. Rapidly assess the general population’s understanding of COVID-19, adjust national health promotion materials and activities accordingly, and engage clinical champions to communicate with the media.

For the public

1. Recognize that COVID-19 is a new and concerning disease, but that outbreaks can managed with the right response and that the vast majority of infected people will recover;

2. Begin now to adopt and rigorously practice the most important preventive measures for COVID-19 by frequent hand washing and always covering your mouth and nose when sneezing or coughing;

3. Continually update yourself on COVID-19 and its signs and symptoms (i.e. fever and dry cough), because the strategies and response activities will constantly improve as new information on this disease is accumulating every day; and

4. Be prepared to actively support a response to COVID-19 in a variety of ways, including the adoption of more stringent ‘social distancing’ practices and helping the high-risk elderly population.
For the international community

1. Recognize that true solidarity and collaboration is essential between nations to tackle the common threat that COVID-19 represents and operationalize this principle;

2. Rapidly share information as required under the International Health Regulations (IHR) including detailed information about imported cases to facilitate contact tracing and inform containment measures that span countries;

3. Recognize the rapidly changing risk profile of COVID-19 affected countries and continually monitor outbreak trends and control capacities to reassess any ‘additional health measures’ that significantly interfere with international travel and trade.
### Annexes

#### A. WHO-China Joint Mission Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Position and Affiliation</th>
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<tbody>
<tr>
<td>Bruce AYLWARD</td>
<td>Team Lead WHO-China Joint Mission on COVID-19, Senior Advisor to the Director-General, World Health Organization, Geneva, Switzerland</td>
</tr>
<tr>
<td>Wannian LIANG</td>
<td>Team Lead WHO-China Joint Mission on COVID-19, Head of Expert Panel, National Health Commission</td>
</tr>
<tr>
<td>Xiaoping DONG</td>
<td>Director and Researcher, Center for Global Public Health, Chinese Center for Disease Control and Prevention</td>
</tr>
<tr>
<td>Tim ECKMANNNS</td>
<td>Head of Unit, Healthcare-associated Infections, Surveillance of Antibiotic Resistance and Consumption, Robert Koch Institute, Berlin, Germany</td>
</tr>
<tr>
<td>Dale FISHER</td>
<td>Professor of Medicine, Yong Loo Lin School of Medicine, National University of Singapore, Singapore, Singapore</td>
</tr>
<tr>
<td>Chikwe IHEKWEAZU</td>
<td>Director General, Nigeria Centre for Disease Control, Nigeria Centre for Disease Control, Abuja, Nigeria</td>
</tr>
<tr>
<td>Clifford LANE</td>
<td>Clinical Director, National Institute of Allergy and Infectious Diseases, US National Institutes of Health, Bethesda, United States</td>
</tr>
<tr>
<td>Jong-Koo LEE</td>
<td>Professor of Family Medicine, Seoul National University College of Medicine, Seoul, Republic of Korea</td>
</tr>
<tr>
<td>Gabriel LEUNG</td>
<td>Dean of Medicine, Helen and Francis Zimmerman Professor in Population Health, The University of Hong Kong, Hong Kong SAR, China</td>
</tr>
<tr>
<td>Jiangtao LIN</td>
<td>Director and Professor, Department of Pulmonary and Critical Care Medicine, China-Japan Friendship Hospital, National Clinical Research Center for Respiratory Diseases, Beijing</td>
</tr>
<tr>
<td>Haiying LIU</td>
<td>Deputy Director and Researcher, Institute of Pathogen Biology, Chinese Academy of Medical Sciences, Beijing China</td>
</tr>
<tr>
<td>Natalia PSHENICHNAYA</td>
<td>Head of International Department and Consultant, Center of Infectious Diseases, National Medical Research Center of Phthisiopulmonology and Infectious Diseases, Moscow, Russia</td>
</tr>
<tr>
<td>Aleksandr SEMENOV</td>
<td>Deputy Director, Saint Petersburg Pasteur Institute, Saint Petersburg, Russia</td>
</tr>
<tr>
<td>Hitoshi TAKAHASHI</td>
<td>Senior Research Scientist, Influenza Virus Research Center, National Institute of Infectious Diseases, Tokyo, Japan</td>
</tr>
<tr>
<td>Maria VAN KERKHOVE</td>
<td>Head of Unit, Emerging Diseases &amp; Zoonoses, Global Infectious Hazard Preparedness, World Health Organization, Geneva, Switzerland</td>
</tr>
<tr>
<td>Bin WANG</td>
<td>Deputy Team Leader, Deputy Director General, Disease Prevention and Control Bureau, National Health Commission</td>
</tr>
<tr>
<td>Guangfa WANG</td>
<td>Director, Department of Respiratory and Critical Care Medicine, Peking University First Hospital</td>
</tr>
<tr>
<td>Fan WU</td>
<td>Vice Dean, Shanghai Medical College, Fudan University</td>
</tr>
<tr>
<td>Zhongze WU</td>
<td>Director, Compliance and Enforcement Division, Department of Wildlife Conservation, National Forestry and Grassland Administration</td>
</tr>
<tr>
<td>Zunyou WU</td>
<td>Chief Epidemiologist, Chinese Center for Disease Control and Prevention</td>
</tr>
<tr>
<td>Jun XING</td>
<td>Head of Unit, Country Capacity for International Health Regulations, Health Security Preparedness, World Health Organization, Geneva, Switzerland</td>
</tr>
<tr>
<td>Kwok-Yung YUEN</td>
<td>Chair Professor and Co-Director of State Key Laboratory of Emerging Infectious Diseases, Department of Microbiology, The University of Hong Kong</td>
</tr>
<tr>
<td>Weigong ZHOU</td>
<td>Medical Officer, Influenza Division, National Center for Immunization and Respiratory Diseases, US Centers for Disease Control and Prevention, Atlanta, United States</td>
</tr>
<tr>
<td>Yong ZHANG</td>
<td>Assistant Director and Researcher, National Institute for Viral Disease Control and prevention, Chinese Center for Disease Control and Prevention.</td>
</tr>
<tr>
<td>Lei ZHOU</td>
<td>Chief and Researcher, Branch for Emerging Infectious Disease, Public Health Emergency Center, Chinese Center for Disease Control and Prevention</td>
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## B. Summary Agenda of the Mission

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<tr>
<th>Dates</th>
<th>Location</th>
<th>Activities</th>
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<tr>
<td>10-15 February 2020</td>
<td>Beijing</td>
<td>Advance Team and WHO Country team meetings with national counterparts and institutions</td>
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<td>16 February 2020</td>
<td>Beijing</td>
<td>Meeting with the full international team for briefing at the WHO Country office</td>
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<td></td>
<td>Beijing</td>
<td>Workshop at the National Health Commission (NHC) with relevant departments of the Joint Prevention and Control Mechanism of the State Council</td>
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<tr>
<td>17 February 2020</td>
<td>Beijing</td>
<td>Site visit to Beijing Ditan Hospital</td>
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<td></td>
<td>Beijing</td>
<td>Site visit to Anhualui community and health service station, Anzhen street, Chaoyang District, Beijing</td>
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<td></td>
<td>Beijing</td>
<td>Workshop with Chinese Center for Disease Control and Prevention</td>
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<td>18 February 2020</td>
<td>Shenzhen, Guangdong</td>
<td>Shenzhen customs at the airport</td>
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<td></td>
<td>Shenzhen, Guangdong</td>
<td>Shenzhen No.3 People’s Hospital</td>
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<td>Shenzhen, Guangdong</td>
<td>Shenzhen Center for Disease Control and Prevention</td>
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<td>Shenzhen, Guangdong</td>
<td>Meeting at Tencent</td>
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<td>19 February 2020</td>
<td>Shenzhen, Guangdong</td>
<td>Qiaoxiang community</td>
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<td></td>
<td>Shenzhen to Guangzhou</td>
<td>Visit to Futian High-speed Train Station, and travel to Guangzhou by train</td>
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<td>Guangzhou</td>
<td>Guangzhou Panyu Sanatorium</td>
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<td>Guangdong Laboratory of Regenerative Medicine and Health</td>
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<td>Guangzhou</td>
<td>Guangzhou Tiyudongzhihui wet market</td>
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<td>Guangzhou</td>
<td>First Workshop with The People’s government of Guangdong Province</td>
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<tr>
<td>20 February 2020</td>
<td>Guangzhou</td>
<td>Guangdong Provincial Center for Disease Control and Prevention</td>
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<td>Guangzhou</td>
<td>Renmin road campus of Guangzhou Women and Children Medical Center</td>
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<td></td>
<td>Guangzhou</td>
<td>The second Workshop with The People’s government of Guangdong Province</td>
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<td>18 February 2020</td>
<td>Beijing to Sichuan</td>
<td>Site visit to Chengdu Shuangliu International Airport</td>
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<td></td>
<td>Sichuan</td>
<td>Meeting with the Governor of Sichuan Provincial People’s Government</td>
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<td>Site visit to Yong’an Township Central hospital with fever clinic</td>
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<td>Site visit to home community of Yong’an township</td>
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<td>19 February 2020</td>
<td>Sichuan</td>
<td>Symposium with provincial and municipal authorities</td>
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<td>Sichuan</td>
<td>Sichuan Center for Disease Control and Prevention</td>
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<td>Site visit to West China Hospital- Designated COVID-19 hospital</td>
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<td>20 February 2020</td>
<td>Sichuan</td>
<td>Site visit to Chengdu Women and Children’s hospital</td>
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<td>Site visit to Pharmaceutical Logistics center</td>
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<td>Site visit to East Chengdu railway station</td>
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<td>Date/Mission</td>
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<tr>
<td><strong>Site visit to Chengdu Public Health Clinical Centre - Designated COVID 19 hospital</strong></td>
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<td><strong>Sichuan and Guangdong teams reconvene in Guangzhou</strong></td>
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<td>21-24 February 2020</td>
<td>Analyze major findings; Meetings of the WHO-China Joint mission to finalize the report</td>
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<tr>
<td>Feb 22 (Wuhan Team)</td>
<td>Guangzhou to Wuhan</td>
<td>Select team members only</td>
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<tr>
<td>23 February (Wuhan Team)</td>
<td>Site visit to Guanggu Campus of Wuhan Tongji Hospital</td>
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<tr>
<td></td>
<td>Site visit to Mobile Cabin Hospital in Wuhan Sports Center</td>
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<td>Workshop with relevant departments of the Joint Prevention and Control Mechanism of Hubei Province</td>
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<td>Feedback Meeting with Minister Ma, NHC at the Wuhan Conference Center</td>
<td></td>
</tr>
<tr>
<td>24 February 2020</td>
<td>Guangzhou to Beijing</td>
<td>Finalize report, WHO-Joint Press conference in Beijing</td>
</tr>
</tbody>
</table>
C. Detailed Technical Findings

Response management, case and contact management, risk communication and community engagement

The response structures in China were rapidly put in place according to existing emergency plans and aligned from the top to the bottom. This was replicated at the four levels of government (national provincial, prefecture and county/district).

Organizational structure and response mechanism

Response activation at the national level: COVID-19 prevention and control mechanisms were initiated immediately after the outbreak was declared and nine working groups were set up to coordinate the response: a) Coordination b) Epidemic prevention and control c) Medical treatment d) Research e) Public communication f) Foreign affairs g) Medical material support h) Life maintenance supplies and i) Social stability. Each working group has a ministerial level leader. Emergency response laws and regulations for the emergency response to public health emergencies, prevention and control of infectious diseases have been developed or updated to guide the response.

Response activation in provinces: Each province set up a similar structure to manage the outbreak. The response is organized at the levels of national, provincial, prefecture, county/district and the community. By 29 January, all provinces across China had launched the highest level of response for major public health emergencies.

Response Strategy

A clear strategy was developed, and goals were well articulated and communicated across the entire response architecture. This strategy was rapidly adapted and adjusted to the outbreak, both in terms of the epidemiological situation over time and in different parts of the country.

The epidemiological situation has been used to define location into four areas:

- **In areas without cases**, the strategy in these areas is to "strictly prevent introduction". This includes quarantine arrangements in transportation hubs, monitoring for temperature changes, strengthening of triage arrangements, use of fever clinics, and ensuring normal economic and social operations.

- **In areas with sporadic cases**, the strategy is focused on "reducing importation, stopping transmission and providing appropriate treatment".

- **In areas with community clusters**, the strategy is focused on "stopping transmission, preventing exportation, and strengthening treatment".

- **In areas with community transmission**, the strictest prevention and control strategies are being implemented, the entry and exit of people from these areas has been stopped and public health and medical treatment measures are comprehensively strengthened.
Main control measures implemented in China

The main control measures implemented in China are as follows and are illustrated in Figures 6A-6D, representing the national level response and examples of the response at the Provincial and municipal levels:

**Monitoring and reporting:** COVID-19 was included in the statutory reporting of infectious diseases on 20 January and plans were formulated to strengthen diagnosis, monitoring, and reporting.

**Strengthening ports of entry and quarantine:** The Customs Department launched the emergency plan for public health emergencies at ports across the country and restarted the health declaration card system for entry and exit into cities as well as strict monitoring of the temperature of entry and exit passengers.

**Treatment:** For severe or critical patients, the principle of "Four Concentrations" was implemented: i.e. concentrating patients, medical experts, resources and treatment into special centres. All cities and districts transformed relevant hospitals, increased the number of designated hospitals, dispatched medical staff, and set up expert groups for consultation, so as to minimise mortality of severe patients. Medical resources from all over China have been mobilized to support the medical treatment of patients in Wuhan.

**Epidemiological investigation and close contact management:** Strong epidemiological investigations are being carried out for cases, clusters, and contacts to identify the source of infection and implement targeted control measures, such as contact tracing.

**Social distancing:** At the national level, the State Council extended the Spring Festival holiday in 2020, all parts of the country actively cancelled or suspended activities like sport events, cinema, theatre, and schools and colleges in all parts of the country postponed re-opening after the holiday. Enterprises and institutions have staggered their return to work. Transportation Departments setup thousands of health and quarantine stations in national service areas, and in entrances and exits for passengers at stations. Hubei Province adopted the most stringent traffic control measures, such as suspension of urban public transport, including subway, ferry and long-distance passenger transport. Every citizen has to wear a mask in public. Home support mechanisms were established. As a consequence of all of these measures, public life is very reduced.

**Funding and material support:** Payment of health insurance was taken over by the state, as well as the work to improve accessibility and affordability of medical materials, provide personal protection materials, and ensure basic living materials for affected people.

**Emergency material support:** The government restored production and expanded production capacity, organized key enterprises that have already started to exceed current production capacity, supported local enterprises to expand imports, and used cross-border e-commerce platforms and enterprises to help import medical materials and improve the ability to guarantee supplies.
Figure 6. COVID-19 epidemic curves and major intervention measures in China as implemented at a) the national level b) in Guangdong province, c) in Shenzhen municipality and d) in Sichuan province
**Risk communications (information release, public and media communications)**

**International and interregional cooperation and information sharing:** From 3 January 2020, information on COVID-19 cases has been reported to WHO daily. Full genome sequences of the new virus were shared with WHO and the international community immediately after the pathogen was identified on 7 January. On 10 January, an expert group involving Hong Kong, Macao and Taiwanese technical experts and a World Health Organization team was invited to visit Wuhan. A set of nucleic acid primers and probes for PCR detection for COVID-19 was released on 21 January.

**Daily updates:** The National Health Commission announces the epidemic situation every day and holds daily press conferences to respond to emerging issues. The government also frequently invites experts to share scientific knowledge on COVID-19 and to address public concerns.

**Psychological care:** This is provided to patients and the public. Governments at all levels, NGOs and all sectors of society developed guidelines for emergency psychological crisis intervention and guidelines for public psychological self-support and counselling. A hotline for mental health services has been established for the public.

**IT platform:** China has capitalized on the use of technology, big data and AI for COVID-19 preparedness, readiness and response. Authoritative and reliable information, medical guidance, access to online services, provision of educational tools and remote work tools have been developed in and used across China. These services have increased accessibility to health services, reduced misinformation and minimized the impact of fake news.

**Social mobilization and community engagement**

Civil society organizations (community centers and public health centers) have been mobilized to support prevention and response activities. The community has largely accepted the prevention and control measures and is fully participating in the management of self-isolation and enhancement of public compliance. Community volunteers are organized to support self-isolation and help isolated residents at home to solve practical life difficulties. Measures were taken to limit the movement of the population through home-based support. Up to now, outside of Hubei, 30 provinces have registered and managed more than 5 million people coming from Wuhan.

**Clinical case management and infection prevention and control**

The main **signs and symptoms** of COVID-19 include fever, dry cough, fatigue, sputum production, shortness of breath, myalgia or arthralgia, sore throat, and headache. Nausea or vomiting has been reported in a small percentage of patients (5%). On 14 February, China CDC described the clinical features, outcomes, laboratory and radiologic findings of 44 672 laboratory-confirmed cases. Only 965 (2.2%) were under 20 years of age and there is just one recorded death (0.1%) in this age group. Most patients (77.8%) were aged 30 to 69 years. Patients aged over 80 years had a CFR of 14.8%. The CFR was highest in those with
comorbidities including cardiovascular, diabetes, chronic respiratory disease, hypertension and cancer.

As opposed to Influenza A(H1N1)pdm09, pregnant women do not appear to be at higher risk of severe disease. In an investigation of 147 pregnant women (64 confirmed, 82 suspected and 1 asymptomatic), 8% had severe disease and 1% were critical.

**Severe cases** are defined as tachypnoea (≥30 breaths/ min) or oxygen saturation ≤93% at rest, or PaO2/FiO2 <300 mmHg. **Critical cases** are defined as respiratory failure requiring mechanical ventilation, shock or other organ failure that requires intensive care. About a quarter of severe and critical cases require mechanical ventilation while the remaining 75% require only oxygen supplementation.

China has a principle of **early identification**, early isolation, early diagnosis and early treatment. Early identification of suspect cases is critical to containment efforts and occurs via a process of temperature screening and questioning at entrances to many institutions, communities, travel venues (airports, train stations) and hospitals. Many hospitals have fever clinics that were established and maintained since the SARS outbreak. In China, laboratory tests were originally requested according to the case definitions, which included an epidemiological link to Hubei or other confirmed cases. However, more recently, a more **liberal clinical testing regimen** allows clinicians to test with a low index of suspicion.

**Suspect cases** are isolated in normal pressure single rooms, wear a surgical mask (for source control). Staff in China wear a cap, eye protection, n95 masks, gown and gloves (single use only). In Wuhan it is necessary for most suspects to be cohorted in a normal pressure isolation ward. Staff wear PPE continuously, changing it only when they leave the ward.

**PCR test results** are returned the same day. If positive, patients are transported to designated hospitals (including negative pressure ambulances in some cities). All patients, including the mild and asymptomatic, with a positive test are admitted. The designated hospitals are known and are strategically placed with at least one per district/county. Positive cases are cohorted by gender. Negative tested patients are managed based on clinical needs. All patients are evaluated with a respiratory multiplex to look for other diagnoses. This can add to the reassurance that a negative COVID-19 test reflects a lack of infection with COVID-19.

In Wuhan, there are 45 designated hospitals, 6 of which are designated for critical patients, and 39 for severe patients and/or any patients >65 years old. There are an additional 10 temporary hospitals reconstructed from gymnasium and exhibition centers, which are for mild patients. Other surge measures undertaken in Wuhan include two new temporary hospitals with 2600 beds, plus many makeshift hospitals to increase bed capacity. Bed capacity within Wuhan has increased to >50,000.

Patients are treated according to the **National Clinical guidelines** (edition 6) released by the China National Health Commission (NHC). There are no specific antiviral or immune modulating agents proven (or recommended) to improve outcomes. All patients are monitored by regular pulse oximetry. The guidelines include supportive care by clinical category (mild, moderate, severe and critical), as well as the role of investigational
treatments such as chloroquine, phosphate, lopinavir/ritonavir, alpha interferon, ribavirin, arbidol. The application of intubation/invasive ventilation and ECMO in critically ill patients can improve survival. The Joint Mission Team was told of ECMO use in four patients at one hospital with one death and three who appeared to be improving. Clearly, though ECMO is very resource consumptive, any health system would need to carefully weigh the benefits. There is widespread use of Traditional Chinese Medicines (TCM), for which the affects must be fully evaluated.

Patients with COVID-19 are not permitted visitors. Staff use coveralls, masks, eye cover, and gloves, removing PPE only when they leave the ward.

Patients are discharged after clinical recovery (afebrile >3 days, resolution of symptoms and radiologic improvement) and 2 negative PCR tests taken 24 hours apart. Upon discharge, they are asked to minimise family and social contact and to wear a mask. There are expectations of clinical trial results within a matter of weeks, which will see further opportunities for treatment.

There are guidelines for elderly care specifically targeting prevention in individuals and introduction of COVID-19 to nursing homes.

Training programmes by video conference nationally are scaled up to inform staff of best practice and to ensure PPE usage. Clinical champions are created to disperse knowledge and provide local expertise.

Maintenance of usual healthcare activities is maintained by hospital zoning (e.g. clean/contaminated sections of the healthcare facility).

Laboratory, diagnostics and virology

The virus found to cause COVID-19 was initially isolated from a clinical sample on 7 January. It is notable that within weeks following the identification of the virus, a series of reliable and sensitive diagnostic tools were developed and deployed. On 16 January, the first RT-PCR assays for COVID-19 were distributed to Hubei. Real-time PCR kits were distributed to all the provinces on 19 January and were provided to Hong Kong SAR and Macao SAR on 21 January. Information regarding viral sequences and PCR primers and probes was shared with WHO and the international community by China CDC on 12 January 2020. To facilitate product development and research on the new virus, COVID-19 virus sequences were uploaded to the GISAID Database by China.

By 23 February, there were 10 kits for detection of COVID-19 approved in China by the NMPA, including 6 RT-PCR kits, 1 isothermal amplification kit, 1 virus sequencing product and 2 colloidal gold antibody detection kits. Several other tests are entered in the emergency approval procedure. Currently, there are at least 6 local producers of PCR test kits approved by NMPA. Overall, producers have the capacity to produce and distribute as many as 1,650,000 tests/week.
Specimens from both the upper respiratory tract (URT; nasopharyngeal and oropharyngeal) and lower respiratory tract (LRT; expectorated sputum, endotracheal aspirate, or bronchoalveolar lavage) are collected for COVID-19 testing by PCR.

COVID-19 virus has been detected in respiratory, fecal and blood specimens. According to preliminary data from Guangzhou CDC as of 20 February, virus can initially be detected in upper respiratory samples 1-2 days prior to symptom onset and persist for 7-12 days in moderate cases and up to 2 weeks in severe cases. Viral RNA has been detected in feces in up to 30% of patients from day 5 following onset of symptoms and has been noted for up to 4-5 weeks in moderate cases. However, it is not clear whether this correlates with the presence of infectious virus. While live virus has been cultured from stool in some cases, the role of fecal-oral transmission is not yet well understood. COVID-19 has been isolated from the clinical specimens using human airway epithelial cells, Vero E6 and Huh-7 cell lines.

Serological diagnostics are rapidly being developed but are not yet widely used. Joint Mission members met with local research teams at the China CDC, Guangzhou Regenerative Medicine and Health Guangdong Laboratory. The teams reported on the development of tests for IgM, IgG and IgM+IgG using rapid test platforms utilizing chemiluminiscence. ELISA assays are also under development.

Research & Development

The government of China has initiated a series of major emergency research programs on virus genomics, antivirals, traditional Chinese medicines, clinical trials, vaccines, diagnostics and animal models. Research includes fundamental basic research and human subjects research. For the purpose of this report, human studies are limited to those involving IRB approval and informed consent. Other forms of human subjects investigations are included in the sections on epidemiology in this report. Well-focused, robust research conducted in the setting of an outbreak has the potential of saving many lives by identifying the most effective ways to prevent, diagnose and treat disease.

Since the COVID-19 virus has a genome identity of 96% to a bat SARS-like coronavirus and 86%-92% to a pangolin SARS-like coronavirus, an animal source for COVID-19 is highly likely. This was corroborated by the high number of RT-PCR positive environmental samples taken from the Huanan Seafood Market in Wuhan.

At least 8 nucleic acid-based methods for direct detection of COVID-19 and two colloidal gold antibody detection kits have been approved in China by the NMPA. Several other tests are close to approval. It will be important to compare the sensitivities and specificities of these and future serologic tests. Development of rapid and accurate point-of-care tests which perform well in field settings are especially useful if the test can be incorporated into presently commercially available multiplex respiratory virus panels. This would markedly improve early detection and isolation of infected patients and, by extension, identification of contacts. Rapid IgM and IgG antibody testing are also important ways to facilitate early diagnosis. Standard serologic testing can be used for retrospective diagnoses in the context of serosurveys that help better understand the full spectrum of COVID-19 infection.
A variety of repurposed drugs and investigational drugs have been identified. Screening NMPA approved drug libraries and other chemical libraries have identified novel agents. Hundreds of clinical trials involving remdesivir, chloroquine, favipiravir, chloroquine, convalescent plasma, TCM and other interventions are planned or underway. Rapid completion of the most important of these studies is critical to identifying truly effective therapies. However, evaluation of investigational agents requires adequately powered, randomized, controlled trials with realistic eligibility criteria and appropriate stratification of patients. It is important for there to be a degree of coordination between those conducting studies within and beyond China.

The development of a safe and effective vaccine for this highly communicable respiratory virus is an important epidemic control measure. Recombinant protein, mRNA, DNA, inactivated whole virus and recombinant adenovirus vaccines are being developed and some are now entering animal studies. Vaccine safety is of prime concern in the area of coronavirus infection in view of the past experience of disease enhancement by inactivated whole virus measles vaccine and similar reports in animal experiments with SARS coronavirus vaccines. It will be important that these vaccine candidates rapidly move into appropriate clinical trials.

