Subject: edits
Date: Monday, June 29, 2020 at 5:09:32 PM Eastern Daylight Time
From: [redacted]
To: [redacted]
Attachments: nursing homes report v10 MONDAY.docx

Can you make the change to the first sentence and send back for me to show him? I can't figure out how to finesse it
(can you also do a read through of the edits and make sure you agree?)

Subject: Re: 06.23.20 Nursing Homes 230PM.docx
Date: Wednesday, June 24, 2020 at 7:58:04 AM Eastern Daylight Time
From: [redacted]
To: [redacted]
CC: [redacted]

farrah/tracy pls have copies printed for gov and i to take on plane this morning

---

From: [redacted]
Sent: Wednesday, June 24, 2020 12:11 AM
To: [redacted]
Cc: [redacted]
Subject: Re: 06.23.20 Nursing Homes 230PM.docx

Attached are the Governor's edits as well as my edits. I've reformatted & charts have been re-added. I will want to read through with fresh eyes tomorrow.

From: [redacted]
Date: Tuesday, June 23, 2020 at 2:42 PM
To: [redacted]
Cc: [redacted]
Subject: 06.23.20 Nursing Homes 230PM.docx

Hi Jim,

Governor's edits are attached for your review. The smaller text in the beginning is from your original document. He replaced your paragraph on page 3 beginning with "But, like in all fifty states, there were COVID-positive cases…" The larger text is what he added.

Subject: [redacted] - how much longer on NH report? He's asking for copy
Date: Sunday, July 5, 2020 at 8:53:52 AM Eastern Daylight Time
From: [redacted]
To: [redacted]
CC: [redacted]

Subject: Re: Privileged and confidential
Date: Sunday, July 5, 2020 at 6:01:49 PM Eastern Daylight Time
From: [redacted]
To: [redacted]
CC: [redacted], Will Burns, Noah Rayman, Richard Azzopardi, Gareth Rhodes (dfs.ny.gov)

did we make the change boss sent w the specific quote from the regs/advisory on what was required?

From: [redacted]
Sent: Sunday, July 05, 2020 5:58 PM
To: [redacted]
Cc: [redacted]
Subject: Re: Privileged and confidential

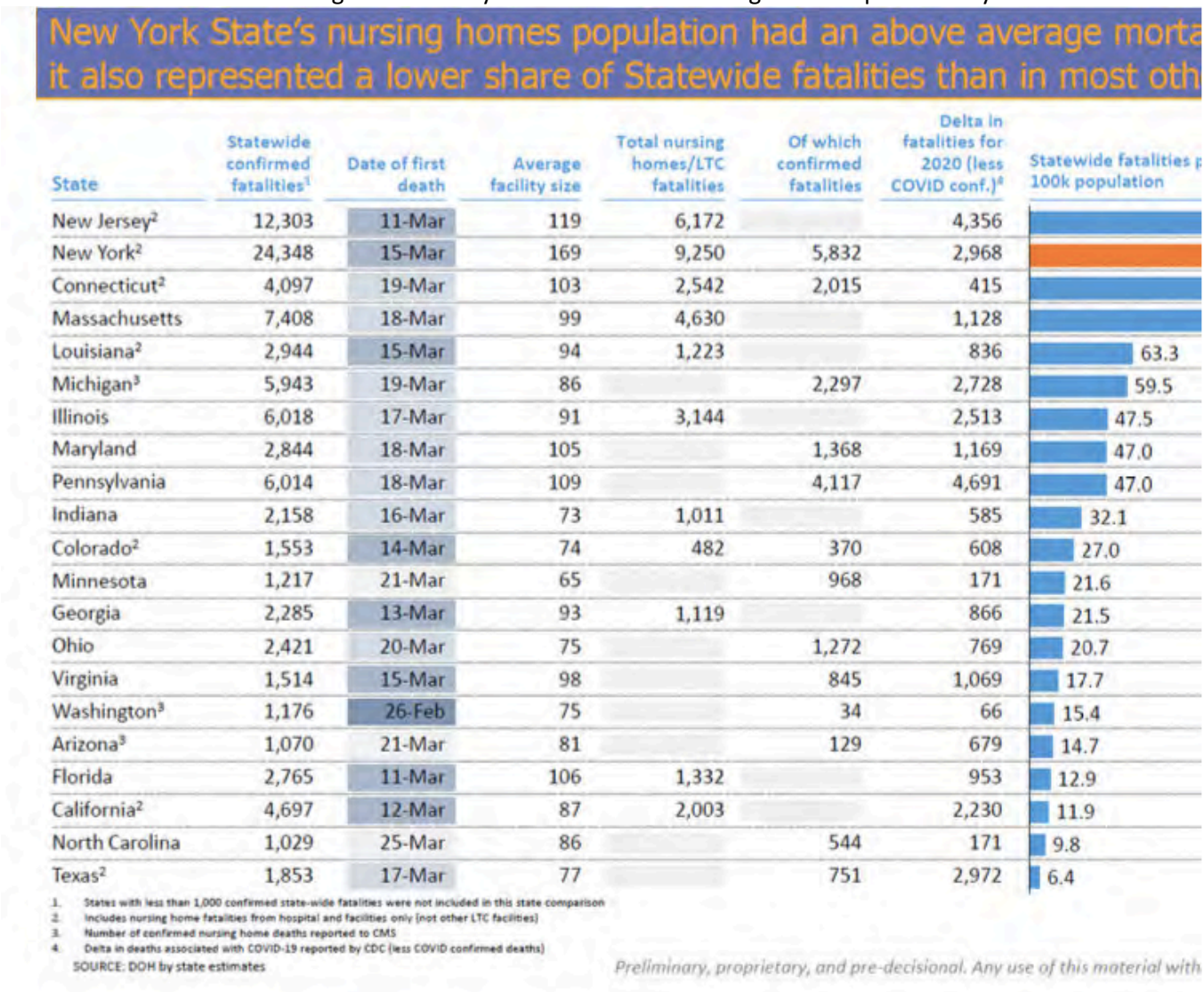
Yes it's in the summary
Timing is one of the sole bullets.
I footnote the JAMA study because it's not totally great
Made his changes re 46th in nation

> On Jul 5, 2020, at 5:50 PM, [redacted] wrote:
>
> Jim where is the gabrowski study point? did i read over?
>
> ---
>
> **From:** [redacted]
> **Sent:** Sunday, July 05, 2020 5:46 PM
> **To:** [redacted]
> **Cc:** [redacted]
> **Subject:** Re: Privileged and confidential
>
> will do
>
> ---
>
> **From:** [redacted]
> **Sent:** Sunday, July 05, 2020 5:45 PM
> **To:** [redacted]yman
> **Cc:** [redacted]
> **Subject:** Re: Privileged and confidential
>
> Jack, would you cross reference this and add to my document? It lost some of the formatting.
>
> ---
>
> **From:** Melissa DeRosa <mderosa@exec.ny.gov>
> **Date:** Sunday, July 5, 2020 at 5:42 PM

Subject: Re: NH report
Date: Saturday, June 27, 2020 at 10:58:23 AM Eastern Daylight Time
From: [redacted]
To: [redacted]
Attachments: image001.png

And just so there is clarity here. The 10,000 deaths number should not be a surprise, shock, or anything to folks. It came from earlier drafts and analysis provide from you all to me that you worked on with McKinsey. On the briefing call going thru this data it was stated we needed to use the presumed and confirmed or the curve wouldn't work for the broader community spread argument, given testing was spotty at the beginning. I'm happy to remove that argument, which came from folks.

Below is the chart from the original McKinsey deck and was in the original draft provided by NYSDOH.



New York State's nursing homes population had an above average morta
it also represented a lower share of Statewide fatalities than in most oth

State	Statewide confirmed fatalities[1]	Date of first death	Average facility size	Total nursing homes/LTC fatalities	Of which confirmed fatalities	Delta in fatalities for 2020 (less COVID conf.)[4]	Statewide fatalities p 100k population
New Jersey[2]	12,303	11-Mar	119	6,172		4,356	
New York[2]	24,348	15-Mar	169	9,250	5,832	2,968	
Connecticut[2]	4,097	19-Mar	103	2,542	2,015	415	
Massachusetts	7,408	18-Mar	99	4,630		1,128	
Louisiana[2]	2,944	15-Mar	94	1,223		836	63.3
Michigan[3]	5,943	19-Mar	86		2,297	2,728	59.5
Illinois	6,018	17-Mar	91	3,144		2,513	47.5
Maryland	2,844	18-Mar	105		1,368	1,169	47.0
Pennsylvania	6,014	18-Mar	109		4,117	4,691	47.0
Indiana	2,158	16-Mar	73	1,011		585	32.1
Colorado[2]	1,553	14-Mar	74	482	370	608	27.0
Minnesota	1,217	21-Mar	65		968	171	21.6
Georgia	2,285	13-Mar	93	1,119		866	21.5
Ohio	2,421	20-Mar	75		1,272	769	20.7
Virginia	1,514	15-Mar	98		845	1,069	17.7
Washington[3]	1,176	26-Feb	75		34	66	15.4
Arizona[3]	1,070	21-Mar	81		129	679	14.7
Florida	2,765	11-Mar	106	1,332		953	12.9
California[2]	4,697	12-Mar	87	2,003		2,230	11.9
North Carolina	1,029	25-Mar	86		544	171	9.8
Texas[2]	1,853	17-Mar	77		751	2,972	6.4

1. States with less than 1,000 confirmed state-wide fatalities were not included in this state comparison
2. Includes nursing home fatalities from hospital and facilities only (not other LTC facilities)
3. Number of confirmed nursing home deaths reported to CMS
4. Delta in deaths associated with COVID-19 reported by CDC (less COVID confirmed deaths)

SOURCE: DOH by state estimates

Preliminary, proprietary, and pre-decisional. Any use of this material with

On 6/27/20, 10:13 AM, [redacted] wrote:

Privileged and confidential
Attorney Work product

I'm getting more info but here's what I know so far:

1- on Re admissions we told doh to get the data for about 113 NH that hadn't responded to the survey. (I cleared with you MDR at the time). Instead of doing that, DOH reopened the survey for two days to ALL homes. We are getting who responded or Re-responded.

2- this proposed report includes the number of NH residents who died in hospitals. This number is not public. Instead of 6,500 deaths it would show 10,000 deaths.

3- Apparently latest draft (I haven't seen yet) says 30 percent antibodies in staff according to Bioreference. We need to make sure that's real and robust and defensible. DOH did not put that in and doesn't know anything about it.

4. "Causation" and "cause" are terms of art meaning proved by the data. Latest drafts use those terms incorrectly and we would be scoffed at. Requires edits.

5. If staff was sick it raises questions about providing PPE to nursing homes. We did a few large provisions but apparently we have never prioritized NHs for this and STILL do not. This is problematic. Adding Larry on this issue. We need to fix that. Megan has details.

Sent from my iPhone

Organizer: Monica Lucas, Office of the President : [redacted]

Subject: 3:45-4:15p Meeting w. COVID Team & CDC Director

Location: https://pitc.zoomgov.com/[redacted]

Start Time: 2021-01-29T20:45:00Z

End Time: 2021-01-29T21:15:00Z

Attendees: Monica Lucas, Office of the President : [redacted] Kelly Trautner, Health Issues, [redacted] Beth Antunez, Legislation : [redacted], Jane Meroney, Legislation, [redacted], Marla Ucelli-Kashyap, Educational Issues, [redacted], Calvin MacDowell, Office of the President : [redacted] Marcus Wyche, Educational Issues : [redacted]

From: Monica Lucas, Office of the President
Sent: Friday, January 29, 2021 10:13 AM
To: Kelly Trautner, Health Issues [redacted]; Beth Antunez, Legislation [redacted] Jane Meroney, Legislation [redacted] Marla Ucelli-Kashyap, Educational Issues [redacted]
Cc: Calvin MacDowell, Office of the President [redacted] Marcus Wyche, Educational Issues [redacted] mailto: [redacted]
Subject: RE: Meeting w. COVID Team & CDC Director

Looping Marla here. Hi, Marla * are you available to join this convo?

From: Kelly Trautner, Health Issues [redacted]
Sent: Friday, January 29, 2021 10:11 AM
To: Monica Lucas, Office of the President [redacted] Beth Antunez, Legislation [redacted] Jane Meroney, Legislation [redacted]
Cc: Calvin MacDowell, Office of the President [redacted]
Subject: RE: Meeting w. COVID Team & CDC Director

I'm available. I'll start some quick notes and share with y'all. Is Marla getting on too?

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: "Monica Lucas, Office of the President" [redacted]
Date: 1/29/21 10:08 AM (GMT-05:00)
To: "Beth Antunez, Legislation" [redacted] "Jane Meroney, Legislation" [redacted] "Kelly Trautner, Health Issues" [redacted]
Cc: "Calvin MacDowell, Office of the President" [redacted]
Subject: Meeting w. COVID Team & CDC Director

Good morning, all. This meeting is now confirmed for today, January 29, 3:45p-4:15p. Looks like the external participants include: Carole Johnson and CDC Director Dr. Walensky.

Please let me know if you are available to staff. Are there background materials Randi should have for the meeting?

From: Monica Lucas, Office of the President
Sent: Friday, January 29, 2021 10:05 AM
To: Jane Meroney, Legislation [redacted]; Johnson, Carole A. EOP/WHO [redacted]
Cc: Randi Weingarten, Office of the President [redacted]; Martin, Carmel EOP/WHO [redacted] Gershman, Lynn E. (CDC/OD/OCS) [redacted]; Tracey-Mooney, Maureen EOP/WHO <Maureen [redacted]; McIntee, William T. EOP/WHO [redacted]; Okolo, Osaremen F. EOP/WHO [redacted] Gonzalez, Noe EOP/WHO [redacted] Calvin MacDowell, Office of the President [redacted]
Subject: RE: Meeting

Thank you for looping me in, Jane! Randi is confirmed for today, January 29, 3:45-4:15p ET.

From: Jane Meroney, Legislation
Sent: Friday, January 29, 2021 9:58 AM
To: Johnson, Carole A. EOP/WHO [redacted]
Cc: Randi Weingarten, Office of the President [redacted] Martin, Carmel EOP/WHO [redacted] Gershman, Lynn E. (CDC/OD/OCS) [redacted] Tracey-Mooney, Maureen EOP/WHO [redacted] McIntee, William T. EOP/WHO [redacted] Okolo, Osaremen F. EOP/WHO [redacted] Gonzalez, Noe EOP/WHO [redacted] Monica Lucas, Office of the President [redacted]; Calvin MacDowell, Office of the President [redacted]
Subject: Re: Meeting

Thanks -looping Randi*s office as well

On Jan 29, 2021, at 9:42 AM, Johnson, Carole A. EOP/WHO [redacted] wrote:
*
Randi *

Terrific to connect. Would like to make 3:45 to 4:15 work if that is still avail on your end. If it works for you, Dr. Walensky, our terrific new CDC director, would like to join as well.

I*m adding Noe for my schedule and also am adding Lynn who schedules for Dr. Walensky.

We would really benefit from having the opportunity to hear your and your members perspective directly.

Many thanks for making the time.

Best,

Carole

From: Randi Weingarten, Office of the President [redacted]
Sent: Thursday, January 28, 2021 8:50 PM
To: Martin, Carmel EOP/WHO [redacted]
Cc: Johnson, Carole A. EOP/WHO
[redacted] Jane Meroney,
Legislation [redacted] Tracey-Mooney, Maureen EOP/WHO
[redacted] McIntee,
William T. EOP/WHO [redacted]
Okolo, Osaremen F. EOP/WHO
[redacted]
Subject: [EXTERNAL] Re: Meeting

Great

I can make myself available tomorrow between 10 and 12 of the afternoon between 3 and 5:30

Or obviously Monday or the weekend
Sent from my iPhone

On Jan 27, 2021, at 3:05 PM, Martin, Carmel EOP/WHO
[redacted] wrote:
Randi,

Connecting you with Carole Johnson from our COVID team. We*d love to talk to you about the guidance. Let us know some good times.

Best,
Carmel

P.S. I can not use my personal cell for official matters so please call me on my work cell -- [redacted]
* if you need me. Unfortunately, our phones don*t accept texts.

Organizer: Harris-Aikens, Donna : [redacted]

Subject: Confidential Briefing: Release of COVID documents

Location: Microsoft Teams Meeting

Start Time: 2021-02-11T21:15:00Z

End Time: 2021-02-11T22:15:00Z

Attendees: Harris-Aikens, Donna : [redacted], Randi Weingarten, Office of the President[redacted], Kelly Trautner, Health Issues : [redacted] Beth Antunez, Legislation : [redacted] NEA Becky : [redacted], NEA Daaiyah : [redacted], Solomon, Joel [NEA-CAO-CBMA], [redacted] Cardichon, Jessica : [redacted] Massetti, Greta M. (CDC/DDNID/NCIPC/DVP), [redacted] Halle, Benjamin, [redacted], Lily Eskelson Garcie/Teresa Kelly : [redacted] Calvin MacDowell, Office of the President : [redacted]

Microsoft Teams meeting
Join on your computer or mobile app
Click here to join the meeting<[redacted]

Or call in (audio only)
[redacted] United States, Washington DC
Phone Conference ID: [redacted]
Find a local numbe[redacted]
[redacted] | Reset PIN[redacted]
Learn More<https://aka.ms/JoinTeamsMeeting> | Meeting options<[redacted]

This email has been scanned for spam & viruses. If you believe this email should have been stopped by our filters, click here<https://portal.mailanyone.net/index.html#/outer/reportspam?token=dXNlcj1iYW50dW5lekBhZnQub3JnO3RzPTE2MTMwNzI2MDI7dXVpZD02MDI1ODhENjdDRUZGRTA2NzgyQjM4ODJGRDM2OTQ5Rjt0b2tlbj0zMGIzMjc0MTdjOWVmYWVhZjY4YTIyNzI5YzdmNTU4Yzk0ODJkMzFjOw%3D%3D> to report it.

NOTES: Dr. Walensky and COVID call – 01/29/2021

Note that the guidance needs to be clear and easy to understand. Imagine it being read by a social studies teacher or a parent.This is a real opportunity for a powerful reset and return to the credibility the CDC has traditionally held.

1. **Need robust testing included; it's a real stumbling block in most places.** Robust surveillance testing programs that will conduct random samples of students and staff and contact tracing. This is about resources but also about the "how" for districts to stand up a program and staff and carry it out.
2. **Emphasize 6' as measure for physical distancing.** Another contentious issue in the field, and another where we need CDC to weigh in.
3. **Enhance masking recommendations.** N-95's or comparable masks/respirators for school staff for better protection from the new variants, even though they haven't modified their guidance on masks yet.
4. **Accommodations for educators and school staff who are high-risk, or who have a high-risk household member, are a must**. Guidance should address the unique occupational concerns of adults in a school setting - their increased risks of serious illness if infected compared to students. While there is overlap in the safety concerns for both students and staff; adults have unique concerns - they need accommodations for their personal underlying conditions and for those of family members with whom they reside or for whom they have a significant care-giving role.
5. **Provide a recommended positivity rate threshold.** This is a contentious issue in the field, and one where we need CDC to weigh in. We need an objective metric for closure/reopen triggers.[I liked Kelly's addition of a bright-line metric.]
6. **CDC should recommend stakeholder involvement/committees to oversee reopening and monitor throughout pandemic to counter mistrust and fear.** Addition of a process recommendation that key stakeholders - educators, unions, parents and public health departments etc - form district-wide committees to plan/implement school reopening and monitor the schools on a routine basis and help determine when schools should reopen and close and reopen again. School districts must counter mistrust and fear with involvement and transparency. It's not only educators and school staff that are reluctant to return but also a large percentage of students of color (they have not returned to NYC schools at a high rate compared to white students) - their parents are fearful of their exposure. Only genuine, active involvement of these key stakeholders to actively monitor the situation and assist in assuring mitigation strategies are in place and making decisions to close schools and reopen will be an antidote to that push-back.

Message

From: Walensky, Rochelle (CDC/OD) [redacted]
Sent: 2/3/2021 5:04:41 PM
To: Johnson, Carole A. EOP/WHO [redacted] Berger,Sherri (CDC/OCOO/OD) [redacted] O'Connell, Dawn (HHS/IOS) [redacted]
CC: Martin, Carmel EOP/WHO [redacted] Tracey-Mooney,Maureen EOP/WHO [redacted] McIntee, William T.EOP/WHO [redacted] Okolo, Osaremen F. EOP/WHO [redacted] Gonzalez, Noe EOP/WHO [redacted] Cc: Michelle Ringuette, Office of the President [redacted] Jane Meroney, Legislation [redacted] BethAntunez, Legislation [redacted] Marla Ucelli-Kashyap, Educational Issues [redacted]
Subject: RE: AFT Follow-up

Dear All,
I just wanted to circle back and extend my gratitude for the language you have provided us below. Regrets for my delay in reply but I wanted to be certain you knew it is being worked into (with just a few small tweaks) the school opening guidance. We have also included the executive summary you suggested.
Please know we are listening and working hard to ensure your confidence and partnership in this endeavor.
My very best,
Rochelle

From: Johnson, Carole A. EOP/WHO [redacted]
Sent: Tuesday, February 2, 2021 10:24 AM
To: Walensky, Rochelle (CDC/OD) [redacted] Berger, Sherri (CDC/OCOO/OD) [redacted] O'Connell, Dawn (HHS/IOS) [redacted]
Subject: FW: AFT Follow-up

Dr Walensky – AFT followed up w suggested lang on accommodations per your exchange with Randi. I think this went to Lynn not you, so in case you did not see, pasted below. Thanks

---

From: Kelly Trautner, Health Issues [redacted]
Sent: Monday, February 1, 2021 7:27 PM
To: Johnson, Carole A. EOP/WHO [redacted] Martin, Carmel EOP/WHO [redacted] Gershman, Lynn E. (CDC/OD/OCS) [redacted] Tracey-Mooney, Maureen EOP/WHO [redacted] McIntee, William T. EOP/WHO [redacted] Okolo, Osaremen F. EOP/WHO [redacted] Gonzalez, Noe EOP/WHO [redacted]
Cc: Michelle Ringuette, Office of the President [redacted] Jane Meroney, Legislation [redacted] Beth Antunez, Legislation [redacted] Marla Ucelli-Kashyap, Educational Issues [redacted]
Subject: [EXTERNAL] AFT Follow-up

Good evening, Colleagues:

Thank you again for Friday's rich discussion about forthcoming CDC guidance and for your openness to the suggestions made by our president, Randi Weingarten, and the AFT. We are hopeful that lines of communications will remain open, and that we can serve as a true thought partner as you continue the important work toward safe reopening of schools.

You will recall that Randi committed to provide Dr. Walensky and the group with suggested language on the issue of accommodations for staff who are either themselves in the high-risk category, or for those who reside with a high-risk individual. We crafted the language below using a NIOSH document, as well as language in some of our agreements with school employers. Thank you for considering it.

- Employers should provide reassignment, remote work, or other options for staff who have documented high-risk conditions or who are at increased risk for severe illness from COVID-19 to limit the risk of workplace exposure. Options for reassignment include telework, virtual teaching opportunities, modified job responsibilities, environmental modifications, scheduling flexibility, or temporary reassignment to different job responsibilities. These options should likewise be extended to staff who have a household member with documentation of a high-risk condition or who are at increased risk for severe illness from COVID-19. Policies and procedures addressing issues related to teachers and other staff at higher risk of serious illness should be made in consultation with occupational medicine and human resource professionals, keeping in mind Equal Employment Opportunity (EEO) concerns.

Finally, we were able to review a copy of the draft guidance document over the weekend and were able to provide some initial feedback to several staff this morning about possible ways to strengthen the document. We are grateful for the agency's effort to bring some measure of organization and framework to guidance. We are likewise grateful for the inclusion of some of the mitigation efforts we have been calling for since last year. It is our hope that we can be engaged early in the process moving forward, as we believe our experiences on the ground can inform and enrich thinking around what is practicable and prudent in future guidance documents.

Please do not hesitate to reach out should you have questions or desire additional dialogue.

Warm regards,

Kelly

Kelly D. Trautner
Director | Health Issues
(she/her/hers)
T: [redacted] | F: [redacted] | E: [redacted]

American Federation of Teachers, AFL-CIO
555 New Jersey Ave. N.W. | Washington, DC 20001 | [redacted]
>http://www.aft.org<| >http://www.facebook.com/AFTunion<| >www.twitter.com/AFTunion<

Find our latest COVID-19 Resources and Information at AFT's Resource Page

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Message

From: Justin Stone, Educational Issues [redacted]
Sent: 2/12/2021 7:12:15 PM
To: Marla Ucelli-Kashyap, Educational Issues [redacted]
CC: Rob Weil, Educational Issues [redacted] Lisa Dickinson, Educational Issues [redacted] Kelly Booz [redacted] Shital Shah, Educational Issues [redacted] Giselle Lundy-Ponce, Educational Issues [redacted] Chelsea Prax, Educational Issues [redacted] Robin Vitucci, Educational Issues [redacted] Emily Kopilow, Educational Issues [redacted] Laura Brown, Educational Issues [redacted] Marcus Wyche, Educational Issues [redacted]
Subject: Re: Heads up that the CDC and Ed guidance will come out tomorrow

Quick take:

If I'm not mistaken they beefed up (a small amount) the mitigation strategies and learning modalities by community spread chart.

It allows for middle and high to be virtual with high transmission (red) and elem to be hybrid with substantial transmission (orange).

On Feb 12, 2021, at 10:41 AM, Marla Ucelli-Kashyap, Educational Issues [redacted] wrote:

Latest –
Kelly, Beth, Jane, and I will join Randi and Becky/NEA in a half-hour briefing with CDC at 11. I think there will be a couple new pieces... more clarification of the old pieces. Hopefully, the graphic content will still be on target.
MARCUS – can you send around a dial in for anyone available (and other mgrs who want to) who can get on for about 15 min at Noon for a quick download in terms of content and follow up? Thx!

From: Marla Ucelli-Kashyap, Educational Issues
Sent: Thursday, February 11, 2021 5:46 PM
To: Rob Weil, Educational Issues; Lisa Dickinson, Educational Issues; Kelly Booz; Shital Shah, Educational Issues; Giselle Lundy-Ponce, Educational Issues; Justin Stone, Innovation Fund; Chelsea Prax, Educational Issues [redacted] Robin Vitucci, Educational Issues; Emily Kopilow, Educational Issues [redacted]
Subject: Heads up that the CDC and Ed guidance will come out tomorrow
Sounds like 2pm, and sounds like we will not see a physical copy before.
On the CDC, will not be a closing metric, but there may be some useful nuanced language. We also expect to see the accommodations language.
From ED, there will be volume 1 of strategies and exmaples in support of the 5 main mitigation strategies. We will need to review both docs, of course, and pull highlights. And our emphasis will follow Randi's statement –which we think will be supportive, but push on the role of testing, and needing a closing trigger.
Will def share if we get it in advance.
I think Randi will be getting a briefing on the CDC parts in the am.

Message

From: Robin Vitucci, Educational Issues [redacted]
Sent: 1/31/2021 11:48:17 PM
To: Marla Ucelli-Kashyap, Educational Issues [redacted] Chelsea Prax, Educational Issues [redacted] Justin Stone, Educational Issues [redacted]
CC: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues [redacted]
Subject: Re: UPDATE! CONFIDENTIAL: CDC K-12 Operational Strategy/Guidancechel

I'm not sure what I can offer in terms of the health-related issues that Chelsea or someone in the health department wouldn't catch, so I will provide my thoughts in terms of what Justin mentioned about teaching and learning (although that isn't mentioned really in Randi's points either).

- The document mentions accommodations for those who have high-risk health issues, but otherwise feels mandatory for everyone else. I think logically and as a parent there will still be people that especially this spring don't feel comfortable sending their kids back to school, or teachers who feel unsafe, and there should be some sort of considerations for them as well.
- With distancing and/or staggered schedules, there is no mention of how to accomplish this. Are teachers teaching students who are both in-person and virtual at the same time (which seems like a bad idea)? What about in classes where a teacher is not in the building, who is monitoring the classroom? Are there going to be adjustments to student schedules/teachers to ensure distancing and match up with teaching schedules (which is a difficult transition for students more than mid-way through the year)?
- What is the professional development like for teachers? Some might be teaching a hybrid model which is different than what they have been doing, some might need to offer more support to students around trauma and mental health, etc.
- Along the lines of Chelsea's point about absenteeism, what about the students who have not been present or who have been struggling with virtual school? What will be done to help catch them up to their peers? What types of classroom assessment and how much time will be given to teachers who have students who might be behind?
- Transportation plan – how will schools adjust schedules and bus routes to accommodate distancing and altered schedules? (I know Fairfax is changing bell schedules of schools for its return to school, and shortening the school day at least in elementary schools. How will this time be made up, and how will districts be supported in managing these changes?)
- Technology in the schools – if teachers are now in buildings and some students are virtual, do school buildings have the internet and power capabilities to support the extra bandwidth being used? For instance, if they are in a staggered schedule and some students are in person and some are home, how would 10 or so kids be plugging in their computers, is the internet speed enough to support that much use? Who is paying for upgrades/hardware if needed?

From: "Marla Ucelli-Kashyap, Educational Issues" [redacted]
Date: Sunday, January 31, 2021 at 3:39 PM
To: "Chelsea Prax, Educational Issues" [redacted] "Justin Stone, Innovation Fund" [redacted]
Cc: "Robin Vitucci, Educational Issues" [redacted] "Giselle Lundy-Ponce, Educational Issues" [redacted] "Shital Shah, Educational Issues" [redacted]
Subject: RE: UPDATE! CONFIDENTIAL: CDC K-12 Operational Strategy/Guidancechel

Thanks, Chelsea. Very helpful impressions.
And to Justin and Robin's earlier point, I saw almost nothing on making learning better, except that it is better in person... makes me wonder if there will be something more/different from ED?

From: Chelsea Prax, Educational Issues
Sent: Sunday, January 31, 2021 2:42 PM
To: Marla Ucelli-Kashyap, Educational Issues; Justin Stone, Innovation Fund

Cc: Robin Vitucci, Educational Issues; Giselle Lundy-Ponce, Educational Issues; Shital Shah, Educational Issues
Subject: RE: UPDATE! CONFIDENTIAL: CDC K-12 Operational Strategy/Guidancechel

Good snow day, all – first impressions

- Yes, this is lukewarm where it could be authoritative, e.g., "consider efforts to promote fair access"; it reminds me of tentative wording in AAP guidance
- 3 strengths I don't recall seeing from CDC in school-focused guidance before
  - Rationale & assumptions that undergird the recommendations, especially on p14;
  - Strong focus on the role of different testing models; with
  - A checklist for considerations on whether and how to establish testing (p23)
- 3 items that deserve more attention and clarification – really, asks
  - On health equity, p17 "Schools that serve populations at risk for learning loss during virtual instruction should be prioritized for re-opening and be provided the ***needed resources*** to implement mitigation and testing strategies." CDC can be more specific about what 'needed resources' means
  - On page 18, we get more information about how school-based health professionals (nurses) must be prepared to conduct screening testing, including training in specimen collection, training to conduct test and a CLIA certificate of waiver. We also get quick mention of at least 4 laws that schools (school nurses) will have to follow: HIPAA, FERPA, ADA & PPRA. CDC can make training available at no-cost
  - Finally, cost & feasibility considerations for testing are tucked deep in the document, long after many more "how to" logistics. I think CDC can estimate both of these for the average school – What will it cost? What will make it reasonable to pull off?
- Finally, I echo Marla's concern that I don't see sufficient guidance for staff. p15 states, "Families of students who are at high risk of severe illness (including those with special healthcare needs) or who live with people at high risk should be given the option of virtual instruction regardless of the mode of learning offered." What about *staff and their families*?

Some other things I don't see, though I'm not sure they're essential, given the focus

- Acknowledgement of how many students are chronically absent / effectively MIA from any educational records, despite use of strategies like those listed on p4
- Link to ventilation guidance feels inadequate (Amy/Darryl are probably better equipped to speak on this)
- Despite the breezy reference to how schools can boost social emotional & behavioral health in the first few lines, I don't think this adequately addresses the ways that in-person child-facing institutions are essential for child & family health (part of the rationale) … the population of kiddos needing "essential special education and related services" is exploding, even if they haven't been through a formal IEP/IHP process

If there are specific questions I should address or other items I should look for/review, please advise.
C

From: Marla Ucelli-Kashyap, Educational Issues
Sent: Sunday, January 31, 2021 1:06 PM
To: Justin Stone, Innovation Fund
Cc: Chelsea Prax, Educational Issues; Robin Vitucci, Educational Issues; Giselle Lundy-Ponce, Educational Issues; Shital Shah, Educational Issues
Subject: RE: UPDATE! CONFIDENTIAL: CDC K-12 Operational Strategy/Guidancechel

Thanks for the update, Justin. That sounds good! From my glance through it , I see nothing at all on accommodations for staff; and more than I remember from last time on health equity. And, yeah, on teeth!
It is a great day for kid stuff, so everyone enjoy! I just had fun with puppy's first trip to the park in snow....

From: Justin Stone, Innovation Fund
Sent: Sunday, January 31, 2021 1:02 PM
To: Marla Ucelli-Kashyap, Educational Issues
Cc: Chelsea Prax, Educational Issues; Robin Vitucci, Educational Issues; Giselle Lundy-Ponce, Educational Issues; Shital Shah, Educational Issues
Subject: Re: UPDATE! CONFIDENTIAL: CDC K-12 Operational Strategy/Guidancechel

Got it. Robin and I had a chance to put heads together a bit. We both skimmed it between snow stuff with kids. :-)

What we see is almost exclusively health guidance. Very little about teaching and learning. I see some of Randi's TPs covered in the new recs. We'll have to scan deeper for the others. Overall it seems sane and covers ground we've all covered. And, like other recommendations, it's just that—no teeth.

We'll go through with finer comb and send along something tonight or early tomorrow.

Thanks!

On Jan 31, 2021, at 10:37 AM, Marla Ucelli-Kashyap, Educational Issues [redacted] wrote:

Hi All,
3 big developments, starting Friday afternoon:
--Randi (and staff) spoke with CDC director and Biden Covid testing czar (Wollensky and Johnson). Attached doc shows what Randi asked for in the upcoming guidance
--Late Friday, Amy B and Darryl got a copy!
--Late yesterday, one of the CDC people we met with. Parul Parikh, sent us the guidance and invited a handful of staff to a meeting tomorrow afternoon from 1:302.

This "pre-decisional" version is still very close hold, so please share with no one. I shared the Randi TPs so you can compare it to the guidance elements. I'll share what Darryl and Amy send. If you can review today, that would be best, but early tomorrow morning is also possible. We will want our ducks in a row before the 1:30. (I will try to get Chelsea added to the call.)
Thanks so much!
marla

From: Kelly Trautner, Health Issues
Sent: Friday, January 29, 2021 6:43 PM
To: Marla Ucelli-Kashyap, Educational Issues; Jane Meroney, Legislation; Beth Antunez, Legislation; Sarah Tammelleo, Research & Strategic Initiatives; Kyle Arnone, Research & Strategic Initiatives; amy bahruth; Darryl Alexander, [redacted] Consultant, Office of the Secretary-Treasurer
Subject: CONFIDENTIAL: CDC K-12 Operational Strategy

PLEASE DO NOT SHARE THIS BEYOND ESSENTIAL AFT STAFF. We were given an advance draft of the CDC's guidance, set to be released next Wednesday. Amy and Darryl are reviewing now, we will share impressions.
In the meantime, we also have another (somewhat overlapping) group working on the accommodation language Dr. Walensky asked Randi for today.
<DRAFT K-12 Schools Operational Strategy 2021.pdf>
<2021.01.29 walensky call notesREV.docx>

Message

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: 1/29/2021 4:54:13 PM
To: Robin Vitucci, Educational Issues [redacted] Chelsea Prax, Educational Issues [redacted] Justin Stone, Educational Issues [redacted]
CC: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues [redacted]
Subject: UPDATE RE upcoming CDC guidancd

Hi All,
It new seems likely that the guidance will be out Monday, definitely sometime next week. Kelly and I are joining Randi in a call with a Biden staff and the head of the CDC this afternoon. Hopefully I will have something to report after that.
marla

From: Marla Ucelli-Kashyap, Educational Issues
Sent: Thursday, January 28, 2021 9:59 AM
To: Robin Vitucci, Educational Issues; Chelsea Prax, Educational Issues [redacted] Justin Stone, Innovation Fund
Cc: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues
Subject: Need your help with upcoming CDC guidancd
Importance: High

Good morning, Chelsea, Robin, and Justin!
I mentioned, and the highlighted section below indicates, new guidance out soon from CDC. Giselle, Shital, and I would like you three to be the rapid reviewers. You know what to look for. We will need a quick summary of what it does (and doesn't) say and how that comports with our must-haves, etc. Of course, we'll coordinate with Health Issues. I know that Chelsea has some pre-scheduled leave, so depending on when it actually comes out, any deeper dive into child safety and SISP implications may come later than the overall summary.
Please self-organize on presentation, but assume we need Randi-ready bullets. Any concerns, pls reach out to Giselle and Shital.
Thanks a lot! Really hard to know how extensive this will or won't be.
Marla (for the 3 of us)

Message

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: 1/29/2021 4:54:13 PM
To: Robin Vitucci, Educational Issues [redacted] Chelsea Prax, Educational Issues [redacted] Justin Stone, Educational Issues [redacted]
CC: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues [redacted]
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Sent: Thursday, January 28, 2021 9:59 AM
To: Robin Vitucci, Educational Issues; Chelsea Prax, Educational Issues [redacted] Justin Stone, Innovation Fund
Cc: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues
Subject: Need your help with upcoming CDC guidancd
Importance: High

Good morning, Chelsea, Robin, and Justin!
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Please self-organize on presentation, but assume we need Randi-ready bullets. Any concerns, pls reach out to Giselle and Shital.
Thanks a lot! Really hard to know how extensive this will or won't be.
Marla (for the 3 of us)

Message

From: Kelly Trautner, Health Issues [redacted]
Sent: 2/11/2021 4:25:06 PM
To: Rochelle Walensky bhnson, Carole A. EOP/WHO [redacted]; Sherri Berger; Dawn O'Connell; Martin, Carmel EOP/WHO [redacted]; Tracey-Mooney, Maureen EOP/WHO [redacted]; McIntee, William T. EOP/WHO [redacted]; 'Okolo, Osaremen F. EOP/WHO' [redacted]; Gonzalez, Noe EOP/WHO [redacted]
CC: Randi Weingarten, Office of the President [redacted] Jane Meroney, Legislation [redacted]; Marla Ucelli-Kashyap [redacted]; Beth Antunez, Legislation [redacted]
Subject: RE: AFT Follow-up

Dr. Walensky:
Thank you for your continued openness to our suggestions and input. We would like to share some thoughts regarding the paragraph below which was apparently leaked from the imminent guidance on reopening schools:

"At any level of community transmission, all schools can provide in-person instruction (either full or hybrid), through strict adherence to mitigation strategies. Recommended learning modes vary to minimize risk of SARS-CoV-2 transmission in school by emphasizing layered mitigation, including school policies requiring universal and correct mask use. The recommended learning modes (in-person, hybrid) depend on the level of community transmission and strict adherence to mitigation."

It would be great to see the insertion some variation of the following: "In the event high-community transmission results from a new variant of SARS-CoV-2, a new update of these guidelines may be necessary."

We are deeply concerned about likely implications this language will have in schools where strict adherence to mitigation strategies is lacking or is impossible to implement, particularly those schools in high-density, crumbling infrastructure areas, and particularly when community transmission is high. We don't believe that any current research has demonstrated that all schools in those areas can safely reopen.

In light of the new variants of the virus, we are concerned the absence of a closure threshold might put safety of adults and kids in school settings. There is not yet conclusive research to support that keeping schools open in those countries would have been a safe decision, though the Imperial London model seems to show infections among secondary school students in the UK spiked when the new variant began to spread. And we also know that, while infection rates are beginning to drop, the B117 variant is expected to cause a sharp uptick in infections- even becoming the predominant variant by March. The UK was forced to close schools in the wake of the variant spread; Germany had to make a similar decision to close schools. When teachers and school staff see that travel restrictions are being considered in the U.S., we expect even more hesitation about in-person learning. Even a "variant closing metric" would go a long way in allaying hesitation and fears related to reopening.

We really want to lend our efforts to helping restore faith in the CDC, and we believe you are off to a great start. We must, however, urge the inclusion of clear closure triggers in the imminent guidance. Provisions providing for when schools should close, like what is in place in New York City, instill some degree of confidence for those who are hesitant about returning to school. Embedding such a threshold bolsters transparency and is a must for ensuring parents and administrators can plan for a surge like we have seen in Great Britain and in Germany.

We look forward to continued collaboration with you and your team.

Kelly

Kelly D. Trautner
Senior Director | Health Issues

(she/her/hers)
T: [redacted] | F: [redacted] | E: [redacted]

American Federation of Teachers, AFL-CIO
555 New Jersey Ave. N.W. | Washington, DC 20001 | [redacted]
http://www.aft.org | http://www.facebook.com/AFTunion | www.twitter.com/AFTunion

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From: Kelly Trautner, Health Issues
Sent: Wednesday, February 3, 2021 12:36 PM
To: Rochelle Walensky; Johnson, Carole A. EOP/WHO [redacted]; **Sherri Berger**; **Dawn O'Connell**; Martin, Carmel EOP/WHO [redacted] Tracey-Mooney, Maureen EOP/WHO [redacted]; McIntee, William T. EOP/WHO [redacted] 'Okolo, Osaremen F. EOP/WHO' [redacted]; Gonzalez, Noe EOP/WHO [redacted]
Cc: Michelle Ringuette, Office of the President [redacted] Jane Meroney, Legislation [redacted]; Marla Ucelli-Kashyap [redacted]; Beth Antunez, Legislation [redacted]
Subject: RE: AFT Follow-up

Dr. Walensky,

Thank you so much for your responsiveness to the suggestions made by Randi and our team. We are immensely grateful for your genuine desire to earn our confidence and your commitment to partnership. We will pass this message along to Randi. She will certainly be most grateful.

We look forward to continued dialogue and partnership as we continue our respective focus on safe reopening of schools and society.

Kind regards,

Kelly

Kelly D. Trautner
Director | Health Issues
(she/her/hers)
T: [redacted] | F: [redacted] | E: [redacted]

American Federation of Teachers, AFL-CIO
555 New Jersey Ave. N.W. | Washington, DC 20001 | [redacted]
http://www.aft.org | http://www.facebook.com/AFTunion | www.twitter.com/AFTunion

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From: "Walensky, Rochelle (CDC/OD)" <[redacted]>
Date: February 3, 2021 at 12:04:56 PM EST

To: "Johnson, Carole A. EOP/WHO" [redacted], "Berger, Sherri (CDC/OCOO/OD)" [redacted], "O'Connell, Dawn (HHS/IOS)" [redacted]
Cc: "Martin, Carmel EOP/WHO" [redacted], "Tracey-Mooney, Maureen EOP/WHO" [redacted] "McIntee, William T. EOP/WHO" [redacted] "Okolo, Osaremen F. EOP/WHO" [redacted] "Gonzalez, Noe EOP/WHO" [redacted] "Michelle Ringuette, Office of the President" [redacted] "Jane Meroney, Legislation" [redacted], "Beth Antunez, Legislation" [redacted], "Marla Ucelli-Kashyap, Educational Issues" [redacted]
Subject: RE: AFT Follow-up

Dear All,
I just wanted to circle back and extend my gratitude for the language you have provided us below. Regrets for my delay in reply but I wanted to be certain you knew it is being worked into (with just a few small tweaks) the school opening guidance. We have also included the executive summary you suggested.
Please know we are listening and working hard to ensure your confidence and partnership in this endeavor.
My very best,
Rochelle

From: Johnson, Carole A. EOP/WHO [redacted]
Sent: Tuesday, February 2, 2021 10:24 AM
To: Walensky, Rochelle (CDC/OD) [redacted] Berger, Sherri (CDC/OCOO/OD) [redacted]; O'Connell, Dawn (HHS/IOS) [redacted]
Subject: FW: AFT Follow-up

Dr Walensky – AFT followed up w suggested lang on accommodations per your exchange with Randi. I think this went to Lynn not you, so in case you did not see, pasted below. Thanks

From: Kelly Trautner, Health Issues [redacted]
Sent: Monday, February 1, 2021 7:27 PM
To: Johnson, Carole A. EOP/WHO [redacted] Martin, Carmel EOP/WHO [redacted] Gershman, Lynn E. (CDC/OD/OCS) [redacted] Tracey-Mooney, Maureen EOP/WHO [redacted] McIntee, William T. EOP/WHO [redacted] Okolo, Osaremen F. EOP/WHO [redacted] Gonzalez, Noe EOP/WHO [redacted]
Cc: Michelle Ringuette, Office of the President [redacted]; Jane Meroney, Legislation [redacted]; Beth Antunez, Legislation [redacted]; Marla Ucelli-Kashyap, Educational Issues [redacted]
Subject: [EXTERNAL] AFT Follow-up

Good evening, Colleagues:

Thank you again for Friday's rich discussion about forthcoming CDC guidance and for your openness to the suggestions made by our president, Randi Weingarten, and the AFT. We are hopeful that lines of communications will remain open, and that we can serve as a true thought partner as you continue the important work toward safe reopening of schools.