The ideal animal model for studying routes of virus transmission, pathogenesis, antiviral therapy, vaccine and immune responses has yet to be found. The ACE2 transgenic mouse model and Macaca Rhesus model are already used in research laboratories. Systematically addressing which models can accurately mimic human infection is required.

There is a global rush for masks, hand hygiene products and other personal protective equipment. The relative importance of non-pharmaceutical control measures including masks, hand hygiene, and social distancing require further research to quantify their impact.

There are distinct patterns of intra-familial transmission of COVID-19. It is unclear whether or not there are host factors, including genetic factors, that influence susceptibility or disease course. COVID-19 has a varied clinical course and a precise description of that course is not available. In addition, the long-term consequences of COVID-19 are unknown. An observational cohort study of patients with COVID-19 enrolled from the time of diagnosis (with appropriate controls) could provide in-depth information about clinical, virologic and immunologic characteristics of COVID-19. Table 1 summarizes priority research areas with immediate and longer-term goals.

**Table 1: Priority research areas with immediate, intermediate and longer-term goals**

<table>
<thead>
<tr>
<th>Immediate Goals</th>
<th>Intermediate Goals</th>
<th>Long-term goals</th>
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<tbody>
<tr>
<td><strong>Diagnostics:</strong> RNA assays, antibody &amp; antigen assays, point of care detection</td>
<td>Diagnostics: Multiplex diagnostic platforms</td>
<td>Diagnostics: Prognostic markers</td>
</tr>
<tr>
<td><strong>Therapeutics:</strong> Remdesivir, favipiravir, chloroquine, plasma, TCM</td>
<td>Therapeutics: intravenous immunoglobulin (IVIg)</td>
<td>Therapeutics: Innovative approaches (CRISPR-CAS; RNAi; Cell-based; positive hits from library screening)</td>
</tr>
<tr>
<td><strong>Vaccines:</strong> Development of animal models</td>
<td>Vaccines: mRNA candidates and candidate viral vectors</td>
<td>Vaccines: inactivated candidates and subunit candidates</td>
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</table>
D. Knowledge Gaps

Knowledge gaps and key questions to be answered to guide control strategies include:

Source of infection

- Animal origin and natural reservoir of the virus
- Human-animal interface of the original event
- Early cases whose exposure could not be identified

The pathogenesis and virulence evolution of the virus

Transmission dynamics

- Modes of Transmission:
  - Role of aerosol transmission in non-health care settings
  - Role of fecal-oral transmission
- Viral shedding in various periods of the clinical course in different biological samples (i.e. upper and lower respiratory tract, saliva, faeces, urine)
  - Before symptom onset and among asymptomatic cases
  - During the symptomatic period
  - After the symptomatic period / during clinical recovery

Risk factors for infection

- Behavioral and socio-economic risk factors for infection in
  - Households / institutions
  - the Community
- Risk factors for asymptomatic infection
- Risk factors for nosocomial infection
  - among health care workers
  - among patients

Surveillance and monitoring

- Monitoring community transmission through existing
  - ILI surveillance
  - SARI surveillance
- The outbreak trend and intervention dynamics
  - Basic reproduction numbers in various stages of the epidemic
  - The epidemic’s relation to seasonality
Laboratory and diagnostics
- Sensitivity and specificity of different nucleic acid (PCR, NAATs and rapid tests), antibody and antigen tests
- Post-infection antibody titers and the duration of protection
- Sero-prevalence among
  - Health care workers
  - General population
  - Children

Clinical management of severe and critically ill patients
- Value of ECMO in the management of critically ill patients
- Best practice using mechanical ventilation in the management of critically ill patients
- Re-evaluation of the role of steroids in the management of severe and critically ill patients
- Identification of factors associated with successful clinical management and outcome
- Determination of the effectiveness of Traditional Chinese Medicines (TCM)
- Determination the effectiveness of additional investigational treatment options (e.g. intravenous immunoglobulin/IVIg, convalescent plasma)

Prevention and control measures
- Key epidemic indicators that inform evidence-based control strategy decision making and adjustments
- Effectiveness of infection prevention and control (IPC) measures in various health care settings
- Effectiveness of entry and exit screening
- Effectiveness of the public health control measures and their socio-economic impact
  - Restriction of movement
  - Social distancing
  - School and workplace closures
  - Wearing mask in general public
  - Mandatory quarantine
  - Voluntary quarantine with active surveillance
E. Operational & Technical Recommendations

Operational/programmatic recommendations

- Reassess risk and capacities based on different stages of the outbreak; approve different measures during the different phases of the response; assess different stages of the response; reach a balance between response and social development
- Initiate a timely scientific evidence based, efficient and flexible joint multi-sectoral mechanism, which is driven by strong government leadership

Technical recommendations

Epidemiology and transmission

- Continue enhanced surveillance across the country through existing respiratory disease systems, including ILI, SARI or pneumonia surveillance systems
- Prioritize early investigations, including household transmission studies, age-stratified sero-epidemiologic surveys including children, case-control studies, cluster investigations, and serologic studies in health care workers

Severity

- Continue to share information on patient management, disease progression and factors leading to severe disease and favorable outcomes
- Review and analyze the possible factors associated with the disease severity, which may include:
  - natural history studies to better understand disease progression in mild, severe and fatal patients
  - medical chart reviews about disease severity among vulnerable groups, (e.g. those with underlying conditions, older age groups, pregnant women and children) to develop appropriate standards of care
  - evaluation of factors leading to favorable outcomes (e.g. early identification and care)

Clinical care and infection prevention and control

- Suspect patients who have not yet been tested should be isolated in single normal pressure rooms; cohorting of positive cases is acceptable
- Physicians and all health care workers need to maintain a high level of clinical alert for COVID-19
- For affected countries, standardize training for clinical care and IPC and scale with the development of local (e.g. district level) experts
- Ensure concurrent testing for other viral pathogens to support a negative COVID-19 test
- Ensure maintenance of usual and essential services during the outbreak
• Ensure processes are in place for infection prevention among the most vulnerable, including the elderly

• Ensure readiness to provide clinical care and to meet IPC needs, including:
  a. anticipated respiratory support requirements (e.g. pulse oximeters, oxygen, and invasive support where appropriate)
  b. national guidelines for clinical care and IPC, revised for COVID-19
  c. nationally standardised trainings for disease understanding and PPE use for HCWs
  d. community engagement
  e. PPE and Medication stockpiles
  f. early identification protocols; triage, temperature screening, holding bays (triage, including pulse oximetry)
  g. treatment protocols including designated facilities, patient transportation
  h. enhanced uptake of influenza and pneumococcal vaccine according to national guidelines
  i. laboratory testing
  j. rapid response teams

Laboratory and virology

• Continue to perform whole genome analysis of COVID-19 viruses isolated from different times and places, to evaluate virus evolution

• Conduct pathogenesis studies using biopsy/post-mortem specimens of COVID-19 patients or infected animal models

• Evaluate available nucleic acid PCR diagnostics

• Rapidly develop and evaluate rapid/point-of-care diagnostics and serologic assays

• Conduct further study to interpret the result of positive COVID-19 RNA detection in feces in patients recovering from COVID-19

• Enhance international cooperation, especially in terms of biosafety and information sharing for increased understanding of the COVID-19 virus and traceability of the virus

• Consider monitoring proinflammatory cytokines via multiplex assays to predict the development of “cytokine storm”

Research and development

• Additional effort should be made to find the animal source, including the natural reservoir and any intermediate amplification host, to prevent any new epidemic foci or resurgence of similar epidemics
• Efforts should be made to consistently evaluate existing and future diagnostic tests for detection of COVID-19 using a harmonized set of standards for laboratory tests and a biorepository that can be used for evaluating these tests.

• Consider the establishment of a centralized research program in China to oversee that portfolio and ensure the most promising research (vaccines, treatments, pathogenesis) are adequately supported and studied first; program staff dedicated to the clinical research would work at the clinical research site(s) to decrease the research workload of the clinicians at the site.

• Consider including one or more sites within China in the ongoing and future multicenter, international trials; Chinese investigators should be actively engaged in international trials.

• Continue to develop additional animal models, making every effort to ensure these mimic human infection and virus transmission as closely as possible.

• Conduct studies to determine which of the commonly used forms of PPE are most effective in controlling the spread of COVID-19.
Ned,

(b)(5)
Please let me know your preferences and whether you have any other questions I can address.

Gray

F. Gray Handley
Associate Director for International Research Affairs
National Institute of Allergy and Infectious Diseases
National Institute of Health
U.S. Department of Health and Human Services

Tel: 301 594 6128 5601 Fishers Lane, Room 1E50
Fax: 301 480 2954 Bethesda, MD 20892-9802
handleyg@niaid.nih.gov

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From: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Sent: Saturday, March 28, 2020 3:23 PM
To: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>; Handley, Gray (NIH/NIAID) [E] <handleyg@niaid.nih.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E] <lowyd@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Subject: RE: RCSC, CEO Roundtable-China & NCI: One for All, and All for One

Ned,

It sounds like Gray is our guy on this, so I’ve cced him.

Thanks!!
From: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Sent: Saturday, March 28, 2020 2:48 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E] <lowy@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Subject: Re: RCSC, CEO Roundtable-China & NCI: One for All, and All for One

Garrett

(b)(5)

Happy to speak by phone with anyone at OGA if that would help.

Thanks to you and your team for working on this.

Ned

Norman E. Sharpless MD
Director, the National Cancer Institute

On Mar 28, 2020, at 12:43 PM, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Ned,

(b)(5)

(b)(5) Pls advise. Many thanks!

From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Saturday, March 28, 2020 11:28 AM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E] <lowy@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>
Subject: RE: RCSC, CEO Roundtable-China & NCI: One for All, and All for One
Garrett,

Happy to help in any way I can.

Larry
Many thx!

Sent from my iPhone

On Mar 28, 2020, at 10:02 AM, Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov> wrote:

Dear Garrett

Am cc’ing Francis and Doug for awareness. Any advice appreciated

Thx

Ned

Norman E. Sharpless, MD
Director, The National Cancer Institute
<image003.png>

*Pre-decisional / FOUO / Deliberative*

From: ZhuChen <zchen@stn.sh.cn>
Sent: Saturday, March 28, 2020 9:44 AM
To: Dr. Martin J. Murphy, Jr. <martin.murphy@ceouroundtableoncancer.org>
Dear Dr. Murphy,

I believe strengthening the international cooperation was one of the major consensus reached in the latest G20 conference. So if NIH, and NCI in particular, is interested in serological studies with Chinese colleagues, NIH and/or NCI leaders can contact formally President of CAMS, Prof. WANG Chen and Director General of Chinese CDC, Prof. GAO Fu. I guess there is also a representative of NIH in the US Embassy in Beijing. May be this channel can be used as well.

With best regards,
Zhu CHEN

March 28, 2020

His Excellency Professor CHEN Zhu 陈竺, MD, PhD
President, Red Cross Society of China
Beijing, China

Dear Professor CHEN Zhu:

Your CEO Roundtable on Cancer-China is collaborating with Dr. Ned Sharpless, director of the National Cancer Institute, to understand and improve the performance of COVID-19 serological tests. This work is being performed at the Serology labs of Frederick National Lab (FNL) in Frederick, Maryland, one of our nation’s best labs in which to conduct this important work.

Understanding which patients have made good IgM or IgG antibodies to the protein products of the SARS-CoV-2 virus that cause COVID-19 will be critical to helping patients and it will also help our world’s economic recovery. To do this, we need an accurate working assay with high sensitivity and specificity. Indeed, the US FDA, like China’s NMPA, is receiving emergency use applications for these types of tests, but the real world performance of these assays is still an open question that these collaborative studies are designed to address as discussed below.

In order to accomplish these vital studies with both speed as well as with professional diligence, we seek your supportive collaboration.

Here are some needs:
1. **IgG+ controls.** We need as many samples as possible of sera or whole blood from patients who have recovered from COVID-19. Ideally, these patients would be more than 2 weeks since the resolution of symptoms, and would have had a documented PCR+ test for the SARS-CoV-2 virus. We hope for samples from **at least 30 different patients.** As much serum or whole blood as possible from these patients but ideally **at least 2 mls per patient.**

2. **IgG and/or IgM+ controls.** We also seek as many samples as possible of sera or whole blood from patients that have very recently (i.e., <2 weeks) recovered from COVID-19. Ideally, these patients would be within 2 weeks since the resolution of symptoms, and would have had a documented PCR+ test for the SARS-CoV-2 virus. We are hoping for samples from **at least 30 different patients.** We need as much serum or whole blood as possible from these patients but ideally **at least 2 mls per patient.**

3. **Negative controls for the assay.** Also needed are as many samples as possible of sera or whole blood from patients with no history of COVID-19, but collected from a similar population as sample *Groups 1 and 2* above. Since many patients infected by SARS-CoV-2 were not aware of their infection, the best negative control samples are those collected prior to September 2019. Again, as much serum or whole blood as possible from as many patients as possible but ideally **at least 2 mls per patient.**

4. **Coronavirus specificity.** Sera or whole blood from patients that were exposed to other non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E to evaluate specificity. Again, as much serum or whole blood as possible from as many patients as possible ideally **at least 2 mls per patient.**

As you especially appreciate, the world is under significant pressure to make decisions about these tests, which is why we seek your collaboration as soon as possible. **Even if you can only have a small number of +IgG or IgM samples, this will be vital to initiate our studies.**

*A point of clarification:*** These studies are separate from the NIAID Convalescent Serum Project that is also underway at the FNL. In that project, Cliff Lane and his colleagues from NIAID are trying to use the pheresis of convalescent serum as a therapeutic in patients with COVID-19. This important trial has been encouraged by you and your colleagues as published this week in your manuscript: *The feasibility of convalescent plasma therapy in severe COVID-19 patients: a pilot study* by Kai Duan, *et al.* In the present serology effort we just described differs from Cliff Lane’s project in that our effort is focused on diagnosis rather than on therapy. That is, it is intended to study the real-world performance of these SARS-CoV-2 serology assays in healthy individuals.

We all look forward to engaging rapidly in dialogue that we hope will launch a vibrant collaboration ... for the health of patients and the betterment of our world. **Dr. Ned Sharpless** is a close friend and a superb collaborator with whom you will find an admirable colleague. What an honor it will be for me to introduce the two of you.
Should you find it useful, your **CEO Roundtable on Cancer-China** can help facilitate these studies in China and at the NCI. If you find it supportive, we may use the **Memoranda of Understanding** that CEO Roundtable-China is honored to share with the **Chinese Academy of Sciences** (CAS) as well as the one with **China-CDC**. If it would be better to create a new MoU with **RCSC**, that would bring both joy and honor to our efforts. **One for all, and all for one!**

With my greatest esteem and heartfelt gratitude, I remain

Yours,

Marty

**Martin J. Murphy, DMedSc, PhD, FASCO**
Member, Board of Directors
CEO Roundtable on Cancer
C: (6) 001-546 157 000 (mobile)
E: Martin.Murphy@CEORoundtableOnCancer.org

Chief Executive Officer
CEO Roundtable on Cancer-China

上海特新健康促进中心
Shanghai 200004, People's Republic of China

Founding Chief Executive Officer (2000-2020)
CEO Roundtable on Cancer & Project Data Sphere®

Sender: Handley, Gray (NIH/NIAID) [E] <handleygr@niaid.nih.gov>

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<td>2020/03/28 16:21:44</td>
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## Biological Materials Needed for COVID-19 Medical Countermeasure Research

<table>
<thead>
<tr>
<th>Specimens requested</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viral isolates with significant genetic sequence deviation</td>
<td>We are collecting SARS-CoV-2 isolates from around the world to identify, characterize and expand several qualified viral seeds from human cases. Studying genetic drift or any shift is of importance to ensure selection of appropriate viral seeds.</td>
</tr>
<tr>
<td>Viral isolates from lethal cases</td>
<td>We are collecting SARS-CoV-2 isolates from around the world to identify, characterize and expand several qualified viral seeds from human cases. Lethal cases are of particular importance. Historically our FDA has shown a strong preference for strains from lethal cases and subject matter experts would also prefer to use a strain from a lethal case for animal model development.</td>
</tr>
<tr>
<td>Viral isolates from December 8-30</td>
<td>It would be helpful to have access to COVID-confirmed specimens identified in the WHO-China Joint Mission Report (page 6, Figure 2A) from Dec 8 – 30, 2019 for pathogenicity and viral evolution basic research studies</td>
</tr>
<tr>
<td>Cryopreserved PBMC/sera from individuals ages 18-55 who have recovered from COVID-19 (ideally at least 2 weeks after symptom onset)</td>
<td>These samples will support the development of critically needed therapeutics and vaccines.</td>
</tr>
</tbody>
</table>
From: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>

To: Evaluation Only. Created with Aspose.HTML. Copyright 2013-2020 Aspose Pty Ltd.
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<handlegr@niaid.nih.gov>
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<auchinclossh@niaid.nih.gov>;
Marston, Hilary (NIH/NAID) [E] o=ExchangeLabs/ou=Exchange Administrative Group
(FYDIBOHF23SPDLT)/cn=Recipients/cn=93be476c17024bc5bc54add201e6a8-hilary.mar
<hilary.marston@nih.gov>

Subject: RE: RCSC, CEO Roundtable-China & NCI: One for All, and All for One
Date: 2020/03/31 21:39:08
Priority: Normal
Type: Note

Gray

(b)(5)

Ned

From: Handley, Gray (NIH/NAID) [E] <handleygr@niaid.nih.gov>
Sent: Saturday, March 28, 2020 4:21 PM
To: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Cc: Fauci, Anthony (NIH/NAID) [E] <afauci@niaid.nih.gov>; Collins, Francis (NIH/OD) [E]
<collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E] <lowyd@mail.nih.gov>; Elvander, Erika (OS/OGA)
<Erika.Elvander@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Grigsby, Garrett
(HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Auchincloss, Hugh (NIH/NAID) [E]
Ned,

Please let me know your preferences and whether you have any other questions I can address.

Gray

F. Gray Handley
Associate Director for International Research Affairs
National Institute of Allergy and Infectious Diseases
National Institute of Health
U.S. Department of Health and Human Services

Tel: 301 594 6128 5601 Fishers Lane, Room 1E50
Fax: 301 480 2954 Bethesda, MD 20892-9802
handleygr@niaid.nih.gov

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From: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Sent: Saturday, March 28, 2020 3:23 PM
To: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>; Handley, Gray (NIH/NIAID) [E]
Ned,

It sounds like Gray is our guy on this, so I’ve cced him.

Thanks!!

From: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Sent: Saturday, March 28, 2020 2:48 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E]
<lowyd@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Kerr, Lawrence
(HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Subject: Re: RCSC, CEO Roundtable-China & NCI: One for All, and All for One

Garrett

Thanks to you and your team for working on this.

Ned
Norman E. Sharpless MD
Director, the National Cancer Institute

On Mar 28, 2020, at 12:43 PM, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Ned,

Pls advise. Many thanks!

From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Saturday, March 28, 2020 11:28 AM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E] <lowyd@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>
Subject: RE: RCSC, CEO Roundtable-China & NCI: One for All, and All for One

Garrett,

Happy to help in any way I can.

Larry
From: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Sent: Saturday, March 28, 2020 10:55 AM
To: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>
Cc: Collins, Francis (NIH/OD) [E] <collinsf@od.nih.gov>; Lowy, Douglas (NIH/NCI) [E]
<lowyd@mail.nih.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Kerr, Lawrence
(HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Subject: Re: RCSC, CEO Roundtable-China &NCI: One for All, and All for One

(b)(5)

Many thx!

Sent from my iPhone

On Mar 28, 2020, at 10:02 AM, Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>wrote:

Dear Garrett

(b)(5)
Am cc’ing Francis and Doug for awareness. Any advice appreciated

Thx

Ned

Norman E. Sharpless, MD
Director, The National Cancer Institute
<image003.png>

Pre-decisional / FOUO / Deliberative

From: ZhuChen <zchen@stn.sh.cn>
Sent: Saturday, March 28, 2020 9:44 AM
To: Dr. Martin J. Murphy, Jr. <martin.murphy@ceoroundtableoncancer.org>
Cc: Sharpless, Norman (NIH/NCI) [E] <norman.sharpless@nih.gov>; Kevin Si <kevin.si@ceoroundtableoncancer.org>
Subject: Re:RCSC, CEO Roundtable-China & NCI: One for All, and All for One

Dear Dr. Murphy,
I believe strengthening the international cooperation was one of the major consensus reached in the latest G20 conference. So if NIH, and NCI in particular, is interested in serological studies with Chinese colleagues, NIH and/or NCI leaders can contact formally President of CAMS, Prof. WANG Chen and Director General of Chinese CDC, Prof. GAO Fu. I guess there is also a representative of NIH in the US Embassy in Beijing. May be this channel can be used as well.
With best regards,
Zhu CHEN

------------------ Original ------------------
From: "Dr. Martin J. Murphy, Jr."<martin.murphy@ceoroundtableoncancer.org>
Date: Sat, Mar 28, 2020 08:43 PM
To: "ZhuChen"<zchen@stn.sh.cn>
Cc: "Dr. Norman E. Sharpless - NCI (norman.sharpless@nih.gov)"
"Kevin Si"
Subject: RCSC, CEO Roundtable-China & NCI: One for All, and All for One

March 28, 2020

His Excellency Professor CHEN Zhu 陈竺, MD, PhD
President, Red Cross Society of China
Beijing, China
Dear Professor CHEN Zhu:

Your CEO Roundtable on Cancer-China is collaborating with Dr. Ned Sharpless, director of the National Cancer Institute, to understand and improve the performance of COVID-19 serological tests. This work is being performed at the Serology labs of Frederick National Lab (FNL) in Frederick, Maryland, one of our nation’s best labs in which to conduct this important work.

Understanding which patients have made good IgM or IgG antibodies to the protein products of the SARS-CoV-2 virus that cause COVID-19 will be critical to helping patients and it will also help our world’s economic recovery. To do this, we need an accurate working assay with high sensitivity and specificity. Indeed, the US FDA, like China’s NMPA, is receiving emergency use applications for these types of tests, but the real world performance of these assays is still an open question that these collaborative studies are designed to address as discussed below.

In order to accomplish these vital studies with both speed as well as with professional diligence, we seek your supportive collaboration.

Here are some needs:

1. **IgG controls.** We need as many samples as possible of sera or whole blood from patients who have recovered from COVID-19. Ideally, these patients would be more than 2 weeks since the resolution of symptoms, and would have had a documented PCR+ test for the SARS-CoV-2 virus. We hope for samples from at least 30 different patients. As much serum or whole blood as possible from these patients but ideally at least 2 mls per patient.

2. **IgG and/or IgM controls.** We also seek as many samples as possible of sera or whole blood from patients that have very recently (i.e., <2 weeks) recovered from COVID-19. Ideally, these patients would be within 2 weeks since the resolution of symptoms, and would have had a documented PCR+ test for the SARS-CoV-2 virus. We are hoping for samples from at least 30 different patients. We need as much serum or whole blood as possible from these patients but ideally at least 2 mls per patient.

3. **Negative controls for the assay.** Also needed are as many samples as possible of sera or whole blood from patients with no history of COVID-19, but collected from a similar population as sample Groups 1 and 2 above. Since many patients infected by SARS-CoV-2 were not aware of their infection, the best negative control samples are those collected prior to September 2019. Again, as much serum or whole blood as possible from as many patients as possible but ideally at least 2 mls per patient.

4. **Coronavirus specificity.** Sera or whole blood from patients that were exposed to other non-SARS-CoV-2 coronavirus strains, such as coronavirus HKU1, NL63, OC43, or 229E to evaluate
specificity. Again, as much serum or whole blood as possible from as many patients as possible ideally at least 2 mls per patient.

As you especially appreciate, the world is under significant pressure to make decisions about these tests, which is why we seek your collaboration as soon as possible. Even if you can only have a small number of +IgG or IgM samples, this will be vital to initiate our studies.

A point of clarification: These studies are separate from the NIAID Convalescent Serum Project that is also underway at the FNLI. In that project, Cliff Lane and his colleagues from NIAID are trying to use the pheresis of convalescent serum as a therapeutic in patients with COVID-19. This important trial has been encouraged by you and your colleagues as published this week in your manuscript: The feasibility of convalescent plasma therapy in severe COVID-19 patients: a pilot study by Kai Duan, et al. In the present serology effort we just described differs from Cliff Lane’s project in that our effort is focused on diagnosis rather than on therapy. That is, it is intended to study the real-world performance of these SARS-CoV-2 serology assays in healthy individuals.

We all look forward to engaging rapidly in dialogue that we hope will launch a vibrant collaboration ... for the health of patients and the betterment of our world. Dr. Ned Sharpless is a close friend and a superb collaborator with whom you will find an admirable colleague. What an honor it will be for me to introduce the two of you.

Should you find it useful, your CEO Roundtable on Cancer-China can help facilitate these studies in China and at the NCI. If you find it supportive, we may use the Memoranda of Understanding that CEO Roundtable-China is honored to share with the Chinese Academy of Sciences (CAS) as well as the one with China-CDC. If it would be better to create a new MoU with RCSC, that would bring both joy and honor to our efforts. One for all, and all for one!

With my greatest esteem and heartfelt gratitude, I remain

Yours,

Marty

Martin J. Murphy, DMSc, PhD, FASCO
Member, Board of Directors
CEORoundtable on Cancer

Chief Executive Officer
CEORoundtable on Cancer-China

上海市健康促进中心
Shanghai 2000050, People’s Republic of China

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<Garrett.Grigsby@hs.gov>;
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<hilary.marston@nih.gov>

Sent Date: 2020/03/31 21:39:00
Delivered Date: 2020/03/31 21:39:08
Dear Colleagues,

Please find attached the agenda and supporting materials for the call with Ambassador Mark Dybul.