You will recall that Randi committed to provide Dr. Walensky and the group with suggested language on the issue of accommodations for staff who are either themselves in the high-risk category, or for those who reside with a high-risk individual. We crafted the language below using a NIOSH document, as well as language in some of our agreements with school employers. Thank you for considering it.

- Employers should provide reassignment, remote work, or other options for staff who have documented high-risk conditions or who are at increased risk for severe illness from COVID-19 to limit the risk of workplace exposure. Options for reassignment include telework, virtual teaching opportunities, modified job responsibilities, environmental

modifications, scheduling flexibility, or temporary reassignment to different job responsibilities. These options should likewise be extended to staff who have a household member with documentation of a high-risk condition or who are at increased risk for severe illness from COVID-19. Policies and procedures addressing issues related to teachers and other staff at higher risk of serious illness should be made in consultation with occupational medicine and human resource professionals, keeping in mind Equal Employment Opportunity (EEO) concerns.

Finally, we were able to review a copy of the draft guidance document over the weekend and were able to provide some initial feedback to several staff this morning about possible ways to strengthen the document. We are grateful for the agency's effort to bring some measure of organization and framework to guidance. We are likewise grateful for the inclusion of some of the mitigation efforts we have been calling for since last year. It is our hope that we can be engaged early in the process moving forward, as we believe our experiences on the ground can inform and enrich thinking around what is practicable and prudent in future guidance documents.

Please do not hesitate to reach out should you have questions or desire additional dialogue.

Warm regards,

Kelly

Kelly D. Trautner
Director | Health Issues
(she/her/hers)
T: [redacted] | F: [redacted] | E: [redacted]

American Federation of Teachers, AFL-CIO
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Message

From: Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted]
Sent: 2/11/2021 11:27:47 PM
To: Randi Weingarten, Office of the President [redacted]
CC: NEA Becky [redacted]; Frey, Meghan T. (CDC/DDNID/NCIPC/DIP) [redacted]; Sauber-Schatz, Erin K. (CDC/DDNID/NCIPC/DIP) [redacted]; Massetti, Greta M. (CDC/DDNID/NCIPC/DVP) [redacted] Calvin MacDowell, Office of the President [redacted]; Kelly Trautner, Health Issues [redacted]; Beth Antunez, Legislation [redacted]; Marla Ucelli-Kashyap, Educational Issues [redacted]; Jane Meroney, Legislation [redacted]
Subject: RE: CDC Follow Up

Super, thanks so much.

From: Randi Weingarten, Office of the President [redacted]
Sent: Thursday, February 11, 2021 6:12 PM
To: Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted]
Cc: NEA Becky <bpringle@nea.org>; Frey, Meghan T. (CDC/DDNID/NCIPC/DIP) [redacted]; Sauber-Schatz, Erin K. (CDC/DDNID/NCIPC/DIP) [redacted]; Massetti, Greta M. (CDC/DDNID/NCIPC/DVP) [redacted] Calvin MacDowell, Office of the President [redacted]; Kelly Trautner, Health Issues [redacted] Beth Antunez, Legislation [redacted] Marla Ucelli-Kashyap, Educational Issues [redacted] Jane Meroney, Legislation [redacted]
Subject: Re: CDC Follow Up

I added all the invitees

Thanks

Sent from my iPhone

On Feb 11, 2021, at 6:07 PM, Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted] wrote:

Great. Yes. We were thinking somewhere between 11a-12p tomorrow.

Meghan on our side can set up the calendar invite once we hear from Becky.

Christopher M. Jones, PharmD, DrPH, MPH
CAPT, US Public Health Service
Acting Associate Director for Communication
Centers for Disease Control and Prevention

From: Randi Weingarten, Office of the President [redacted]
Sent: Thursday, February 11, 2021 6:02 PM
To: Jones, Christopher M. (CDC/DDNID/NCIPC/OD)
Cc: NEA Becky; Frey, Meghan T. (CDC/DDNID/NCIPC/DIP); Sauber-Schatz, Erin K. (CDC/DDNID/NCIPC/DIP); Massetti, Greta M. (CDC/DDNID/NCIPC/DVP); Calvin MacDowell, Office of the President; Kelly Trautner, Health Issues; Beth Antunez, Legislation
Subject: Re: CDC Follow Up

Hi Chris

Thank you

It is Calvin from my office

I understand this will be tomorrow morning.

I can move things to make myself available after 9:30 and before 12:00. I have a meeting with the Gov of PR at 12:15 that I can not move.

Randi

Sent from my iPhone

On Feb 11, 2021, at 5:58 PM, Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted] wrote:

Hi Randi and Becky,

I wanted to follow up from your calls with Rochelle this evening. As she indicated, we would like to schedule time tomorrow late morning for a follow up discussion with CDC's technical experts on our forthcoming *Operational Strategy for K-12 Schools through Phased Mitigation*. I have copied colleagues from CDC who can help set up the meeting. Who are the best contacts on your side to facilitate calendars and invites?

Look forward to the discussion!

Chris

Christopher M. Jones, PharmD, DrPH, MPH
CAPT, US Public Health Service
Acting Associate Director for Communication
Centers for Disease Control and Prevention
O: [redacted] | C: [redacted]
E: [redacted]

Message

From: Gershman, Lynn E. (CDC/OD/OCS) [redacted]
Sent: 2/7/2021 5:55:42 PM
To: Randi Weingarten, Office of the President [redacted]
CC: Calvin MacDowell, Office of the President [redacted]
Subject: RE: Request for call w/ Dr. Rochelle Walensky, CDC Director

Thank you! I will send an invitation with Dr. Walensky's mobile number [redacted]

Kindest Regards,

Lynn

Wisdom is knowing the right path to take; Integrity is taking it.

From: Randi Weingarten, Office of the President [redacted]
Sent: Sunday, February 7, 2021 12:50 PM
To: Gershman, Lynn E. (CDC/OD/OCS) [redacted]
Cc: Calvin MacDowell, Office of the President [redacted]
Subject: Re: Request for call w/ Dr. Rochelle Walensky, CDC Director

I can do at 2 pm eastern

Randi

Sent from my iPhone

On Feb 7, 2021, at 12:44 PM, Gershman, Lynn E. (CDC/OD/OCS) [redacted] wrote:

Good afternoon President Weingarten,

Dr. Walensky has asked if it might be possible to set up a 15 minute call with you sometime today. If you are agreeable, can you please advise if you might be available today at 2PM (Eastern) or sometime after 5PM (Eastern)?

My apologies for the direct reach out. I am happy to connect with your assistant to schedule this if you can share that contact info with me.

Thanks so much for your consideration.

Kindest Regards,

Lynn

Lynn Gershman
Executive Assistant to the Director, Dr. Rochelle Walensky
Office of the Director
Centers for Disease Control and Prevention (CDC)

1600 Clifton Road, NE, [redacted] Atlanta GA 30333
Main: [redacted] | Direct Line: [redacted] | Cell: [redacted]
Email: [redacted]

Wisdom is knowing the right path to take; integrity is taking it.

12:05

88

KT

Kelly >

Jan 27, 2021 at 11:04 AM

Hi! Seems CDC is expected to release new reopening guidance for schools. Who can we talk to about an advance copy? We asked our contacts and NIOSH and they are completely out of it, it seems

Text Message

Message

From: Robin Vitucci, Educational Issues [redacted]
Sent: 2/10/2021 7:25:47 PM
To: Marla Ucelli-Kashyap, Educational Issues [redacted] Justin Stone, Educational Issues [redacted]
CC: Chelsea Prax, Educational Issues [redacted]
Subject: Re: Was this in what we read ?

I don't disagree that the original document meant all schools - just noting that it didn't explicitly say it without having to interpret things.

And the only time the phrase "at any level of community transmission" is used is in terms of sports. But again, it is implied in the explanations (i.e. talking about different levels of transmission, the different levels of transmission all have an option for at least hybrid, which implies "any level" without saying it).

On 2/10/21, 2:21 PM, "Marla Ucelli-Kashyap, Educational Issues" [redacted] wrote:

> Does the table or anywhere use the words "at any level of community transmission" ?
> Sorry for the relay race.. got one going in texting too.
>
> Sent from my iPad
>
> > On Feb 10, 2021, at 2:16 PM, Justin Stone, Innovation Fund [redacted] wrote:
> >
> > I was thinking about the table 2 stuff starting on page 11. The red column only says hybrid learning for high (red) transmission. So in essence, at least considering their graphic, there seems to be no delineated threshold under which full virtual would kick in for elementary schools. At least that's how I read it the first time and looking at it now am still in that camp.
> >
> > -----Original Message-----
> > From: Robin Vitucci, Educational Issues [redacted]
> > Sent: Wednesday, February 10, 2021 2:07 PM
> > To: Marla Ucelli-Kashyap, Educational Issues [redacted]; Justin Stone, Innovation Fund [redacted]; Chelsea Prax, Educational Issues [redacted]
> > Subject: Re: Was this in what we read ?
> >
> > Did a quick text search of the document and I don't think the one we saw said "all schools can provide in-person instruction..."
> >
> > The original did say, "If mitigation strategies are strictly adhered to and appropriate safeguards are in place for teachers and staff1, K-12 schools can safely open for in-person instruction and remain open," which is essentially the same thing - except the more definitive word "all" has been added. Could be an important addition to the updated version.
> >
> >
> > On 2/10/21, 2:00 PM, "Marla Ucelli-Kashyap, Educational Issues" [redacted] wrote:
> >
> > Yes. Thank you!
> >
> > -----Original Message-----
> > From: Justin Stone, Innovation Fund
> > Sent: Wednesday, February 10, 2021 1:58 PM
> > To: Marla Ucelli-Kashyap, Educational Issues; Robin Vitucci, Educational Issues; Chelsea Prax, Educational Issues
> > Subject: RE: Was this in what we read ?
> >
> > I think it was. It's how I read it and commented in my response that there is no threshold under which the guidance imagines elementary students (at least) wouldn't be in-person school.
> >
> > -----Original Message-----
> > From: Marla Ucelli-Kashyap, Educational Issues [redacted]
> > Sent: Wednesday, February 10, 2021 1:52 PM
> > To: Justin Stone, Innovation Fund [redacted]; Robin Vitucci, Educational Issues [redacted]; Chelsea Prax, Educational Issues [redacted]
> > Subject: Was this in what we read ?
> >
> > -Nyt has leaked copy and called Andrew... esp first sentence "At any level of community transmission, all schools can provide in-person instruction (either full or hybrid), through strict adherence to mitigation strategies. Recommended learning modes vary to minimize risk of SARS-CoV-2 transmission in school by emphasizing layered mitigation, including school policies requiring universal and correct mask use. The recommended learning modes (in-person, hybrid) depend on the level of community transmission and strict adherence to mitigation."

>
>
> Marla Ucelli-Kashyap
> [redacted]
> Sent from my iPhone
>

Message

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: 2/2/2021 2:32:59 PM
To: Chelsea Prax, Educational Issues [redacted] Robin Vitucci,Educational Issues [redacted] Justin Stone, Educational Issues [redacted] Shital Shah, Educational Issues [redacted] Giselle Lundy-Ponce, Educational Issues [redacted]
Subject: FW: CDC calls and follow-up

FYI for our debrief this morning.

From: Kelly Trautner, Health Issues
Sent: Monday, February 1, 2021 6:27 PM
To: Randi Weingarten, Office of the President; DRW; Tear Jones Murphy, Office of the President; Marla Ucelli-Kashyap, Educational Issues; Jane Meroney, Legislation; Beth Antunez, Legislation; Jennifer Chang, Communications; Oriana Korin, Communications
Subject: RE: CDC calls and follow-up

Hi Randi,
Update from today's meeting with CDC staff. Adding comms colleagues.
The good news: meeting was friendly; it seems there is interagency collaboration happening with Dept. of Ed.; the document seems to be following science, in contrast to Trump era; they welcomed hearing our feedback and; they seemed very receptive to ongoing dialogue. After talking with them, it seems they are trying to put a framework to the guidance in effort to focus on mitigation strategies. There are some good points we could highlight about closing bars, opening schools; etc. It does include some of the things we have been talking about (e.g. 6 ft distancing), even if not the way we would say it. It is also just the first piece, there will be more coming.

There was no confirmation on the release date and this was primarily CDC staff – no one from the WH was on. Donna Harris Aikins was on from the department. But the initial email did say thisWed is the day.

Our challenges: it seems very unlikely any of our changes will be incorporated because the document is mostly through their internal review process. It is not likely that the document will provide the kind of guidance that would have helped avert situations like Chicago and DC. We may be expected to praise the administration for this document, which is not going to be what we need in the areas that are most challenging in the field right now (testing as a key mitigation strategy, ventilation and safe buildings, how to actually build a worksite vaccination program).

One interesting note on the vaccinations, they alluded to the fact they were very conscious of not forcing anyone to take the vaccine.

Ancillary, but relevant issues:
- NIOSH reached out to us right after the meeting, wanting us to do a line-by-line on the guidance we asked CDC to put toward the front of the new guidance
- OSHA ETS set to be out March 15th and will not be tied in any way to CDC document, also will offer more protection. Even now, we could file general duty complaints. (We are discussing and OSHA strategy right now)
- Sent to Ellie and Jacki (on the down-low)- they can help with how we talk about.

ACTIONS NEEDED:
- **Messaging.** Document is scheduled for release this Wed, alongside exec council, our locals' crises and confirmation hearing. We could lift up the good pieces, applaud them for starting to put order to chaos, and say it's a good start.
- **Response to Walensky, et al.** We can still send the accommodation language in hopes it makes it into another document they do. We should recap what we shared in today's meeting and reiterate our desire to be a go-to stakeholder.

- **Start working on an OSHA complaint strategy-** we can get that plan up to you and moving by end of week, including calendaring a "how to" on complaint filing like we are doing in hc.

From: Kelly Trautner, Health Issues
Sent: Sunday, January 31, 2021 8:02 PM
To: Randi Weingarten, Office of the President [redacted] DRW [redacted] Tear Jones Murphy, Office of the President [redacted] Marla Ucelli-Kashyap, Educational Issues [redacted] Jane Meroney, Legislation [redacted] Beth Antunez, Legislation [redacted]
Subject: CDC calls and follow-up

Hi Randi,
We have two items re: the forthcoming CDC reopening document- (1) Follow up to your call Friday and (2) Prep for the staff call/reactions to the draft document. Marla, Jane, Beth and I (plus our staff) have been working on this for the better part of today. Here is the plan for tomorrow- assuming you are good with it.

HOLD the Friday call follow-up to Walensky until after tomorrow's 1pm call with CDC staff. This will give us the space to make a more definitive statement that the guidance is a problem if we need to; also space to try to resolve as much as possible outside White House level conversations. We may need to reconvene with you quickly after for direction, depending on how hot the Chicago and DC situation is for you.

- The accommodation language is ready to go unless you want edits: Employers should provide reassignment, remote work, or other options for staff who have documented high-risk conditions or who are at increased risk for severe illness from COVID-19 to limit the risk of workplace exposure. Options for reassignment include telework, virtual teaching opportunities, modified job responsibilities, environmental modifications, scheduling flexibility, or temporary reassignment to different job responsibilities. These options should likewise be extended to staff who have a household member with documentation of a high-risk condition or who are at increased risk for severe illness from COVID-19. Policies and procedures addressing issues related to teachers and other staff at higher risk of serious illness should be made in consultation with occupational medicine and human resource professionals, keeping in mind Equal Employment Opportunity (EEO) concerns.

Tomorrow's call: So you are aware, here is the feedback outline for tomorrow's call with the CDC staff:

1. **Mitigation strategies seems to home in primarily on masking and physical distancing, de-emphasizing the ongoing need to have a strong comprehensive strategy.**
1. Testing and vaccination need more detailed emphasis in the document. The document provides little real direction to school districts on how to make and implement a covid testing strategy. Testing is missing in the list of key mitigation strategies (p. 6) They should support the adoption of screening testing, especially if schools remain open when community spread is high (just about every school district in the country now). CDC needs to give more guidance on steps for adopting screening testing - they begin the discussion but don't give concrete guidance on how to adopt this strategy. They should also specify that school districts provide training, education and support to teachers and staff to encourage vaccination and reduce vaccine hesitancy.
2. They really didn't do a whole lot on ventilation at all, glossing over mitigation strategies outside masks and distancing. There needs to be some unequivocal statement regarding the importance of maintaining mitigation strategies, even where vaccine is being administered.
1. **The draft is devoid of guidance and recommended protections for staff in key areas; could be much more cogent and use stronger support for accommodations.**

1. The should use the CDC/NIOSH document "Strategies for Protecting K-12 Staff from COVID-19" (08/26/2020)- and it should be introduced early in the document.
2. Accommodation (or similar) language is being offered by us, taken from other CDC documents where safety of staff is the addressed, as well as from UFT contract and anecdotal info from the field.
1. **The document should also include more detail and guidance on equity and mental health.**
1. On health equity, p17 "Schools that serve populations at risk for learning loss during virtual instruction should be prioritized for re-opening and be provided the ***needed resources*** to implement mitigation and testing strategies." CDC can be more specific about what 'needed resources' means
2. Mental health- there is nothing in the document about mental health or socio-emotional challenges as schools reopen.

Message

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: 1/28/2021 2:58:46 PM
To: Robin Vitucci, Educational Issues [redacted] Chelsea Prax,Educational Issues [redacted] Justin Stone, Educational Issues [redacted]
CC: Giselle Lundy-Ponce, Educational Issues [redacted] Shital Shah, Educational Issues [redacted]
Subject: Need your help with upcoming CDC guidancd

Importance: High

Good morning, Chelsea, Robin, and Justin!
I mentioned, and the highlighted section below indicates, new guidance out soon from CDC. Giselle, Shital, and I would like you three to be the rapid reviewers. You know what to look for. We will need a quick summary of what it does (and doesn't) say and how that comports with our must-haves, etc. Of course, we'll coordinate with Health Issues. I know that Chelsea has some pre-scheduled leave, so depending on when it actually comes out, any deeper dive into child safety and SISP implications may come later than the overall summary.
Please self-organize on presentation, but assume we need Randi-ready bullets. Any concerns, pls reach out to Giselle and Shital.
Thanks a lot! Really hard to know how extensive this will or won't be.
Marla (for the 3 of us)

From: Marla Ucelli-Kashyap, Educational Issues
Sent: Thursday, January 28, 2021 7:08 AM
To: Shital Shah, Educational Issues; Giselle Lundy-Ponce, Educational Issues
Subject: Fwd: House Democrats unveil measures with billions for K-12 — Biden's first Covid test: Reopening schools — Advocacy group urges Cardona to cancel testing

Hi Ladies,
Note the story about new reopening guidelines out soon... maybe as soon as Friday. We need people at the ready to read and digest and get information out to our leaders. One should be Chelsea, but who else. We have a heads up on this, so we need to be ready. WHo else? Justin? He's good at cutting to the chase.

Sent from my iPad

Begin forwarded message:

From: POLITICO Pro's Morning Education <newsletter@email.politicopro.com>
Date: January 28, 2021 at 5:48:17 AM EST
To: "Marla Ucelli-Kashyap, Educational Issues" [redacted]
Subject: House Democrats unveil measures with billions for K-12 — Biden's first Covid test: Reopening schools — Advocacy group urges Cardona to cancel testing
Reply-To: "POLITICO, LLC" [redacted]

Jan 28, 2021 | View in browser

BY LAURAINE GENOTA

Presented by AccessLex Institute®

With help from Bianca Quilantan and Juan Perez Jr.

QUICK FIX

— **Education and Labor Chair Bobby Scott is expected to introduce three bills today that would invest billions of dollars in K-12 schools** for infrastructure upgrades, to prevent job losses and to mitigate student learning loss brought on by the pandemic.

— **President Joe Biden has made reopening most K-8 schools in his first 100 days a major priority**, but the plan might be crashing into teachers union demands.

— **A public education advocacy group launched a petition** urging Education Secretary-designate Miguel Cardona to cancel the annual standardized testing this spring.

IT'S THURSDAY, JAN. 28. WELCOME TO MORNING EDUCATION. Let's talk! Reach me at lgenota@politico.com. You can also reach out to my colleagues: Nicole Gaudiano (ngaudiano@politico.com), Juan Perez Jr. (jperez@politico.com), Michael Stratford (mstratford@politico.com) and Bianca Quilantan (bquilantan@politico.com). And follow us on Twitter: @Morning_Edu and @POLITICOPro.

A message from AccessLex Institute:

AccessLex Institute is committed to understanding the barriers that impede access to law school for historically underrepresented groups and improving access to law school for all. Through our grantmaking activities, we support research and proposals that aim to make this goal a reality. Get up to date on our various Diversity Programs and resources by visiting the new AccessLex.org!