**HHS Briefing for Ambassador Mark Dybul**  
**Independent Panel on Preparedness and Response (IPPR)**  
**Friday September 2, 2020**  
**1:00-3:00 PM**

1. Introductions (Garrett) **2 minutes**

2. COVID-19 Outbreak and Concerns (Dr. Fauci/Dr. Lane) **30 minutes**

3. COVID-19 Outbreak and Concerns (Dr. Redfield/ Dr. Marston/ Dr. Arthur) **30 minutes**

4. WHA73.1 and the Step-wise Review (Colin/Mara) **10 minutes**

5. Addressing some points on evaluation from WHA73.1(OP9.10)
   
a. “...effectiveness of the mechanisms at WHO’s disposal”
   i. February WHO Mission to PRC (Cliff/Weigong) **5 minutes**
   ii. Public Health Emergency of International Concern (Colin/Mara) **5 minutes**

b. “...functioning of the IHR and the status of implementation”
   i. Inaccurate Information from PRC (Adrienne/Larry) **10 minutes**
   ii. WHO Sample Sharing Agreement (Larry) **5 minutes**

c. “...relevant recommendations, including of the previous IHR Review Committees”
   i. G7 WHO Roadmap: background & conclusion (Garrett/Colin) **10 minutes**

d. “...actions of WHO and their timelines pertaining to the COVID-19 pandemic”
   (Larry/Colin) **5 minutes**
6. IPPR Timeline and the Ability of Member States to effectuate WHO Reform through WHA Resolutions (Colin/Mara) 5 minutes

7. Wrap-up (Garrett) 3 minutes

Thanks,

Arnela Lopez  
Office of Global Affairs  
U.S. Department of Health & Human Services  
D: 202-691-2033/ C:  
/ Arnela.Lopez@hhs.gov

-----Original Appointment-----
From: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>
Sent: Tuesday, September 29, 2020 12:50 PM
To: Grigsby, Garrett (HHS/OS/OGA); Mark Dybul <mrd54@georgetown.edu>; Burr, Mara (HHS/OS/OGA); McIff, Colin (HHS/OS/OGA); Richardson, Juliana (HHS/OS/OGA); Kerr, Lawrence (HHS/OS/OGA); Parrish Fuentes, Adrienne (OS/OGA); Fernandez, Jose (OS/OGA); Elvander, Erika (OS/OGA); Swammy, JR (HHS/OS/OGA); Redfield, Robert R. (CDC/OD); Zhou, Weigong (CDC/DDID/NCIRD/ID); Gershman, Lynn E. (CDC/OD/OCS); Romanik, Nikki Jo (CDC/OD/OCS); Williams, Teresa (CDC/OD/OCS); Wolfe, Mitchell (CDC/OD); Barasch, Kimberly (NIH/NIAID) [C]; Marston, Hilary (NIH/NIAID) [E]; Folkers, Greg (NIH/NIAID) [E]; Awwad, David (NIH/NIAID) [C]; Smith, Kendra (HHS/OS/OGA) (CTR); Lopez, Arnela (OS/OGA)
Cc: Witkofsky, Nina (CDC/OD/OCS); Jernigan, Daniel B. (CDC/DDID/NCIRD/ID); Willis, Heber (HHS/OS/OGA)
Subject: Briefing Mark Dybul
When: Friday, October 2, 2020 1:00 PM-3:00 PM (UTC-05:00) Eastern Time (US & Canada).
Where: WEBEX: https://hhs.webex.com/hhs/j.php?MTID=mf989cee84a469f64fe4f654bde5fe86b

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Reviewing COVID-19 Response and Strengthening the WHO’s Global Emergency Preparedness and Response

WHO ROADMAP

Introduction

The COVID-19 resolution, adopted at the 73rd World Health Assembly (WHA), calls for global cooperation, unity and solidarity and confirms commitment to meaningful change. Participating countries welcome the announcement of WHO on 9 July 2020 to launch an impartial, independent and comprehensive evaluation by the “independent panel for pandemic preparedness and response” (IPPR) of the global COVID-19 response. We support this approach and suggested an independent review early on in the COVID-19 outbreak. We welcome the aim of the panel to provide timely and concrete recommendations for strengthening future responses and urge all countries to work constructively with the review, whilst not distracting from the immediate response. We commit to work with every country and partner for a safer world where our shared systems and institutions work transparently and collaboratively as intended to improve the global capacity to prevent, respond to and defeat pandemics.

With that in mind, this roadmap sets out areas where we believe there is an opportunity to strengthen the WHO by increasing accountability and its ability to be impartial and objective, improve transparency and its overall effectiveness, by providing it with a more comprehensive set of tools that are fit-for-purpose to address new and emerging threats.

A. Areas for short term progress under existing mandates

Public Health Emergency of International Concern (PHEIC) Declarations
We encourage the WHO to consider a new designation -- the Intermediate Public Health Alert (IPHA) or “amber light” -- as recommended by the Independent Oversight and Advisory Committee (IOAC). We believe WHO can do this through Member State consultations. WHO can use this opportunity to increase collaboration with UN and other partners and to establish a clear and systematic set of rules for activating the broader UN system and global health architecture. The amber light aims at timely communication about evolving threats to Member States and the public, thus encouraging improved reporting, earlier preparation, and better resource allocation.

Clarifying responsibilities around outbreaks
Drawing on IHR Articles 6 (Notification), 7 (Information-sharing during unexpected or unusual public health events), 8 (Consultation), 9 (Other reports) and 10 (Verification), we invite WHO to issue updated guidance for itself, Member States and non-state actors of the expectations, after the initial notification of an event, as part of the new IPHA or under the existing process leading to a PHEIC declaration, including specific timeframes for action. The WHO should continue to promote safe and rapid sample sharing of pathogens of pandemic potential or high risk, including during the assessment phase.

IHR Emergency Committees (EC)
Increased objectivity and impartiality of WHO, including the membership and scope of an EC, tailoring each to a given outbreak and adapting as needed, over the course of each event as new evidence emerges provide a pathway to an improved EC. Additionally, more transparent public accounting of proceedings is important to understand decision making around PHEICs. The ECs
should hold additional meetings, including if requested by an appropriate number of Member States, and be responsive to Member States’ inquiries. Providing written summaries of the discussion in all EC meetings would help build confidence.

**Effective and transparent oversight**
For both the IOAC and Global Preparedness Monitoring Board (GPMB), established jointly by WHO and the World Bank, it is essential that WHO and the World Bank, working with Member States, review and secure their permanent mandates, terms of reference, defined scope of activities and sufficient resourcing.

**Quality and speed of WHO guidance development and issuance**
We appreciate the establishment of a Chief Scientist’s Office at WHO to raise the quality of, and confidence in, guidance documents and normative materials. It should be empowered, in compliance with Framework of Engagement with Non-State Actors (FENSA), with sufficient budget and staffing, and make global expertise available to all levels of WHO.

**Access to Medical Products**
We will work together to expedite the development, approval, manufacture, and distribution of safe, effective and affordable COVID-19 vaccines, diagnostics and therapeutics. Providing access to products for high-risk populations, such as health care workers and vulnerable groups is key. Once COVID-19 countermeasures are developed, all countries must benefit from equitable access. Based on the experiences with access to medical products for COVID-19, strategies for medical countermeasures for future pandemics could be developed.

**B. Areas for medium and longer-term action**

**I. Preparedness**

**IHR compliance, preparedness, detection and response**
A tool allowing a better understanding of Member State IHR compliance and preparedness may provide needed clarity on areas for additional work. Therefore, we propose consideration of a universal review mechanism for IHR compliance, to encourage countries to view preparedness as fundamental to national and health security as well as incentivize fulfillment of IHR obligations. We encourage the independent review panel, the WHO, and Member States to initiate a discussion on a review process at the earliest opportunity.

**Support on capacity building and resource sustainability**
Any universal periodic review mechanism should promote cooperation and support across countries and partners, especially for low- and middle-income countries seeking to fill core capacity gaps. The review could also look at how international organizations and international financial institutions can better support capacity building through providing and catalyzing funding for national plans and technical expertise, and how countries can support each other, including self-financing.

**II. Response**

**Enhanced Transparency, Accountability and Oversight**
New measures coupled with targeted resources are necessary to respond immediately and transparently to emerging threats. Especially for public health risks with the potential to spread
globally, we need to consider how best to strengthen Member State reporting to WHO, and empower WHO leadership to articulate Member States’ responsibilities in an impartial and objective manner when they are not meeting obligations. It is essential to strengthen oversight mechanisms and clarify mandates to ensure full transparency and participation by Member States, other global health partners and the public.

**WHO Access to Outbreak Areas**
We encourage the independent review panel to consider mechanisms to facilitate more rapid access to outbreak areas for WHO-led response teams to the extent required for a robust public health response, including in the assessment phase. Such access is crucial to the early containment of outbreaks, so recommendations should also look at ways to empower the DG to report and incentivize Member State compliance as a part of this process.

**Handling Travel and Trade Restrictions**
COVID-19 lessons show potential benefits of de-linking travel from trade restrictions under emergency conditions, with the goal of maximizing public health measures while minimizing economic impacts. Ensuring open and safe global transportation routes and securing supply chains to allow delivery of essential products, guaranteeing humanitarian aid access to people in need and continued travel for responders are necessary. We encourage WHO to lead an evidence-based process to develop recommendations on the appropriate role of domestic and international travel restrictions within a suite of preparedness and response interventions, in close consultation with other relevant organizations and tailored to the circumstances of relevant industries, such as cruise ships, air travel and shipping.

**Strengthen effectiveness and sustainability of World Health Emergencies (WHE) Program**
WHE performance has improved since 2016 but needs further strengthening. In particular, we commit to serious consideration of potential budget reforms that would ensure adequate and sustainable financing for WHE and accelerate continued performance gains. The WHO Solidarity Fund and the WHO Foundation are helpful in broadening the donor base, but any new funding sources need Member State oversight.

### III. Health Cooperation

**One Health cooperation**
We recommend a look at how to improve collaboration on zoonotic diseases among WHO, the Food and Agriculture Organization (FAO) and the World Organisation for Animal Health (OIE), as well as the United Nations Environment Programme (UNEP). The existing tripartite agreement for antimicrobial resistance (AMR) serves as a model and starting point for broader efforts to track and respond to zoonotic diseases, but further action is needed.

**WHO and the United Nations System**
The review provides an opportunity to improve coordination between WHO and relevant organizations in support of the greater preparedness and response collaboration called for in IHR Article 44. Recommendations should focus on improving capacity, accountability, transparency, and coordination, including avoiding competing calls for funding. All partners must work toward shared goals, including UN development system improvement.
Strengthening International Health Protection Architecture

I. Preliminary considerations.

This document contains suggestions for areas and/or sectors that could be improved for strength International Health Protection Architecture and enhanced operability of the International Health Regulations [IHR] and related fields based on practical experience of their implementation by Ministries of Health and other institutions concerned in the field of public health of the different States Signatories.

The ideas contained herein seek to enrich the ongoing reflection and evaluation processes, so as to generate, in the context of multilateral collaboration, a proposal to improve, at the global, regional and local levels, the responsiveness of technical agencies to future pandemics and/or Public Health Emergencies of International Concern (PHEIC).

II. Possible areas for improvement.

In accordance with the aspects discussed among several member states, different areas where improvements are possible have been identified which are defined and summarized in the following box:

| 1. Approach focused on vulnerable groups. |
| 2. Strengthen inter-sectorial coordination and communication. |
| 3. Consider intermediate stages in reports on public health emergencies of international concern. |
| 4. Improve and develop strategies to follow up region-specific emergencies. |
| 5. Establish a Risk Communication Strategy Template. |
| 6. Review the allocation of the International Health Regulations Office within the relevant national institutional structures. |
| 7. Promote multilateral, regional and bilateral mechanisms facilitating Humanitarian Repatriation in the Context of Pandemics. |
| 8. Improve standards of transparency and States participation. |
| 9. Establish timely, efficient and effective Notification Processes. |
| 10. Consider Emergency Verification Committee. |
| 11. Evaluate additional mechanisms of coordination for the exchange of information and monitoring. |
| 12. Improve the systematization and coordination’s mechanisms among the existing Networks of Regional Experts. |
| 13. Consider Periodic Review processes or Joint External Assessment measures. |
| 14. Improve the mechanism that allow to convene extraordinary sessions of the Executive Council, as well as field assessment missions. |

III. Definition of each proposal

1. Approach focused on vulnerable groups.

In line with the awareness expressed on the Report: Public health preparedness and response WHO’s work in health emergencies [A73/11] by the Director-General, it’s important to improve the International Health Protection Architecture with a special focus on vulnerable groups, based on the economic, social, normative and political determinants as underlying drivers of the vulnerability of these groups.

2. Strengthen inter-sectorial coordination and communication.
Strengthen inter-sectorial coordination and communication for the detection and investigation of public health emergencies of international concern, taking into account the experience of Member States, develop mechanisms tailor-made to the necessities of each public Health System, improving the operability of the IHR. Through, for instance, to develop new protocols to respond adequately to a PHEIC (public health emergency of international concern).

3. Consider intermediate stages in reports on public health emergencies of international concern.

Reports based on intermediates stages, through traffic light criteria, has been proposed by technical instances when the functioning of the IHR has been assessed by other entities.

4. Improve and develop strategies to follow up region-specific emergencies.

Consider a real-time monitoring system, allowing, inter alia, the pooling of information, resources and best practices across International Health Protection Architecture. For example, analyze the constitution of an on-line space to exchange real-time information with regard to eventual events of concern occurring in the region. The purpose would be to have information available to all users of the platform with, in this case, access to all the IHR offices and the National Coordination Centre.

5. Establish a Risk Communication Strategy Template.

Enable Risk Communication Strategies, adaptable to states and regions, including specific local capacity-building facilities provided with financial and technical resources and, eventually, elaborate goal-directed development plans, including performance indicators, as a key feature of public health systems’ responsiveness.

6. Review the allocation of the International Health Regulations Office within the relevant national institutional structures.

In order to improve decision-making and resource management and to ensure the due IHR implementation. It is proposed to review the position of the IHR Office within the national institutional structures. Based on the experience of the response to the Ebola virus in 2015, the WHO requested the Review Committee to assess and provide recommendations for strengthening of the IHR National Focal Points. Consider if an increased level of autonomy could contribute to the effectiveness and efficiency of the HR response in case of a PHEIC, as recommended by the Committee of Experts in 2015.

7. Promote multilateral, regional and bilateral mechanisms facilitating Humanitarian Repatriation in the Context of Pandemics.

Without prejudice of the public health measures that States may adopt, the ongoing pandemic highlights the necessity to establish multiples strategies to assist and facilitate their citizens and permanent residents abroad from entering their territory and, likewise, facilitate the departure from and transit through their territory of nationals and permanent residents of third countries, at the time of a pandemic declared by the WHO.

8. Improve standards of transparency and States participation.
Greater transparency standards and States participation among different levels and structures of the International Health Protection Architecture, aims to assure legitimacy of the multilateral institutions involved in response to emergencies.

9. Promote timely, efficient and effective Notification Processes.

Notifications must be sent and taken note of, according the IHR, so as not to hamper the promptness and efficiency of the initial response that Member States may provide to the different events. Promote complementary procedures and protocols would improve the efficacy and efficiency of the current IHR Notification procedure.

10. Consider Emergency Verification Committee.

An Emergency Verification Committee may help to proportionally evaluate situations or events, that could be underestimated, thus hampering decision-making.

11. Evaluate additional mechanisms of coordination for the exchange of information and monitoring.

Enable or improve procedures and protocols for the exchange of information and monitoring, aiming to reduce risk factors that could induce events of public health significance. These procedures must be evaluated according with national regulations and existing international conventions.

12. Improve the coordination’s mechanisms among the existing Networks of Regional Experts.

Given the challenging volume of information, reports and scientific papers generated during a pandemic, it is required to improve systematization and coordination’s mechanisms among networks of regional experts, who should have access to exhaustive first-hand information from the affected country, providing a contribution to the assessment of the situation.

13. Consider Periodic Review processes or Joint External Assessment measures.

Based on similar systems existing in other United Nations’ Bodies, explore the possibility to create a periodic review of the state’s capacities to detect, assess and notify events according to the IHR and to present subsequent reports, with the purpose of provide timely recommendations regarding their preparedness and response to pandemics.

Also could be worthwhile considering a periodic joint external evaluations (JEE) of the state’s public health capacities, in order to provide assessment and reduce the gaps of the preparedness and capacity of a country to respond to the large-scale spread of infectious diseases such as COVID-19.

14. Improve the mechanism that allow to convene extraordinary sessions of the Executive Council, as well as field assessment missions.

Improve procedures that allow the WHO Executive Council, to convene extraordinary sessions of the said organ, whenever necessary, in order to evaluate an eventual outbreak of a new virus, as well as to request WHO to dispatch on-site assessment missions, once information is available on an eventual virus.
Terms of Reference

The Independent Panel for Pandemic Preparedness and Response
1. The COVID-19 pandemic has shaken the foundations of global health security and resilience and challenged the readiness and responsiveness of the international community to address unforeseen global health threats collectively. It has also demonstrated the indiscriminate impact of this global health ‘shock’ on all aspects of human life – social, political, economic and environmental – across geographies and across the continuum from the international, regional, national, and subnational levels to communities, households and individuals, thus reinforcing the interconnected nature of health emergency preparedness and response. It has also revealed the impact of inequalities within and between societies, as well as the importance of resilient health systems.

2. In May 2020, the Seventy-third World Health Assembly passed resolution WHA73.1, which requested the Director-General:

   “to initiate, at the earliest appropriate moment, and in consultation with Member States ¹ a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms², as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 – including (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; and (iv) the actions of WHO and their timelines pertaining to the COVID-19 pandemic – and to make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.”

3. In July 2020, the Director-General took the initiative to establish an Independent Panel for Pandemic Preparedness and Response to carry out an impartial, independent and comprehensive evaluation of the WHO-coordinated international health response to COVID-19 as one important step and measure to implement the request in the WHA resolution.

4. The Director-General of WHO appointed H.E. Ellen Johnson Sirleaf and Rt Hon Helen Clark as the co-chairs for the panel and asked them to select the additional panellists themselves in order to ensure maximum independence. The panel will provide progress reports through its co-chairs directly to the WHO governing bodies and will report to the World Health Assembly 2021.

5. The aim of the Independent Panel is to provide an evidence-based path for the future, grounded in lessons of the past and the present, identifying the most urgent needs and actions required to ensure that the world can now, and in the future, effectively address health threats at the national, regional and global levels. The Independent Panel’s objectives are both of a formative and a forward-looking nature.

6. The Panel will neither duplicate nor validate either previous work undertaken in this domain, including in the context of decades of pandemic preparedness and response planning, or previous independent reviews that have aimed to strengthen the world’s preparedness and response abilities. Rather it will draw on past and on-going reviews in order to be able to provide a fresh assessment of the challenges and recommendations for addressing them.

7. Specifically, the Panel will review experience gained and lessons learned from the international health response to COVID-19 as coordinated by WHO and assess:

¹ And, where applicable, regional economic integration organizations.
² Including an IHR Review Committee and the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme.
(i) the overall relevance and effectiveness of the international health response to the COVID-19 pandemic;
(ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees;³
(iii) the effectiveness of the mechanisms at WHO’s disposal and the actions of WHO and their timelines pertaining to the COVID-19 pandemic;⁴ and
(iv) WHO’s contribution to United Nations-wide efforts.

8. In reviewing the experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 as stated in the resolution the Panel will also:

(v) examine global health security threats and provide an analysis of past and future challenges and lessons learned;
(vi) include in its work analysis of the broader impacts of pandemics, including economic and social ones, and make recommendations to the extent that they have a direct bearing on future threats to global health security.

9. The Panel will:

(vii) make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.

10. The Panel will work in an open and transparent fashion and seek the best possible advice, experiences, and facts from member states and experts across the world.

11. The Panel will have its own independent Secretariat to support its work.

12. The Panel will define a detailed Program of Work, including a methodology for the work and specific timelines. The Panel will share information about its work and progress on a regular basis with Member States and other relevant partners.

³ For this particular objective, the Independent Panel will mainly be informed by the findings and outputs of the IHR Review Committee.
⁴ On this, the Independent Panel will also be informed by the work and outputs of the Independent Oversight Advisory Committee of the WHO Health Emergencies Programme.
The COVID-19 pandemic has once again highlighted the need for strong global health capacities. The World Health Organization (WHO) has the central role to play in addressing global health challenges, including prevention, detection and response to outbreaks. WHO’s constitution states that it is the mandated leading and coordinating authority in global health.

The expectations regarding WHO’s mandate are huge: The organisation is supposed to set up norms and standards and promote and monitor their implementation in a variety of fields, to shape the research agenda, to articulate ethical and evidence-based policy options, to react to outbreaks all over the globe, to provide adequate and timely information for health professionals and populations worldwide as well as to provide technical support. And last but not least WHO has the role to monitor the health situation worldwide and to assess health trends.

However, not only during the current pandemic, it has become clear that the WHO partly lacks the abilities to fulfil this mandate. The international community’s expectations regarding WHO’s capacities outweigh by far its given financial, structural and legal abilities.

The 73rd World Health Assembly adopted a resolution asking the DG to “initiate, at the earliest appropriate moment, and in consultation with Member States, a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms, as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19, including: (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the IHR and the status of implementation of the relevant recommendations of the previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; (iv) and the actions of WHO and their timelines pertaining to the COVID-19 pandemic, and make recommendations to improve global pandemic prevention, preparedness, and response capacity, including through strengthening, as appropriate, WHO’s Health Emergencies Programme.”

The lessons-learned process following this global health crisis will have to focus in particular on the strengthening of global health security structures including the WHO’s Emergency Programme (WHE) and potential updates to the International Health Regulations (IHR).

In this sense, COVID-19 has to be used as an opportunity to strengthen WHO’s abilities to fully act as the leading and coordinating authority in global health. Long-term strengthening of WHO overall is key in order to strengthen its role and responsibilities in pandemic preparedness and response.

Three interdependent strains of reform are being proposed:

- (1) WHO reform in general
- (2) WHO’s work in health emergencies
- (3) WHO’s work under the framework of the IHR

These three reform strains are interlinked with one another: None of these areas can be successfully reformed without having addressed challenges in the other areas.

Furthermore, this reform cannot be envisioned without an upstream evaluation process.

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1 https://apps.who.int/gb/ebwha/pdf_files/WHA73/A73_R1-en.pdf
(1) **WHO reform in general**

Unlike all other global health actors, the WHO is the only health actor with quasi-universal membership, multilateral legitimacy and an almost unlimited health mandate. Since its creation, WHO has achieved major public health successes. However, while the expectations regarding WHO’s mandate are almost unlimited, its funding has remained a major limitation. It is clear that Member States’ (MS) expectations vis-à-vis WHO have by far outgrown their willingness to provide funding to the organisation. WHO’s overall budget with roughly 5 billion USD per biennium equals the funding of a larger sub-regional hospital. Currently, WHO’s assessed contributions account for roughly 20% of its programme budget (less than 1 billion USD per biennium from all 194 MS together), while the remaining 80% are raised individually through short-term, unpredictable and largely highly specified voluntary contributions, half of which are provided by non-Member States actors. The current overall funding level of WHO is way below the funding level of partner global health organizations, with limited global and subject-wise scope. Some of these partner global health actors belong to WHO’s top donors, as they are using WHO’s global structures to implement their specific health goals. WHO’s budgeting process follows a fund-raising approach: At the time when WHO’s 194 MS, after lengthy negotiations, adopt the programme budget, it is only partly predictably financed (by roughly 20% assessed contributions). The remaining 80% remain uncertain and have to be raised. This process has led to major challenges in multilateral priority setting, as the funding coming in is largely based on individual donor interests. The current way of funding WHO has led to a high risk of donor dependency and vulnerability within the UN system, as the top 15 donors contribute to more than 80% of all voluntary contributions. Due to the fund-raising aspects, the current budgeting process needs to leave room for individual donor interests within the programme budget. Therefore, the programme budget has never been adequately financed leaving major differences between what 194 MS wanted to have implemented and the actual available finances for it. Furthermore, WHO is a knowledge-based organization with its committed staff being its key asset. Due to the financing model (80% unpredictable finances), more and more functions have had to be outsourced and taken over by external staff (consultants). Key functions such as pandemic preparedness call for a sustainable, highly skilled and adequately sized workforce. All major HR reforms in the past years could not be implemented to the full extent as the current funding mix sets clear limitations.

Regarding global health governance and the fragmentation of the global health architecture with numerous global health actors and unclear mandates, the WHO should be in a position to play a leading and coordinating role, as foreseen by its constitution and outlined in the Global Action Plan (SDG3 Global Action Plan). However, the budgets of WHO’s partner organizations have outgrown WHO’s budget by far with the consequence that it is questionable whether WHO really is on an equal level playing field, able to defend its leading and coordinating role vis-à-vis these financially far more powerful actors.

(2) **WHO’s work in health emergencies**

The WHO is the leading and coordinating authority with regards to pandemic preparedness and response. The world depends on a WHO that has the right capacities in place to fulfil its crucial role in health emergencies. WHO has a sound track record of achievements in responding to health emergencies. However, in the Ebola outbreak in 2014/2015 in West Africa revealed major shortcomings. As part of the lessons-learned-process following the Ebola outbreak, WHO’s
Emergency Programme (WHE) as well as the Contingency Fund for Emergencies (CFE) were created. Under DG Tedros, the WHO has given its work in health emergencies even more emphasis by establishing the protection against and the response to health emergencies as one out of four key pillars of WHO’s General Programme of Work (GPW).

However, systematic structural deficits still remain as they have not been adequately followed up by the global community during the lessons-learned process after the West-Africa Ebola outbreak. WHO needs to have full personnel, political and financial capacities to lead and coordinate the global work in health emergencies. In this regard, WHO needs to be free from any external interference or dependency. WHO must be a place for all relevant players who are able to contribute to pandemic preparedness and response.

The finalization of the establishment of the WHE has not yet been completed. Until now, it has never reached an adequate funding level with the consequence of many essential posts remaining unfilled. WHO’s work in health emergencies, namely pillar 2 of the GPW, remains chronically underfunded. Among the four political goals of the GPW, pillar 2 is the least funded with only 40% funding compared to amount planned in the programme budget. The WHO is highly dependent on a limited number of donors and thus critically vulnerable. Only 11 key donors currently contribute to almost 80% of the available funding for WHO’s work in health emergencies. This has severe consequences for WHO’s ability to lead the global response in health emergencies: the limitation in funding does not allow for the setting up of essential capacities to play a pro-active role in global health preparedness and response nor for the needed convening capacities for essential updates to the legal frameworks on health security.

As highlighted by the current COVID-19 pandemic, leading the world’s response to novel infectious diseases needs to be based on solid and outstanding scientific expertise. The establishment of such global expertise is a long-term goal and depends on long-term predictable financing. While WHO’s MS successfully established the Contingency Fund for Emergencies (CFE) post-Ebola, they did not establish a sustainable financing mechanism for the fight against health emergencies in general. Only a very limited number of MS has so far financially contributed with the consequence of the CFE regularly running out of resources.

Furthermore, COVID-19 has the potential to profoundly reshape global health governance. While the response to COVID-19 offers the great opportunity to reinforce WHO’s leadership role also vis-à-vis other global health actors, it could – if not adequately steered by MS – lead to further fragmentation in particular in global health security structures. Numerous actors are involved in the current response. This increases the challenge of avoiding duplication, competition for funding and mandates. Clear distinction of roles and mandates between the different actors is key, as well as coordination.

(3) WHO's work under the framework of the IHR

The IHR are a key pillar to global health preparedness and response and boosted global health security. This important mechanism must be safeguarded. However, while the IHR are fully recognized by a global membership and widespread initiatives have been calling for full implementation of and compliance with the IHR, still today the world is far from reaching an adequate level of implementation of the IHR core capacities. While other globally legally binding instruments include incentivizing implementation and reporting mechanisms, the IHR currently do not foresee such mechanisms.
WHO's abilities under the IHR remain limited and largely dependent on the relevant MS's willingness to cooperate. Also in this context, other legal frameworks have included concrete procedures more generally allowing the relevant international organization the right to intervene.

Investments in the health sector and in their capacities to prevent, prepare and respond to health events are too often insufficient. One key element of the IHR relies on the role played by the National Focal Points and their ability to communicate with, alert and inform health authorities as well as WHO. In many countries, the National Focal Points are not positioned adequately to trigger decision-making from the health authorities and lack appropriate training and resources. Likewise the National Health Services of countries do not have the capacity to respond adequately.
EVALUATION AND ACTIONS

Preamble: The evaluation process as agreed in the resolution adopted by the 73rd WHA will be crucial to strengthen work on the actions listed below. Objectives include: to support the evaluation process initiated by WHO Director General, notably by facilitating the consultation with Member States; to ensure the impartiality, transparency, independence and comprehensiveness of the evaluation to review experience gained, and lessons learned from the WHO-coordinated international health response to COVID-19.

Action 1: Consider general increase of assessed contributions and of core voluntary contributions to cover WHO’s core business (base programme). Establish a process to balance out WHO MS’s expectations vis-à-vis WHO with the needed overall budget envelope to implement these expectations. Revision of WHO’s budgeting process, increasing budget transparency, accountability and clarity. This should go hand in hand with spurring a more integrative and cross-cutting approach by WHO of its activities to foster their impact, including on IHR implementation and on improving global preparedness and response capacities. Alignment and synergy between the action plan of the global health organisations and vertical Funds through the Global Action Plan could help optimize the use of MS contribution across the various Global Actors, and help streamline the process for better efficiency.

Action 2: Strengthen WHO’s normative role. Strengthen the Chief Scientist Office and support the development of the WHO Academy in order to strengthen WHO capacity to elaborate and disseminate its guidance, including through training of WHO staff, health personnel and countries’ officials, in particular IHR National Focal Points.

Action 3: Establish robust and sustainable governance structures allowing WHO MSs to provide adequate oversight and guidance to WHO’s work in health emergencies (GPW pillar 2). Consider creating a sub-committee of the Executive Board focusing on pillar 2 and WHO’s pandemic preparedness and response activities. The sub-committee would be constituted by representatives of regions, reporting and providing recommendations to the Executive Board. This sub-committee shall be able to follow crises and emergencies, when necessary, on a daily basis, hold meetings with the emergency committee and provide guidance to the DG.

Action 4: Consider ensuring sustainable financing of WHO’s work in health emergencies (pillar 2 of the GPW) by all 194 MS through an increase of assessed and core voluntary contributions with the aim to fully finance the GPW pillar 2 and thus ensure WHO’s ability to act in crisis without immediate need for funding appeals by strengthening the Contingency Fund for Emergencies (CFE). Increase funding substantially to ensure WHO’s operational readiness and independency in health emergencies. Establish an adequate accountability mechanisms dedicated for compliance of WHO’s work in conflict and crisis environment. Implement a sustainable funding and replenishment mechanism for the CFE. WHO must be able to initiate and perform crisis response operations, free from the need to rally funding to fully kick off and sustain response operations for a certain period of time.
Action 5: Enable WHO mandated international experts to independently investigate and
assess (potential) outbreaks as early as possible. Based on the results of the evaluation of the
WHO-coordinated international health response to COVID-19, this could consist in
strengthening WHO’s network and teams to immediately perform outbreak investigation and
allowing WHO-led multinational teams to access territories of States Parties to investigate any
potential outbreak or health emergency at any time. This would allow the WHO to alert the
world about a potential global emergency sooner.

Action 6: Strengthen operationalization of a WHO-facilitated Coordinated Global System for
health emergency preparedness and response. Ensure coordinated action between WHO and
other global organisations and thus strengthen WHO’s leadership in pandemic preparedness and
response. This should include promotion and reinforcement of the implementation of the One-
Health Approach, through the collaboration between the WHO, the World Organisation for
Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO) and the
United Nations Programme for Environment (UNEP), to reduce further risks of emergence and
transmission of zoonotic diseases. This existing collaboration could be strengthened in the field
of human, animal and environmental health and options should be explored to give more
visibility to this crucial issue. Strengthen engagement with existing networks and partnership
platforms, including the Global Alert and Response Network (GOARN), the Emergency Medical
Teams Initiative, the Inter-Agency Standing Committee (IASC) and the global health cluster.
Make more use of technical expertise of WHO collaborating centres around the world, expert
networks such as technical advisory bodies and public health institutions.

Action 7: Revisit terms of reference and composition of relevant bodies to the IHR, including
for regular lessons-learned processes. Depending on the results of the WHO-coordinated
international health response to COVID-19 evaluation, this could consist in a transparent
expansion of IHR Emergency and IHR Review Committees’ membership and remit to ensure
public accounting proceedings, or the creation of an independent advisory group (or the
expansion of the remit of the IHR review committee or the Independent Oversight and Advisory
Committee (IOAC) for the WHO to perform after action reviews of all grade 3 health emergencies
and declared Public Health Emergencies of International Concern (PHEIC).

Action 8: Reform PHEIC declaration mechanism. Revise the PHEIC declaration mechanism to
allow for a gradual PHEIC declaration and a stepped level of alerts. Establish a traffic light system
to foster transparency on measures and communication about present public health threats.
Follow up on the study requested by the 73rd WHA in the resolution on “Strengthening
preparedness for health emergencies: implementation of the International Health Regulations
(2005)”2 on possible complementary mechanisms to be used by the DG to alert the global
community about the severity and or magnitude of a public health emergency in order to
mobilize necessary support and to facilitate international coordination.

Action 9: Increase transparency on national compliance with the IHR & establish a review of
country-based levels of preparedness. a) Based on existing IHR review mechanisms and

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frameworks, establish a review mechanism for IHR compliance, including for early reporting and sharing of information and promote IHR Article 44 requiring MS to collaborate for IHR implementation. b) Review whether existing metrics for public health preparedness reflect the needed core capacities to handle a large scale pandemic like the Covid-19 pandemic. c) Streamline the reporting process and support countries in strengthening capacity to report on the information required under the IHR. d) Strengthen the support and assistance provided to countries in need, in the broader scope of health system strengthening.

**Action 10: Mandate an existing committee or an ad hoc time-limited panel / expert group to follow up on the implementation of the reform**, taking into account the status of implementation of the recommendations of the previous IHR Review Committees and other relevant reports (notably from the IOAC and from the Global Preparedness and Monitoring Board). Strengthen WHO and Member States' accountability on strengthening global preparedness and response.
Update from the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response

The Director-General has the honour to transmit to the Executive Board at its special session on the COVID-19 response the report submitted by the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response (see Annex).
ANNEX

THE INDEPENDENT PANEL FOR PANDEMIC PREPAREDNESS AND RESPONSE

Report by the Co-Chairs

1. The Independent Panel for Pandemic Preparedness and Response was initiated by the WHO Director-General, and announced on 10 July 2020. This is in accordance with Health Assembly resolution WHA73.1 (2020), which requested the WHO Director-General:

   to initiate, at the earliest appropriate moment, and in consultation with Member States, a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms, as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 – including (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; and (iv) the actions of WHO and their timelines pertaining to the COVID-19 pandemic – and to make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme;

2. The WHO Director-General appointed the two Co-Chairs, former Prime Minister of New Zealand Helen Clark and former President of Liberia Ellen Johnson Sirleaf. The Co-Chairs were asked and mandated by the WHO Director-General to independently select and appoint the members of the Independent Panel. The Co-Chairs selected 11 Panel members, based on a long-list of names suggested by Member States as well as on additional names put forward.

3. The Co-Chairs made their final selections based on skills (including expertise in outbreak response, managing national health systems, leadership in community engagement, and socioeconomic analytical capabilities), knowledge about the international system, including specifically WHO, and experience from similar international processes.

4. The Independent Panel will review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19, including:

   • the effectiveness of the mechanisms at WHO’s disposal;

   • the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees;

   • WHO’s contribution to United Nations-wide efforts; and the actions of WHO and their timelines pertaining to the COVID-19 pandemic.

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5. The Independent Panel will make recommendations on how to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.

6. It will do so by providing a fresh assessment of the challenges ahead, based on insights and lessons learned from the health response to COVID-19 as coordinated by WHO as well as previous health emergencies.

7. The Independent Panel will conduct an impartial, independent and comprehensive review, beginning in September 2020 with a report expected in advance of the Seventy-fourth World Health Assembly scheduled for May 2021. The Independent Panel will provide progress reports to the WHO governing bodies.

8. The Independent Panel will work in a manner that is as open and transparent as possible and seek out the world’s best possible expertise and experiences; it will also work with a view to listening to different stakeholders’ perspectives. Data and evidence will guide the work of the Independent Panel.

9. The first Panel meeting is scheduled for 17 September 2020. The Independent Panel is then expected to agree on the key themes, methods of gathering evidence and ways of working.

10. The Co-Chairs shared the draft terms of reference for the Independent Panel with Member States and received with appreciation comments which were used in finalizing them. The terms of reference are available at the Independent Panel’s website (see paragraph 14 below).

11. Over the course of several months, the Panel will seek evidence and views from a broad range of stakeholders including from WHO Member States, health experts, economists, specialists on the social impacts of the pandemic, and from the general public as well as civil society and the private sector.

12. The Independent Panel will collaborate with and benefit from work of other bodies such as the IHR Review Committee and the Independent Oversight and Advisory Committee.

13. The Independent Panel will maintain independence and impartiality and will also seek to ensure that its processes are as transparent as possible.


15. The Independent Panel will be supported by a secretariat. The role of the secretariat is to support the Independent Panel to fulfil its mandate and terms of reference. The Head of the panel secretariat is Anders Nordström, who has taken leave as Ambassador for Global Health at the Swedish Ministry for Foreign Affairs for the duration of the Independent Panel.
1. Introductions (Garrett) 2 minutes

2. COVID-19 Outbreak and Concerns (Dr. Fauci/Dr. Lane) 30 minutes

3. COVID-19 Outbreak and Concerns (Dr. Redfield/Dr. Marston/Dr. Arthur) 30 minutes

4. WHA73.1 and the Step-wise Review (Colin/Mara) 10 minutes

5. Addressing some points on evaluation from WHA73.1(OP9.10)
   a. “...effectiveness of the mechanisms at WHO’s disposal”
      i. February WHO Mission to PRC (Cliff/Weigong) 5 minutes
      ii. Public Health Emergency of International Concern (Colin/Mara) 5 minutes
   b. “...functioning of the IHR and the status of implementation”
      i. Inaccurate Information from PRC (Adrienne/Larry) 10 minutes
      ii. WHO Sample Sharing Agreement (Larry) 5 minutes
   c. “...relevant recommendations, including of the previous IHR Review Committees”
      i. G7 WHO Roadmap: background & conclusion (Garrett/Colin) 10 minutes
   d. “...actions of WHO and their timelines pertaining to the COVID-19 pandemic’
      (Larry/Colin) 5 minutes

6. IPPR Timeline and the Ability of Member States to effectuate WHO Reform through WHA Resolutions (Colin/Mara) 5 minutes

7. Wrap-up (Garrett) 3 minutes

Discussants:
Garrett Grigsby, Director, Office of Global Affairs (OGA), HHS
Robert Redfield, Director, Centers for Disease Control and Prevention (CDC)
Tony Fauci, Director, National Institute of Allergy and Infectious Diseases (NIAID), NIH
Colin McIff, Deputy Director, OGA, HHS
Mara Burr, Director, Multilateral Affairs, OGA
Cliff Lane, Deputy Director for Clinical Research and Special Projects, NIAID, NIH
Hilary Marston, Medical Officer and Policy Advisor for Pandemic Preparedness, NIAID
Ray Arthur, Lead, Global Disease Detection Operations Center, Emergency Response and Recovery Branch, CDC
Weigong Zhou, Medical Officer, CDC
Larry Kerr, Director, Pandemic and Emerging Threats, OGA, HHS
Adrienne Parrish Fuentes, Health Attaché, Beijing, China, OGA
Terms of Reference

The Independent Panel for Pandemic Preparedness and Response
1. The COVID-19 pandemic has shaken the foundations of global health security and resilience and challenged the readiness and responsiveness of the international community to address unforeseen global health threats collectively. It has also demonstrated the indiscriminate impact of this global health ‘shock’ on all aspects of human life – social, political, economic and environmental – across geographies and across the continuum from the international, regional, national, and subnational levels to communities, households and individuals, thus reinforcing the interconnected nature of health emergency preparedness and response. It has also revealed the impact of inequalities within and between societies, as well as the importance of resilient health systems.

2. In May 2020, the Seventy-third World Health Assembly passed resolution WHA73.1, which requested the Director-General:

   “to initiate, at the earliest appropriate moment, and in consultation with Member States\(^1\) a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms\(^2\), as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 – including (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; and (iv) the actions of WHO and their timelines pertaining to the COVID-19 pandemic – and to make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.”

3. In July 2020, the Director-General took the initiative to establish an Independent Panel for Pandemic Preparedness and Response to carry out an impartial, independent and comprehensive evaluation of the WHO-coordinated international health response to COVID-19 as one important step and measure to implement the request in the WHA resolution.

4. The Director-General of WHO appointed H.E. Ellen Johnson Sirleaf and Rt Hon Helen Clark as the co-chairs for the panel and asked them to select the additional panellists themselves in order to ensure maximum independence. The panel will provide progress reports through its co-chairs directly to the WHO governing bodies and will report to the World Health Assembly 2021.

5. The aim of the Independent Panel is to provide an evidence-based path for the future, grounded in lessons of the past and the present, identifying the most urgent needs and actions required to ensure that the world can now, and in the future, effectively address health threats at the national, regional and global levels. The Independent Panel’s objectives are both of a formative and a forward-looking nature.

6. The Panel will neither duplicate nor validate either previous work undertaken in this domain, including in the context of decades of pandemic preparedness and response planning, or previous independent reviews that have aimed to strengthen the world’s preparedness and response abilities. Rather it will draw on past and on-going reviews in order to be able to provide a fresh assessment of the challenges and recommendations for addressing them.

7. Specifically, the Panel will review experience gained and lessons learned from the international health response to COVID-19 as coordinated by WHO and assess:

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\(^1\) And, where applicable, regional economic integration organizations.

\(^2\) Including an IHR Review Committee and the Independent Oversight and Advisory Committee for the WHO Health Emergencies Programme.
(i) the overall relevance and effectiveness of the international health response to the COVID-19 pandemic;
(ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees;³
(iii) the effectiveness of the mechanisms at WHO’s disposal and the actions of WHO and their timelines pertaining to the COVID-19 pandemic,⁴ and
(iv) WHO’s contribution to United Nations-wide efforts.

8. In reviewing the experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 as stated in the resolution the Panel will also:
   (v) examine global health security threats and provide an analysis of past and future challenges and lessons learned;
   (vi) include in its work analysis of the broader impacts of pandemics, including economic and social ones, and make recommendations to the extent that they have a direct bearing on future threats to global health security.

9. The Panel will:
   (vii) make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.

10. The Panel will work in an open and transparent fashion and seek the best possible advice, experiences, and facts from member states and experts across the world.

11. The Panel will have its own independent Secretariat to support its work.

12. The Panel will define a detailed Program of Work, including a methodology for the work and specific timelines. The Panel will share information about its work and progress on a regular basis with Member States and other relevant partners.

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³ For this particular objective, the Independent Panel will mainly be informed by the findings and outputs of the IHR Review Committee.
⁴ On this, the Independent Panel will also be informed by the work and outputs of the Independent Oversight Advisory Committee of the WHO Health Emergencies Programme.
The COVID-19 pandemic has once again highlighted the need for strong global health capacities. The World Health Organization (WHO) has the central role to play in addressing global health challenges, including prevention, detection and response to outbreaks. WHO’s constitution states that it is the mandated leading and coordinating authority in global health.

The expectations regarding WHO’s mandate are huge: The organisation is supposed to set up norms and standards and promote and monitor their implementation in a variety of fields, to shape the research agenda, to articulate ethical and evidence-based policy options, to react to outbreaks all over the globe, to provide adequate and timely information for health professionals and populations worldwide as well as to provide technical support. And last but not least WHO has the role to monitor the health situation worldwide and to assess health trends.

However, not only during the current pandemic, it has become clear that the WHO partly lacks the abilities to fulfil this mandate. The international community’s expectations regarding WHO’s capacities outweigh by far its given financial, structural and legal abilities.

The 73rd World Health Assembly adopted a resolution asking the DG to “initiate, at the earliest appropriate moment, and in consultation with Member States, a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms, as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19, including: (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the IHR and the status of implementation of the relevant recommendations of the previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; (iv) and the actions of WHO and their timelines pertaining to the COVID-19 pandemic, and make recommendations to improve global pandemic prevention, preparedness, and response capacity, including through strengthening, as appropriate, WHO’s Health Emergencies Programme.”

The lessons-learned process following this global health crisis will have to focus in particular on the strengthening of global health security structures including the WHO’s Emergency Programme (WHE) and potential updates to the International Health Regulations (IHR).

In this sense, COVID-19 has to be used as an opportunity to strengthen WHO’s abilities to fully act as the leading and coordinating authority in global health. Long-term strengthening of WHO overall is key in order to strengthen its role and responsibilities in pandemic preparedness and response.

Three interdependent strains of reform are being proposed:

- (1) WHO reform in general
- (2) WHO’s work in health emergencies
- (3) WHO’s work under the framework of the IHR

These three reform strains are interlinked with one another: None of these areas can be successfully reformed without having addressed challenges in the other areas.

Furthermore, this reform cannot be envisioned without an upstream evaluation process.

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1 https://apps.who.int/gb/ebwha/pdf_files/WHA73/A73_R1-en.pdf
(1) WHO reform in general

Unlike all other global health actors, the WHO is the only health actor with quasi-universal membership, multilateral legitimacy and an almost unlimited health mandate. Since its creation, WHO has achieved major public health successes. However, while the expectations regarding WHO’s mandate are almost unlimited, its funding has remained a major limitation. It is clear that Member States’ (MS) expectations vis-à-vis WHO have by far outgrown their willingness to provide funding to the organisation. WHO’s overall budget with roughly 5 billion USD per biennium equals the funding of a larger sub-regional hospital. Currently, WHO’s assessed contributions account for roughly 20% of its programme budget (less than 1 billion USD per biennium from all 194 MS together), while the remaining 80% are raised individually through short-term, unpredictable and largely highly specified voluntary contributions, half of which are provided by non-Member States actors. The current overall funding level of WHO is way below the funding level of partner global health organizations, with limited global and subject-wise scope. Some of these partner global health actors belong to WHO’s top donors, as they are using WHO’s global structures to implement their specific health goals. WHO’s budgeting process follows a fund-raising approach: At the time when WHO’s 194 MS, after lengthy negotiations, adopt the programme budget, it is only partly predictably financed (by roughly 20% assessed contributions). The remaining 80% remain uncertain and have to be raised. This process has led to major challenges in multilateral priority setting, as the funding coming in is largely based on individual donor interests. The current way of funding WHO has led to a high risk of donor dependency and vulnerability within the UN system, as the top 15 donors contribute to more than 80% of all voluntary contributions. Due to the fund-raising aspects, the current budgeting process needs to leave room for individual donor interests within the programme budget. Therefore, the programme budget has never been adequately financed leaving major differences between what 194 MS wanted to have implemented and the actual available finances for it. Furthermore, WHO is a knowledge-based organization with its committed staff being its key asset. Due to the financing model (80% unpredictable finances), more and more functions have had to be outsourced and taken over by external staff (consultants). Key functions such as pandemic preparedness call for a sustainable, highly skilled and adequately sized workforce. All major HR reforms in the past years could not be implemented to the full extent as the current funding mix sets clear limitations.

Regarding global health governance and the fragmentation of the global health architecture with numerous global health actors and unclear mandates, the WHO should be in a position to play a leading and coordinating role, as foreseen by its constitution and outlined in the Global Action Plan (SDG3 Global Action Plan). However, the budgets of WHO’s partner organizations have outgrown WHO’s budget by far with the consequence that it is questionable whether WHO really is on an equal level playing field, able to defend its leading and coordinating role vis-à-vis these financially far more powerful actors.

(2) WHO’s work in health emergencies

The WHO is the leading and coordinating authority with regards to pandemic preparedness and response. The world depends on a WHO that has the right capacities in place to fulfil its crucial role in health emergencies. WHO has a sound track record of achievements in responding to health emergencies. However, in the Ebola outbreak in 2014/2015 in West Africa revealed major shortcomings. As part of the lessons-learned process following the Ebola outbreak, WHO’s
Emergency Programme (WHE) as well as the Contingency Fund for Emergencies (CFE) were created. Under DG Tedros, the WHO has given its work in health emergencies even more emphasis by establishing the protection against and the response to health emergencies as one out of four key pillars of WHO’s General Programme of Work (GPW).

However, systematic structural deficits still remain as they have not been adequately followed up by the global community during the lessons-learned process after the West-Africa Ebola outbreak. WHO needs to have full personnel, political and financial capacities to lead and coordinate the global work in health emergencies. In this regard, WHO needs to be free from any external interference or dependency. WHO must be a place for all relevant players who are able to contribute to pandemic preparedness and response.

The finalization of the establishment of the WHE has not yet been completed. Until now, it has never reached an adequate funding level with the consequence of many essential posts remaining unfilled. WHO’s work in health emergencies, namely pillar 2 of the GPW, remains chronically underfunded. Among the four political goals of the GPW, pillar 2 is the least funded with only 40% funding compared to amount planned in the programme budget. The WHO is highly dependent on a limited number of donors and thus critically vulnerable. Only 11 key donors currently contribute to almost 80% of the available funding for WHO’s work in health emergencies. This has severe consequences for WHO’s ability to lead the global response in health emergencies: the limitation in funding does not allow for the setting up of essential capacities to play a pro-active role in global health preparedness and response nor for the needed convening capacities for essential updates to the legal frameworks on health security.

As highlighted by the current COVID-19 pandemic, leading the world’s response to novel infectious diseases needs to be based on solid and outstanding scientific expertise. The establishment of such global expertise is a long-term goal and depends on long-term predictable financing. While WHO’s MS successfully established the Contingency Fund for Emergencies (CFE) post-Ebola, they did not establish a sustainable financing mechanism for the fight against health emergencies in general. Only a very limited number of MS has so far financially contributed with the consequence of the CFE regularly running out of resources.

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(3) WHO’s work under the framework of the IHR

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WHO's abilities under the IHR remain limited and largely dependent on the relevant MS's willingness to cooperate. Also in this context, other legal frameworks have included concrete procedures more generally allowing the relevant international organization the right to intervene.

Investments in the health sector and in their capacities to prevent, prepare and respond to health events are too often insufficient. One key element of the IHR relies on the role played by the National Focal Points and their ability to communicate with, alert and inform health authorities as well as WHO. In many countries, the National Focal Points are not positioned adequately to trigger decision-making from the health authorities and lack appropriate training and resources. Likewise the National Health Services of countries do not have the capacity to respond adequately.
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Preamble: The evaluation process as agreed in the resolution adopted by the 73rd WHA will be crucial to strengthen work on the actions listed below. Objectives include: to support the evaluation process initiated by WHO Director General, notably by facilitating the consultation with Member States; to ensure the impartiality, transparency, independence and comprehensiveness of the evaluation to review experience gained, and lessons learned from the WHO-coordinated international health response to COVID-19.