DRIVING THE DAY

HOUSE DEMOCRATS UNVEIL MEASURES WITH BILLIONS FOR K-12: House Education and Labor Committee Democrats say the money is critical to help schools reopen in the pandemic, as tens of thousands of schools need to upgrade their infrastructure. In their bill fact sheets, the lawmakers also cited hundreds of billions of dollars in state budget shortfalls and up to 1.9 million education jobs lost as the reasons for their proposal.

— **Reopen and Rebuild America's Schools Act:** This is the second time the bill is being introduced. It was originally in the "Moving Forward Act," H.R. 2 (116) that was passed by the House last summer as part of its infrastructure package that included provisions for everything from roads to education, housing, clean water, broadband and more.

— **It would provide $100 billion in grants and $30 billion** in bond authority for high-poverty schools that need upgrades to their buildings for safety.

— **Save Education Jobs Act:** The bill would give up to $261 billion to states and school districts over 10 years. Lawmakers say the money would "save up to 3.9 million education jobs, including 2.6 million teacher jobs."

— **Learning Recovery Act of 2021:** The measure provides $75 billion over two years via Title I-A for school programs like summer school or extended school days and programs. It also directs the Institute of Education Sciences to conduct research on learning loss

CARDONA TODAY

CANCEL THE TESTS, ADVOCACY GROUP URGES: Network for Public Education launched a petition Monday asking Cardona to "immediately" cancel the testing mandate upon his confirmation. The petition, signed by more than 9,000 people, mentioned that Biden said during a forum last year that he was committed to ending standardized testing in public schools.

— **"Whenever children are able to return fully to their classrooms,** every instructional moment should be dedicated to teaching, not to teasing out test score gaps that we already know exist," the advocacy group wrote in the petition. "Simply put, a test is a measure, not a remedy."

— **The group said it's in the "best interest of children"** that the Department of Education lift the mandate for annual testing this spring.

CARDONA IS THE 'RIGHT CHOICE': The Boston Globe endorsed Cardona's nomination, saying he is "the right choice to lead on school reopenings," because he understands "the central importance of getting kids back in classrooms" and has proven he can get the job done.

— **The editorial board pointed to Cardona's time as education commissioner in Connecticut as an example.** Cardona provided school districts with safety guidelines to reopen, but let them decide individually when to do so. He also used his bully pulpit to urge a quick return to the classroom by underscoring that the most disadvantaged students are bearing the brunt of learning loss during virtual schooling.

WHITE HOUSE

SCHOOL REOPENING GUIDELINES MIGHT COME SOON: White House press secretary Jen Psaki suggested on Wednesday that the Centers for Disease Control and Prevention might soon issue updated guidelines on school reopening.

— **An executive order Biden issued last week directed the Education and Health and Human Services departments** to develop "evidence-based guidance" to help states, child care providers, K-12 schools and colleges plan for in-person learning — and requires the two agencies to create a new clearinghouse to share best practices and lessons learned for operating schools and colleges safely during the pandemic.

— **"But, as our Covid team has outlined, that's going to require testing materials,** support for contact tracing, vaccinations for teachers and ensuring they're equitably provided," Psaki said. "Our CDC director and team will be looking into putting together some specific guidelines so there can be clarity on that front — which I know a lot of districts are looking for."

— **Biden's vow to reopen most schools during his first 100 days** is crashing into demands of one of his party's most powerful constituencies: teachers' unions. The stalemates in Chicago and recent findings from the CDC are creating a flash point for the president, along with potential political vulnerabilities. Read more from Christopher Cadelago and Michael Stratford.

FOR-PROFIT COLLEGES

GAO REPORT ON FOR-PROFIT COLLEGE CONVERSIONS: The Government Accountability Office is out with a new report on the risks associated with for-profit college conversions. A for-profit college can be converted into a nonprofit college if it's sold to a tax-exempt organization and if the Education Department approves it.

— **The report found that in one-third of for-profit college conversion cases it identified,** college owners or officials held leadership positions in the college's tax-

exempt buyer. According to guidance, those owners aren't allowed to use their influence to inflate the college's sale price or otherwise improperly benefit from the conversion.

— **But the GAO found that the IRS and the Education Department** did not always follow the guidance to assess the risks of improper benefit.

— **The agency recommended that the Education secretary develop monitoring procedures** to review the audited financial statements of newly converted nonprofit colleges. For the IRS, the agency recommended an assessment of its process for reviewing applications and recommended that the IRS collect information that would identify tax-exempt colleges with a for-profit history for audit.

IN THE STATES

PARKLAND PARENT GOES AFTER GREENE: A video of Marjorie Taylor Greene (R-Ga.) resurfaced Wednesday bringing renewed outrage over the Republican lawmaker's questioning of the shooting at Marjory Stoneman Douglas High School in Parkland, Fla., that left 17 dead. Fred Guttenberg, whose daughter died in the school shooting, posted the video on Twitter to highlight Greene's positions on the issue.

— Greene, a new member of the House Education and Labor Committee, was filmed harassing David Hogg, a gun control activist and Parkland shooting survivor, a few weeks after the shooting.

— In addition to calling Hogg a "coward," Greene also said: " He had 30 appointments where he went around and got to talk to senators. I got to talk to none. Guess what? I'm a gun owner. I'm an American citizen. And I have nothing. But this guy with his George Soros funding and his major liberal funding has got everything."

— When asked for comment about Greene's video, her office pointed to a statement the Georgia representative put out last week on Twitter where she called "gun-free zones" a failure and blamed the Parkland shooting on school resource officer Scot Peterson. Read more from POLITICO's Gary Fineout.

STAY-IN-PLACE AT UNIVERSITY OF MICHIGAN: The Washtenaw County Health Department on Wednesday recommended that all local University of Michigan students stay in place until Feb. 7 to prevent further spread of the coronavirus, including its variants, Michigan Daily reports.

— **In Michigan K-12 news**: The K-12 Alliance of Michigan responded to Republican state lawmakers' "COVID-19 recovery plan," which holds $2.1 billion in federal funding for schools hostage unless epidemic powers are taken away from Gov. Gretchen Whitmer. The group called the plan "immoral and fundamentally unacceptable." Students, teachers and staff shouldn't become "pawns in a grossly miscalculated political stunt," the group said.

SCHOOL CHOICE

IT'S SCHOOL CHOICE WEEK: In case you missed it, Sen. Tim Scott (R-S.C.), Congressional School Choice Caucus co-chair, introduced a resolution declaring this week National School Choice Week . He was joined by 21 other Republican senators and California Democrat Dianne Feinstein. In the House chamber, Republican Reps. John Moolenaar of Michigan and Virginia Foxx of North Carolina also released their resolution celebrating this week as National School Choice Week.

REPORT ROUNDUP

— A new report from **UNICEF** and the **World Food Program** found that more than 39 billion in-school meals have been missed globally due to pandemic-related school closures. The organizations are urging governments to prioritize school reopenings to make sure the children's educational and nutritional needs are met.

ON THE CALENDAR

— **8 a.m.:** The Council for Higher Education Accreditation holds its virtual 24th annual conference with the theme "Quality in a Time of Change," Jan. 26-28.

— **9:30 a.m.:** The Division for Early Childhood hosts its annual virtual conference on young children with special needs and their families.

— **3 p.m.:** The Hunt Institute holds a webinar on "Equitable Education for Students with Disabilities."

— **6 p.m.:** Anthony Fauci joins American Federation of Teachers President Randi Weingarten and National Education Association President Becky Pringle for a virtual town hall discussion about the Covid-19 pandemic and its impact on educators, students and schools.

Did we miss anything? Email educalendar@politicopro.com

SYLLABUS

— Iowa lawmakers advance bill to eliminate tenure: The Gazette

— Can we teach our way out of political polarization?: The Hechinger Report

— Inside one family's journey to find an affordable college: Marketplace

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Bianca Quilantan @biancaquilan
Juan Perez Jr. @PerezJr

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Message

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: 2/1/2021 7:38:58 PM
To: Chelsea Prax, Educational Issues [redacted]
Subject: RE: Key takeaways: CDC document

Hmm. Indeed. Back to you later.... On to the next....:)

From: Chelsea Prax, Educational Issues
Sent: Monday, February 1, 2021 2:38 PM
To: Marla Ucelli-Kashyap, Educational Issues
Subject: RE: Key takeaways: CDC document

Hmm ... it's not clear that CDC *wanted* feedback, despite their "we're listening" opening comments.

I would appreciate any insights on how – or whether – that 30min is related to other dialogues with federal agencies/Biden administration. I get the impression that it was far afield from how Jane/Beth are (would like to be) engaging ED.

Thanks, C

From: Darryl Alexander, [redacted] Consultant, Office of the Secretary-Treasurer
Sent: Monday, February 01, 2021 9:35 AM
To: Jane Meroney, Legislation
Cc: Beth Antunez, Legislation; Marla Ucelli-Kashyap, Educational Issues; Kelly Trautner, Health Issues; Amy Bahruth, Health Issues; Chelsea Prax, Educational Issues
Subject: Re: Key takeaways: CDC document

We are meeting with career CDC staff including some staff from the National Institute for Occupational Safety and Health (NIOSH). In fact it is through NIOSH that we got the document and the meeting. I recommend that we lead acknowledging that CDC is under an immense amount of pressure to get a document out. The message should be that we don't believe this should be the last CDC document/guidance on school reopening. The draft appears to have been hastily put together and has several inconsistencies. Like most CDC guidance documents, this document is difficult to navigate with several links and rabbit holes and in the end, does not provide concrete guidance on reopening schools. A pity because this was the agency's first opportunity to promote screening testing that will be a potent strategy if we reopen schools even as community spread rates stay high. The document only makes a tepid recommendation for screening testing and it should be more forceful in recommending it and providing links to protocols for putting screening testing in place.

We should urge that more concrete guidance follow this document soon and ask for an on-going working relationship to make guidance more useful and tangible for (clueless) administrators and Boards of Education. Superintendents have demonstrated time and time again that they have little grounding in building operation (which is key in COVID exposure management and control) and other public health measures.

I would not recommend that we aggressively pan the document. I think it is bad but we probably will not be able to go in with demands for full scale revisions before the Wednesday release. It will be a victory if they entertain a few tweaks. Kelly has captured things that are promising to recommend in her email to Randi. I vote for better prominence of the NIOSH-CDC guidance on K-12 staff published in August as one of the "tweaks".

From my perspective the focus should be on tightening up the occupational health and safety and public health portions of the draft - they are troubling and ambiguous and may leave staff and students and especially staff vulnerable. Some examples include:

1. Treating SARS-CO-V-2 as a droplet transmitted virus that can be easily controlled by physical distance and face masks. The evidence is mounting that this virus is an airborne (easily aerosolized into small particles) that can travel long distances and throughout a building. A face mask will not capture all those small virus particles shed by an infected person; they can escape from most masks at distances far greater than 6', Therefore the potential for exposure continues indoors unless enhanced ventilation strategies are in place. Ventilation belongs not as a second thought but a primary mitigation strategy. Our friends at NIOSH understand this; infectious disease personnel at CDC do not. One way or another we need to keep urging more recognition of this as we go along.

2. ' Testing' is omitted from the 5 key mitigation strategies. The one word-"testing" -should be added with contact tracing as a key mitigation strategy

3.A lax staff vaccination recommendation. A better, more detailed recommendation for staff vaccination stressing employer (district) responsibility in promoting vaccination; educating and supporting staff as they are vaccinated (liberal leave for those who have adverse reactions) should be made especially to address anticipated vaccine hesitancy

4. Not acknowledging that the risks of exposure and serious COVID illness are not the same for staff and students. We got that acknowledgment from NIOSH this summer in their guidance and it was superb.

5. No recommendation of creating local stakeholder committees or groups that will not only be involved with planning reopening but monitoring and evaluating operation of schools throughout the pandemic until the national emergency declaration is lifted. UFT has this kind of understanding with the NYC board and they are evaluating outbreak and infection data everyday with the board and making the hard decisions about what schools stay open and what are closed.

My hope is that AFT will form an on-going relationship with the career CDC folks and push on better public health recommendations. Fortunately for us, the US OSHA will promulgate an emergency temporary COVID standard (ETS) as early as March 15th. We have friends and allies there and they will not chain the ETS to weak CDC guidance the way the Trump administration did.

On Jan 31, 2021, at 6:24 PM, Jane Meroney, Legislation [redacted] wrote:

I think what beth suggested can be with at we lead with? their priorities are right. Just so it is not totally negative. Then go into "unfortunately we are not sure this will have any teeth-

Whatever it is it will not be fun. Do you want me to put it back in the document?

On Jan 31, 2021, at 6:13 PM, Beth Antunez, Legislation [redacted] wrote:

I think they are calling it operational as opposed to instructional or something else to indicate that they are not getting into anything beyond the health and safety here.

There may be more guidance coming next dealing with how to instruct in hybrid or cohorts, or, to one of Kelly's points, how to deal with students' mental health.

I personally love the list of things on page 14–schools should be open before bars, academics should be happening before sports, etc. and believe that this is what will get lifted up and cheered when it is released.

From: Marla Ucelli-Kashyap, Educational Issues [redacted]
Sent: Sunday, January 31, 2021 5:55 PM
To: Jane Meroney, Legislation; Kelly Trautner, Health Issues
Cc: Beth Antunez, Legislation; Darryl Alexander, [redacted] Consultant, Office of the Secretary-Treasurer; Amy Bahruth, Health Issues; Chelsea Prax, Educational Issues
Subject: RE: Key takeaways: CDC document

To Jane's point it is not "bad". I think Chelsea pointed out a couple of positives in her notes. I don't know that there are additional documents... this doc is called an operational strategy that ties back supposedly to science based guidance and other things linked in the doc.
They don't seem to have 2 things we really want—accommodations and super clear guidance on opening and closing triggers... so we do have to call that out.

I thought the statements about community spread and community policies (indoor dining,etc) made a lot of sense (new? Not sure). There's no teeth in any of it... but I could see a document we provide to affiliates turning those CDC statements into things to ask/ publicize – a side by side with CDC statement and current local policy.

From: Jane Meroney, Legislation [redacted]
Sent: Sunday, January 31, 2021 5:45 PM
To: Kelly Trautner, Health Issues
Cc: Marla Ucelli-Kashyap, Educational Issues; Beth Antunez, Legislation; Darryl Alexander, [redacted] Consultant, Office of the Secretary-Treasurer; Amy Bahruth, Health Issues; Chelsea Prax, Educational Issues
Subject: Re: Key takeaways: CDC document

Sure but I am guessing they are feeling pressure to release something. What we do not see is the accompanying documents although that is all messaging

I think in terms of how to push we should pull in Ost and Michelle - it is really more of a political question. And also probably should see where NEA is

On Jan 31, 2021, at 5:40 PM, Kelly Trautner, Health Issues [redacted] wrote:

This is the new document that they just drafted. I agree with the prelude 100%. This document will not be super helpful or clarifying on the ground. It feels like they just felt pressured to release something; and this will just add to the disjointed collection of documents. Can we ask them to hold it for another week to work on it?

From: Jane Meroney, Legislation [redacted]
Sent: Sunday, January 31, 2021 5:33 PM
To: Kelly Trautner, Health Issues [redacted]
Cc: Marla Ucelli-Kashyap, Educational Issues [redacted] Beth Antunez, Legislation [redacted] Darryl Alexander, [redacted] Consultant, Office of the Secretary-Treasurer [redacted] Amy Bahruth, Health Issues [redacted] Chelsea Prax, Educational Issues [redacted]
Subject: Re: Key takeaways: CDC document

Defer to you guys on the content, but is it that bad? Maybe start with "while there is a lot of good in here, unfortunately the document will not bring us what we need.::."

I just worry that this is pretty far down the road and we may not get many changes and I do not think we want to trash it. It was drafted under trump, right?

Happy to add edits to the doc but will not be at a computer for about 10 minutes

On Jan 31, 2021, at 5:16 PM, Kelly Trautner, Health Issues [redacted] wrote:

Can you all take a look and make whatever edits you'd like to see? Planning to send between 6 and 6:30. We can add other suggestions to the list for tomorrow's call if we have the time; just think we need to get a top-priority list together and send to Randi. Unless someone has strong feelings to the contrary, Marla and I can lead the discussion on the call tomorrow and bring detailed perspective in.

Hi Randi,
The CDC document we were given to review is not going to bring the clarity that we need on the ground for reopening. Aside from stylistic critique, the document contains inconsistencies and seems to have been drafted without input of NIOSH scientists. As you know we have a call with a small group from CDC tomorrow. They did not seem to be super open to suggested edits, but we have been working on feedback. I've listed what we believe are key points to raise during our call tomorrow. I'll send a draft follow-up response from Friday's meeting in a separate email.

1. **Mitigation strategies seems to home in primarily on masking and physical distancing, de-emphasizing the ongoing need to have a strong comprehensive strategy.**

a. Testing and vaccination need more detailed emphasis in the document. The document provides little real direction to school districts on how to make and implement a covid testing strategy. Testing is missing in the list of key mitigation strategies (p. 6) They should support the adoption of screening testing, especially if schools remain open when community spread is high (just about every school district in the country now). CDC needs to give more guidance on steps for adopting screening testing - they begin the discussion but don't give concrete guidance on how to adopt this strategy. They should also specify that school districts provide training, education and support to teachers and staff to encourage vaccination and reduce vaccine hesitancy.

b. They really didn't do a whole lot on ventilation at all, glossing over mitigation strategies outside masks and distancing. There needs to be some unequivocal statement regarding the importance of maintaining mitigation strategies, even where vaccine is being administered.

2. **The draft is devoid of guidance and recommended protections a for staff in key areas; could be much more cogent and use stronger support for accommodations.**

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b. Accommodation (or similar) language is being offered by us, taken from other CDC documents where safety of staff is the addressed, as well as from UFT contract and anecdotal info from the field.

3. **The document should also include more detail and guidance on equity and mental health.**

a. On health equity, p17 "Schools that serve populations at risk for learning loss during virtual instruction should be prioritized for re-opening and be provided the ***needed resources*** to implement mitigation and testing strategies." CDC can be more specific about what 'needed resources' means

b. Mental health- there is nothing in the document about mental health or socio-emotional challenges as schools reopen.

From: Sauber-Schatz, Erin K. (CDC/DDNID/NCIPC/DIP)
Sent: Tue, 2 Feb 2021 01:06:52 +0000
To: Walke, Henry (CDC/DDID/NCEZID/DPEI)
Cc: Massetti, Greta M. (CDC/DDNID/NCIPC/DVP)
Subject: RE: FYI, Update on our end, re: Partner outreach for schools guidance

Thanks.

Erin K. Sauber-Schatz, PhD, MPH
CDR, US Public Health Service
Task Force Lead
Community Interventions and Critical Populations Task Force
CDC COVID-19 Emergency Response
JCC Mitigations and Risk Working Group, Lead
[redacted](work) [redacted](cell) | [redacted]
[redacted]

From: Walke, Henry (CDC/DDID/NCEZID/DPEI) [redacted]
Sent: Monday, February 1, 2021 8:06 PM
To: Sauber-Schatz, Erin K. (CDC/DDNID/NCIPC/DIP) [redacted]
Subject: FW: FYI, Update on our end, re: Partner outreach for schools guidance

From your bullets

From: Walke, Henry (CDC/DDID/NCEZID/DPEI)
Sent: Monday, February 1, 2021 8:03 PM
To: Berger, Sherri (CDC/OCOO/OD) [redacted] Johnson, Carole A. EOP/WHO
[redacted]
Cc: Schuchat, Anne MD (CDC/OD) [redacted] Walensky, Rochelle (CDC/OD) [redacted]
O'Connell, Dawn (HHS/IOS) [redacted]
Subject: RE: FYI, Update on our end, re: Partner outreach for schools guidance

Sent updated document to public health partners (CSTE, NACCHO, ASTHO, APHL) and some school partners (NEA, AFT, NASN, NASBE)

Regarding AFT:

Greta from our school group had a somewhat difficult call with AFT staff today

Overarching takeaways:

The support of the AFT staff seemed to be very different from what AFT leadership expressed.

Though the guidance was sent in advance, it seemed as though the staff had not read it, confused it with another document, or perhaps, did not understand the intent. Some specific examples of the feedback:

- Highlighted the need for health equity resources and guidance (this is included)
- Greater attention and heavy focus on the recommendations for cleaning and ventilation (which is provided the document—there has been coordination with NIOSH)
- Ventilation to be a bigger piece of the guidance and didn't want it to be lumped together with cleaning
- Wanted support for MORE testing in schools (opposite of NEA)
- Protection for teachers with preexisting conditions
- Wanted enforcement mechanisms for mitigation efforts in schools
- Was not supportive of contact tracing
- Wanted a focus in guidance on the mental health needs for students

Suggest a follow-up call with Rochelle and AFT President.