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Action 2: Strengthen WHO's normative role. Strengthen the Chief Scientist Office and support the development of the WHO Academy in order to strengthen WHO capacity to elaborate and disseminate its guidance, including through training of WHO staff, health personnel and countries' officials, in particular IHR National Focal Points.

Action 3: Establish robust and sustainable governance structures allowing WHO MSs to provide adequate oversight and guidance to WHO's work in health emergencies (GPW pillar 2). Consider creating a sub-committee of the Executive Board focusing on pillar 2 and WHO's pandemic preparedness and response activities. The sub-committee would be constituted by representatives of regions, reporting and providing recommendations to the Executive Board. This sub-committee shall be able to follow crises and emergencies, when necessary, on a daily basis, hold meetings with the emergency committee and provide guidance to the DG.

Action 4: Consider ensuring sustainable financing of WHO's work in health emergencies (pillar 2 of the GPW) by all 194 MS through an increase of assessed and core voluntary contributions with the aim to fully finance the GPW pillar 2 and thus ensure WHO's ability to act in crisis without immediate need for funding appeals by strengthening the Contingency Fund for Emergencies (CFE). Increase funding substantially to ensure WHO's operational readiness and independency in health emergencies. Establish an adequate accountability mechanisms dedicated for compliance of WHO's work in conflict and crisis environment. Implement a sustainable funding and replenishment mechanism for the CFE. WHO must be able to initiate and perform crisis response operations, free from the need to rally funding to fully kick off and sustain response operations for a certain period of time.
Action 5: Enable WHO-mandated international experts to independently investigate and assess (potential) outbreaks as early as possible. Based on the results of the evaluation of the WHO-coordinated international health response to COVID-19, this could consist in strengthening WHO’s network and teams to immediately perform outbreak investigation and allowing WHO-led multinational teams to access territories of States Parties to investigate any potential outbreak or health emergency at any time. This would allow the WHO to alert the world about a potential global emergency sooner.

Action 6: Strengthen operationalization of a WHO-facilitated Coordinated Global System for health emergency preparedness and response. Ensure coordinated action between WHO and other global organisations and thus strengthen WHO’s leadership in pandemic preparedness and response. This should include promotion and reinforcement of the implementation of the One-Health Approach, through the collaboration between the WHO, the World Organisation for Animal Health (OIE), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Programme for Environment (UNEP), to reduce further risks of emergence and transmission of zoonotic diseases. This existing collaboration could be strengthened in the field of human, animal and environmental health and options should be explored to give more visibility to this crucial issue. Strengthen engagement with existing networks and partnership platforms, including the Global Alert and Response Network (GOARN), the Emergency Medical Teams Initiative, the Inter-Agency Standing Committee (IASC) and the global health cluster. Make more use of technical expertise of WHO collaborating centres around the world, expert networks such as technical advisory bodies and public health institutions.

Action 7: Revisit terms of reference and composition of relevant bodies to the IHR, including for regular lessons-learned processes. Depending on the results of the WHO-coordinated international health response to COVID-19 evaluation, this could consist in a transparent expansion of IHR Emergency and IHR Review Committees’ membership and remit to ensure public accounting proceedings, or the creation of an independent advisory group (or the expansion of the remit of the IHR review committee or the Independent Oversight and Advisory Committee (IOAC) for the WHE to perform after action reviews of all grade 3 health emergencies and declared Public Health Emergencies of International Concern (PHEIC).

Action 8: Reform PHEIC declaration mechanism. Revise the PHEIC declaration mechanism to allow for a gradual PHEIC declaration and a stepped level of alerts. Establish a traffic light system to foster transparency on measures and communication about present public health threats. Follow up on the study requested by the 73rd WHA in the resolution on “Strengthening preparedness for health emergencies: implementation of the International Health Regulations (2005)” on possible complementary mechanisms to be used by the DG to alert the global community about the severity and or magnitude of a public health emergency in order to mobilize necessary support and to facilitate international coordination.

Action 9: Increase transparency on national compliance with the IHR & establish a review of country-based levels of preparedness. a) Based on existing IHR review mechanisms and

frameworks, establish a review mechanism for IHR compliance, including for early reporting and sharing of information and promote IHR Article 44 requiring MS to collaborate for IHR implementation. b) Review whether existing metrics for public health preparedness reflect the needed core capacities to handle a large scale pandemic like the Covid-19 pandemic. c) Streamline the reporting process and support countries in strengthening capacity to report on the information required under the IHR. d) Strengthen the support and assistance provided to countries in need, in the broader scope of health system strengthening.

**Action 10: Mandate an existing committee or an ad hoc time-limited panel / expert group to follow up on the implementation of the reform**, taking into account the status of implementation of the recommendations of the previous IHR Review Committees and other relevant reports (notably from the IOAC and from the Global Preparedness and Monitoring Board). Strengthen WHO and Member States' accountability on strengthening global preparedness and response.
Update from the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response

The Director-General has the honour to transmit to the Executive Board at its special session on the COVID-19 response the report submitted by the Co-Chairs of the Independent Panel for Pandemic Preparedness and Response (see Annex).
ANNEX

THE INDEPENDENT PANEL FOR PANDEMIC PREPAREDNESS AND RESPONSE

Report by the Co-Chairs

1. The Independent Panel for Pandemic Preparedness and Response was initiated by the WHO Director-General, and announced on 10 July 2020. This is in accordance with Health Assembly resolution WHA73.1 (2020), which requested the WHO Director-General:

   to initiate, at the earliest appropriate moment, and in consultation with Member States, a stepwise process of impartial, independent and comprehensive evaluation, including using existing mechanisms, as appropriate, to review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19 — including (i) the effectiveness of the mechanisms at WHO’s disposal; (ii) the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees; (iii) WHO’s contribution to United Nations-wide efforts; and (iv) the actions of WHO and their timelines pertaining to the COVID-19 pandemic — and to make recommendations to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme;

2. The WHO Director-General appointed the two Co-Chairs, former Prime Minister of New Zealand Helen Clark and former President of Liberia Ellen Johnson Sirleaf. The Co-Chairs were asked and mandated by the WHO Director-General to independently select and appoint the members of the Independent Panel. The Co-Chairs selected 11 Panel members, based on a long-list of names suggested by Member States as well as on additional names put forward.

3. The Co-Chairs made their final selections based on skills (including expertise in outbreak response, managing national health systems, leadership in community engagement, and socioeconomic analytical capabilities), knowledge about the international system, including specifically WHO, and experience from similar international processes.

4. The Independent Panel will review experience gained and lessons learned from the WHO-coordinated international health response to COVID-19, including:

   • the effectiveness of the mechanisms at WHO’s disposal;
   • the functioning of the International Health Regulations (2005) and the status of implementation of the relevant recommendations of previous IHR Review Committees;
   • WHO’s contribution to United Nations-wide efforts; and the actions of WHO and their timelines pertaining to the COVID-19 pandemic.

5. The Independent Panel will make recommendations on how to improve capacity for global pandemic prevention, preparedness, and response, including through strengthening, as appropriate, the WHO Health Emergencies Programme.

6. It will do so by providing a fresh assessment of the challenges ahead, based on insights and lessons learned from the health response to COVID-19 as coordinated by WHO as well as previous health emergencies.

7. The Independent Panel will conduct an impartial, independent and comprehensive review, beginning in September 2020 with a report expected in advance of the Seventy-fourth World Health Assembly scheduled for May 2021. The Independent Panel will provide progress reports to the WHO governing bodies.

8. The Independent Panel will work in a manner that is as open and transparent as possible and seek out the world’s best possible expertise and experiences; it will also work with a view to listening to different stakeholders’ perspectives. Data and evidence will guide the work of the Independent Panel.

9. The first Panel meeting is scheduled for 17 September 2020. The Independent Panel is then expected to agree on the key themes, methods of gathering evidence and ways of working.

10. The Co-Chairs shared the draft terms of reference for the Independent Panel with Member States and received with appreciation comments which were used in finalizing them. The terms of reference are available at the Independent Panel’s website (see paragraph 14 below).

11. Over the course of several months, the Panel will seek evidence and views from a broad range of stakeholders including from WHO Member States, health experts, economists, specialists on the social impacts of the pandemic, and from the general public as well as civil society and the private sector.

12. The Independent Panel will collaborate with and benefit from work of other bodies such as the IHR Review Committee and the Independent Oversight and Advisory Committee.

13. The Independent Panel will maintain independence and impartiality and will also seek to ensure that its processes are as transparent as possible.


15. The Independent Panel will be supported by a secretariat. The role of the secretariat is to support the Independent Panel to fulfil its mandate and terms of reference. The Head of the panel secretariat is Anders Nordström, who has taken leave as Ambassador for Global Health at the Swedish Ministry for Foreign Affairs for the duration of the Independent Panel.
1. Introductions (Garrett) 2 minutes

2. COVID-19 Outbreak and Concerns (Dr. Fauci/Dr. Lane) 30 minutes

3. COVID-19 Outbreak and Concerns (Dr. Redfield/ Dr. Marston/ Dr. Arthur) 30 minutes

4. WHA73.1 and the Step-wise Review (Colin/Mara) 10 minutes

5. Addressing some points on evaluation from WHA73.1(OP9.10)
   a. “...effectiveness of the mechanisms at WHO’s disposal”
      i. February WHO Mission to PRC (Cliff/Weigong) 5 minutes
      ii. Public Health Emergency of International Concern (Colin/Mara) 5 minutes
   b. “...functioning of the IHR and the status of implementation”
      i. Inaccurate Information from PRC (Adrienne/Larry) 10 minutes
      ii. WHO Sample Sharing Agreement (Larry) 5 minutes
   c. “...relevant recommendations, including of the previous IHR Review Committees”
      i. G7 WHO Roadmap: background & conclusion (Garrett/Colin) 10 minutes
   d. “...actions of WHO and their timelines pertaining to the COVID-19 pandemic’
      (Larry/Colin) 5 minutes

6. IPPR Timeline and the Ability of Member States to effectuate WHO Reform through WHA Resolutions (Colin/Mara) 5 minutes

7. Wrap-up (Garrett) 3 minutes

Discussants:
Garrett Grigsby, Director, Office of Global Affairs (OGA), HHS
Robert Redfield, Director, Centers for Disease Control and Prevention (CDC)
Tony Fauci, Director, National Institute of Allergy and Infectious Diseases (NIAID), NIH
Colin McIff, Deputy Director, OGA, HHS
Mara Burr, Director, Multilateral Affairs, OGA
Cliff Lane, Deputy Director for Clinical Research and Special Projects, NIAID, NIH
Hilary Marston, Medical Officer and Policy Advisor for Pandemic Preparedness, NIAID
Ray Arthur, Lead, Global Disease Detection Operations Center, Emergency Response and Recovery Branch, CDC
Weigong Zhou, Medical Officer, CDC
Larry Kerr, Director, Pandemic and Emerging Threats, OGA, HHS
Adrienne Parrish Fuentes, Health Attaché, Beijing, China, OGA
Larry – hi – John Farley will be the main point of contact and participant for clinical trial development for therapeutics for FDA thx -m
Much thanks

Larry
Dear WHO Colleagues,

Due to unavailability from some key USG participants, we are now looking at next Friday, June 12, from 9-10am. It should be on your calendars as part of our standing biweekly series that Arnela Lopez sent out on Larry’s behalf prior to our first call. Please let us know if this time is still okay for you, as well as any changes/comments you have on the agenda (attaching it here again for your convenience).

Many thanks!

Ana

Ana S. Ayala, J.D., LL.M.
Senior Global Health Officer
Pandemic and Emerging Threats
Office of Global Affairs
U.S. Department of Health and Human Services (HHS)

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Dear WHO Colleagues,

We are reaching out to gauge your availability for holding the call this Friday (5 June) and doing a follow up presentation on the ACT Accelerator. As you may recall, all parties agreed during the call that given the complexity of these major efforts, a deeper dive into each would be needed (e.g., details on structure, actors, interplay among the various work groups/pillars, etc.). We are also inquiring with our USG partners to see if this Friday is feasible. Your input would be much appreciated. Please note that if held this Friday, we would ask to please send us any materials you wish to share with the group (e.g., slide deck) by tomorrow, Thursday, COB.

Finally, please find attached the draft agenda for your review and let us know if you have any edits, comments, or additions.

Thank you very much in advance.

Best regards,

Ana

Ana S. Ayala, J.D., LL.M.
Senior Global Health Officer
Pandemic and Emerging Threats
Office of Global Affairs
U.S. Department of Health and Human Services (HHS)
(202) 205-5894 | m: (6)
ana.ayala@hhs.gov

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Dear Soumya,

In addition to the agenda, we thought that it might be helpful to share a list of U.S./HHS individuals invited (by agency) ahead of our call.

Looking forward to connecting.

All the best,

Ana

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From: Ayala, Ana (OS/OGA)
Sent: Thursday, May 28, 2020 7:32 PM
To: SWAMINATHAN, Soumya <swaminathans@who.int>
Cc: BORGES, Andrea <borgesa@who.int>; RYAN, Michael J. <ryanm@who.int>; SIMONSON, Stewart <simonsons@who.int>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Lopez, Arnela (OS/OGA) <Arnela.Lopez@hhs.gov>
Subject: RE: [EXT] COVID-19 Vaccine Catch-up

Dear Soumya,

Please find attached the final agenda for tomorrow’s call. We are very much looking forward to our discussion.

All the best,

Ana

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Ana S. Ayala, J.D., LL.M.
Senior Global Health Officer
Pandemic and Emerging Threats
Office of Global Affairs
U.S. Department of Health and Human Services (HHS)

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Dear Soumya,

I wanted to follow up to see if you have any comments on the draft agenda. We continue to confirm our colleagues' availability and will let you know as soon as we do.

All the best,

Ana

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Dear Soumya,

As promised, please find attached our proposed (draft) agenda for your consideration and input. We hope this gives you a sense of how we are envisioning our first call. If you could please send any edits back to us by next Tuesday, 26 May, COB, we'd greatly appreciate it. We very much welcome your thoughts.

All the best,

Ana

Ana S. Ayala, J.D., LL.M.
Senior Global Health Officer
Pandemic and Emerging Threats
Office of Global Affairs
U.S. Department of Health and Human Services (HHS)
o: (202) 205-5894 | m: (301) 727-0243
ana.ayala@hhs.gov

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From: Ayala, Ana (OS/OGA)  
Sent: Wednesday, May 20, 2020 6:26 PM  
To: SWAMINATHAN, Soumya <swaminathans@who.int>; Lopez, Arnela (OS/OGA) <Aranela.Lopez@hhs.gov>; BORGES, Andrea <borgesa@who.int>  
Cc: RYAN, Michael J. <ryanm@who.int>; SIMONSON, Stewart <simonsons@who.int>  
Subject: RE: [EXT] COVID-19 Vaccine Catch-up

Dear Soumya,

Thank you very much to you and Andrea for confirming. In addition to working on the agenda at the moment, we are putting together a comprehensive set of people from our side, including SMEs from BARDA, NIH, FDA, and CDC. Regardless, we’ll share the agenda as soon as it’s ready. Please stay tuned.

All the best,

Ana

Ana S. Ayala, J.D., LL.M.  
Senior Global Health Officer  
Pandemic and Emerging Threats  
Office of Global Affairs  
U.S. Department of Health and Human Services (HHS)

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From: SWAMINATHAN, Soumya <swaminathans@who.int>  
Sent: Wednesday, May 20, 2020 10:48 AM  
To: Ayala, Ana (OS/OGA) <Ana.Ayala@hhs.gov>; Lopez, Arnela (OS/OGA) <Aranela.Lopez@hhs.gov>; BORGES, Andrea <borgesa@who.int>  
Cc: RYAN, Michael J. <ryanm@who.int>; SIMONSON, Stewart <simonsons@who.int>  
Subject: RE: [EXT] COVID-19 Vaccine Catch-up

Dear Ana
Normally this time should work. We look forward to receiving the draft agenda for the next meeting. From our side, apart from me and Stew Simonson, we will have the R&D blueprint coleads. If regulatory issues are to be discussed, we can also invite those colleagues. Further, depending on the agenda items, we may invite colleagues from WHE (am copying Mike Ryan for information).

Regards
Soumya

From: Ayala, Ana (OS/OGA) <Ana.Ayala@hhs.gov>
Sent: Wednesday, May 20, 2020 4:17 PM
To: Lopez, Arnela (OS/OGA) <Arnela.Lopez@hhs.gov>; BORGES, Andrea <borgesa@who.int>
SWAMINATHAN, Soumya <swaminathans@who.int>
Subject: RE: [EXT] COVID-19 Vaccine Catch-up

Dear Soumya and Andrea,

I am looking forward to facilitating our exchanges and helping to make the calls as productive as possible. We will put together a proposed agenda for our first call and share with you for input before we circulate it with everyone. In the meantime, if you could please confirm whether 2-4pm Geneva (8am-10am DC) works for you and also let us know the individuals who will be participating in the calls, we’d greatly appreciate it.

Thank you very much.

All the best,

Ana

Ana S. Ayala, J.D., LL.M.
Senior Global Health Officer
Pandemic and Emerging Threats
Office of Global Affairs
U.S. Department of Health and Human Services (HHS)
O: (202) 205-5894 | M: (66)
ana.ayala@hhs.gov

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From: Lopez, Arnela (OS/OGA) <Arnela.Lopez@hhs.gov>
Sent: Monday, May 18, 2020 8:22 PM
To: BORGES, Andrea <borgesa@who.int>; SWAMINATHAN, Soumya <swaminathans@who.int>
Hi Soumya and Andrea,

I hope you are doing well. Our team is interested in having a recurring call with you, to discuss updates about the ACT Accelerator COVID-19 vaccine efforts. We are planning to set up a call every two weeks for 1 hour.

I've added Ms. Ana Ayala who has more details about the call and will coordinate the agenda. Fridays from 2-4pm Geneva (8am-10am DC) works best for OGA, but please feel free to suggest your availability.

Thanks,

Arnela Lopez
Office of Global Affairs
U.S. Department of Health & Human Services
D: 202-691-2033/ C: 301-443-0098 Arnela.Lopez@hhs.gov

From: Lopez, Arnela (OS/OGA)
Sent: Thursday, May 14, 2020 10:14 AM
To: SWAMINATHAN, Soumya <swaminathans@who.int>
Cc: BORGES, Andrea <borgesa@who.int>
Subject: RE: [EXT] COVID-19 Vaccine Catch-up

Thanks for confirming, Soumya. I will send a calendar invite shortly.

Have a nice day,
Arnela

From: SWAMINATHAN, Soumya <swaminathans@who.int>
Sent: Wednesday, May 13, 2020 5:49 PM
To: Lopez, Arnela (OS/OGA) <Arnela.Lopez@hhs.gov>
Cc: BORGES, Andrea <borgesa@who.int>
Subject: Re: [EXT] COVID-19 Vaccine Catch-up

I can do 430pm Geneva time
Soumya

Sent from my iPad

On 13 May 2020, at 17:14, Lopez, Arnela (OS/OGA) <Arnela.Lopez@hhs.gov> wrote:
Hi Soumya and Andrea,

I hope you are doing well. Larry and the team are available this Friday 5/15 from 4-5pm Geneva (10am DC).

Please feel free to suggest any other time that might work for this call. I’m happy to find other available timeslots for Friday or early next week.

Thanks,

**Aranela Lopez**  
Office of Global Affairs  
U.S. Department of Health & Human Services  
D: 202-691-2033/ C:  
Arnela.Lopez@hhs.gov

---

**From:** Kerr, Lawrence (HHS/OS/OGA)  
**<Lawrence.Kerr@hhs.gov>**  
**Sent:** Tuesday, May 12, 2020 2:12 PM  
**To:** SWAMINATHAN, Soumya  
**<swaminathans@who.int>**  
**Cc:** Lopez, Aranela (OS/OGA)  
**<Aranela.Lopez@hhs.gov>; BORGES, Andrea  
**<borgesa@who.int>**  
**Subject:** RE: [EXT] COVID-19 Vaccine Catch-up

Thank you for getting back to me so quickly. I appreciate you taking the time and later this week will be ideal because we may have more info for you on the Operation Warp Speed initiative. Before the call I’ll send a draft agenda for your consideration and please add anything you’d like to discuss and we’ll make sure we have the right folks on the call.

Looking forward to talking with you.

Best wishes – stay well!

Larry

---

**From:** SWAMINATHAN, Soumya  
**<swaminathans@who.int>**  
**Sent:** Tuesday, May 12, 2020 10:54 AM  
**To:** Kerr, Lawrence (HHS/OS/OGA)  
**<Lawrence.Kerr@hhs.gov>**  
**Cc:** Lopez, Aranela (OS/OGA)  
**<Aranela.Lopez@hhs.gov>; BORGES, Andrea  
**<borgesa@who.int>**  
**Subject:** Re: [EXT] COVID-19 Vaccine Catch-up

Dear Larry

So happy to hear from you and especially the good news below. We have been continuing to have very good interactions with NIH, FDA etc and I even had a call with David Hone from DTRA last week.
Am happy to have a call in the next couple of days. Will have more clarity on the Accelerator by later in the week.
Best
Soumya

Sent from my iPad

On 12 May 2020, at 15:35, Kerr, Lawrence (HHS/OS/OGA) <lawrence.Kerr@hhs.gov> wrote:

Hi Soumya,

I hope you and your family remain safe and well during this trying time. I’m writing to ask if we could possibly arrange for a phone or Zoom call to chat about the ACT Accelerator COVID-19 vaccine efforts. Long story short (I can share more when we chat), the Secretary asked that OGA take on an effort to sync the various on-going USG efforts with the global efforts to have an understanding of your efforts, needs, and make available the POCs across the various HHS divisions to facilitate optimal coordination. I’m sure you are aware that while the political situation does not allow us to engage visibly the WHO’s ACT Accelerator at the most senior levels, we have been instructed to make sure that technical assistance is maximized as we all race to discover, evaluate, and manufacturer whatever vaccine(s) demonstrate safety and efficacy.

Would it be possible to chat about your efforts to coordinate the ACT Accelerator COVID-19 vaccine development, manufacturing, and thoughts on access, and request where you see any points of collaboration that can be enhanced? If so, may I ask if Arnella could work with your scheduler to arrange for a time convenient to you.

Thank you – hope you are well!!

Larry
Lamoureille, Gabrielle (HHS/OS/OGA) /o=EXCHANGE LABS/ou=EXCHANGE ADMINISTRATIVE GROUP (FYD1BHCF23SPDLT)/cn=Recipients/cn=2cf3cb1a84f0847b3af0ea0e4d0d137c1-Lamoureille, Gabrielle.Lamoureille@hhs.gov;
Apple, Matthew (HHS/IOS) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=b2d3109399446eab9ff69d52880932-Apple, Matt <Matthew.Apple@hhs.gov>;
<Andrea.Parada@ojig.hhs.gov>;
<Nicholas.Nolan@ojig.hhs.gov>;
<James.Lehman@ojig.hhs.gov>;
Olson, Carolyn (OS/IOS) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=489725923aa9493d284ac59a879f2de0b-olson, Caro <Carolyn.Olson@hhs.gov>;
Davis, Parker (OS/IOS) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=0bc18554a876470ba8655504aa38997f2-Davis, Park <Parker.Davis@hhs.gov>;
Oakley, Caitlin B. (OS/ASPA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=e5e4c355344af9b4c64789034790-Oakley, Cai <Caitlin.Oakley@hhs.gov>;
Althouse, Ryley (OS/ASPA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=d724e802537b4013bb063251b90e3c2c-Althouse, R <Ryley.Althouse@hhs.gov>;
Smith, Christopher (HHS/ASPA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=users746400f <Christopher.Smith@HHS.GOV>;
Pratt, Michael (OS/ASPA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=7c8ed4023de458d801882c30fd16c99-Pratt, Mich <Michael.Pratt@hhs.gov>;
Grigsby, Garrett (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=7cd78b481b4d3b17bd0f7abaedd93-Grigsby, Gl <Garrett.Grigsby@hhs.gov>;
Mciff, Colin (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=d5b4dd3312934deda21b469a5d64e82a-Mciff, Coli <Colin.Mciff@hhs.gov>;
Zebley, Kyle (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=b1a0e4749999f96ef0f163b9a30db1-F-Zebley, Kyl <Kyle.Zebley@hhs.gov>;
Huber, Valerie (HHS/OSA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=362d28b9114d19bbf4c0e2b29367-V-Huber, Vale <Valerie.Huber@hhs.gov>;
Schaeffer, Alison (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=30155bf69a54072b7c33c523a4c-4c-Schaeffer, A <Alison.Schaeffer@hhs.gov>;
Levine, Maya (OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=acce1b99710467ba39ceb64f234ce-Levine, May <Maya.Levine@hhs.gov>;
Kerr, Lawrence (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=8ce99d2e749772bb758f8f6b2e6286-Kerr, Lawre <Lawrence.Kerr@hhs.gov>;
Fili, Lynn (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=209f4d4a6e4b4fd4b42ed9979f8dc-Fili, Lynn <Lynn.Fili@hhs.gov>;
LaHood, Natalie (OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=d7d5e131fd394ab33be3e6bf23285f1-Lahood, Nat <Natalie.Lahood@hhs.gov>;
Locus, Tiffany (OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=4748e5d1246e4f0148a69dfb45d6634-Locus, Tiff <Tiffany.Locus@hhs.gov>;
Kopelow, Aimee (OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=9880302d521f4d77833c236d60866-Kopelow, Ai <Aimee.Kopelow@hhs.gov>;
Adenyi-Jones, Samuel (HHS/OS/OGA) /o=Exchange Labs/ou=Exchange Administrative Group (FYD1BHCF23SPDLT)/cn=Recipients/cn=bcdd3cd454cd11bc9bdc5a0a2251c-Adenyi-Jon <Samuel.Adenyi-Jones@hhs.gov>;
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Ekenyong, Elana (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=6bc4232ffdf9f427b940412c5a977147-Darrow, Jul <Juliana.Darrow@hhs.gov>;

Moreno, Mr. Pedro (ACF) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=3e633973eb824aeae6afca17179973a-Claire, Ela <Elana.Ekenyong@hhs.gov>;

Glass, Roger (NIH/FIC) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=b683c0228ac244d5ac097c3a8b6817c3-roger.glass <glassr@mail.nih.gov>;

Abram, Anna (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=5d4998efef33e4d2bea760cc22e8eeea-anna.abram <Anna.Abram@da.hhs.gov>;

Valdez, Mary Lou (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=75719768dc8afcd7b825a5b0918efc-marylou.valdez <MaryLou.Valdez@fda.hhs.gov>;

Engels, Thomas (HRSA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=2fe372dd5d0f41e59235d11629ebe50-thomas.engels <TEngels@hrsa.gov>;

Macrae, Jim (HRSA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=5cb9befe425477abc5f2af974aba7-jim.macrae <jMacrae@hrsa.gov>;

Darr, Charles (HRSA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=962a65c7a8849a0a8166b171c20eb-Charles.Dar <CDarr@hrsa.gov>;

Green, Hugh (CDC/OD/OCIS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=cf6c6c65a12f8238a87e8b5e608b788c-hugh.henry <yeke@cdc.gov>;

Lepore, Loretta (CDC/OD/OCIS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=508926874443ae3836666685f3d8d4-loretta.lep <ph7f@cdc.gov>;

Martin, Rebecca (CDC/DDPHISIS/CGH/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=9711ce77556436b3a57730e932271a90-Martin, Reb <rtm4@cdc.gov>;

Roberts, Sukeshi (CDC/DDPHISIS/CGH/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=3ba93d56e6ef4bc994b4d0f5b2b2d760a-sukeshi.roberts <sukeshi.roberts@cdc.gov>;

Stanjevich, Joel G. (CDC/DDPHISIS/CGH/OD) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=2308671c31a3492be3b449f1c59490f-joel.stanoj <vh9@cdc.gov>;

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Lane, Cliff (NIH/NAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=11a174ee68e4263929be95c9e1945-cliff.lane <clare@naiad.nih.gov>;

Conrad, Patricia (NIH/NAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=3793ae43a1744df8a65b000c9795-patricia.co <conrapda@naiad.nih.gov>;

Handley, Gray (NIH/NAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=3fac3d775e8442ba613bcbb2b9a015-gray.handle <handleygr@naiad.nih.gov>;

Scheffer, Alison (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=30155c8f9a54072b7c33c263a343c4-scheffer, A <Alison.Scheffer@hhs.gov>;

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Campbell Jr, Russell C (FDA/OC) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=exc95bf3fc2da46c678502bfba148aa813-russell.camel <Russell.Campbell@fda.hhs.gov>;

McKee, Katherine (OS/ASPA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHC23PDLT) cn=Recipients/cn=c6522f415b44df8369dc7f4596030-McKee, Ka <Katherine.McKee@hhs.gov>;

CC: Lamourelle, Gabrielle (HHS/OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group
Dear HHS Delegation to UNGA 74,

Thank you for your participation in yesterday’s call. As discussed, we have assigned focal points for each office to coordinate picking up badges and accreditation letters from us during the weekend prior to UNGA. I have listed their names below. If you’re not a focal point, please coordinate directly with your assigned contact to receive your badge or letter.