Henry

From: Berger, Sherri (CDC/OCOO/OD) [redacted]
Sent: Monday, February 1, 2021 7:53 PM
To: Johnson, Carole A. EOP/WHO [redacted] Walke, Henry (CDC/DDID/NCEZID/DPEI) [redacted]
Cc: Schuchat, Anne MD (CDC/OD) [redacted] Walensky, Rochelle (CDC/OD) [redacted] O'Connell, Dawn (HHS/IOS) [redacted]
Subject: RE: FYI, Update on our end, re: Partner outreach for schools guidance

Hi Henry – did we provide a draft to AFT? Others? Thanks

From: Berger, Sherri (CDC/OCOO/OD)
Sent: Monday, February 1, 2021 3:06 PM
To: Johnson, Carole A. EOP/WHO [redacted] O'Connell, Dawn (HHS/IOS) [redacted] Rochelle Walensky (CDC/OD) [redacted]
Cc: Henry Walke (CDC/DDID/NCEZID/DPEI) [redacted] Anne Schuchat MD (CDC/OD) [redacted]
Subject: FYI, Update on our end, re: Partner outreach for schools guidance

Below is the list for partners we have engaged and recommend for engagement for the K-12 Operational Strategy. Thank you

<u>Partners we spoke with on 1/25/2021:</u>

- National Governors Association (call)
- Major PH Orgs
  - ASTHO
  - APHL
  - CSTE
  - NACCHO
- K-12 Partners:

    - Council of Chief State School Officers (CCSSO)
    - National Association of School Nurses (NASN)
    - National Assoc of School Boards
    - National School Board Association
    - National Association of State Boards of Education (NASBE)
    - National Education Association
    - School Superintendents Association (AASA)

<u>Follow-up with partners on 1/29/21 to provide updates on changes to document</u>:

- Major PH Orgs
    - ASTHO
    - APHL
    - CSTE
    - NACCHO
- LA County Health Department
- Also sent updated document to public health partners (CSTE, NACCHO, ASTHO, APHL) and some school partners (NEA, AFT, NASN, NASBE)

Call scheduled with American Federation of Teachers today (2.1.2021)

Rollout Partner Recommendations:

- American Academy of Pediatrics (AAP)
- AASA (School Superintendents Association)
- American College Health Association (ACHA)
- American Federation of Teachers (AFT)
- American School Counselor Association
- American School Health Association (ASHA)
- Association for Supervision and Curriculum Development (ASCD)
- Association for the Advancement of Sustainability in Higher Education
- Association of Community Tribal Schools
- Association of Latino Administrators and Superintendents
- Association of School and Programs of Public Health (ASPPH)
- Association of State and Territorial Health Officials (ASTHO)
- Autism Speaks
- Big Cities Health Coalition
- Bureau of Indian Education (BIE)
- Communities in Schools
- Council of Chief State School Officers (CCSSO)
- Council of Great City Schools
- CSTE
- Department of Education
- Georgia Department of Education
- NACCHO
- NASSP
- National Alliance for Public Charter Schools
- National Alliance of Black School Educators

- "National Assoc of School Boards
- National School Board Association
- National Association of School Nurses (NASN)
- National Association of County and City Health Officals (NACCHO)
- National Association of Elementary School Principals (NAESP)
- National Association of Independent Schools
- National Association of Private Schools
- National Association of School Nurses (NASN)
- National Association of Secondary School Principals (NASSP)
- National Association of State Boards of Education (NASBE)
- National Association of State Boards of Education
- National Association of State Directors of Teacher Education and Certification (NASDTEC)
- National Association of Student Personnel Administrators (NASPA)
- National Council on School Facilities
- National Education Association
- National Indian Education Association
- National Parent Teacher Association
- National Recreation and Park Association (NRPA)
- National Rural Education Association
- National School Boards Association
- Ready Education
- School Based Health Alliance.
- School Social Work Association of America
- School Superintendents Association (AASA)
- School-Based Health Alliance
- SOPHE
- YMCA-USA
- APHL
- NGA

Webinars: finalized date of release—TBD

- PRM partner call
- STLT All State call
- 2 webinars to provide overview of guidance + vaccination for educational sector workers—K-12 partners; public health organizations

Feb 10 call: Call with Department of ED partners

From: Berger, Sherri (CDC/OCOO/OD)
Sent: Sat, 30 Jan 2021 00:39:14 +0000
To: O'Connell, Dawn (HHS/IOS); Pearlman, Aj (HHS/IOS); Despres, Sarah (HHS/IOS); Johnson, Carole A. EOP/WHO
Cc: Jones, Christopher M. (CDC/DDNID/NCIPC/OD); Schuchat, Anne MD (CDC/OD); Walensky, Rochelle (CDC/OD); Walke, Henry (CDC/DDID/NCEZID/DPEI)
Subject: RE: Revised: Draft School Guidance

Quick update: Rochelle and Carole started teacher union calls today. I think there may be one more to schedule on Monday. Based on the feedback, at this time, its not looking like Wednesday will work to roll out the new guidance. Thank you
(And, a HUGE thank you [redacted]

From: Berger, Sherri (CDC/OCOO/OD)
Sent: Thursday, January 28, 2021 7:56 PM
To: O'Connell, Dawn (HHS/IOS) [redacted] Pearlman, Aj (HHS/IOS) [redacted] Despres, Sarah (HHS/IOS) [redacted]
Cc: Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted] 'Anne Schuchat MD (CDC/OD) [redacted] Rochelle Walensky (CDC/OD) [redacted] Henry Walke (CDC/DDID/NCEZID/DPEI) [redacted]
Subject: Revised: Draft School Guidance

Hi all –

Here is the latest version.

The main changes based on feedback from school stakeholders and other partners early this week are:

- Revised title and framing to place emphasis on safe school reopening, and prioritize mitigation. Also moved order of "essential elements" to shift mitigation first, then testing. This shifts the overall frame of the document to emphasize safe reopening of schools through mitigation, with an added option for testing for schools that have the capacity to do so.
- Adjusted presentation of indicators table to improve threshold cutoffs (for example, 10-49 instead of 10-50 new cases/100,000).
- Re-arranged order of phased mitigation tables so the plan for schools with no screening testing is first, followed by the plan for schools that use screening testing.
- In no testing plan, changed Moderate/Yellow to K-12 schools open (was hybrid). In High/Red, added an option for MS/HS to remain open if strict mitigation measures are in place.
- Added language that provides an option for schools that are open to remain open even if levels of community transmission rise into high/red. Provided considerations for making these decisions (based on local needs; stakeholder input; number of cases; and considerations for strengthening mitigation and continuing to monitor cases).
- For schools that implement screening testing, changed recommended schedule for testing teachers to "at least once per week" (was twice in yellow, orange, and red). Included language in red saying twice per week may be preferable.

We look forward to your feedback and aiming for a Wednesday 11AM launch.

Thanks,
Sherri

From: Berger, Sherri (CDC/OCOO/OD)
Sent: Thursday, January 28, 2021 10:02 AM
To: O'Connell, Dawn (HHS/IOS) [redacted] Pearlman, Aj (HHS/IOS) [redacted] Despres, Sarah (HHS/IOS) [redacted]
Cc: Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted] Anne Schuchat MD (CDC/OD) [redacted]
Subject: FW: School Guidance - Next Steps

Hi - we discussed and would like to release at the Wednesday WH 11AM press briefing. Thanks for your assistance

---

From: Berger, Sherri (CDC/OCOO/OD) [redacted]
Sent: Thursday, January 28, 2021 9:11 AM
To: Walke, Henry (CDC/DDID/NCEZID/DPEI) [redacted] Walensky, Rochelle (CDC/OD) [redacted]
Cc: Schuchat, Anne MD (CDC/OD) [redacted] Jones, Christopher M. (CDC/DDNID/NCIPC/OD) [redacted]
Subject: School Guidance - Next Steps
Importance: High

Next steps:

- Send **guidance and science brief to Sherri** today to send to HHS (pending edits from Anne)
- We will plan to go out next week, **what day do we want to request?**
- [redacted] Chris will loop with the EOC to start planning.
- [redacted]
- [redacted]

Message

From: Kristian G. Andersen [redacted]
Sent: 3/31/2020 8:59:49 PM
To: Michael Farzan [redacted]
Subject: Re: Furin...

Hey Mike,

Still chugging along here in SoCal... As per our previous conversations, I thought this was pretty interesting:

http://virological.org/t/identification-of-a-common-deletion-in-the-spike-protein-of-sars-cov-2/451

Not quite sure what to make of it - but definitely interesting!

K

On Mon, Feb 17, 2020 at 9:26 AM Kristian G. Andersen [redacted] wrote:

Hey Mike,

Thanks - I was actually in the desert when that got pushed out, so a little rushed IMO. But pressure from the higher ups to get it out.

Thanks for your comment on the structure/binding - this is actually *really* important. We have been discussing that bioRxiv paper this morning since it appears to show that -2 does indeed bind as well - or better - than -1. There is other data to suggest that too, but good to know that this isn't gospel!

Four pangolin sequences just dropped as well - unfortunately these are similar to the previous and not similar in the RBD. I'm starting to think that one pango that stands out might not actually be correct. Hopefully more to come!

Cheers,
K

On Mon, Feb 17, 2020 at 9:17 AM Michael Farzan <[redacted] wrote:

Yep.

Hey just saw your review. Nice!

Fyi: Jason McClellan's otherwise gorgeous S-protein structure includes a probably wrong assertion that the SARS2 S protein binds with "20-fold" higher affinity than that of SARS1. This is almost certainly wrong, and based in thei paper on an apples to oranges comparison. I suspect that will be in the press soon but thought I would mention it in case you were asked, "the jury is still out on that conclusion".

From: Kristian G. Andersen [redacted]
Sent: Sunday, February 16, 2020 9:45 PM
To: Michael Farzan
Subject: Re: Furin...

Hey Mike,

Yup, one of the pangolin sequences have a very similar RBD (the others are more like bat and further from human still). It's not the elusive "99% pangolin" though as that sequence was never published nor was a study produced - I think they might have spoken a little too soon. The one that's online and close in the RBD is from merging a couple of metagenomic datasets and is very incomplete, so I'm not quite sure what to make of it. I really hope they'd come up with the 99% sequence - that'd be cool!

Cheers,

Kristian

On Sat, Feb 15, 2020 at 9:42 AM Michael Farzan [redacted] wrote:

Hi Kristian, you probably know this by now but the RBM of the 99% panglolin-derived virus is virtually identical to SARS2 but the furin-site 4-aa insertion is missing. Mike

---

From: Michael Farzan
Sent: Thursday, February 6, 2020 11:07 PM
To: Kristian G. Andersen [redacted]
Subject: RE: Furin...

Hey Kristian,

It's a bit complicated but here is the best I can find.

There are two MHV variants A59 and BHK. BHK is lab adapted and has extended host range, and no longer is cleaved in the producer cell by furin. It also appears to be independent of the murine (or human) CEACAM receptor, relying on heparan sulfate.

The furin site has not changed in BHK, rather two amino acids immediately downstream account for the phenotype.

https://jvi.asm.org/content/79/22/14451?ijkey=709aa5da9513e80f42db103ec19b539ed1cc350b&keytype2=tf_ipsecsha

Virus-Cell Interactions

Message

From: Edward Holmes [redacted]
Sent: 2/5/2020 4:22:24 AM
To: Andrew Rambaut [redacted]
CC: Garry, Robert F [redacted] Kristian G. Andersen [redacted]
Subject: Re: Summary - Invitation to edit

External Sender. Be aware of links, attachments and requests.

Region 6 is the RBD. Could be recombination? Very strange.

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

On 5 Feb 2020, at 9:04 pm, Edward Holmes [redacted] wrote:

I think we might have dropped the ball with this pangolin virus. I ignored it when I saw it didn't have the furin cleavage site. Should now check all the key sites.

Cheers,

Eddie

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

On 5 Feb 2020, at 8:44 pm, Andrew Rambaut [redacted] wrote:

I think we need to keep this document live and update it as necessary. Give it a date and version number.

Andrew

Sent from my phone. Apologies for brevity or illiteracy.

On 5 Feb 2020, at 09:23, Edward Holmes [redacted] wrote:

Kristian, can you quickly check those RBD mutations in the pangolin S protein...

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

On 5 Feb 2020, at 1:03 pm, Garry, Robert F [redacted] wrote:

https://www.statnews.com/2020/02/04/two-scenarios-if-new-coronavirus-isnt-contained/

To your point K a very good article here about coronaviruses that are endemic in humans (Andrew gets a quote).

My guess that "quarantines and travel bans will first halt the outbreak and then eradicate the microbe, and the world will never see 2019-nCoV again" is unlikely, unfortunately.

And unfortunately as well I think that we're about to learn that "quarantines and travel bans" are really bad for the economy.

From: Kristian Andersen [redacted]
Date: Tuesday, February 4, 2020 at 7:08 PM
To: Robert Garry [redacted]
Cc: Edward Holmes [redacted], "rambaut([redacted]
Subject: Re: Summary - Invitation to edit

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That's pretty interesting... All of which of course happens in humans. I do wonder if there's a scenario in which this thing could have been circulating in humans and animals for a while until that perfect little bugger came about and took off. Seems a little strange, but definitely not impossible - although, of course, if the O-glycans are somehow involved in the infectivity of human cells (as opposed to immunity), then we're swinging back to cell culture.

On Tue, Feb 4, 2020 at 4:34 PM Garry, Robert F [redacted] wrote:

Another thing about the evolution of the glycans.

This has happened naturally in other CoV.

Not all MHV have an optimal furin site. Those that do have the furin site inevitably also add a 2-3 predicted O-linked glycans in or about the cleavage site..

Variation on the theme in HKU1, a virus that probably does have intense transmission infecting millions of people each year. Here the insert is three Serine residues, which pushes this site to a mucin-like patch (there are already a couple of prolines and the SSS is a turn as well)

Funny thing – not on the attachments, but those strains of MHV and HKU-1 that have o-linked glycans and the furin site ALSO have a larger patch - sometimes very large patch - of predicted o-linked glycans at the top of the prefusion form. When you see the pattern repeat itself in different viruses you start to believe it.

From: Robert Garry [redacted]
Date: Tuesday, February 4, 2020 at 5:56 PM
To: Kristian Andersen [redacted], Edward Holmes [redacted]
Cc: "rambaut [redacted]
Subject: Re: Summary - Invitation to edit

Kristian that's correct about everything he said for the P residue. It's what's shifted me to thinking that the insert of the furin site is the result of cell culture passage [or less likely intense transmission in a nonbat host]. Really need to see the data from Ron about generating the furim cleavage site on in vitro passage. Really!

CoV come with or without a furin site. CoV without a furin site are said to be non-cleaved and rely on endosomal proteases like cathepsin for entry. However if you infect a virus like SARS in culture in the presense of exogenous protease like trypsin its 100X more effective at entering because the spike gets cleaved and it can enter at the cell surface.

You have to infect flu viruses (the ones without the multibasic cleavage site) in the presence of trypsin, and include trypsin in the overlay if you want to get virus spread aka plaques.

This also contributes to the pathogenicity of - well - highly pathogenic flu virus – different tissues have different proteases and are able to "activate" flu to different extents - if the flu v has a furin cleavage site it has a lot more choices and canmore easil go systemic.

This is an excellent review on CoV fusion – deals with all the complexities:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3397359/

Bottom line – I think that if you put selection pressure on a Cov without a furin cleavage site in cell culture you could well generate a furin cleavage site after a number of passages (but let's see the data Ron!). It will infect a lot better if it can effectively fuse at the cell surface and doesn't have to rely on endosomal cleavage and receptor mediated endocytosis..

From: Kristian Andersen [redacted]
Date: Tuesday, February 4, 2020 at 5:08 PM
To: Edward Holmes [redacted]
Cc: Robert Garry [redacted], "rambaut [redacted]
Subject: Re: Summary - Invitation to edit

Outside my expertise, but I don't necessarily think that passage in animals would add the glycans. It's more that the glycans could suggest some sort of immune system as the glycans often work to 'shield' epitopes. So if the acquisition of glycans is adaptive, that would be suggestive of an immune system.

We didn't write this in the report, but the residues on which the glycans (S, T, and S) are all conserved in the bat virus - it's the addition of the P that makes it a specific glycan site though (not conserved in the bat, hence not predicted to be O-glycans). It's entirely possible that the 'P' works as a flexible residue for the furin cleavage site and by proxy creates the (predicted) O-linked glycans.

I'll let Bob weigh in as well - definitely not my area of expertise.

K

On Tue, Feb 4, 2020 at 2:59 PM Edward Holmes [redacted] wrote:

Agreed. Timing is perfect.

Bob - a question from Jeremy:

"Quick question though - why could passage in animals in lab work add the glycans?"

Any thoughts?

Eddie

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

On 5 Feb 2020, at 9:53 am, Garry, Robert F [redacted] wrote:

Ironically the prevailing theory now in the underbelly if the internet is that the us or other enemy engineered this bio weapon and released it on China

If the public health aspects of this were not bad enough the political fallout would be.

Good to have cogent science against the bio weapon scenario which is why I favor getting who involved in the "controversy"

Accidental release is a scenario many will not be comfortable with but it would be irresponsible to dismiss the possibility out of hand.

Sent from my iPhone

On Feb 4, 2020, at 3:28 PM, Edward Holmes [redacted] wrote:

Jeremy is passing to Tony and Francis first.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 5 Feb 2020, at 8:12 am, Garry, Robert F [redacted] wrote:

On the broad topic of O-linked glycans on viruses from China I've attached a model of Alongshan virus, which I know Eddie has a particular interest.

It's instructive to see the mucin-like domains with a high concentration of serines, threonines and prolines.

```
This sequence in HKU1 CoV is also a mucin like domain:
481 fasscкshkp psascpigtn yrscesttvl dhtdwcrcsc lpdpitaydp rscsqkkslv

Again several predicted O-linked glycans (also several at the furin site).
```

In the crystal structure 5i08 it is disordered because of the o-linked glycans..

From: Kristian Andersen [redacted]
Date: Tuesday, February 4, 2020 at 2:39 PM
To: Edward Holmes [redacted]
Cc: Robert Garry [redacted], "rambaut[redacted]
Subject: Re: Summary - Invitation to edit

External Sender. Be aware of links, attachments and requests.

Sounds good Eddie!

I was on a conference call hosted by the National Academy of Sciences yesterday and a statement about this not being "engineering" should be coming out from them - I believe Tony called that meeting. Let's see what comes out of that as well.

The idea of engineering and bioweapon is definitely not going away and I'm still getting pinged by journalists. I have noticed some of them starting to ask more broadly about "lab escape" and for now I have just ignored them - there might be a time where we need to tackle that more directly head on, but I'll let the likes of Jeremy and Tony figure out how to do that.

K

On Tue, Feb 4, 2020 at 12:36 PM Edward Holmes [redacted] wrote:

I've just passed to Jeremy.

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The University of Sydney | Sydney | NSW | 2006 | Australia
T [redacted]
E [redacted]

On 5 Feb 2020, at 7:14 am, Garry, Robert F [redacted] wrote:

Another caveat is that I think there is plenty of room for additional discussion amongst the experts. Jeremy's idea (or was it Tony's) of a face-to-face under the auspicious of WHO still makes sense to me.

From: Edward Holmes [redacted]
Date: Tuesday, February 4, 2020 at 2:10 PM
To: Kristian Andersen [redacted]
Cc: Robert Garry [redacted], "rambaut [redacted]
Subject: Re: Summary - Invitation to edit

External Sender. Be aware of links, attachments and requests.

Works for me. Should I quickly check with Jeremy to see if he is happy for it to be circulated to the wider group?

Great job.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 5 Feb 2020, at 7:03 am, Kristian G. Andersen [redacted] wrote:

Did a final pass and I think it looks great.

Unless others have further comments, I'd say this is ready to go up the chain. Importantly, my assumption is that this **will not** be a document that is meant for public consumption, as that would require much more careful crafting and attention to specific wording of key concepts in the document (not really a task I think we could/should take on - that would be way, way more work).

K

On Tue, Feb 4, 2020 at 11:31 AM Garry, Robert F [redacted] wrote:

Gentlemen – I believe that the document is getting very clean.

Only a few minor points to address [or not] from my view.

I believe it is a cogent explanation why concerns were raised.

If there is a natural explanation for CoV, it needs to be found. A lot of unobserved transmission in animals/humans AND as yet unsampled Bat CoV variants (with whole or partial furin sites) must exist.

Some, perhaps more than a few, will not like it still since it allows that the nCoV may have arisen during cell culture passage in a lab (their labs).

Thanks for the great science...

b

From: Kristian Andersen [redacted]
Reply-To: Kristian Andersen <[redacted]
Date: Monday, February 3, 2020 at 9:36 PM

To: Robert Garry [redacted]
Cc: "edward.holmes [redacted], "rambaut [redacted]
Subject: Summary - Invitation to edit

External Sender. Be aware of links, attachments and requests.

[redacted] has invited you to **edit** the following document:

Error! Filename not specified.

Summary

Error! Filename not specified. Closing via link to this document as this needs to be safe. Should have a draft of the various sections shortly.

Open in Docs

Error! Filename not specified.

<Alongshan copy.pdf>

Message

From: Garry, Robert F [redacted]
Sent: 2/10/2020 3:51:18 PM
To: Kristian G. Andersen [redacted] Edward Holmes [redacted]
CC: Andrew Rambaut [redacted]
Subject: Re: More

All true.

But if Lipkin says higher ups are concerned and intel involved it's consistent with all we know too.

Not surprised Ego krewe (maybe Fouchier too) writing some sort of counter to the white paper with the allusion to scenario 3 "passage." Preemptive strike?

After a brief chat with Kristian after our NIH telecon I have to admit likewise that I don't really know the answers – maybe someone does. The data we have is just insufficient and even pango99 prob not helping (unless it magically has a furin cleavage site, which seems doubtful). I think the key may come from Guangdong. So, China Ag U Researchers culturing pangolin virus for undeterminable length of time makes me somewhat nervous.

From: Kristian Andersen [redacted]
Date: Monday, February 10, 2020 at 3:34 PM
To: Edward Holmes [redacted]
Cc: Andrew Rambaut [redacted], Robert Garry [redacted]
Subject: Re: More

External Sender. Be aware of links, attachments and requests.

Having known Bob for more than a decade I feel quite confident that he will make the connection between Butt Lesion and a certain Columbia professor.

I feel less confident that we will always be able to understand the references that Bob might himself be making at times... (note, a postgraduate degree in manga, anime, and comics may be required).

On Mon, Feb 10, 2020 at 1:27 PM Edward Holmes [redacted] wrote:

> Thanks mate.
>
> Thermonuclear ego explosion when those two are together.
>
> You had better explain the butt lesion ref to Bob if he doesn't know. A link to the New York Post article should do it.
>
> Professor Edward C. Holmes FAA FRS
> The University of Sydney
>
> On 11 Feb 2020, at 8:17 am, Kristian G. Andersen [redacted] wrote:
>
> Eddie - lemme know your favorite brand and I'll send you a fresh pair of jocks.
>
> Can't go wrong with the Grand Wizard of EgoHealth and Butt Lesion in the same room. Looking forward to it.
>
> K

On Mon, Feb 10, 2020 at 12:56 PM Edward Holmes [redacted] wrote:

He's about where we were a week ago. He's for escape.

He also said that Peter Daszak, grand wizard of EgoHealth, and some others were writing a piece saying the Wuhan lab were being persecuted.

I'll talk to Jeremy later.