I have also attached resources to assist in planning for your participation at the UNGA High-Level Meeting on Universal Health Coverage. See below for the list of materials.

**Badging and accreditation focal points**
- IOS – Sec    Carolyn Olson
- OGA FO & ASPA    Alison Schaeffer & Aimee Kopolow
- OGA – PET    Natalie LaHood
- OGA – other    Rachel Wood & Gabrielle Lamoureille
- OASH    Julianna Darrow
- NIH    Patricia Conrad
- CDC    Sukeshi Roberts
- ASH    Pedro Moreno
- HRSA    Charlie Darr
- FDA    Lou Valdez

**Attached resources**
- UHC High-Level Meeting Agenda
- Event Tracker
- Flyers for the U.S.-hosted side events on AMR and PHC
- UN Badging Office Hours

We will be in touch next week with a seating chart for the High-Level Meeting next week, as well as an updated side event tracker.

Best,
Rachel
From: Wood, Rachel (HHS/OS/OGA)  
Sent: Wednesday, August 28, 2019 1:17 PM  
To: Lamourelle, Gabrielle (HHS/OS/OGA) <Gabrielle.Lamourelle@hhs.gov>; Apple, Matthew (HHS/IOS) <Matthew.Apple@hhs.gov>; 'Andrea.Parada@oig.hhs.gov' <Andrea.Parada@oig.hhs.gov>; 'Michael.Nolan@oig.hhs.gov' <Michael.Nolan@oig.hhs.gov>; 'James.Lehman@oig.hhs.gov' <James.Lehman@oig.hhs.gov>; Olson, Carolyn (OS/IOS) <Carolyn.Olson@hhs.gov>; Davis, Parker (OS/IOS) <Parker.Davis@hhs.gov>; Oakley, Caitlin B. (OS/ASPA) <Caitlin.Oakley@HHS.GOV>; Althouse, Riley (OS/ASPA) <Riley.Althouse@hhs.gov>; Smith, Christopher (HHS/ASPA) <Christopher.Smith@HHS.GOV>; Pratt, Michael (OS/ASPA) <Michael.Pratt@hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; McCaff, Colin (HHS/OS/OGA) <Colin.McCaff@hhs.gov>; Zebely, Kyle (HHS/OS/OGA) <Kyle.Zebely@hhs.gov>; Huber, Valerie (HHS/OGA) <Valerie.Huber@hhs.gov>; Schaeffer, Alison (HHS/OS/OGA) <Alison.Schaeffer@hhs.gov>; Levine, Maya (OS/OGA) <Maya.Levine@hhs.gov>; Wood, Rachel (HHS/OS/OGA) <Rachel.Wood@hhs.gov>; Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Filpi, Lynn (HHS/OS/OGA) <Lynn.Filpi@hhs.gov>; LaHood, Natalie (OS/OGA) <Natalie.Lahood@hhs.gov>; Locus, Tiffany (OS/OGA) <Tiffany.Locus@hhs.gov>; Kopolow, Aimee (OS/OGA) <Aimee.Kopolow@hhs.gov>; Adeniyi-Jones, Samuel (HHS/OS/OGA) <Samuel.Adeniyi-Jones@hhs.gov>; Darrow, Juliana (HHS/OS/OGA) <Juliana.Darrow@hhs.gov>; Ekpenyong, Eliza (HHS/OS/OGA) <Eliza.Ekpenyong@hhs.gov>; Moreno, Mr. Pedro (ACF) <Pedro.Moreno@acf.hhs.gov>; Glass, Roger (NIH/FIC) [E] <glassr@mail.nih.gov>; Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Valdez, Mary Lou (FDA/OC) <MaryLou.Valdez@fda.hhs.gov>; Engels, Thomas (HRSA) <TEngels@hrsa.gov>; Macrae, Jim (HRSA) <JMacrae@hrsa.gov>; Darr, Charles (HRSA) <CDarr@hrsa.gov>; Green, Hugh (CDC/OD/OC) <yke8@cdc.gov>; Lepore, Loretta (CDC/OD/OC) <phf7@cdc.gov>; Martin, Rebecca (CDC/DDPHISIS/CGH/OD) <rtm4@cdc.gov>; Roberts, Sakeshi (CDC/DDPHISIS/CGH/OD) <nwn7@cdc.gov>; Stanoevich, Joel G. (CDC/DDPHISIS/CGH/OD) <vh19@cdc.gov>; Nesseier, Kerry (HRSA) <Knesseier@hrsa.gov>; Lane, Cliffs (NIH/NIAD) [E] <CLANE@niaid.nih.gov>; Conrad, Patricia (NIH/NIAD) [E] <conradpa@niaid.nih.gov>; Handley, Gray (NIH/NIAD) [E] <handleygr@niaid.nih.gov>; Schaeffer, Alison (HHS/OS/OGA) <Alison.Schaeffer@hhs.gov>  
Cc: Lamourelle, Gabrielle (HHS/OS/OGA) <Gabrielle.Lamourelle@hhs.gov>; Levine, Maya (OS/OGA) <Maya.Levine@hhs.gov>; Schmeissner, Peter (HHS/OGA) <Peter.Schmeissner@hhs.gov>  
Subject: HHS preparations for 74th UN General Assembly

Dear HHS colleagues,

We look forward to having you join us at the 74th session of the UN General Assembly (UNGA) in New York City next month. This email contains information and resources for your trip. We will also hold a call to go over UNGA information and logistics on Tuesday, September 10 at 3:30pm EST. I’ll follow up with a meeting invitation.

UNGA information:
- High-level week: The week of September 23 comprises multiple events, including the High-Level Meeting (HLM) on Universal Health Coverage (UHC) on Monday, September 23, the General Debate, which begins on Tuesday, September 24, and a High-Level Political Forum on the Sustainable Development Goals on Tuesday, September 24 and Wednesday, September 25.
- **Travel:**
  - You are expected to book your own hotel accommodations. A list of hotels near the UN is attached. Given extremely limited stock, your division’s travel policy may require you to submit an Actual Expenses Allowed (AEA) form.
  - If you have not visited the UN with a blue badge recently, please be sure to leave time at the beginning of your trip to take care of badging (more info below).
  - You must also submit an eCountryClearance (eCC) via [https://ecc.state.gov](https://ecc.state.gov) to alert the U.S. Mission to the UN of your presence. When completing the online form, select “UNGA – UN General Assembly” from the dropdown titled “Agency Section.” Please refer to the “FAQ” section of the eCC site for further guidance. Travelers are encouraged to complete their eCCs as soon as possible, but no later than September 12.

- **Badging:**
  - OGA submitted HHS badging requests through the State Department for access to UN grounds during high-level week.
  - If you have not received a UN badge in the past two years, you will need to take an accreditation request letter to the UN Pass & ID Office and have your photograph taken. OGA will coordinate delivering the personalized accreditation request letter (hard copy) to you before you visit the UN Pass & ID Office (located at 320 East 45th Street, NY, NY). Government issued ID is required, a passport (personal or government) is recommended along with your government work ID.
  - If you have received a UN badge in the past two years, your photo should be on file and the UN will print a badge for you. OGA will pick up your badge and coordinate delivering the badge to you.
  - Attached for your convenience is a map showing pedestrian check points for access to the badging office and the badging office hours. I will be in touch with Division POCs soon to arrange a place and time to meet in New York to hand off the accreditation materials for each group. The POCs will contact you to arrange pick up. Badging is not required for attendance at unofficial side events held off UN grounds and outside of the security cordon area (indicated on attached map).

- **Events:** Attached is a running list of official and unofficial events during high level week. U.S. delegation seating at official events is limited; OGA is coordinating seating at events including the high-level meeting on UHC and will communicate with HHS principals accordingly. If you learn of other events, please send them to Natalie LaHood ([Natalie.LaHood@hs.gov](mailto:Natalie.LaHood@hs.gov)). This list is not comprehensive, as dozens of unofficial side events occur on the UNGA margins, but it can help with identifying activities of interest.

**Resources (attachments):**
1. UNGA logistics note on arrangements for the High-Level Meetings and the General Debate
2. UN street access map
3. OGA UNGA side event tracker
4. UHC HLM schedule and logistics note
5. List of hotels near the UN
6. UN badging office location and hours
We look forward to providing addition updates during the call on September 10. In the meantime, please do not hesitate to contact me, Gabrielle Lamourele (gabrielle.lamourele@hhs.gov), and Maya Levine (maya.levine@hhs.gov) with any questions.

Thank you,

Rachel


Rachel Wood, MPP
Global Health Officer, Multilateral Relations
Office of Global Affairs
U.S. Department of Health & Human Services
Office: 202.260.1630 | Mobile: (6) 382-6209
rachel.wood@hhs.gov

Sender: Wood, Rachel (HHS/OS/OGA) /O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/cn=Recipients/cn=636283582622451C990865536A2ES37B-WOOD, RACHEL <Rachel.Wood@hhs.gov>

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<JAMES.LEHMAN@oig.hhs.gov>;
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Smith, Christopher (HHS/OS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=users5746400f-<Christopher.Smith@HHS.GOV>;
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Huber, Valerie (HHS/OS) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=382ed2b9f1144d19b6ff4c0ee2b0367d-Huber, Vale
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**Sent Date:** 2019/09/11 17:30:10  
**Delivered Date:** 2019/09/11 17:30:16  
**Subject:** Register Today: Celebrate Global AMR Fighters on Sept 23 in NYC  
**Type:** Note
Join HHS Secretary, Alex Azar, experts from the U.S. Centers for Disease Control and Prevention, and hundreds of organizational and global leaders for an evening celebrating the culmination of the AMR Challenge at an unofficial side event of the 74th United Nations General Assembly in New York City.

DATE & TIME
Monday, September 23, 2019
6–9 p.m.

VENUE
Cipriani Midtown
110 E. 42nd Street, New York City
Schedule of Events
6 p.m.: Registration Opens
6-7 p.m.: AMR Art Exhibition & Reception
7-8 p.m.: AMR Expert Speakers, including HHS Sec. Alex Azar and Poonam Khetrapal, WHO Regional Director for South-East Asia
8-9 p.m.: U.S. Premiere of Resistance Fighters, a film by Michael Wech, produced by Leopold Hoesch

Attire: Business Professional

Commit to action by Sept. 1 to officially join The AMR Challenge:

www.cdc.gov/DrugResistance
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<td>Concordia Annual Summit</td>
<td>Unofficial</td>
<td>Concordia</td>
<td>Grand Hyatt, 109 East 42nd Street, New York, NY 10017, U.S.</td>
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<td>UNGASS 2021 on Corruption: A Path Forward to Enhance and Strengthen the International Anti-Corruption Legal Framework</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Conference Room 4, East 42nd Street, New York, NY</td>
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<td>Walk the Talk</td>
<td>Unofficial</td>
<td>WHO</td>
<td>Central Park</td>
<td>Should have US Del participate</td>
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<td>The Partnership for Maternal, Newborn &amp; Child Health, Every Woman Every Child, Independent Accountability Panel</td>
<td>The Grand Central Ballroom  The Westin Grand Central Hotel 212 East 42nd Street New York, NY</td>
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<td>Unofficial</td>
<td>MIT Solve</td>
<td>Apella Event Space at Alexandria Center, 450 E 29th St, New York, NY 10016</td>
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<td>Unofficial</td>
<td>AMR Industry Alliance, UNICEF, the Netherlands and Indonesia (proposed)</td>
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<tr>
<td>Sun</td>
<td>22-Sep</td>
<td>17:00 - 19:00</td>
<td>High-Level Council on Leadership; Management for Development Panel</td>
<td>Unofficial</td>
<td>AMP Health</td>
<td>Pfizer Inc., 235 E 42nd St, NY, NY 10017</td>
<td>More info here</td>
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<tr>
<td>Sun</td>
<td>22-Sep</td>
<td>17:30 - 19:30</td>
<td>Making Voices Heard: Social Participation for Equity and Accountability in Pathways Towards UHC</td>
<td>Unofficial</td>
<td>UHC2030; WHO</td>
<td>Ford Foundation, Mandela Room, 320 E 43rd St, New York, NY 10017</td>
<td>RSVP here</td>
</tr>
<tr>
<td>Sun</td>
<td>22-Sep</td>
<td>17:30 - 19:30</td>
<td>Buying Medicines Better: Deploying Smart Procurement to Accelerate Universal Health Coverage</td>
<td>Unofficial</td>
<td>Center for Global Development</td>
<td>Midtown Loft &amp; Terrace, 267 5th Ave, New York, NY 10016</td>
<td>RSVP here</td>
</tr>
<tr>
<td>Sun</td>
<td>22-Sep</td>
<td>18:00 - 20:00</td>
<td>Putting the U in UHC: Financing for the furthest left behind in the UHC agenda</td>
<td>Unofficial</td>
<td>Gavi, The Vaccine Alliance; The Global Fund; The United nations Foundation</td>
<td>Westin Hotel, The Madison Ballroom, 212 E 42nd St, New York, NY 10017</td>
<td>RSVP here</td>
</tr>
<tr>
<td>Sun</td>
<td>22-Sep</td>
<td>18:00 - 21:00</td>
<td>Securing our Future: People, Food and Nature Solving the Planetary Emergency</td>
<td>Unofficial</td>
<td>The Food and Land Use Coalition (FOLU); the World Economic Forum (WEF); Conservation International (CI); National Geographic; UNDP; Nature4Climate</td>
<td>Cipriani, 110 42nd St New York, NY</td>
<td>RSVP here</td>
</tr>
<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>All Day</td>
<td>Sustainable Development Impact Summit</td>
<td>Unofficial</td>
<td>World Economic Forum</td>
<td>Convene, 730 Third Avenue New York, NY 10017</td>
<td>More info here</td>
</tr>
<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>All Day</td>
<td>UN Global Compact Leader's Week</td>
<td>Unofficial</td>
<td>UN Global Compact</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
<td>More info here - Invite only</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>7:00</td>
<td>C3 US-Arab Healthcare and Business Summit</td>
<td>Unofficial</td>
<td>C3 Summit International</td>
<td>The Union League Club, 38 East 37th Street New York, New York 10016</td>
<td>Business attire required</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>7:00 - 8:15</td>
<td>Superbugs, Infectious Diseases, and Solutions for Healthier Societies</td>
<td>Unofficial</td>
<td>Foreign Policy; 3M; United Nations Foundation</td>
<td>Ford Foundation, 320 E 43rd St, New York, NY 10017</td>
<td>REGISTER HERE</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>9:00</td>
<td>High-Level Meeting on Universal Health Coverage</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
<td>More info here</td>
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<td>Date</td>
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<td>Event</td>
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<td>Organization</td>
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<tr>
<td>Mon 23-Sep</td>
<td>9:00</td>
<td>SDG Media Zone</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
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<tr>
<td>Mon 23-Sep</td>
<td>9:00</td>
<td>Leaders for Nature and People Event</td>
<td>Unofficial</td>
<td>WWF; Project Everyone</td>
<td>TBD</td>
<td>Invite only</td>
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<tr>
<td>Mon 23-Sep</td>
<td>9:30 - 14:30</td>
<td>Business Fights Poverty</td>
<td>Unofficial</td>
<td>Credit Suisse; CDC Group; Visa</td>
<td>Credit Suisse, 11 Madison Ave, New York, NY 10010</td>
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<tr>
<td>Mon 23-Sep</td>
<td>12:00 - 14:00</td>
<td>2019 P4G Awards Luncheon</td>
<td>Unofficial</td>
<td>Global Goals House</td>
<td>Global Goals House, Hudson yards, New York, NY 10001</td>
<td>More info here</td>
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<td>Mon 23-Sep</td>
<td>12:30</td>
<td>Private Sector Forum (as part of UN Global Compact Leader's Week)</td>
<td>Official</td>
<td>UN Global Compact</td>
<td>UN Headquarters, Delegates Dining Room, East 42nd Street, New York, NY</td>
<td>More info here - Invite only</td>
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<td>Mon 23-Sep</td>
<td>12:30 - 14:00</td>
<td>Scaling National Cervical Cancer Screening and Treatment Services</td>
<td>Unofficial</td>
<td>American Cancer Society; TogerHer for Health, the International Union for Cancer Control; Cepheid</td>
<td>132 W 32nd St, New York, NY</td>
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<tr>
<td>Mon 9/23/2019</td>
<td>13:00 - 14:00</td>
<td>Women's Leader Lunch on UHC-Why Gender Matters</td>
<td>Unofficial</td>
<td>Germany; The Netherlands; SheDecides</td>
<td>The Maxwell Hotel, 541 Lexington Avenue, New York, NY 10222</td>
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<tr>
<td>Mon 23-Sep</td>
<td>13:15 - 14:45</td>
<td>Friends of the UN Inter-Agency Task Force on NCDs</td>
<td>Official</td>
<td>Russian Federation; WHO</td>
<td>UN Headquarters, East 42nd Street, New York, NY</td>
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<tr>
<td>Mon 23-Sep</td>
<td>13:15 - 14:45</td>
<td>Launch of the Economic Intelligence Unit report: Financing UHC and fiscal policies</td>
<td>Official</td>
<td>Barbados, World Heart Federation</td>
<td>UN Headquarters, East 42nd Street, New York, NY</td>
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<td>Mon 23-Sep</td>
<td>13:30 - 15:00</td>
<td>Primary Healthcare is a Cornerstone for Universal Health Coverage and Health-Related SDGs</td>
<td>Official</td>
<td>Kazakhstan; US</td>
<td>UN Headquarters, Conference Room 1, East 42nd Street, New York, NY</td>
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<td>Mon 23-Sep</td>
<td>15:30</td>
<td>Health is Everyone's Business</td>
<td>Official</td>
<td>UN Global Compact</td>
<td>UN Headquarters, Private Dining Rooms 1, 2, 3, East 42nd Street, New York, NY</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>16:00 Achieving UHC: A Sustainable Future for Africa</td>
<td>Unofficial</td>
<td>TBD</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>17:00 Islamophobia and Mental Health of Muslim Youth: Toward Joint Action</td>
<td>Unofficial</td>
<td>Islamic Cooperation Youth Forum; European Forum of Muslim Women</td>
<td>Email for more info</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>17:00 - 21:00 Sustainable Future Forum</td>
<td>Unofficial</td>
<td>Spark News</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>18:00 Global Citizen Awards</td>
<td>Unofficial</td>
<td>Atlantic Council</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>18:00 - 20:00 From Political Commitments to Actions: The Way Forward for Universal Health Coverage</td>
<td>Official</td>
<td>WHO</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>18:00 - 21:00 Cancer, Inequities of Care and the Role of UHC</td>
<td>Unofficial</td>
<td>Roche</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>18:00 - 21:00 The AMR Challenge: A Night Celebrating Global AMR Fighters</td>
<td>Unofficial</td>
<td>CDC; CDC Foundation; HHS</td>
<td>AMA</td>
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<td>Mon</td>
<td>23-Sep</td>
<td>18:30 - 19:30 Mental Health for All: An Evening for Action at the UN General Assembly</td>
<td>Official</td>
<td>United for Global Mental Health</td>
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<tr>
<td>Mon</td>
<td>23-Sep</td>
<td>19:00 - 20:30 The Present is Female</td>
<td>Unofficial</td>
<td>Johnson &amp; Johnson</td>
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**Tuesday, September 24, 2019**

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<tr>
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<th>Organizer/Location</th>
<th>Additional Info</th>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>All Day Sustainable Development Impact Summit</td>
<td>Unofficial</td>
<td>World Economic Forum</td>
<td>More info here</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>7:30 Breakfast Meeting: Business Response to the United Nations Sustainable Development Goals</td>
<td>Unofficial</td>
<td>Business in the Community (BITC); Linklaters</td>
<td>Email for more info</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>8:00 Financing Common Goods</td>
<td>Unofficial</td>
<td>WHO</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>8:00</td>
<td>From 2011 to 2019: Global NCD Progress for Children and Youth</td>
<td>Unofficial</td>
<td>NCD Child</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>8:00-19:00</td>
<td>Transforming Hemp to Healthcare and CBD to Commerce</td>
<td>Unofficial</td>
<td>C3 Summit International; Erba Verde Group</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>8:00-9:30</td>
<td>Breaking Barriers: Enabling Gender-Responsive and Equitable Health Systems to Reach Universal Health Coverage</td>
<td>Unofficial</td>
<td>WHO; Women Deliver</td>
</tr>
<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>8:00-9:30</td>
<td>Funding the Future 2.0: The Next Frontier for Financing Models in Health</td>
<td>Unofficial</td>
<td>devex; MSD for Mothers; OPIC; Global Financing Facility; GBCHealth</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>8:00-10:00</td>
<td>Global Coalition for Circulatory Health</td>
<td>Unofficial</td>
<td>World Health Federation</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>9:00</td>
<td>Delivering on Goal 16 - A Legal Working Group</td>
<td>Unofficial</td>
<td>Thomas Reuters; The Thomson Reuters Foundation; UN Global Compact</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>10:00-12:00</td>
<td>Going Digital: Creating Enabling Ecosystems for Digital Health</td>
<td>Unofficial</td>
<td>devex; Philips</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>11:00-12:45</td>
<td>Panel Discussion on The Humanitarian Crisis in Venezuela and its Impact in the Region</td>
<td>Official</td>
<td>Permanent Missions of: Canada, Ecuador, and Peru</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>11:00-13:00</td>
<td>Stronger Collaboration, Better Health: Launch of the Global Action Plan for Healthy Lives and Well-Being</td>
<td>Official</td>
<td>Gavi; Global Financing Facility; The Global Fund; UNAIDS; UNDP; UNFPA; UNICEF; Unitaids; UN Women; World Bank Group; World Food Programme; WHO</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>12:30-14:00</td>
<td>Cervical Cancer Elimination: Luncheon and Roundtable Discussion</td>
<td>Unofficial</td>
<td>American Cancer Society; UICC; TogethHER; Cepheid; PATH; Pathfinder International; Jhpiego</td>
</tr>
<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>12:30-14:00</td>
<td>UHC and the Power of the People: The Case for Investigating in a Qualified Health Workforce</td>
<td>Unofficial</td>
<td>devex; Takeda; Seed Global Health</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>13:00</td>
<td>Making Global Goals Local Business</td>
<td>Unofficial</td>
<td>Global Compact Network USA</td>
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<tr>
<td>Tues</td>
<td>24-Sep</td>
<td>13:00</td>
<td>Baur International Model UN on the High Level Political Forum, the Climate Action Summit, the 2030 Agenda &amp; the SDGs</td>
<td>Official</td>
<td>Foundation Cultural Baur, A.C.</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>14:00</td>
<td>We The Future</td>
<td>Unofficial</td>
<td>TED; Skoll Foundation; United Nations Foundation</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>14:30 - 16:00</td>
<td>Seeing the Road to UHC: Eradicating Poor Vision in a Generation</td>
<td>Unofficial</td>
<td>devex; Essilor</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:00 - 18:00</td>
<td>UN High-level Political Forum on Sustainable Development (HLPF) / SDG Summit</td>
<td>Official</td>
<td>United Nations</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:00 - 16:30</td>
<td>Afternoon Tea: A Dialogue on NCDs and Women’s Health</td>
<td>Unofficial</td>
<td>Pathfinder International; the Helmsley Charitable Trust</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:00 - 17:00</td>
<td>Locally Leading the Way to UHC: USAID’s Inclusive Health Access Prize</td>
<td>Unofficial</td>
<td>USAID</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:00 - 17:00</td>
<td>Turning the Tables: Patient Perspectives on UHC</td>
<td>Unofficial</td>
<td>Global Health Council</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:00 - 17:00</td>
<td>Partnering for Impact: Innovative Solutions &amp; Novel Business Models to Accelerate Access to NCD Care in LMICs</td>
<td>Unofficial</td>
<td>NCD Alliance; Eli Lilly</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>15:30</td>
<td>UNGA Council on Leadership: Sustainable Development in Global Business</td>
<td>Official</td>
<td>GreenTech Foundation Bangladesh</td>
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<td>Tues</td>
<td>24-Sep</td>
<td>16:00</td>
<td>Young People at the Forefront of the Climate Movement</td>
<td>Unofficial</td>
<td>Sustaining All Life and United to End Racism</td>
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<td>Tues 24-Sep</td>
<td>17:00 - 18:00</td>
<td>AA Interactive Marketplace</td>
<td>Unofficial</td>
<td>Access Accelerated</td>
<td>Yale Club, 50 Vanderbilt Ave, New York, NY</td>
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<td>Tues 24-Sep</td>
<td>17:00 - 19:00</td>
<td>Autism Speaks</td>
<td>Unofficial</td>
<td>WHO; UNICEF; Autism Speaks; Belgium; Japan; Serbia; Kenya; Brazil; Qatar; Bangladesh</td>
<td>Yale Club, 50 Vanderbilt Ave, New York, NY</td>
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<td>Tues 24-Sep</td>
<td>18:00 - 21:00</td>
<td>Goalkeepers Awards</td>
<td>Unofficial</td>
<td>Bill and Melinda Gates Foundation</td>
<td>Jazz at Lincoln Center, 10 Columbus Cir, New York, NY 10023</td>
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<td>Tues 24-Sep</td>
<td>18:00</td>
<td>UN High-Level Meetings on Health – Hitting The Targets Under Universal Health Coverage</td>
<td>Official</td>
<td>Stop TB Partnership; UHC2030</td>
<td>UN Headquarters, West Terrace, Delegation Dining, UNHQ, East 42nd Street, New York, NY</td>
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<td>Tues 24-Sep</td>
<td>18:00 - 19:00</td>
<td>Women and Girls, SRHR, and the Road to UHC</td>
<td>Unofficial</td>
<td>devex; Pathfinder International</td>
<td>Convene, 605 Third Avenue New York, NY 10017</td>
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<td>Tues 24-Sep</td>
<td>18:00 - 20:00</td>
<td>Driving Multi-sectoral Action on NCDs in Support of UHC</td>
<td>Unofficial</td>
<td>Access Accelerated</td>
<td>Yale Club, 50 Vanderbilt Ave, New York, NY</td>
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<td>Tues 24-Sep</td>
<td>18:00 - 20:00</td>
<td>Sanitation and Hygiene Campaign for a Clean Nigeria: Sharing Lessons and Key Insights</td>
<td>Unofficial</td>
<td>Government of Nigeria</td>
<td>Nigerian Permanent Mission to the UN, Reception Hall, 828 2nd Ave, New York, NY 10019-7</td>
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<td>Tues 24-Sep</td>
<td>18:30 - 21:30</td>
<td>Celebrating Partnerships: Working Together to Advance Gender Equality in UHC</td>
<td>Unofficial</td>
<td>International Women's Health Coalition; Women Deliver; Women in Global Health</td>
<td>Location shared with confirmed participants</td>
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<td>Tues 24-Sep</td>
<td>19:00</td>
<td>Climate Change, Water Security and National Security for Jordan, Palestine, and Israel</td>
<td>Unofficial</td>
<td>The Sabin Center for Climate Change Law; Columbia Law School</td>
<td>Columbia Law School 435 West 116th Street Room 103 New York, NY 10027</td>
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<td>Tues 24-Sep</td>
<td>19:30</td>
<td>Equator Prize 2019 Awards Ceremony</td>
<td>Unofficial</td>
<td>United Nations Development Program; Equator Initiative</td>
<td>The Town Hall, 123 W 43rd Street, New York, NY 10036</td>
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<td>Wed</td>
<td>25-Sep</td>
<td>Sustainable Investment Forum 2019 - North America</td>
<td>Unofficial</td>
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<td>Crowne Plaza Hotel Times Square, 1605 Broadway, New York, NY 10019</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>8:00 - All Day</td>
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<td>Wed</td>
<td>25-Sep</td>
<td>Goalkeepers</td>
<td>Unofficial</td>
<td>Bill and Melinda Gates Foundation; Goalkeepers</td>
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<td>25-Sep</td>
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<td>Wed</td>
<td>25-Sep</td>
<td>Bloomberg Global Business Forum</td>
<td>Unofficial</td>
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<td>Plaza Hotel, 768 5th Ave, New York, NY 10019</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>A Breakfast Conversation with Heroines of Health</td>
<td>Unofficial</td>
<td>United Nations Foundation; Women in Global Health</td>
<td>Ford Foundation, 320 E 43rd St, New York, NY 10017</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>8:30 - 11:00</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Post HLM Civil Society Strategy Session</td>
<td>Unofficial</td>
<td>Civil Society Engagement Mechanism for UHC2030</td>
<td>The Armenian Church, 630 2nd Ave, New York, NY</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>9:00 - All Day</td>
<td></td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Seventh Annual International Conference on Sustainable Development</td>
<td>Unofficial</td>
<td>Sustainable Development Solutions Network; Global Association of Masters of Development Practice (MDP) Programs</td>
<td>Lerner Hall, 2920 Broadway, New York, NY 10027</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>9:00 - 17:00</td>
<td></td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>14th Annual Columbia International Investment Conference: “Aligning Corporations with the Sustainable Development Goals”</td>
<td>Unofficial</td>
<td>Columbia Center on Sustainable Investment</td>
<td>Faculty House, Columbia University, 64 Morningside Dr, New York, NY 10027</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>9:00 - 17:00</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>UNGA Conference 2019: Transforming Our World “Inclusive Social Development for All”</td>
<td>Unofficial</td>
<td>The Journalists and Writers Foundation</td>
<td>4 West 43rd St, New York, NY 10036</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>9:00</td>
<td></td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Ensuring Access and Equity in Adolescents, Children and Women's Health</td>
<td>Unofficial</td>
<td>Mrs. Kim Simplis Barrow, Spouse of the Prime Minister of Belize and Chair of Spouses of Caricom Leaders Action Network (SCLAN)</td>
<td>TBD</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>10:00</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>SDG Business Forum</td>
<td>Official</td>
<td>UN DESA; ICC; UN Global Compact</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
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<td>Wed</td>
<td>25-Sep</td>
<td>10:00</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Sustaining Ourselves as Activists &amp; Organizers</td>
<td>Unofficial</td>
<td>Sustaining All Life and United to End Racism</td>
<td>4 W 43rd St, New York, NY 10036</td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Event Description</td>
<td>Type</td>
<td>Organizer/Partner</td>
<td>Location</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Launch of the Coalition of Heads of State and Government for the Prevention and Treatment of NCDs and the Promotion of Mental Health and Well-being</td>
<td>Official</td>
<td>Uruguay; WHO</td>
<td>UN Headquarters, Conference Room 6, East 42nd Street, New York, NY</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>UN High-level Political Forum on Sustainable Development (HLPF) / SDG Summit</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>UHC2030 Strategic Meeting on post-UN HLM follow up actions &amp; social accountability during the 74th UN General Assembly</td>
<td>Unofficial</td>
<td>UHC2030, The Rockefeller Foundation</td>
<td>Rockefeller Foundation Board Room, 420 5th Avenue, New York, NY</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Leadership for the SDGs: Featuring the Young SDG Pioneers</td>
<td>Official</td>
<td>UN Global Compact</td>
<td>UN Headquarters, SDG Media Zone, East 42nd Street, New York, NY</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Sustainability Programs and Mergers</td>
<td>Unofficial</td>
<td>Environmental Law Institute</td>
<td>Times Square Tower, 7 Times Square, 70 West 45th Street, 10036</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Social Determinants of Health: Business Perspectives and Opportunities for Impact</td>
<td>Unofficial</td>
<td>World Economic Forum</td>
<td>Convene, 730 Third Avenue New York, NY 10017</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>The Global Pact for the Environment and the Sustainable Development Agenda</td>
<td>Unofficial</td>
<td>Columbia Center on Sustainable Investment (CCSI); UN Sustainable Development Solutions Network (SDSN); Le Club des Juristes</td>
<td>Columbia Law School, 435 West 115th Street, Manhattan, New York, NY 10027</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Driving Momentum to Achieve Health for All: A Toast to PHC for UHC</td>
<td>Unofficial</td>
<td>Primary Health Care Performance Initiative (PHCPI); Amref</td>
<td>Convene, 605 Third Avenue New York, NY 10017</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Data for Health Equity: Unlocking Health for All</td>
<td>Unofficial</td>
<td>Rockefeller Foundation; UNICEF</td>
<td>Grand Hyatt New York, 109 E 42nd St, New York, NY 10017</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>The Future of Leadership</td>
<td>Unofficial</td>
<td>The Wall Street Journal</td>
<td>TBD</td>
</tr>
<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>Planetary Health Action Dialogue: Cross-Sectoral Learning to Reach Triple Duty</td>
<td>Unofficial</td>
<td>NCD Alliance; UNDP; WHO; IIID</td>
<td>Scandinavia House, Volvo Hall, 58 Park Ave, New York, NY</td>
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<tr>
<td>Day</td>
<td>Date</td>
<td>Time</td>
<td>Event</td>
<td>Official/Unofficial</td>
<td>Participants/Location</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>18:30 - 20:00</td>
<td>Migration Health and the Universal Health Coverage Targets: Promoting Equity in Access to Health Services with Financial Protection</td>
<td>Official</td>
<td>Luxembourg; Mexico; Colombia; Bangladesh; IOM; WHO</td>
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<td>UN Headquarters, Conference Room 12, East 42nd Street New York, NY</td>
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<tr>
<td>Wed</td>
<td>25-Sep</td>
<td>18:30 - 20:30</td>
<td>Delivering together for the health and wellbeing of women, children, and adolescents</td>
<td>Unofficial</td>
<td>EWEC Secretariat; EWEC Latin America; PMINCH</td>
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<td>TBD</td>
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<td>Thurs</td>
<td>26-Sep</td>
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<td>Thurs</td>
<td>26-Sep</td>
<td>7:00 - 9:00</td>
<td>High-Level CEO Roundtable on Corporate SDG Finance and Investment</td>
<td>Official</td>
<td>United Nations</td>
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<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
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<tr>
<td>Thurs</td>
<td>26-Sep</td>
<td>8:00 - 9:45</td>
<td>1,460 Days Left: Countdown to 2023 – towards the mid-point of SDGs</td>
<td>Official</td>
<td>UHC2030</td>
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<td>UN Headquarters, Delegates Dining Room, East 42nd Street, New York, NY</td>
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<tr>
<td>Thurs</td>
<td>26-Sep</td>
<td>8:00 - 10:15</td>
<td>Communities of Faith Breakfast Building Partnerships for a One-Community Response to HIV - innovative approaches and joint actions through faith partnerships to achieve epidemic control: finding the missing men and seeking justice for children</td>
<td>Unofficial</td>
<td>Faith Partners; UNAIDS; PEPFAR</td>
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<td>Yale Club of New York, 50 Vanderbilts Avenue</td>
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<tr>
<td>Thurs</td>
<td>26-Sep</td>
<td>8:30 - 12:15</td>
<td>Moody's Briefing</td>
<td>Unofficial</td>
<td>Moody's Investors Service; the Climate Bond Initiative</td>
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<td>Moody's Headquarters, 7 WTC 250 Greenwich Street New York, NY 10007</td>
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<tr>
<td>Thurs 26-Sep</td>
<td>9:00</td>
<td>Delivering on UHC: From the Guidelines to the Frontlines</td>
<td>Unofficial</td>
<td>Living Goods; Frontline Health Workers Coalition; IntraHealth; Johnson &amp; Johnson; Pathfinder International</td>
<td>Convene, 605 Third Avenue New York, NY 10017</td>
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<tr>
<td>Thurs 26-Sep</td>
<td>9:00</td>
<td>UN High-level Event on Total Elimination of Nuclear Weapons</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
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<tr>
<td>Thurs 26-Sep</td>
<td>10:00</td>
<td>High-Level Dialogue on Financing for Development</td>
<td>Official</td>
<td>United Nations</td>
<td>UN Headquarters, United Nations Secretariat Building, East 42nd Street, New York, NY</td>
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<tr>
<td>Thurs 26-Sep</td>
<td>11:30 - 16:00</td>
<td>Sustainable Stock Exchange 10th Anniversary</td>
<td>Unofficial</td>
<td>UN Global Compact; Principles for Responsible Investment</td>
<td>New York Stock Exchange, Broad Street, New York, NY</td>
</tr>
<tr>
<td>Thurs 26-Sep</td>
<td>14:00</td>
<td>Implementing the New Urban Agenda and relevant urban SDGs in Africa</td>
<td>Unofficial</td>
<td>Federal Ministry of Power, Works and Housing Nigeria; OSSAP; UN-Habitat</td>
<td>Nigerian High Commission, 828 2nd Avenue, New York, NY 10017</td>
</tr>
<tr>
<td>Thurs 26-Sep</td>
<td>18:30 - 21:00</td>
<td>Champions of the Earth 2019 Award Ceremony</td>
<td>Unofficial</td>
<td>UNEP</td>
<td>Cipriani, 110 East 42nd Street, New York, NY, USA</td>
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<td>Thurs 26-Sep</td>
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Page 11 of 11
9 September 2019

Excellency,

Further to my letter dated 15 August 2019, I have the honour to enclose herewith an updated provisional program of the High-level meeting on universal health coverage and a concept note of its multi-stakeholder panels. A final programme will be provided in due course.

Please accept, Excellency, the assurances of my highest consideration.

Maria Fernanda Espinosa Garcés

All Permanent Representatives and
Permanent Observers to the United Nations
New York
### PRELIMINARY AGENDA

<table>
<thead>
<tr>
<th>Time</th>
<th>Location</th>
<th>Session</th>
</tr>
</thead>
</table>
| 09:00 – 09:30 | Trusteeship Council Chamber | **Opening Segment**  
**Approval of the Political Declaration on UHC**  
- H.E. Mr. Tijjani Muhammad-Bande, President of the 74th session of the General Assembly  
- Mr. António Guterres, United Nations Secretary-General  
- Dr. Tedros Adhanom Ghebreyesus, Director-General, World Health Organization  
- Mr. David R. Malpass, President, World Bank Group  
- Dr. Gro Brundtland, Eminent High-Level champion of UHC and member of The Elders |
| 09:30 – 13:00 | Trusteeship Council Chamber | **Plenary Segment**  
Statements by Member States                                                   |
| 11:00 – 13:00 | ECOSOC Chamber   | **Panel 1: UHC as a driver of equity, inclusive development and prosperity for all**  
Co-Chairs  
- HE. Ms. Sheikh Hasina, Prime Minister of Bangladesh  
- H.E. Mr. Pedro Sánchez, President of the Government of Spain  
Panelists  
- Ms. Michelle Bachelet, UN High Commissioner for Human Rights  
- Ms. Maha Tayseer Barakat, Board Chair of the RBM Partnership to End Malaria  
- Ms. Winnie Byanyima, Executive Director of Oxfam International  
- Mr. Jeffery Sachs, Professor & Director, Center for Sustainable Development, Columbia University  
Interventions from the floor  
Conclusions by the panellists and co-chairs |
| 15:00 – 17:30 | Trusteeship Council Chamber | **Plenary Segment**  
Statements by Member States                                                   |
| 15:00-17:00 | ECOSOC Chamber   | **Panel 2: Accelerating multi-sectoral and multi-stakeholder action and investments for achieving UHC**  
Co-Chairs (TBA)  
Panelists  
- Ms. Helen Clark, Board Chair of the Partnership for Maternal, Maternal, Newborn & Child Health  
- Mr. Omar Ishrak, Chairman and CEO of Medtronic  
- Ms. Ngozi Okonjo-Iweala, Board Chair of GAVI  
- Mr. Keizo Takemi, Member of the Japanese House of Councilors, WHO UHC Goodwill Ambassador  
Interventions from the floor  
Conclusions by the panellists and co-chairs |
| 17:30 – 18:00 | Trusteeship Council Chamber | **Closing segment**  
- H.E. Mr. Tijjani Muhammad-Bande, President of the 74th session of the UN General Assembly |
High-Level Meeting of the General Assembly on Universal Health Coverage

Multi-stakeholder Panels Concept Note
ECOSOC Chamber, UN Headquarters, New York
23 September 2019

Panel 1: UHC as a driver of equity, inclusive development and prosperity for all
[11:00 a.m – 1:00 p.m]

BACKGROUND

This panel emphasizes health as a precondition for and an indicator and outcome of the social, economic, and environmental dimensions of sustainable development, while contextualizing UHC as an umbrella for achieving healthy lives and well-being for all. UHC means implementing health policies and designing health systems, which promote equity, efficiency and effectiveness and ensure financial risk protection, to reach every person and community, particularly the most vulnerable and marginalized, with quality integrated and people-centred health services. UHC is a key driver for social justice and inclusive development and prosperity, delivering not only the fundamental right to health, but also the broader human rights agenda, ensuring no one is left behind.

GUIDING QUESTIONS

To frame the discussion during the panel, participants may wish to consider the following questions:

- What is the role of UHC in contributing to achieving the 2030 Agenda for Sustainable Development?
- How can UHC contribute to fulfilling the fundamental right to health and promote the broader human rights agenda, particularly for the most vulnerable and hard to reach populations?
- How can countries operationalize the international commitments at the national level to ensure no one is left behind?
- What are the main obstacles for ensuring UHC is truly universal by 2030?
Panel 2: Accelerating multi-sectoral and multi-stakeholder action and investment for achieving UHC [3:00 p.m – 5:00 p.m]

CONTEXT
This panel explores the investment case for UHC. As one of the main sectors of the global economy, the health sector has the potential to produce large returns on investment, both in terms of health gains and for equitable and inclusive economic growth. Countries from all regions and at all levels of income will need to mobilize more domestic resources, increase the equity and efficiency of existing resources, harmonize investments in health, and establish, institutionalize and accelerate multi-sectoral and multi-stakeholder action and sustained investment to achieve UHC by 2030.

GUIDING QUESTIONS
To frame the discussion during the panel, participants may wish to consider the following questions:

- How can countries more effectively and efficiently finance UHC strategies, through additional domestic revenue, budgetary reallocation, multi-sectoral policies, and partnerships?

- What is the investment case that governments can promote to justify additional spending on health? How can this be employed to achieve convergent support to health sector financing?

- How can additional funding for primary health care (PHC) help deliver UHC? What are other best buys to improve the efficiency of health spending?

- How can we best align and coordinate actions and investments of stakeholders at all levels, assess progress and ensure accountability for commitments to deliver UHC by 2030?
UN Pass and Identification Unit (badging office)

Location:
UN FF Building
320 East 45th Street, Ground Floor
New York

Hours:
Saturday and Sunday, September 14 and 15 9 a.m. to 5 p.m.
Monday to Thursday, September 16 to 19 7.30 a.m. to 6 p.m.
Friday, September 20 7.30 a.m. to 6 p.m.
Saturday and Sunday, September 21 and 22 10 a.m. to 6 p.m.
Monday to Friday, September 23 to 27 8 a.m. to 6 p.m.
Saturday, September 28 9 a.m. to 2 p.m.
Sunday, September 29 Closed
Monday, September 30 8.30 a.m. to 4 p.m.
Tuesday, October 1 8.30 a.m. to 4 p.m.
Thanks for the heads-up Larry and Tony. Please include Dr. Bob Walker on this plan.

I have copied Bob above to ensure inclusion.

Thanks, Rick
From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Monday, February 03, 2020 5:43 PM
To: Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>; Abram, Anna (FDA/OC)
<Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Disbrow, Gary
(OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>
; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Marston, Hilary (NIH/NIAID) [E]
<hilary.marston@nih.gov>; Marston, Hilary (NIH/NIAID) [E] <clane@niaid.nih.gov>
Cc: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Zebley, Kyle (HHS/OS/OGA)
<Kyle.Zebley@hhs.gov>; Kibunja, Julia (OS/OGA) <Julia.Kibunja@hhs.gov>; LaHood, Natalie (OS/OGA)
<Natalie.Lahood@hhs.gov>; Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>
Subject: RE: [Urgent WHO Request] USG Experts to Draft Clinical Trial Protocol for Investigational
Therapeutics

Thank you Sir,

I’ll connect with Dr. Beigel to check on timeframe for a deliverable that addresses the WHO and the
Horby/Hayden protocol.

Larry

From: Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>
Sent: Monday, February 3, 2020 12:32 PM
To: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Abram, Anna (FDA/OC)
<Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Disbrow, Gary
(OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>
; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Marston, Hilary (NIH/NIAID) [E]
<hilary.marston@nih.gov>; Hinton, Denise (FDA/OC) <Denise.Hinton@fda.hhs.gov>
Cc: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Zebley, Kyle (HHS/OS/OGA)
<Kyle.Zebley@hhs.gov>; Kibunja, Julia (OS/OGA) <Julia.Kibunja@hhs.gov>; LaHood, Natalie (OS/OGA)
<Natalie.Lahood@hhs.gov>; Lane, Cliff (NIH/NIAID) [E] <clane@niaid.nih.gov>
Subject: RE: [Urgent WHO Request] USG Experts to Draft Clinical Trial Protocol for Investigational
Therapeutics

Larry:

(b)(5)
Thanks,
Tony

Anthony S. Fauci, MD
Director
National Institute of Allergy and Infectious Diseases
Building 31, Room 7A-03
31 Center Drive, MSC 2520
National Institutes of Health
Bethesda, MD 20892-2520
Phone: (301) 496-2263
FAX: (301) 496-4409
E-mail: fauci@niaid.nih.gov
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From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Monday, February 3, 2020 11:43 AM
To: Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Marks, Peter (FDA/CBER) <Peter.Marks@fda.hhs.gov>; Mair, Michael (FDA/OC) <Michael.Mair@fda.hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Hinton, Denise (FDA/OC) <Denise.Hinton@fda.hhs.gov>
Cc: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Kibunja, Julia (OS/OGA) <Julia.Kibunja@hhs.gov>; LaHood, Natalie (OS/OGA) <Natalie.Lahood@hhs.gov>
Subject: [Urgent WHO Request] USG Experts to Draft Clinical Trial Protocol for Investigational Therapeutics
Importance: High
Much thanks

Larry
Outstanding. WHO clearly has some internal comms issues, but all we can do is get our USG ducks in a row – which we’ve done.

Hi all,
I just touched base with Rob Holden and he said that is not the WHO position, and that is not what Mike Ryan has communicated. Ray and I can follow up further tomorrow.
From: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>
Sent: Tuesday, December 10, 2019 8:50 AM
To: Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rzh7@cdc.gov>; Dietz, Patty (CDC/DDNID/NCBDDD/DHDD) <pad8@cdc.gov>
Cc: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) <Amanda.Zarrabian@hhs.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Redd, John (OS/ASPR/SPPR) <John.Redd@hhs.gov>
Subject: WHO

Team,

[Text removed by author]
Apologies that there seems to be a miscommunication within WHO. Please let me know if you have any questions.

Gary

Gary L. Disbrow Ph.D.
Deputy Assistant Secretary
Director, Medical Countermeasure Programs
Biomedical Advanced Research and Development Authority
BARDA
Assistant Secretary for Preparedness and Response ASPR
Department of Health and Human Services
330 Independence Avenue, S.W. Room 640 G
Washington, D.C. 20201
Office: 202-260-0699
Mobile: 1888-8
Fax: 202-260-0873
email: Gary.Disbrow@HHS.gov

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Disbrow, Gary (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0fd5845defda4dc0bb45f8fac625cf09-Disbrow, Ga <Gary.Disbrow@hhs.gov>;
Bright, Rick (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53034752f35a4317aa74f46348442d39-Bright, Ric <Rick.Bright@hhs.gov>;
Zarrabian, Amanda (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0c650b67917242129deb0f942bb4cc10-Zarrabian, <amanda.zarrabian@hhs.gov>;
Wolfe, Daniel (OS/ASPR/BARDA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=01933911e406492fbd7f86e0235944d7-Wolfe, Dani <Daniel.Wolfe2@hhs.gov>

**Sent Date:** 2019/12/10 10:22:34

**Delivered Date:** 2019/12/10 10:22:35
I saw Ana Maria and was surprised re: the comment about national stockpiles. She said she was on the GHSI call and asked that I pass on the attached slides.