Currently, I'm more concerned that I will run out of underpants.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 11 Feb 2020, at 7:52 am, Andrew Rambaut [redacted] wrote:

We should get him on the group. Will make it more entertaining and balance the German/Dutch a bit.

A

Sent from my phone. Apologies for brevity or illiteracy.

On 10 Feb 2020, at 21:11, Edward Holmes [redacted] wrote:

Ian Lipkin just called - very worried about the furin cleavage site and says that high ups are as well, inc. intel. Also saw the restriction site.

Actually, he was most vexed that he wasn't part of our discussion group. Classic. I think I'll send the doc.

I still have no power. Could be a week.

Professor Edward C. Holmes FAA FRS
The University of Sydney
The University of Edinburgh is a charitable body, registered in Scotland, with registration number SC005336.

Message

From: Garry, Robert F [redacted]
Sent: 2/11/2020 9:16:27 PM
To: Edward Holmes [redacted]
CC: Kristian G. Andersen [redacted] Andrew Rambaut [redacted]
Subject: Re: A few thoughts on the summary

Yes very interesting - publish!

I predict Kristian will soon have some better dN/dS data to add productively to the mix as well.

Stay agnostic...hope Ian can as well.

From: Edward Holmes [redacted]
Sent: Wednesday, February 12, 2020 2:57 AM
To: Garry, Robert F [redacted]
Cc: Kristian G. Andersen [redacted] Andrew Rambaut [redacted]
Subject: Re: A few thoughts on the summary

External Sender. Be aware of links, attachments and requests.

See my comments on Slack.

PROFESSOR EDWARD C. HOLMES FAA FRS
ARC Australian Laureate Fellow

THE UNIVERSITY OF SYDNEY
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School of Life & Environmental Sciences and School of Medical Sciences,
The University of Sydney | Sydney | NSW | 2006 | Australia
T [redacted]
E [redacted]

On 12 Feb 2020, at 1:47 pm, Garry, Robert F < [redacted] wrote:

Virologica Sinica
February 2018, Volume 33, Issue 1, pp 104–107| Cite as

Serological Evidence of Bat SARS-Related Coronavirus Infection in Humans, China

"The virus may have been circulating for a longer period and in a larger population than we postulate based on molecular assays. This could be tested using banked sera once we have specific assays."

SAmples in South China seropositive, but those from Wuhan seronegative.

From: Kristian G. Andersen [redacted]
Sent: Wednesday, February 12, 2020 2:24 AM
To: Edward Holmes [redacted]
Cc: Garry, Robert F [redacted] Andrew Rambaut [redacted]
Subject: Re: A few thoughts on the summary

External Sender. Be aware of links, attachments and requests.

Yup, all good - as long as we don't have to inspect his arse.

On Tue, Feb 11, 2020 at 6:06 PM Edward Holmes [redacted] wrote:

PROFESSOR EDWARD C. HOLMES FAA FRS
ARC Australian Laureate Fellow

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The University of Sydney | Sydney | NSW | 2006 | Australia
T [redacted]
E [redacted]

On 12 Feb 2020, at 1:00 pm, Garry, Robert F [redacted] wrote:

No problem from me...

From: Edward Holmes [redacted]
Sent: Wednesday, February 12, 2020 1:15 AM
To: Kristian G. Andersen [redacted] Garry, Robert F [redacted]; Andrew Rambaut [redacted]
Subject: Fwd: A few thoughts on the summary

External Sender. Be aware of links, attachments and requests.

From Ian about the Feb 7 summary.

Think we should add him as an author. Safety in numbers. In his own mind he brings a lot of gravitas…plus because he is involved in the GOF I think it add weights. Happy to be over-ruled though.

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E [redacted]

Begin forwarded message:

From: Ian Lipkin [redacted]

Subject: A few thoughts on the summary
Date: 12 February 2020 at 1:40:21 am AEDT
To: Eddie Holmes [redacted]

Eddie-
Call me whenever you wish.
Ian

Adaptation to humans
1. Animals in the Wuhan wildlife market may not be the zoonotic origin of the outbreak. It's also possible that an infected human involved in the wildlife trade transmitted the virus to people in the market. This might explain why the environmental sampling revealed more viral sequences on the West (seafood) than the East (terrestrial) side of the street. I don't see a way to test this possibility; nonethless, we could mention it.
2. The virus may have been circulating for a longer period and in a larger population than we postulate based on molecular assays. This could be tested using banked sera once we have specific assays.

Selection during passage
1. Are we suggesting that the furin cleavage site evolved from de novo mutations or through recombination?

On Feb 10, 2020, at 4:33 PM, Edward Holmes [redacted] wrote:

<Summary.Feb7.pdf>

Message

From: Edward Holmes [redacted]
Sent: 2/16/2020 2:38:46 AM
To: Garry, Robert F [redacted]
CC: Ian Lipkin [redacted] Andrew Rambaut [redacted] Kristian G. Andersen [redacted]
Subject: Re: Paper

External Sender. Be aware of links, attachments and requests.

Oh yes, the reviewers are easy…I think this is a slam dunk.

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E [redacted]

On 16 Feb 2020, at 7:36 pm, Garry, Robert F [redacted] wrote:

Yeah I know and that's a good choice for him.

So, as you know when you submit you'll need to suggest reviewers to include and exclude. Seems easy - there are some natural choices for both lists. Nature commentaries are peer reviewed iirc but I'm guessing they'll push this as fast as possible.

Sent from my iPhone

On Feb 16, 2020, at 2:29 AM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

I agree, and I offered, but he wants to remain independent.

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E [redacted]

On 16 Feb 2020, at 7:24 pm, Garry, Robert F [redacted] wrote:

No problem either count

Jeremy has been amazing leader-should be author

Sent from my iPhone

On Feb 16, 2020, at 2:18 AM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

Ah. I so, I can submit on his behalf.

Jeremy wants to add something to the acknowledgments.

Just seen this: no GISAID acknowledgment as far as I can tell:

https://www.tandfonline.com/doi/full/10.1080/20477724.2020.1725339

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On 16 Feb 2020, at 7:14 pm, Garry, Robert F [redacted] wrote:

One thing - I'm not sure when Kristian is returning to the connected world. Monday is a federal holiday.

Sent from my iPhone

On Feb 16, 2020, at 12:44 AM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

Thanks Bob!

Sorry about the typo. I'll let Kristian fix that one.

Cheers,

Eddie

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E [redacted]

On 16 Feb 2020, at 5:05 pm, Garry, Robert F [redacted] wrote:

Looking fine! Congrats all.

Minor: last sentence first paragraph covid-9 to covid-19

Sent from my iPhone

On Feb 15, 2020, at 10:46 PM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

All, attached is what I propose is the final version of this paper. I've just given it a final wash-and-brush-up. Looks great I reckon.

Can you please check your names, affiliations and acknowledgements.

I'll pass to Jeremy to see if he has any final comments and wants to be acknowledged.

This needs to go to Nature on Monday in somebody's time zone. Kristian I'll let you deal with this. You may need to provide more contact details. Figure also attached separately.

Cheers,

Eddie

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On 16 Feb 2020, at 12:09 pm, Garry, Robert F [redacted] wrote:

I formally agree.

Any guy that helps discover Jingmen tick viruses and Wuhan cricket virus must be trusted. Very important.

Going to dinner with my wife so will put down the phone.

Did I mention the Jingmen tick viruses have pretty spectacular mucin like domains? Would not have looks at CoVs otherwise.

Sent from my iPhone

On Feb 15, 2020, at 6:26 PM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

I will send through a final version that everyone can formally agree to later today. I'll also pass to Jeremy. Kristian can then do the formal submission, although I'll probably ping a copy to Magda and Clare anyway.

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T
E [redacted]

On 16 Feb 2020, at 11:22 am, Ian Lipkin [redacted] wrote:

Congratulations. It's a timely and well reasoned review.

Ian

On Feb 15, 2020, at 7:15 PM, Edward Holmes [redacted] wrote:

Fab.

Just need to sort out author order. Kristian 1st and probably should correspond as he's chatted with Clare? Bob, I was thinking you might go last? I'd be nervous about putting my name there as I am amateur on the specific virological stuff we discuss. I feel I have only contributed to the writing. I don't mind Andrew going last either.

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On 16 Feb 2020, at 11:03 am, Andrew Rambaut [redacted] wrote:

I am done. Added in all the references (I think).

A.

On 16 Feb 2020, at 00:01, Edward Holmes [redacted] wrote:

Right, I need to get this finalised. Can I suggest that people stop editing the Google Docs version within the next hour (noon Sydney time) and I'll finish everything in normal Word. Need to draw a line under this very soon.

Thanks!

Eddie

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E [redacted]

Andrew Rambaut
Institute for Evolutionary Biology
Ashworth Laboratories, University of Edinburgh, Edinburgh, EH9 3FL, UK

contact – [redacted] | http://tree.bio.ed.ac.uk | tel [redacted]

<Andersen.Nature Perspective.docx>

<Andersen.Figure 1.pdf>

Message

From: Edward Holmes [redacted]

Sent: 7/28/2020 4:23:46 AM

To: Kristian G. Andersen [redacted]

CC: Garry, Robert F [redacted] Andrew Rambaut [redacted]

Subject: Re: Teleconference

External Sender. Be aware of links, attachments and requests.

All, I've spoken to Jeremy and he wants a little more of the time-line incorporated, which helps make or case stronger. Also happens to be true. He's also agreed to be cc'd on the reply to Jon which is great because he will be able to confirm.

So, I've edited the draft email to Jon accordingly (Kristian, I've moved some sentences around).

Jeremy's comms person at Wellome also had some suggestions and I'll forward that in a sec.

Cheers,

Eddie

Hi Jon,

Here are the facts:

1. On Jan 27 Jeremy Farrar called one of us (Eddie) to say that some rumours were coming out of the US that the virus may be a lab escape and could he determine whether this had any scientific credibility. By coincidence, on Jan 31 Kristian independently contacted Eddie to note that there was some features in the SARS-CoV-2 genome that at the time appeared unusual, particularly the furin cleavage site and the receptor binding domain.

2. At this stage we thought it was wise to ask for additional opinion on this, so a conference call was rapidly arranged for Feb 1 (Feb 2 Eddie's time). There were indeed other coronavirus experts on the call, chosen by Jeremy and Eddie. It is worth pointing out at this point that the senior author on our paper - Bob Garry - has published a significant number of papers on coronaviruses, including on the SARS spike protein, and even commented on this on the virological.org website prior to the call taking place (https://virological.org/t/analysis-of-wuhan-coronavirus-deja-vu/357).

3. Clearly, some people on the call were very strongly of the opinion that the possibility of a lab escape was implausible and gave reasons why it should be dismissed (although there was also some initial confusion about whether we were referring to the crazy HIV origins theory that had just been touted - obviously we were not). Some of those comments we agreed with, others we did not.

4. A take-home message from the call was that we should investigate further and write a scientific paper to clearly set-out the background on the topic and our findings. Indeed, one the of emailed agenda items for discussion after the call was: "Advice on whether KA, AR, RG and EH should publish this".

Hence, we eventually wrote up our findings as a scientific (peer reviewed) paper. Critically, drafts of this paper were sent to all the people on the call, including those with the information that has been emailed to you. We have attached our first draft of what would eventually become our paper from Feb 7, which was circulated to everyone on the call. As you can see, it is essentially the basis of our final study and people on the call commented on it.

5. Very shortly after the call, the pangolin data came out. This was critical, and as Eddie wrote in an email to everyone on the call on Feb 9th:

"Personally, with the pangolin virus possessing 6/6 key sites in the receptor binding domain, I am in favour of the natural evolution theory."

With Andrew Rambaut replying:

"I am of the view that the natural selection hypothesis is the most likely (specifically the non-bat reservoir). And as Eddie mentioned this is becoming more likely from day to day with the pangolin story."

6. Hence, it is completely and utterly false to claim that we (i) all thought it was a lab escape, (ii) that we were corrected ("schooled") in our views by the coronavirus experts on the call, and (iii) then submitted a Nature paper without anyone else knowing about it. The truth is that we had a range of views among us, our paper included the pangolin data that was not available at the time of the call, and we circulated drafts of our document to everyone. Importantly, our study was an evolutionary study based on genomic information, which is the only way to investigate the origins of SARS-CoV-2 - we believe all the authors on our paper have a strong demonstrated record in answering exactly those types of questions for a multitude of viruses.

7. We also categorically deny that we were "spreading the rumor" that the virus was human engineered. As you can see from point 1 this did not come from us. Indeed, at the time, there were indeed rumours - which persists to this day - that SARS-CoV-2 was an engineered virus, but these certainly did not come from us. As you know, the White House OSTP asked for expert opinions on this question too (spurred by the HIV nonsense preprint), and Kristian was part of that panel (https://www.the-scientist.com/news-opinion/lab-made-coronavirus-triggers-debate-34502). Our study directly addressed these rumours in a scientific way by considering that a lab escape could have occurred. We did not dismiss this possibility out of hand, but we scientifically investigated it.

8. We strongly reject the idea that we should not have raised nor discussed the possibility of lab escape: as scientists we have to present all the data and discuss it openly. That's what we did. To not have considered or mentioned the possibility of a lab escape would have been negligent. Is the person who emailed you seriously suggesting that we should not have discussed these issues? Wouldn't that be a cover-up? Indeed, the great irony is that 99.9% of the feedback we have received on our paper - including death threats - are people accusing us of dismissing the lab escape theory too quickly. Can you imagine if we had not mentioned - or considered - it all as suggested by some "coronavirus experts"?

To is, this clearly appears to be a case of sour grapes based on half-truths that lack the full history, gossip, and likely stimulated by your recent (great) article with quotes from us on the questions you raised with Dr. Zhengli. It's telling that the person who emailed you is anonymous. We have absolutely no problem with people knowing that our views on this issue have evolved as more data have appeared - and continues to evolve to this day, should more data become available. That's

science. And it's the only way to do it well. Indeed, we have told our history of thinking on this to many people: the way we set this up was a study of alternative hypotheses equally weighted priors, which we tested - our posterior clearly favors the hypothesis that this is a natural virus. As far as we can tell we are only 'guilty' of following the proper scientific method - but maybe we offended an ivory tower "coronavirus expert" in the process. It likely won't be the last time.

Best,

Eddie and Kristian

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T
E [redacted]

On 28 Jul 2020, at 6:21 pm, Andrew Rambaut [redacted] wrote:

I agree - most likely Ron doing the leaking. Whoever it was that talked to the emailer was indignant that 'non-coronavirus-experts' were involved. I can't see any of the others having this sort of pompous, arrogant view of the world. Marion approached me well after this to help analyse the Dutch data. Christian I have worked with before on MERS. I doubt even that Ron was that bothered - probably just told the story to whoever it was and misremembered or 'enhanced' it for effect.

A

On 28 Jul 2020, at 03:58, Edward Holmes [redacted] wrote:

Pohlmann as on it and very good. Christian was also v. interested in the furin cleavage site (I've other emails).

Despite this, I'm 100% sure it is Ron who leaked it - he was the most angry - and I still think it was like Baric who emailed Jon Cohen.

I just thought "I would conclude that a follow-up discussion on the possible origin of 2019-nCoV would be of much interest" was very interesting.

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T [redacted]
E [redacted]

On 28 Jul 2020, at 12:54 pm, Kristian G. Andersen [redacted] wrote:

Interesting - I don't actually remember this from Ron. Was Stefan Pohlmann on the call too? Surely he knows Ralph very well.

On Mon, Jul 27, 2020 at 7:47 PM Edward Holmes [redacted] wrote:
Ron thought it was useful at the time.

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T [redacted]
E [redacted]

Begin forwarded message:

From: "R.A.M. Fouchier" [redacted]
Subject: Re: Teleconference
Date: 2 February 2020 at 7:30:12 pm AEDT
To: Jeremy Farrar [redacted], "Fauci, Anthony (NIH/NIAID) [E]" [redacted]>, Patrick Vallance [redacted]
Cc: "Drosten, Christian" [redacted], "M.P.G. Koopmans" [redacted], Edward Holmes [redacted], "spoehlmann[redacted], Andrew Rambaut [redacted], "Kristian G. Andersen" [redacted], Paul Schreier [redacted] "rfgarry[redacted], "Ferguson, Mike" [redacted] Francis Collins <collinsf[redacted], "lawrence.tabak[redacted] Josie Golding [redacted]

Dear Jeremy and others,

This was a very useful teleconference. Given the evidence presented and the discussions around it, I would conclude that a follow-up discussion on the possible origin of 2019-nCoV would be of much interest. However, I doubt if it needs to be done on very short term, given the importance of other activities of the scientific community, WHO and other stakeholders at present. It is my opinion that a non-natural origin of 2019-nCoV is highly unlikely at present. Any conspiracy theory can be approached with factual information. I have written down some of the counter-arguments. It is a bit long (below) but wanted to share it with you anyway.

Thanks for organizing this on such short notice,
Kind regards
Ron

Ron's notes:
An accusation that nCoV-2019 might have been engineered and released into the environment by humans (accidental or intentional) would need to be supported by strong data, beyond reasonable doubt. It is good that this possibility was discussed in detail with a team of experts. However, further debate about such accusations would unnecessarily distract top researchers from their active duties and do unnecessary harm to science in general and science in China in particular. At present, the arguments that nCoV-2019 could have emerged from an animal source is much stronger than other possibilities.

Observations about the genome that were inferred to be suggestive for a non-animal origin:
1. HIV-like sequences in the spike protein.
2. Level of mutations in the spike protein region.
3. Presence of a furin cleavage site in the middle of spike
4. BamH1 restriction site at the end of the spike sequence
5. An F-to-Y substitution in the receptor-binding domain of spike
6. Potential O-linked glycan sites protecting the cleavage site of spike

1. The biorxiv publication by Prashant Pradhan and colleagues from Delhi ("Uncanny similarity of unique inserts in the 2019-nCoV spike protein to HIV-1 gp120 and Gag") has already been heavily debated on biorxiv and virological.org. The similarity between the inserts in 2019-nCoV spike and sequences of HIV-1 is accidental. These are very short insert sequences that are highly similar to many Genbank entries. Such similarities are explained by pure chance alone.
2. Andrew Rambaut analyzed the level of mutations in the spike region of SARS-CoV with that of its closest bat virus relative and of 2019-nCoV and its closest bat virus relative. The level of mutations between the two pairs of viruses was in the same range. Thus, this level of mutations can arise under circumstances of natural emergence.
3. Bat coronaviruses generally do not have a furin cleavage site in the spike protein. Some human coronaviruses do have a furin cleavage site in spike, which must have evolved naturally. As animal reservoir and spill-over hosts are highly under-sampled, the presence of a furin cleavage site in spike in such species is unknown. When coronaviruses jump host barriers, this frequently involved adaptation of cleavage sites that may be targeted by various proteases. Given the presence of furin-like sites in human coronavirus and the mutation of protease cleavage sites upon coronavirus host-jumps in general, a natural origin of the furin site is certainly not impossible.
4. The BamHI restriction endonuclease site evolved due to a single (silent) nucleotide substitution as compared to the closest relative bat virus genome sequence. Restriction sites of 6 nucleotides can be found in every sequence, all over the genome, when 1 of the 6 positions is allowed to vary. We now find BamHI, next time it might be one of the plethora of other 6-nucleotide sequence motifs. This can be explained by pure chance.
5. The F-Y substitution in the spike receptor binding domain was observed in mouse-adapted SARS-CoV and in 2019-nCoV. It is generally absent in bat coronaviruses. This substitution is associated with host adaptation in mice. It may point to (natural) host adaption of 2019-nCoV (in mice, humans or unknown hosts) as well. It is possible that scientists would like to test the effect of F-Y because it was found in a mouse adaptation experiment. However, the logical way to test it would be in the original (SARS-CoV) virus backbone. There is no other reason to insert the F-Y substitution in an engineered virus.
6. It is unclear if the potential O-linked glycosylation sites 1) are used during glycosylation; 2) have a functional role for the spike protein; 3) were present in the ancestral virus from the original host. This is not an argument in the discussion on the origin of 2019-nCoV.

Additional arguments:
A. All focus is on spike. Spike is a highly variable protein in general, crucial for host adaptation and under strong natural selection.

B. The virus backbone (beyond spike) is not an indicator of a human source of 2019-nCoV emergence. The virus itself has not been described or characterized previously and no reverse genetics system has been described for this virus. Any scientist wanting to investigate spike function (e.g. to study protease cleavage or the receptor-binding domain) would have used a well-characterized reverse genetics system that is already available (making accidental lab-escape unlikely). Anyone with malicious intend would have used a well-characterized virulent strain (SARS-CoV, MERS-CoV) described and characterized (by others) in the literature.

C. The patterns of mutations we observe in the receptor-binding domain and the protease cleavage sites of spike are typical for host-switched naturally evolving viruses. We can infer it for the naturally evolved human coronaviruses, we have seen it for the natural zoonoses of SARS-CoV and MERS-CoV. Convergent (parallel) evolutionary events are common in virology. Also for influenza, we see the same mutations emerge during the pandemics of 1918 (H1N1), 1957 (H2N2) and 1968 (H3N2), in the 2013 zoonotic H7N9 virus and e.g. an epizootic in seals in 2014 (H10N7). Regardless of the divergent subtype, we see identical substitutions in the receptor-binding domains, identical substitutions in polymerase, and non-identical substitutions with identical phenotypic consequences (e.g. stability) in the genome. The fact that we (think we) see recognizable traits in spike does not mean it must be man-made.

D. We do not know the source of 2019-nCoV. There is "~30 years of evolutionary gap" between 2019-nCoV and the closest bat virus relative. These 30 years may have been in any host. We have no idea what might have happened (in evolutionary sense) between BatCov/RaTG13 and 2019-nCoV. We should rest our case until we have a close relative of 2019-nCoV.

Van: Jeremy Farrar [redacted]
Datum: zaterdag 1 februari 2020 om 21:59
Aan: "Fauci, Anthony (NIH/NIAID) [E]" [redacted], Patrick Vallance [redacted]
CC: Christian Drosten [redacted], "M. Koopmans" [redacted] "R.A.M. Fouchier" [redacted] Edward Holmes [redacted] "spoehlmann [redacted], Andrew Rambaut [redacted], "Kristian G. Andersen" [redacted] Paul Schreier [redacted], "rfgarry [redacted] "Ferguson, Mike" [redacted], Francis Collins <collinsf@ [redacted] "lawrence.tabak [redacted] Josie Golding [redacted]
Onderwerp: Re: Teleconference

Thank you to everyone for joining.

There is clearly much to understand understand in this. This call was very helpful to hear some of our current understanding and the many gaps in our knowledge. I do not believe this is a question of a binary outcome, it is more a question of "What are the evolutionary origins of 2019-nCoV, important for future risk assessment and understanding of animal/human coronaviruses".

I do know there are papers being prepared, there will media interest and there is already chat on Twitter/WeChat.

We on this call are not the only ones with scientific expertise in this area and this was an ad hoc group that came together to air some thoughts. It is clearly not the sole group to take this forward, that will need a broader range of imput and a respected international body to ask an expert group to explore this, with a completely open mind. In order to stay ahead of the conspiracy theories and social media I do think there is an urgency for a body to convene such a group and commission some work to – (draft) "To understand the evolutionary origins of 2019-nCoV, important for this epidemic and for future risk assessment and understanding of animal/human coronaviruses".

In other words a completely open minded and neutral question bringing in the best minds, and under the umbrella of a respected international agency

I hope that is a reasonable approach, please send any thoughts or suggestions.

Once again, thank you for making time over a weekend and for such an informed discussion on a complex issue.

Thank you and best wishes Jeremy

From: Jeremy Farrar [redacted]
Date: Saturday, 1 February 2020 at 15:34
To: "Fauci, Anthony (NIH/NIAID) [E]" [redacted], Patrick Vallance [redacted]
Cc: "Drosten, Christian" [redacted], Marion Koopmans [redacted], "r.fouchier[redacted], Edward Holmes [redacted], "spoehlmann[redacted], "a.rambaut[redacted], "Kristian G. Andersen" [redacted], Paul Schreier [redacted], "rfgarry[redacted], <rfgarry[redacted], Michael FMedSci [redacted]
Subject: Teleconference

1st February (2nd Feb for Eddie)
Information and discussion is shared in total confidence and not to be shared until agreement on next steps.

Dial in details attached.
Please mute phones.
I will be on email throughout – email Paul or I Paul if any problems
If you cannot make it, I will phone you afterwards to update.

One Hour

6am Sydney
8pm CET
7pm GMT
2pm EST
11am PST
(Hope I have the times right!)

Thank you for the series of calls and for agreeing to join this call.

Agenda

- Introduction, focus and desired outcomes - JF
- Summary – KA
- Comments – EH
- Q&A – All
- Summary and next steps - JF

Kristian Anderson
Bob Garry - I have not been able to contact Bob. Please forward if you can.
Christian Drosten
Tony Fauci
Mike Ferguson
Ron Fouchier
Eddie Holmes
Marion Koopmans
Stefan Pohlmann
Andrew Rambaut
Paul Schreier
Patrick Vallance

From: Edward Holmes
Sent: Monday, February 10, 2020 5:06 PM EST
To: Ian Lipkin
Subject: Re: Please call me

I agree. Talking to Jeremy (Farrar) in a few minutes and I'll get back in touch after.
It is indeed striking that this virus is so closely related to SARS yet is behaving so differently. Seems to have been pre-adapted for human spread since the get go. It's the epidemiology that I find most worrying.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 11 Feb 2020, at 9:01 am, Ian Lipkin [redacted] wrote:

It's well reasoned and provides a plausible argument against genetic engineering. It does not eliminate the possibility of inadvertent release following adaptation through selection in culture at the institute in Wuhan. Given the scale of the bat CoV research pursued there and the site of emergence of the first human cases we have a nightmare of circumstantial evidence to assess.

Ian

On Feb 10, 2020, at 4:33 PM, Edward Holmes [redacted] wrote:

Hi Ian,
Here's the document we wrote a few days ago. Things are moving so quickly that is hard to keep up. Comments welcome. I favour natural evolution myself, but the furin cleavage site is an issue. I'll have a chat with Jeremy in a little while to see if can get you more directly involved.
Pangolins. Key observations are that:
(i) Two sets of pangolins independently collected from different Chinese provinces both have CoVs in the same clade as 2019-nCoV. What are the odds?
(ii) In the receptor binding domain the Guandong pangolins are the closest to 2019-nCoV, with 6/6 of the key mutations (only 1/6 in the closest bat sequence).
Absolutely not proven that the pangolin is the intermediate host, but the points above make it a credible choice for additional investigation.
Agree it might not be clear - very rushed at the end.
Cheers,
Eddie

PROFESSOR EDWARD C. HOLMES FAA FRS

ARC Australian Laureate Fellow

THE UNIVERSITY OF SYDNEY
Marie Bashir Institute for Infectious Diseases & Biosecurity,
School of Life & Environmental Sciences and School of Medical Sciences,
The University of Sydney | Sydney | NSW | 2006 | Australia
T [redacted]
E [redacted]

On 10 Feb 2020, at 9:08 pm, Ian Lipkin [redacted] wrote:

When you are back up for air I need to speak on two issues that concern you directly.

Ian

On Feb 9, 2020, at 4:14 PM, Edward Holmes [redacted] wrote:

Ian, sorry, it won't be today.

Huge storm in Sydney: no power for 24 hours, flood water 1 cm from house, transport buggered.

I need to sort this out.

Phone will die soon.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 10 Feb 2020, at 4:47 am, Ian Lipkin [redacted] wrote:

Eddie-
Please call me. [redacted]
Thanks

Ian

<Summary.Feb7.pdf>

From: Jeremy Farrar
Sent: Monday, February 17, 2020 10:42 AM EST
To: Ian Lipkin
Subject: Re: Connections COVID-19

Yes I know and in US - why so keen to get out ASAP.
I will push Nature

On 17 Feb 2020, at 16:41, Ian Lipkin [redacted] wrote:

Jeremy,
Thanks for shepherding this paper. Rumors of bioweaponeering are now circulating in China.

Ian

On Feb 17, 2020, at 10:28 AM, Jeremy Farrar [redacted] wrote:

When you have been able to update with the extra sentence and data can you forward on to me - keep that WHO see ASAP.

On 17 Feb 2020, at 12:09, Garry, Robert F [redacted] wrote:

This also means less concern about the Baric scenario where another mutation could kick SARS-CoV-2 into another gear. Binding already optimal.

Sent from my iPhone

On Feb 17, 2020, at 4:51 AM, Andrew Rambaut [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

Fixed.

On 17 Feb 2020, at 10:47, Edward Holmes [redacted] wrote:

Hang on…should be " recent binding studies indicate" not indict. One of the new edits.

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T [redacted]
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Looks great!

Sent from my iPhone

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OK. Here is the version with all the changes and the updated references. As I manually changed the numbers (adding reference 7 and incrementing all numbers above 6) I would appreciate a check.
I also simplified Bob's text below.
I am going to start formatting this in virological so let me know if you spot any issues.
A.

On 17 Feb 2020, at 10:25, Garry, Robert F [redacted] wrote:

Another better version:
While these analyses suggest that SARS-CoV-2 may be capable of binding the human ACE2 receptor with high affinity, the interaction is not predicted to be optimal[1]. Additionally, several of the key residues in the RBD of SARS-CoV-2 are different to those previously described as optimal for human ACE2 receptor binding[6]. In contrast to these computational assessments recent binding studies indict that SARS-CoV-2 binds with high affinity to human ACE2 (insert ref). SARS-COV-2 spike does not appear to have an artificial sequence designed in the laboratory. An artificial sequence would have used interactions predicted to be optimal for interaction with its receptor. Instead the

SARs-CoV-2 spike appears to be the result of selection on human or human-like ACE2 permitting another optimal binding solution to arise. This is strong evidence that SARS-CoV-2 is *not* the product of genetic engineering.

From: Andrew Rambaut [redacted]
Sent: Monday, February 17, 2020 10:23 AM
To: Garry, Robert F [redacted]
Cc: Eddie Holmes [redacted]; Kristian G. Andersen [redacted]; Ian Lipkin [redacted]; Jeremy Farrar [redacted]
Subject: Re: Connections COVID-19

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OK. I will add that. I am editing the document now.
Andrew

On 17 Feb 2020, at 10:20, Garry, Robert F [redacted] wrote:

While these analyses suggest that SARS-CoV-2 may be capable of binding the human ACE2 receptor with high affinity, the interaction is not predicted to be optimal[1]. Additionally, several of the key residues in the RBD of SARS-CoV-2 are different to those previously described as optimal for human ACE2 receptor binding[6]. In contrast to these computational assessments recent binding studies indict that SARS-CoV-2 binds with high affinity to human ACE2 (insert ref). SARS-COV-2 spike does not appear to have an artificial sequence designed in the laboratory would have been designed for optimal binding and used interactions predicted to be optimal. Instead it appears to be the result of selection on human or human-like ACE2 permit another optimal binding solutions to arise. This is strong evidence that SARS-CoV-2 is *not* the product of genetic engineering.

From: Garry, Robert F [redacted]
Sent: Monday, February 17, 2020 10:02 AM
To: Edward Holmes [redacted]
Cc: Kristian G. Andersen [redacted]; Andrew Rambaut [redacted]; Ian Lipkin [redacted]; Jeremy Farrar [redacted]
Subject: Re: Connections COVID-19

put the "While these" back

From: Edward Holmes [redacted]
Sent: Monday, February 17, 2020 9:49 AM
To: Garry, Robert F [redacted]
Cc: Kristian G. Andersen [redacted]; Andrew Rambaut

[redacted]; Ian Lipkin [redacted]; Jeremy Farrar [redacted]
Subject: Re: Connections COVID-19

External Sender. Be aware of links, attachments and requests.

Ok. Pass a draft to me and I'll give it a quick read through.
No way I can stay up to your levels...

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

On 17 Feb 2020, at 8:47 pm, Garry, Robert F [redacted] wrote:

agreed - i'm up - who needs to sleep
will take very quick swing at it now - yes a sentence or two will likely do
15 minutes i'll be back

From: Edward Holmes [redacted]
Sent: Monday, February 17, 2020 9:45 AM
To: Garry, Robert F [redacted]
Cc: Kristian G. Andersen [redacted]; Andrew Rambaut [redacted]; Ian Lipkin [redacted]; Jeremy Farrar [redacted]
Subject: Re: Connections COVID-19

External Sender. Be aware of links, attachments and requests.

Bob, if you or someone else wants to add a sentence now that's ok (refs. will need to change as well), but we must get it out today. Things are moving/changing so rapidly that we are always going to be out of date. We need to draw a line somewhere.

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]

E [redacted]

On 17 Feb 2020, at 8:39 pm, Garry, Robert F [redacted] wrote:

New preprint not affect any of the other three scenarios for selection on a human or human like ACE2, but a stronger still argument against bioengineering imo.

Sent from my iPhone

On Feb 17, 2020, at 2:50 AM, Edward Holmes [redacted] wrote:

External Sender. Be aware of links, attachments and requests.

All,
We have the green light to preprint.
Kristian - even though bioRxiv deals with primary research papers I still feel we should send it there.
Andrew - I think you can put this in Virological and do some precision tweeting.
Very interesting to see the new ACE2 paper.

Best wishes,
Eddie

PROFESSOR EDWARD C. HOLMES FAA FRS
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T [redacted]
E [redacted]

Begin forwarded message:

From: Clare Thomas [redacted]
Subject: RE: Connections COVID-19
Date: 17 February 2020 at 7:07:01 pm AEDT
To: Edward Holmes [redacted], Magdalena Skipper [redacted]

Hi Eddie,

Thanks for this. I agree that you should deposit the preprint asap. I can see it in our system so I'll send it for expedited review today.

If the refs are positive it will likely need revising as it already seems out of date. See the preprint below, for example, which appeared on Saturday and which says that SARS-CoV-2 binds with higher affinity to ACE2 than SARS-CoV. And of course if the second pangolin paper surfaces that would also affect the conclusions, if their press release is to be believed.

https://www.biorxiv.org/content/10.1101/2020.02.11.944462v1

Anyway, thanks again for sending this and I'll try to return a decision soon.

All the best,

Clare

<Andersen.Nature Perspective.Final_v2.docx>

<Andersen.Nature Perspective.Final_v2.docx>

From: Garry, Robert F
Sent: Monday, February 17, 2020 12:37 PM EST
To: Jeremy Farrar; Kristian G. Andersen
CC: Andrew Rambaut; Eddie Holmes; Ian Lipkin
Subject: Re: Connections COVID-19

Ian suggested a press release – it's very appropriate under the circumstances. Who will draft?

From: Jeremy Farrar [redacted]
Date: Monday, February 17, 2020 at 11:35 AM
To: Kristian Andersen [redacted]
Cc: Andrew Rambaut [redacted], Robert Garry [redacted], Eddie Holmes [redacted], Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

External Sender. Be aware of links, attachments and requests.

Reason I ask about when to post is to coordinate press briefings etc etc ….to make sure the key messages are reasonably reported…

From: Jeremy Farrar [redacted]
Date: Monday, 17 February 2020 at 18:32
To: "Kristian G. Andersen" [redacted]
Cc: "a.rambaut@ed.ac.uk" [redacted], "Garry, Robert F" [redacted], Edward Holmes [redacted] Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

No preference – whatever you all think best.

When do you plan to post?

From: "Kristian G. Andersen" [redacted]
Date: Monday, 17 February 2020 at 18:30
To: Jeremy Farrar [redacted]
Cc: "a.rambaut@ed.ac.uk" [redacted], "Garry, Robert F" [redacted], Edward Holmes [redacted], Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

The bioRxiv unfortunately does not accept perspectives/reviews/comments - only original research papers so this, per standard policies, can't go on there. For that reason, my preference is to keep this on Virological and use that as the channel for dissemination, but if there's a need to try and bypass normal bioRxiv policies I can definitely reach out to Richard and John to ask them. I'm leading their efforts for

better screening of outbreak-related preprints and have another email out to them so can definitely bring it up. Jeremy, what's your preference?

K

On Mon, Feb 17, 2020 at 9:22 AM Jeremy Farrar [redacted] wrote:

> Thank you
>
> Any idea when likely to be released on pre-print server?
>
> Is tomorrow OK?
>
> Thinking about the publicity of it….

From: "Kristian G. Andersen" [redacted]
Date: Monday, 17 February 2020 at 18:11
To: Jeremy Farrar [redacted]
Cc: [redacted] "Garry, Robert F" [redacted],
Edward Holmes [redacted], Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

Sure, attached.

K

On Mon, Feb 17, 2020 at 9:02 AM Jeremy Farrar [redacted] wrote:

> Sorry to micro-manage/microedit!
>
> But would you be willing to change one sentence?
>
> From
> It is **unlikely** that SARS-CoV-2 emerged through laboratory manipulation of an existing SARS-related coronavirus.
> To
> It is **improbable** that SARS-CoV-2 emerged through laboratory manipulation of an existing SARS-related coronavirus.

From: [redacted]
Date: Monday, 17 February 2020 at 17:56
To: "Kristian G. Andersen" [redacted]
Cc: Jeremy Farrar [redacted], "Garry, Robert F" [redacted],
Edward Holmes [redacted], Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

Sorry. This is the final version (v2.2).

Sent from my phone. Apologies for brevity or illiteracy.

> On 17 Feb 2020, at 16:52, Kristian G. Andersen [redacted] wrote:
>
> Just corrected a few more typos - but yes, I believe this is the final version for now. I'm sure Nature will have plenty of edits.
>
> K
>
> On Mon, Feb 17, 2020 at 8:47 AM Jeremy Farrar [redacted] wrote:
>
> Andrew – is this the 'final' draft, pending any changes at Nature – with the additional information?

From: [redacted]
Date: Monday, 17 February 2020 at 17:08
To: Jeremy Farrar [redacted], "Garry, Robert F" [redacted], Edward Holmes [redacted], "Kristian G. Andersen" [redacted], Ian Lipkin [redacted]
Subject: Re: Connections COVID-19

Dear all,

I think this is now the same version as on Virological. First author's name corrected, 'SARs' corrected. Figure updated (and legend corrected).

Andrew

> On 17 Feb 2020, at 15:28, Jeremy Farrar [redacted] wrote:
>
> When you have been able to update with the extra sentence and data can you forward on to me - keep that WHO see ASAP.
>
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This also means less concern about the Baric scenario where another mutation could kick SARS-CoV-2 into another gear. Binding already optimal.

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Fixed.

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Hang on…should be " recent binding studies indicate" not indict. One of the new edits.

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While these analyses suggest that SARS-CoV-2 may be capable of binding the human ACE2 receptor with high affinity, the interaction is not predicted to be optimal[1]. Additionally, several of the key residues in the RBD of SARS-CoV-2 are different to those previously described as optimal for human ACE2 receptor binding[6]. In contrast to these computational assessments recent binding studies indict that SARS-CoV-2 binds with high affinity to human ACE2 (insert ref). SARS-COV-2 spike does not appear to have an artificial sequence designed in the laboratory. An artificial sequence would have used interactions predicted to be optimal for interaction with its receptor. Instead the SARs-CoV-2 spike appears to be the result of selection on human or human-like ACE2 permitting another optimal binding solution to arise. This is strong evidence that SARS-CoV-2 is *not* the product of genetic engineering.

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Anyway, thanks again for sending this and I'll try to return a decision soon.

All the best,

Clare

<Andersen.Nature Perspective.Final_v2.docx>

<Andersen.Nature Perspective.Final_v2.docx>

<Andersen.Nature Perspective.Final_v2.2.docx>

From: Chen, Ping (NIH/NIAID) [E]
Sent: Wed, 6 Aug 2014 11:02:02 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted]
Subject: Harbin_Wuhan_China_Global Health Security
Importance: High

Hi [redacted] and [redacted] (6)

I had a meeting with [redacted] and [redacted] updated me with regarding the activities involving Global Health Security Agenda. China's National Health and Family Planning Commission (Ministry of Health) and China CDC are supportive and should commit to be a part of the network. We do want to expand the Chinese participation in the network to include other partners and sectors, including agriculture and veterinary. If you recall, [redacted] (6) sent us a message about the possibility of [redacted] visiting the Harbin Veterinary Institute and Wuhan Institute of Virology in China. Although [redacted] visit to China has been canceled, the thinking of involving these two institutes in the GH security is still on the agenda. [redacted] is considering visiting the institutes (with a team from Beijing) and having direct conversation with the leadership of the institutes prior to the late Sept GH Security meeting in Washington, if possible. We know Harbin Veterinary Institute is part of the Emory CEIRS center. We could not so far identify any direct NIAID collaboration with the Wuhan Institute of Virology (WIV). However, from a quick search we found Dr. [redacted] of University of Texas at Galveston and Dr. [redacted] of the Hudsonalpha Institute of Biotechnogy at University of Alabama at Birmingham recently visited WIV. Since I could not access the Grads database (from my office in the embassy) I couldn't find out whether they received NIAID funding. [redacted] is the head of the national lab at Galveston and I believe NIAID funded the establishment of the lab (biosecurity lab). I just sent a message to the people at the facility group in OBRRTR, DMID, to see if the Galveston lab still gets our funding for the maintenance of the lab. And please find if both [redacted] and [redacted] have any NIAID funded grants. What [redacted] (6) and I are trying to do now is to find a lead way to contact the institutes' leadership to arrange visits in a very short time. [redacted] ends her position soon and will stay around in Sept. to do the close out and I am leaving for US on the 20th. If possible, we want to squeeze in a trip on the 18 and 19 of this month.

The purpose of the visit is for GH Security and has little to do with the NIAID funded programs. We would very much appreciate that you get back to us as soon as possible.

Thank you,

Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: +[redacted]
Cell: +[redacted]
U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District, 100600
Beijing, China
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 11 Aug 2014 02:15:28 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Chiina Activity update

Hi [redacted] and [redacted]
Here are last week's activity update.
1. facilitated [redacted] for possible visits to Harbin Veterinary Institute (HVI) and Wuhan Institute of Virology (WIV) for the Global Health Security Agenda. We already had a few email exchanges on this one. As to Monday morning, I still haven't received contact info for HVI. I did get a short message from BUGS saying they would get back to me as soon as possible on Friday. I thought I would hear from them Saturday morning but nothing. I would expect to hear something tonight or tomorrow morning. I contacted the facility group ([redacted] and [redacted] in OBRRTR (used to be OBRA, my old group, also in DMID) for contacts in WIV and I got immediate assistance. I received contacts from [redacted] and he also wrote a note to me expressing his willingness for futher collaboration with WIV and possible involvement in GHSA. I will forward his letter to you. [redacted] is making contact to the institute to arrange a possible visit for the 18 and 19. I probably will go on the trip.
2. Influenza meeting. I asked [redacted] to initiate the meeting application process with NSFC. I have come up with a list of potential foreign speakers for the new flu treatment and hope DMID would help with flu vaccine talks. On my list, I have only one potential speaker from intramural fle vaccine group on influenza challenge study and rest them are non-fed. One has a contract with OBRRTR.
3. Started learning about biological sample shipment from china. [redacted] thinks this is a very useful information to know as we do get questions on how to share biological samples for across-oceane collaborations. I contacted US CDC office and one of its local staff connected me to a lady working for World Courier. She knows a lot about shipping biological samples (both infectious and non-infectious) out of China and her company is perhaps the only one would do the shipping (FedEx won't). It looks like the process for sharing human samples is so cumbersome that it would consider not possible. For animal samples it would be easiers as it doesn't need to get permission from China's Human Genetic Resources Commission, which is considered the hardest step. I am continuously exploring the processes and requirements. Would be a ongoing learning process. I also asked for past experience from [redacted] and [redacted] had never done it and [redacted] had. I will call her while I am back in the States (only 3 hours time difference as compared to 15 hours time difference. hard to find a call time).
4. I am working on various possible opportunities with GIRD as I outlined in my earlier messaget this morning in response to [redacted] comments on NIH-MOST. This can be a long term on-going thinking process.
5. I sent you a message on this TCM APEC meeting, seeking for your input. Any response? I need to give the APEC organizer a response soon.
Hope to talk to you tonight.
Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: [redacted]
Cell: [redacted]
U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District, 100600

Beijing, China
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 11 Aug 2014 09:30:40 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Fw: Contact to Wuhan Institute of Virology
Importance: High

FYI.
The message from [redacted] of UTMB from him we got the contacts for WIV.