Ray

From: Disbrow, Gary (OS/APSR/BARDA) <Gary.Disbrow@hhs.gov>
Sent: Wednesday, December 11, 2019 7:56 AM
To: Arthur, Ray (CDC/DPHISIS/CGH/DGHP) <rc8@cdc.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Dietz, Patty (CDC/DDNID/NCBDDD/DHDD) <pad8@cdc.gov>
Cc: Bright, Rick (OS/APSR/BARDA) <Rick.Bright@hhs.gov>; Zarrabian, Amanda (OS/APSR/BARDA) <Amanda.Zarrabian@hhs.gov>; Wolfe, Daniel (OS/APSR/BARDA) <Daniel.Wolfe2@hhs.gov>; Redd, John (OS/APSR/SPPR) <John.Redd@hhs.gov>

Subject: RE: WHO

Ray and Patty and team,

Thanks for the update.
FYSA – Merck resumed shipment of vaccine on Monday, shipping 2,160 1ml doses under the export exemption that was granted by HHS Secretary upon recommendation from FDA.

Regards,

Gary

Gary L. Disbrow Ph.D.
Deputy Assistant Secretary
Director, Medical Countermeasure Programs
Biomedical Advanced Research and Development Authority
BARDA
Assistant Secretary for Preparedness and Response ASPR
Department of Health and Human Services
330 Independence Avenue, S.W. Room 640 G
Washington, D.C. 20201
Office: 202-260-0899
Mobile: (301) 443-4727
Fax: 202-205-0873
email: Gary.Disbrow@HHS.gov

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From: Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>
Sent: Tuesday, December 10, 2019 9:13 AM
To: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rz7@cdc.gov>; Dietz, Patty (CDC/DDNID/NCBDDD/DHDD) <pad8@cdc.gov>
Cc: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) <amanda.zarrabian@hhs.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Redd, John (OS/ASPR/SPPR) <John.Redd@hhs.gov>
Subject: RE: WHO

Gary,

I am copying Patty Dietz who is currently the Ebola CDC-WHO Liaison in Geneva. I will also be in Geneva later this week and will correct this miscommunication in my conversation with Mike Ryan and with AMHR if I have the opportunity to meet her at the off-site meeting I will be attending.

Best,
From: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>
Sent: Tuesday, December 10, 2019 8:50 AM
To: Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) <iad7@cdc.gov>; Helfand, Rita (CDC/DDID/NCEZID/OD) <rzh7@cdc.gov>; Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <rca8@cdc.gov>
Cc: Disbrow, Gary (OS/ASPR/BARDA) <Gary.Disbrow@hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>; Zarrabian, Amanda (OS/ASPR/BARDA) <Amanda.Zarrabian@hhs.gov>; Wolfe, Daniel (OS/ASPR/BARDA) <Daniel.Wolfe2@hhs.gov>; Redd, John (OS/ASPR/SPPR) <John.Redd@hhs.gov>
Subject: WHO

Team,

(b)(5)

Apologies that there seems to be a miscommunication within WHO. Please let me know if you have any questions.

Gary

Gary L. Disbrow Ph.D.
Deputy Assistant Secretary
Director, Medical Countermeasure Programs
Biomedical Advanced Research and Development Authority
BARDA
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<table>
<thead>
<tr>
<th>Sender:</th>
<th>Arthur, Ray (CDC/DDPHSIS/CGH/DGHP) <a href="mailto:rca8@cdc.gov">rca8@cdc.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Disbrow, Gary (OS/ASPR/BARDA)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
<tr>
<td>Damon, Inger K. (CDC/DDID/NCEZID/DHCPP)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
<tr>
<td>Helfand, Rita (CDC/DDID/NCEZID/OD)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
<tr>
<td>Dietz, Patty (CDC/DDID/NCEZID/OD)</td>
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<tr>
<td>Hyde, Terri (CDC/DDPHSIS/CGH/GID)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
<tr>
<td>Bright, Rick (OS/ASPR/BARDA)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
<tr>
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</tr>
<tr>
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<tr>
<td>Redd, John (OS/ASPR/SPR)</td>
<td>ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)</td>
</tr>
</tbody>
</table>

**Sent Date:** 2019/12/16 16:03:14  
**Delivered Date:** 2019/12/16 16:04:48
Ebola vaccines
Towards global vaccine security

Dr Ana Maria HenaoGHSAG - Senior Officials Meeting 5-6 December 2019
TYPES OF CANDIDATE EBOLA VACCINES

Ebola Vaccines

Non replicative vector-based Ebola vaccines
- MVA-vectored vaccine
- Ad26.ZEBOV & MVA-BN-Filo (2-dose regimen, VAC52150)
  Janssen Vaccines & Prevention B.V., The Netherlands
- Ad vaccine
- Human Ad vaccine
- Chimpanzees
  Ad vaccine
- ChAd3 (monovalent Zaire)
  Sabin Vaccines Institute / National Institute of Allergy and Infectious Diseases (NIAID), USA

Replicative vector-based Ebola vaccines
- Ad5-EBOV (monovalent)
  CanSino Biologics Inc. & Beijing Institute of Biotechnology, China
- GamEvac-Combi and GamEvac-Lyo rVSV-GP rAd5-GP
  Gamaleya Research Institute of Epidemiology and Microbiology, Russia
- Ad26.ZEBOV & MVA-BN-Filo (2-dose regimen, VAC52150)
  Janssen Vaccines & Prevention B.V., The Netherlands

Other Ebola vaccines
- rVSVAg-ZEBOV-GP
  Merck, USA
- GamEvac-Combi and GamEvac-Lyo rVSV-GP rAd5-GP
  Gamaleya Research Institute of Epidemiology and Microbiology, Russia
- INO-4201 (DNA vaccine)
  Inovio Pharmaceuticals, USA
- Nanoparticle recombinant Ebola GP vaccine
  Novavax, USA
- EpivacEbola
  FBRI SRC VB VECTOR, Rospotrebnadzor, Russia
Ad5-EBOV (monovalent)
1 dose

rVSVΔG-ZEBOV-GP
1 dose

Nanoparticle recombinant
Ebola GP vaccine
2 doses
(with planned boosts
for healthcare workers
in potential epidemic
areas)

INO-4201 (DNA vaccine)
2 doses

EpivacEbola
2 doses
(prime + boost on
28 days)

GamEvac-Combi and
GamEvac-Lyo
2 doses
(prime + boost on
21 days)
1st dose: rVSV-GP
2nd dose: rAd5-GP

Ad26.ZEBOV & MVA-BN-
Filo (2-dose regimen,
VAC52150)
2 doses
1st dose: Ad26.ZEBOV
(EBOV GP)
2nd dose on day 56:
MVA-BN-Filo (EBOV/
SUDV/MARV GP,
TAPV NP)

ChAd3
(monovalent Zaire)
1 dose

World Health
Organization

R&D Blueprint
Powering research
to prevent epidemics
EBOLA VACCINES

According to the number of people who have received the vaccine in clinical trials or as part of expanded access and compassionate use protocols

<table>
<thead>
<tr>
<th>Vaccine Type</th>
<th>People in Clinical Trials</th>
</tr>
</thead>
<tbody>
<tr>
<td>rVSVAg-ZEBOV-GP</td>
<td>&gt;18,000 people in clinical trials</td>
</tr>
<tr>
<td>Ad26.ZEBOV &amp; MVA-BN-Filo</td>
<td>&gt;6,500 people in clinical trials</td>
</tr>
<tr>
<td>ChAd3 (monovalent Zaire)</td>
<td>&gt;5,600 people in clinical trials</td>
</tr>
<tr>
<td>GamEvac-Combi and GamEvac-Lyo</td>
<td>2,200 people in clinical trials</td>
</tr>
<tr>
<td>Ad5-EBOV (monovalent)</td>
<td>681 people in clinical trials</td>
</tr>
<tr>
<td>EpivacEbola</td>
<td>300 people in clinical trials</td>
</tr>
</tbody>
</table>

>250,000 people
compassionate use/expanded access protocols

*Infographic represents total figures divided by 100*
EBOLA VACCINES
How far are they progressing in research testing?

The diagram depicts the most advanced research phase a specific vaccine has achieved so far - and the country where the study took place.

### Phase I
- Nanoparticle recombinant Ebola GP vaccine
- INO-4201 (DNA vaccine)
- Nanoparticle recombinant Ebola GP vaccine

### Phase II
- Ad5-EBOV (monovalent) (Sierra Leone)
- EpivacEbola (Russia)
- Ad26.ZEBOV & MVA-BN-Filo (2-dose regimen, VAC52150) (Europe, USA, Africa)
- ChAd3 (monovalent Zaire) (Cameroon, Senegal, Mali, Liberia, Nigeria)

### Phase III
- rVSVΔG-ZEBOV-GP (Guinea) - completed
- GamEvac-Combi and GamEvac-Lyo (Guinea)
- Phase IV also reported in Russia

These vaccines are licensed in their country of origin:
- Ad5-EBOV (monovalent) in China
- EpivacEbola and GamEvac-Combi and GamEvac-Lyo in Russia
- rVSVΔG-ZEBOV-GP licensed Vaccine by EMA

---

**Phase I**
In this Phase vaccines are tested in a small group of people (often 20–80) to evaluate their safety, determine what a safe dosage might be, and identify any side effects.

**Phase II**
This phase is primarily focused on analysing the preliminary efficacy of the vaccine. It involves, over several months, testing it with a larger group of people (often several hundred) to determine its efficacy and to evaluate its safety.

**Phase III**
This phase is focused on finally confirming the vaccine’s safety and efficacy. It can take longer than Phase II - although timelines vary.
It involves testing with large groups of people (typically up to 3,000) to evaluate the vaccine’s efficacy compared with others and monitor side effects.
## EBOLA VACCINES

### According to doses currently available as of December 2019

<table>
<thead>
<tr>
<th>Vaccine/Manufacturer</th>
<th>Doses Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChAd3 (monovalent Zaire) Sabin Vaccines Institute / National Institute of Allergy and Infectious</td>
<td>450,000 doses</td>
</tr>
<tr>
<td>Sabaatisi-2 &amp; SABAAB-2 (2-dose regimen, VAC52150) Janssen Vaccines &amp; Prevention B.V, The Netherlands</td>
<td>45,000 labelled regimens</td>
</tr>
<tr>
<td>rVSV-ZEBOV-GP Merck, USA</td>
<td>360,000 doses</td>
</tr>
<tr>
<td>EpivacEbola</td>
<td>20,000 doses</td>
</tr>
<tr>
<td>Fdri SRC V8 VECTOR, Rospotrebnanz, Russia</td>
<td>20,000 doses</td>
</tr>
<tr>
<td>Ad5-EBOV (monovalent) CanSino Biologics Inc. &amp; Beijing Institute of Biotechnology, China</td>
<td>No data</td>
</tr>
<tr>
<td>GamEvac-Combi and GamEvac-Lyo rVSV-GP rAd5-GP Gamaleya Research Institute of Epidemiology and Microbiology, Russia</td>
<td>No data</td>
</tr>
</tbody>
</table>

### According to doses potentially available in 2020

<table>
<thead>
<tr>
<th>Vaccine/Manufacturer</th>
<th>Doses Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>ChAd3 (monovalent Zaire) Sabin Vaccines Institute / National Institute of Allergy and Infectious</td>
<td>No data</td>
</tr>
<tr>
<td>Sabaatisi-2 &amp; SABAAB-2 (2-dose regimen, VAC52150) Janssen Vaccines &amp; Prevention B.V, The Netherlands</td>
<td>Up to 1.5 million doses</td>
</tr>
<tr>
<td>rVSV-ZEBOV-GP Merck, USA</td>
<td>1.3 million doses</td>
</tr>
<tr>
<td>EpivacEbola</td>
<td>1 million doses</td>
</tr>
<tr>
<td>Fdri SRC V8 VECTOR, Rospotrebnanz, Russia</td>
<td>150,000 doses</td>
</tr>
<tr>
<td>Ad5-EBOV (monovalent) CanSino Biologics Inc. &amp; Beijing Institute of Biotechnology, China</td>
<td>100,000 doses</td>
</tr>
<tr>
<td>GamEvac-Combi and GamEvac-Lyo rVSV-GP rAd5-GP Gamaleya Research Institute of Epidemiology and Microbiology, Russia</td>
<td>No data</td>
</tr>
</tbody>
</table>

* Infographic represents total figures divided by 10,000
Global Vaccine Security Plan
Goal

“Ensure ethically timely access to Ebola vaccines.”
1. Ensure access to vaccines as part of outbreak response actions
Ensure access to vaccine for preventive vaccination activities in outbreaks
Facilitate ethical and scientifically sound research including clinical regulatory oversight to evaluate candidate Ebola vaccines
Objectives

1. Ensure access to vaccines as part of outbreak response actions
   - Sufficient and affordable vaccine supply, and ethical distribution (Stockpile for outbreaks)
   - Build regulatory country capacity to deploy (investigational and licensed) vaccines and implement ring vaccination
   - Ensure access to vaccine for preventive vaccination activities
   - Sufficient and affordable vaccine supply to prevent further spread of EVDbuild country capacity to implement vaccination of HCWs and FLWs in high risk areas following a carefully documented risk-benefit evaluation that prioritizes at risk HCWs on ethical grounds
   - Build regulatory country capacity to deploy (investigational and licensed) vaccines and implement preventive vaccination in HCWs and FLWs
   - Facilitate ethically and scientifically sound research including clinical regulatory oversight to evaluate candidate Ebola vaccines
   - Provide support for efficacy evaluation for all candidate vaccines in clinical development phase
   - Provide regulatory support to member states to review clinical trials of Ebola vaccines through AVAREF and collaboration with relevant NRAs and ethics committees
   - Build research, GPP and GCP capacity in countries at risk of EVD
   - Ensure the availability of innovative generic scientifically and ethically sound protocols to evaluate efficacy in the context of epidemics or public health emergencies and include specific target groups (children, pregnant women)
Principles (see https://www.who.int/bulletin/volumes/91/4/12-113480.pdf)

1. Distributive justice: fair distribution
   Evidence based: decision making (based on SAGE recommendations and regulatory reviews/approvals)
   Procedural justice: Transparent decision-making process
   Timely deployment: rapid response process
   Sustainable access: affordable pricing, adequate production capacity and secured funding
<table>
<thead>
<tr>
<th>Objectives</th>
<th>2019</th>
<th>2020</th>
<th>Main Stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Q3</td>
<td>Q4</td>
<td>Q1</td>
</tr>
<tr>
<td>1-a Ensure access to sufficient vaccine doses</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-b Continue building regulatory country capacity (13 countries) to deploy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>unlicensed/licensed vaccines and implement reactive vaccination</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-a Ensure country capacity to implement vaccination of HCWs and FLWs in</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>high risk areas during outbreaks</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2-b Ensure country capacity to make a risk-benefit evaluation to prioritize</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>HCWs and HCWs during outbreaks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-c Continue building country capacity to deploy (unlicensed and licensed)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vaccines and implement preventive vaccination in HCWs and FLWs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-a Provide support efficacy evaluation for all candidate vaccines in clinical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>development phase</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-b Provide regulatory support to 13 member states on the review of Clinical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>trials of Ebola vaccines through AVAREF and collaboration from relevant</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regulatory agencies and ethics committees (VSV Vaccine licensure in the 13</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>countries)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-c Built research, GPP and GCP capacity at country level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3-d Ensure the availability of innovative generic protocols to evaluate</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>vaccine efficacy in the context of epidemics or public health emergencies</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

World Health Organization

November 2021

R&D Blueprint
Powering research to prevent epidemics
## Strategies to achieve the proposed objectives

<table>
<thead>
<tr>
<th>Type</th>
<th>Objective 1</th>
<th>Objective 2</th>
<th>Objective 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use models to forecast <strong>potential vaccine demand</strong> in the short- mid and long term</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Implement mechanisms for monitoring performance of the vaccine following deployment</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Document existing and future <strong>vaccine capacity</strong> production for all candidate vaccines</td>
<td>✔</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Define and agree on <strong>vaccine procurement strategies and mechanisms</strong> that incorporate current TPPs and SAGE recommendations</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Maintain up to date <strong>Target Product Profiles (TPP)</strong></td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Maintain up to date <strong>vaccine immunization policy (SAGE)</strong></td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Build country <strong>readiness capacity</strong> (risk/benefit evaluation and decision)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Propose and agree a <strong>vaccine allocation mechanism</strong> (ICG-like)</td>
<td>✔</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Continued strengthening <strong>regulatory capacity</strong> (Quality safety and efficacy) and regulatory preparedness for emergencies (emergency authorization and licensure/market authorization)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Strengthen and expand research capacity</td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>Define and agree on sustainable mechanisms for financing</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
Selected milestones

Efficacy of additional vaccine candidates assessed. WHO facilitate scientific advise and implementation support, if pertinent

Increase vaccine production capacity for Ervebo (explore other alternatives - CMOs, technology transfer)

- J&J Vaccine use in DRC (500,000 participants)
- rVSV ZEBOV GP prequalification by WHO
- Establishment of ICG like mechanism for allocation of licensed vaccines
- rVSV ZEBOV GP 1st licensed vials available
- Licensed Ervebo first batch available.
- SAGE review of recommendations for preventive vaccination
- 2nd vaccine licensure/via Animal Rule

AVAREF review of rVSV ZEBOV GP evidence

rVSV ZEBOV GP vaccine licensed

Aug  | Sep  | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec

2019 | 2020

World Health Organization

R&D Blueprint

Powering research to prevent epidemics
WHO, Gavi and UNICEF will continue to consult widely, and fostering interactions with the international scientific, ethics, regulatory, vaccine development, public health partners, industry and funders’ communities to facilitate Ebola vaccine(s) assessments and availability. WHO and partners will also foster key activities to ensure accelerated R&D, the optimal policy and deployment of Ebola vaccines if licensed in order to avert full-blown epidemics.
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<tr>
<th>From:</th>
<th>Bright, Rick (OS/ASPR/BARDA) <a href="mailto:Rick.Bright@hhs.gov">Rick.Bright@hhs.gov</a></th>
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<td>To:</td>
<td>Bright, Rick (OS/ASPR/BARDA) <a href="mailto:Rick.Bright@hhs.gov">Rick.Bright@hhs.gov</a>; Kerr, Lawrence (HHS/OS/OGA) <a href="mailto:Lawrence.Kerr@hhs.gov">Lawrence.Kerr@hhs.gov</a></td>
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<td>CC:</td>
<td>Abram, Anna (FDA/OC) <a href="mailto:Anna.Abram@fda.hhs.gov">Anna.Abram@fda.hhs.gov</a>; Disbrow, Gary (OS/ASPR/BARDA) <a href="mailto:Gary.Disbrow@hhs.gov">Gary.Disbrow@hhs.gov</a>; Marks, Peter (FDA/CBER) <a href="mailto:Peter.Marks@fda.hhs.gov">Peter.Marks@fda.hhs.gov</a></td>
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<td>Subject:</td>
<td>RE: [Urgent WHO Request] USG Experts to Draft Clinical Trial Protocol for Investigational Therapeutics</td>
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<td>Priority:</td>
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Thanks all for digging into this!

Larry, if you could work with Rick to track & make sure we do quickly? Many thanks!
(FDA/OC) <Michael.Mair@fda.hhs.gov>; Fauci, Anthony (NIH/NIAID) [E] <fauci@niaid.nih.gov>; Marston, Hilary (NIH/NIAID) [E] <hilary.marston@nih.gov>; Hinton, Denise (FDA/OC) <Denise.Hinton@fda.hhs.gov>; Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Kibunja, Julia (OS/OGA) <Julia.Kibunja@hhs.gov>; LaHood, Natalie (OS/OGA) <Natalie.Lahood@hhs.gov>

Subject: Re: [Urgent WHO Request] USG Experts to Draft Clinical Trial Protocol for Investigational Therapeutics

Yes. Bob walker.

On Feb 3, 2020, at 11:42 AM, Kerr, Lawrence (HHS/OS/OGA)
<Lawrence.Kerr@hhs.gov> wrote:

Much thanks

Larry
<Michael.Mair@fda.hhs.gov>
Fauci, Anthony (NIH/NIAID) [E] /o=ExchangeLabs/ou=Exchange Administrative Group (FYDI BOHF23SPDLT)/cn=Recipients/cn=826965b24a314ffca7edcc6e8229aa7-anthony.fau <afauci@niaid.nih.gov>
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LaHood, Natalie (OS/OGA) /o=ExchangeLabs/ou=Exchange Administrative Group (FYDI BOHF23SPDLT)/cn=Recipients/cn=d76e131fd394ab3b1b0eb6f232851f1-LaHood, Nat <Natalie.Lahood@hhs.gov>

**Sent Date:** 2020/02/03 12:19:11

**Delivered Date:** 2020/02/03 12:19:13
Larry – hi – John Farley will be the main point of contact and participant for clinical trial development for therapeutics for FDA thx -m
Much thanks

Larry
Dr F,

From: Fauci, Anthony (NIH/NAID) [E] <fauci@niaid.nih.gov>
Sent: Sunday, February 9, 2020 6:24 PM
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Harrison, Brian (HHS/IOS) <Brian.Harrison@hhs.gov>
Cc: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Redfield, Robert R. (CDC/OD) <oxl1@cdc.gov>; Kadlec, Robert (OS/ASPR/IO) <Robert.Kadlec@hhs.gov>; Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>

Subject: RE: WHO advance team on coronavirus on way to China - Tedros tweet

Date: 2020/02/09 18:34:48
Priority: Normal
Type: Note

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From: Fauci, Anthony (NIH/NAID) [E] <fauci@niaid.nih.gov>
To: Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov>; Harrison, Brian (HHS/IOS) <Brian.Harrison@hhs.gov>
Cc: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>; Elvander, Erika (OS/OGA) <Erika.Elvander@hhs.gov>; Zebley, Kyle (HHS/OS/OGA) <Kyle.Zebley@hhs.gov>; Redfield, Robert R. (CDC/OD) <oxl1@cdc.gov>; Kadlec, Robert (OS/ASPR/IO) <Robert.Kadlec@hhs.gov>; Abram, Anna (FDA/OC) <Anna.Abram@fda.hhs.gov>; Bright, Rick (OS/ASPR/BARDA) <Rick.Bright@hhs.gov>

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Brian – more clarity from “the horse’s mouth” on this advance trip...see below.

Many thanks, Bernard! I know I’ll be asked, so I will pass your email up the chain...

Take care and thanks again!
Hi Garrett,

We have three people on the way to Beijing who will work with our Chinese counterparts on finalizing the TOR and composition of the joint WHO - China mission. As you are much aware, the US has given us a number of names who will be able and willing to join such a mission. We have received similar proposals from other countries and will now match the “long list” of experts with the required specific expertise.

We are hoping to have more clarity over the coming days and will obviously keep you in the loop. The overall number will be kept at a level to make sure that the team is fully operational.

With my warmest wishes

Bernhard

Dr Bernhard Schwartländer
Chef de Cabinet
World Health Organization

On 9 Feb 2020, at 23:24, Grigsby, Garrett (HHS/OS/OGA) <Garrett.Grigsby@hhs.gov> wrote:

Bernard,

Hope you had a good weekend.

I’m reaching out to get more clarity on the WHO experts team issue – please see article below. I’ve heard everything from an advance group of one or two individuals to 15 people discussed in the article. I haven’t heard any word about US people, and I was just with Dr Redfield late this afternoon and he was in the dark too.

Any additional information will be deeply appreciated.

Thanks!

From: Kerr, Lawrence (HHS/OS/OGA) <Lawrence.Kerr@hhs.gov>
Sent: Sunday, February 9, 2020 5:03 PM
UPDATE 1-WHO advance team on coronavirus on way to China - Tedros tweet

Stephanie Nebehay
By Stephanie Nebehay

GENEVA, Feb 9 (Reuters) - An advance team of international experts led by the World Health Organization (WHO) has left for Beijing to help investigate China’s coronavirus epidemic, the Geneva-based agency said on Sunday.

WHO director-general Tedros Adhanom Ghebreyesus, who made a trip to Beijing for talks with President Xi Jinping and Chinese ministers in late January, returned with an agreement on sending an international mission.

But it has taken nearly two weeks to get the government’s green light on its composition, which was not announced, other than to say that WHO veteran Dr. Bruce Aylward, a Canadian epidemiologist and emergencies expert, was heading it.

“I’ve just been at the airport seeing off members of an advance team for the @WHO-led #2019nCoV international expert mission to #China, led by Dr Bruce Aylward, veteran of past public health emergencies,” Tedros said in a tweet from Geneva.

Dr. Sylvie Briand, who accompanied Tedros last month and stayed behind for talks with top Chinese health officials, told Reuters last week that they were discussing a list of experts with China.

“Because it is a joint mission, they need to be on board, it’s not just an international group going there. We have about 15 people,” said Briand, director of Global Infectious Hazard Preparedness at WHO.

China raised the death toll from the coronavirus outbreak to 811 on Sunday, passing the number killed globally by the SARS epidemic, as authorities made plans for millions of people returning to work after an extended Lunar New Year break.

The virus, which has spread to two dozen countries, has killed some 2% of more than 37,550 cases worldwide, with 99 percent of infections in China, WHO figures show.

The WHO declared the outbreak a global emergency on Jan. 30, days after the Chinese central government imposed a lockdown on 60 million people in Hubei province and its capital Wuhan, epicentre of the virus that emerged in December in a seafood market.

Tedros said on Saturday that he hoped the team would include experts from the U.S. Centers for Disease Control (CDC).

“It has to be meaningful on the ground,” Lawrence Gostin, professor of global health law at Georgetown Law, said in an interview in Geneva this week.

Gostin called for a “genuine partnership with transparent flows of information and accountability for the response”, adding that there should be a strong CDC presence.

“CDC has got no peer in terms of its experience and technical expertise in dealing with international outbreaks,” he said.

“But the other benefit is the smart diplomacy, what it could signal is that despite all of our differences in ideology, trade, politics, that when faced with a common threat to humanity, we come together as a human community to tackle it,” Gostin said.
**Reporting by Stephanie Nebehay; Editing by Pravin Char, Kirsten Donovan**

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