Ping

----- Original Message -----
From: [redacted]@UTMB.EDU]
Sent: Friday, August 08, 2014 09:24 AM Eastern Standard Time
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] <[redacted]@UTMB.EDU>; [redacted] <[redacted]@UTMB.EDU>
Subject: RE: Contact to Wuhan Institute of Virology

Ping,

As indicated, we have a post doc from the Chinese Academy of Sciences, Dr [redacted] working in our lab and undergoing training for both research in our BSL4 facilities as well as orientation to the maintenance and operations of a BSL4 facility. She is part of a larger initiative I've been developing to form long-term scientific and technical collaborations with the new BSL4 laboratory now nearing completion in Wuhan, which will be under the direction of Dr [redacted] I have met with Dr [redacted] repeatedly while in Wuhan and he has expressed interest in visiting the GNL sometime soon, which I welcome. [redacted] and her mentor, Dr [redacted] will likely be traveling to Wuhan sometime in the next 6 months to explore collaborative research activities that they might jointly pursue when [redacted] returns to Wuhan. On her return, she will likely also be involved in the oversight of laboratory operations based on her experience gained here. All of this to say that we are already attempting to build the kind of partnership that I think is envisioned under the GHSA. I hope that in your dealings with the scientists from Wuhan, and especially Dr [redacted] that you will keep our efforts in mind and look for opportunities where our partnership might be strengthened under the GHSA. Clearly considering support for the joint studies we are attempting to develop would be a potential early win for all of us. We have invested considerably in our partnership with the CAS in Wuhan and we are anxious to ensure its long-term success.

Thanks, [redacted]

[redacted]
Director
Galveston National Laboratory
University of Texas Medical Branch
Galveston, TX 77555-0610
[redacted]
[redacted]@utmb.edu

-----Original Message-----
From: Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov]

Sent: Thursday, August 07, 2014 9:48 PM
To: [redacted] W.
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: Contact to Wuhan Institute of Virology

Thank you very much Dr. [redacted] for your quick response. We really appreciate your help.

Please contact me next time you visit China.

Best Regards,

Ping

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[redacted]@state.gov<mailto:[redacted]@state.gov>

From: [redacted] [redacted] [redacted] [redacted]@UTMB.EDU]
Sent: Friday, August 08, 2014 3:22
To: Chen, Ping (NIH/NIAID) [E]
Subject: RE: Contact to Wuhan Institute of Virology

Try these guys. I'm not clear on where the institute of virology sits now, but I think it's part of the University, thus [redacted] is probably the most appropriate person to contact. [redacted] is at the Chinese Academy of Sciences and is the director of their new BSL4 facility under construction outside Wuhan. Both the CAS and the new lab are physically located in sites separate from the University.

Good luck,

[redacted]
(6)

[redacted]
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Galveston, TX 775550610
[redacted]
[redacted]@utmb.edu

[redacted]
Professor and Dean of the School of Basic Medical Sciences Professor of the College of Life Sciences Wuhan University P.R. China
E-mail: [redacted]@whu.edu.cn<mailto:[redacted]@whu.edu.cn>
Tel: [redacted] b (6)

From: Chen, Ping (NIH/NIAID) [E] [mailto:[redacted]@niaid.nih.gov]
Sent: Thursday, August 07, 2014 10:16 AM
To: [redacted]
Cc: [redacted]@state.gov); [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Contact to Wuhan Institute of Virology
Importance: High

Dear [redacted]

First let me express my sincere thanks for your immediate response to our request. It's my pleasure meeting you online.

You must be very familiar with Global Health Security Agenda (GHSA), which was launched in Washington DC and Geneva on February 13, 2014 followed by the Helsinki meeting in May 5-6. A meeting titled "Building Global Commitment to Multisectoral Approaches to Manage Emerging Zoonotic Diseases in Support of the Global Health Security Agenda within the Framework of Public Health" is going to be held in Jakarta, Indonesia later this month; 65 countries have been invited to attend. Another GHSA meeting will be held in Washington DC in late Sept. China's National Health and Family Planning Commission (Ministry of Health) and China CDC are supportive and should commit to be a part of the network. We do want to expand the Chinese participation in the network to include other partners and sectors, including agriculture and veterinary, which are important integral parts of GHSA. Thus, HHS, which has lead the effort to obtain China's commitment to GHSA, would like to visit Wuhan Institute of Virology to discuss GHSA with the institute leadership. HHS has approached me to acquire a contact at the Institute through NIH connection. I used to be a project officer at the drug development section of OBRRTR and know [redacted] and [redacted]. So I asked them for help. The visit is going to discuss GHSA only.

HHS would like to give WIV the opportunity to attend the Sept GHSA meeting in Washington. The only time we can make the visit is Aug. 18 and 19. It would be great if you can provide us a couple of contact persons (in case one is not available) at WIV for the embassy to request a visit. I apologize for the urgency and look forward to hearing from you very soon.

Thank you very much

Ping Chen, PhD
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Office of Global Research
National Institute of Allergy & Infectious Diseases National Institutes of Health Bethesda Office: [redacted]
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Getting ready to publish? Share the good news with your program officer asap! NIAID may be able to help publicize your article. And, remember to list your NIAID grant or contract number in the publication.

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 18 Aug 2014 00:50:00 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted]@state.gov
Subject: Aug 18 weekly update

Hi [redacted] and [redacted]

For the past week I have been working on the following:

1. 1. Flu meeting. You have seen the message from [redacted] I wrote back to her to answer the questions for accomplishment of the meeting. Also I wrote to you, the ORG leadership asking to respond to [redacted] about her travel request. I really don't know how to respond to that one. I don't have any respond from you so I have no idea if her question has been answered. She also asked for the conference dates which I tried to get confirmation from NSFC. Unfortunately, our contact [redacted] is out of the office till Sept. 1! I don't know how I can confirm the date with her being out of the office. I also sent the scientific agenda to [redacted] for her input. One of her comments to the agenda is it seems heavy on the epi research, not much on the basic research. I told her that this is the area she and DMID can contribute. I also received suggestion on basic research topics from a Chinese basic Flu/MERS research scientist whom [redacted] knows. The remaining tasks include finalizing the agenda, confirming the date, selecting meeting site, sending invitations to speakers, etc. We do need to discuss the funding!

2. 2. Regarding visiting Harbin Veterinary Institute and Wuhan Institute of Virology, DMID provided contacts information for both sites early last week. I forwarded the contact information to [redacted]. The original plan was to schedule the visits at the limited time when both [redacted] (6) and I were available. Unfortunately, [redacted] (6) never responded to my repeated emails asking if she or anyone from the embassy had made any contacts with these two institutes. If the contacts were made, I was not copied. As I am returning to US this Wednesday, I have no idea what is going on with GHSA. I will send a following message to [redacted] (6) for updates.

3. 3. I had a meeting with the head of bacterial lab from the Guangzhou Institute of Respiratory Disease and the head of the clinical lab in the Peking Union Medical College Hospital last Friday. Both of them are the leaders in antimicrobial resistance programs in China. They seek possible collaborations with NIAID on AR. The GIRD PI, Dr. [redacted] will come to DC to attend ICAAC. I would like to invite him to come to DMID for a talk. I will write to [redacted] and [redacted] to see if it can be arranged.

4. 4. Just received a message from the country director of FDA, [redacted] who is trying to arrange a meeting with the new head of ESTH, [redacted] who replaced [redacted] [redacted] is [redacted] (6) (6) replacement who will be TDYed during Aug 27-29. Unfortunately I will be in US during the time. I can certainly schedule a meeting with [redacted] once I return. I also never scheduled a meeting with DSM, which I was learned recently that I should (as a new person in town).

I think this is all I have. Talk to you tonight.

thanks

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Tue, 7 Oct 2014 00:32:29 -0400
To: NIAID OBRA DDS; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]

Hi,
Not sure if the links would work in US. The first link is about the opening of the first BSL-4 lab in China located in Wuhan Institute of Virology and the second link is about dengue cases in Guangzhou. Previously I under reported the total cases. Based on this Chinese news report, the total cases is above 20,000 concentrated in Guangdong province.
http://news.yahoo.com/china-open-first-high-security-bio-laboratory-041718433.html
http://news.xinhuanet.com/english/china/2014-10/05/c_133694738.htm

Ping

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From: [redacted] (NIH/NIAID) [E]
Sent: Thu, 30 Oct 2014 14:01:20 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: Chen, Ping (NIH/NIAID) [E]
Subject: FW: Wuhan

Your thoughts to Ping also would be welcomed, I am sure. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, October 30, 2014 4:33 AM
To: [redacted] (OS/OGA)
Cc: [redacted] (NIH/NIAID) [E]; [redacted]
Subject: Wuhan

[redacted]
(6)

I had an interesting meeting with a Chinese gentleman who works at an office [a spin off from the Huban (the province where Wuhan locates) Science and Technology (not sure what exactly the office's name but will get his business card in emails soon]. The primary purpose of this office is similar to what I am doing here seeking, facilitating, and promoting international scientific collaborations for scientists in Wuhan. It also functions as an liason (or lobbist) representing the local scientists or organizations. He had tried months to meet with me (found me in Linkedin) and we finally met.

His office has been asked by an academic organization organized by scientific institutions including Wuhan Institute of Virology, which focuses on research on serious/severe infectious diseases, to help the members in the organization increase scientific exchanges between the members and international ID experts. The possible activities would include but not limited to having scientist exchange programs, inviting international ID experts for seminars, exploring potential international collaborations, etc. He invited me to go to Wuhan to give an introduction about NIAID and our ID research programs. I asked him to send me the information about this organization, its members, its mission, what they try to accomplish and its priority areas of ID research.

He also mentioned that his office prepares written reports and submit them to the relevant parties in MOST to voice scientific issues that they think are important and should be included in the next 13/5 mega projects (next year is critical for this. Once a project is included in the 13/5 mega projects, it would get funding from MOST for the next 5 years). From the emerging ID point of view, research projects on emerging ID should be one of the 13/5 projects (given by the current Ebola situation, it can be a good candidate for 13/5 projects). In a way this would be potentially helpful if we want to involve WIV for GHSA, meaning there will be funding for activity.

I would like to hear your thoughts about whether we could interact with this office and how we would approach to WIV for GHSA involvement (having this office involved or directly works with WIV through NIAID connection with UTMB). He did repeatedly say that they are not paid by the organization to work for them. The office is an entity of the local government dedicated to promote science for the local scientists.

Thanks

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 3 Nov 2014 02:40:06 -0500
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted]@state.gov
Subject: Nov update 1

Hi everyone,

Can't believe it is already Nov and back to 13 time difference now.

The main update is that I had met with [redacted] (6) the new Health Attaché in Beijing, last Wednesday. I briefed him on NIAID's projects and activities in China including the activities under the NIH-NSFC MOU, jointly funded grants, upcoming HIV/AIDS CURE program, flu/MERS meeting; NIH relationship with MOST on clinical and translational research and the scheduled visit by CSR in April; Henan TB and the CTCTC projects. We also discussed a couple of items including the unfinished one from [redacted]-Global Health Security Agenda (GHSA). Remember in early Aug, I asked for assistance from DMID to provide contacts for HHS to visit 1) Wuhan Institute of Virology (WIV) and 2) the Harbin Veterinary Institute (HVI). I got the contacts for [redacted] and she was supposed to contact the institutes to schedule visits. Then she left the post and I never heard anything from her about the visits. [redacted] is very interested in GHSA projects and would like to schedule the visits (more below). Another area of common interests ([redacted] and I) is we both want to do something in the antimicrobial resistance issue. I told him about the potential visit by [redacted] (6) [redacted] of DMID next year. Maybe after [redacted] visit we can work with DMID and other parties to come up with a project. One area I have been thinking is about how to utilize the resources in China's strain collections. A repository may?

[redacted] would like to have me take the lead on visiting WIV and HVI and he will come along on the visits. But we have to have a plan or mission for the visits. [redacted] wanted to visit these two institutes because she wanted to have them participate in GHSA network/activities. I have no idea how she was planning to approach them for GHSA. HVI is a subcontractor for the Emory Center under CEIRS. I could schedule a visit as the NIAID's rep just as I plan to visit other Chinese PIs directly or indirectly receiving NIAID funding. I don't know how RDB would think of my visit to HVI (based on my past experience working with that branch). WIV doesn't have NIAID funded research project. However, UTMB has been working with WIV and is trying to establish a close working relationship with WIV, especially the only publically known BSL-4 laboratory is located in WIV and is supposed to become operational in Dec. Through the facility group in OBRRTR I contacted Dr. [redacted] who is the director of Galveston National Laboratory, to which NIAID provides annual funding for the facility maintenance. Dr. [redacted] is very eager to work with NIAID/HHS and WIV.

On the same note, Last week, an investigator from UTMB came to Beijing on his way to WIV. I met him Tuesday night and later [redacted] also detailed me about what he is planning to do at WIV including possible biosafety training (UTMD is funded by DOD to provide biosafety laboratory training) which I think Chinese is needed. This would be an excellent way for us to come in and to introduce the GHSA to the institute. I am waiting to learn more about UTMB's plan at WIV and would take the appropriate

approach to reach out for WIV (I also met a professor from WIV in a meeting and our friend [redacted] also has collaborations there. Both WIV and the Institute of Microbiology where [redacted] is are institutes under the Chinese Academy of Sciences, CAS).

Chinese government has been screening people who come from the Ebola regions of Africa. Two US CDC people in Beijing were sent to Sierra Leone one month ago and were scheduled to return. Last Friday I was able to help [redacted] to acquire the information on the monitoring process and guarantee procedures that are implemented in three Beijing's infectious disease hospitals through my contacts. The concern is we need to know who to contact if one US citizen becomes contained for suspecting Ebola.

This morning I heard in the Chinese news that one case avian flu H7N9 has been diagnosed. The patient bought a chicken in the market, and now he is in critical condition.

I contacted the people who involved in the planning of Flu/MERS meeting have all agreed to postpone the meeting till next March. There seems no major conflict in March.

Have we had response from other NIH ICs regarding NSFC's request for meeting next March at NIH?

That is all I have and hope to talk to some of you tonight.

Thanks

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 22 Dec 2014 05:04:37 -0500
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted]@state.gov
Subject: Last update 2014

Hi everyone,

Can't believe that it has been a year since I arrived at Beijing (Dec. 18, 2013). Time flies and I don't feel I got much done here. This would be the last update for 2014.

1. Flu/MERS conference. I worked a lot on this meeting during the past two weeks. Briefly, I sent out the invitation letters for the international speakers. After a couple of rounds, I was able to confirm 7 out of 8 speakers. A second message was sent to the last one, Dr. [redacted] of Oxford University. I have the feeling that he is working on Ebola now. Maybe that is the reason he has not responded. I do have a backup and will proceed with the backup if I don't hear from Dr. [redacted] by the end of the year. The meeting dates have been changed from March 10-11 to March 9-10 as [redacted] and [redacted] have to go to a meeting in Singapore on the 11th. I had to work with the hotel to make the change. I also prepared the invitation letters for speakers from Hong Kong and those within China. The assistant at IM has been out of Beijing on business so I really can't count on her. CRDF will contact the speakers to start their travel process after the holidays. By the way, this is probably the only one conference meeting that we could have with NSFC. I was told at its website it announced that in 2015 NSFC is no longer sponsoring international meetings (need to consider when we revise the MOU).

2. Ebola sequencing. I had several emails on this subject since last Friday and I won't repeat again. I am waiting for your response on setting up a teleconference with [redacted]. Tuesday evening works better for him.

3. Ebola/BSL4 workshop. During the meeting with [redacted] he mentioned that there will be a ceremony at the Wuhan Institute of Virology (WIV) for the completion of the first BSL4 lab in China. Chinese collaborated with French the Institute of Pasteur, on the design and construction of the lab. [redacted] believes the ceremony is on Jan. 31, 2015 as a high government official from France will attend the ceremony and this all based on this VIP's schedule. In addition, [redacted] mentioned that he has been asked by at least two organizations (NSFC?) to organize a conference on Ebola. He wants to combine Ebola with BSL4 research together and possibly tying it to the BSL4 ceremony event. Both [redacted] and I told him that we both want to attend the ceremony and the conference. If you can recall, I and [redacted] had wanted to visit WIV but did not happen while [redacted] was here. I had communication with [redacted] at UTMB and he is very interested in collaborating with WIV. One of his staff was in Beijing to meet with me and we discussed that possibility working with WIV. One of the items we think we can do is to provide BSL4 training. [redacted] likes the idea. Further discussion will be needed. [redacted] is on this one too. I am waiting to hear the confirmation on both events from [redacted]

4. I met with a HIV researcher with whom [redacted] had worked very closely, Dr. [redacted]. According to him, he is the co-PI on a grant to Dr. [redacted] at UCSD (I went over the China grant list and did

not see it). He is interested in the HIV/AIDS CURE project that we have with NSFC. But he is not qualified for it. I was quite surprised to hear the reason and I did confirm it with our NSFC colleague. Evidently, it requires that an investigator has to be current or past NSFC awardees. So for someone who has never had NSFC awards can't apply for the international programs (funded with an international partner). Any young or new investigators have to first get NSFC regular grants to establish the record at NSFC before they can apply for the international programs. Another restriction is an investigator can only apply for another international program every other year. Finally the total number of awards one PI can have from NSFC is 3.

5. Today I went to meet the director ([redacted] of the clinical microbiology lab in PUMCH, which is considered the best hospital in China, to learn about antimicrobial usage policies, AR surveillance, and others. I want to do some research in preparation for [redacted] visit in May as well as to start thinking of possible AR projects can be done in China. Briefly there is a committee under the National Health and Family Planning Commission that oversees the proper use of antibiotics in China. Dr. [redacted] gave me a booklet published by the committee (in Chinese). [redacted] is one of the committee members and he said they expect some sort of recommendation will come out of this committee in 2015. The current AR surveillance includes over 1400 hospitals and divided in three large regions (North, South and middle of China). But the current data collected have a lot of problems due to the lack of standards. PUMCH has become the QC lab. Beginning next year, there will be QC for the data and they try to make data more reliable.

I think this is all I have. Pease let me know if you have any questions and comments.

Talk to you tonight.
Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 12 Jan 2015 20:34:50 -0500
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: Jan 12 update from Beijing Office

Thanks [redacted]
Close to half of the speakers for the Flu/MERS meeting were recommended by DMID, the division that we work with. Also without being able to pay for the fed travel, we really can't invited more feds to come (I would love to invite people from the VRC but we can't support their travels). For the Ebola meeting, I can only make recommendations and I did give them the list collected from VB. It is the decision by the Chinese who they invite to speak at this meeting. A few of the speakers are from our recommendations. Thanks again for the advice on responding to requests. I just felt that I did not know (maybe I should know) and can't provide the information.
Ping

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From: [redacted] (NIH/NIAID) [E]
Sent: Tuesday, January 13, 2015 7:34
To: Chen, Ping (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: Jan 12 update from Beijing Office

We need to be sure that other NIAID Divisions in addition to DMID have an opportunity to contribute names as potential speakers at the Ebola meeting and the MERS meeting.

You did right by not responding to something you did not have adequate information about. You do not have to respond to everything with data or information, but you should just let them know you do not have any information so they know you considered it carefully.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, January 12, 2015 4:23 AM

To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Jan 12 update from Beijing Office

Hi,

Here is my first update in 2015.

Flu-MERS meeting: we have made a great deal of progress on this meeting. All speakers but one have confirmed their participation. The agenda is pretty much developed (see the attached) and was sent to [redacted] to put it on the web. Website for this meeting is up and allows registration online for we have a way to track how many people will attend. All the international speakers (7 from US and Europe, 5 from Hong Kong) have been contacted and CRDF has already contacted the speakers to begin arranged their travels. I have contacted our co-sponsor at NSFC requesting its standard letter for VISA and haven't gotten any response (has been very slow to get any information out of them). CRDF has paid deposit to hold down the hotel rooms for the paid speakers and the fund has been successfully transferred. China CDC has agreed to help with some of the logistics such as collecting abstracts and putting up an abstract book and provide airport picking up for a couple of VIP speakers. The Institute of Microbiology of CAS ([redacted] lab) will be responsible for arranging the travels for the domestic speakers and other meeting logistics. NSFC's funding of 80,000 RMB was finally arrived. I have a meeting tomorrow with the staff at [redacted] office to discuss the logistics. Today I have shared meeting website with our contacts in China. Hopefully we will get a good traffic to the website.

I met with China CDC on Wednesday upon their request. The purpose was they asked me to help them develop an agenda for an international conference on Ebola which will be held in Beijing on March 19-20. So I provided a suggested speaker list with the help of DMID staff and helped them edited the meeting concept and agenda. They agree that I can share the draft with NIAID. Please notice that they haven't reached for the speakers, several of them are from NIAID. It's better let the Chinese reaching out to the speakers, not us. So just don't distribute the draft till the Chinese has sent the invitation. If they can get most speakers on the list to come, it would be a good meeting. I do prepared back up for them as well.

I sent a request to the Wuhan Institute of Virology for invitation to attend its BSL4 laboratory completion ceremony. I got a message from the contact I have that limited number of international people outside France will be invited to the ceremony, as it is the French who helped with the construction of BSL4 lab. I just received a reply that I won't be able to attend the ceremony but will have the opportunity to visit the institute at a later time.

I received a message from ESTH asking the representatives from US Fed agencies to provide information on China's biosecurity. The message says "State's office that deals with biosecurity has sent to Embassy Beijing the email below regarding China's policies, capabilities, and activities related to a range of biological threats and risks: including infectious diseases, biosecurity, biological weapons, and bio-terrorism.

The National Security Council is seeking Embassy input on the "End State Indicators" spreadsheet (final attachment). If you could review the attached spreadsheet and other documents and reply to me with your comments and suggestions by noon on Monday, January 12, I will send in a consolidated reply for Embassy Beijing. Negative replies (i.e. "nothing to add") are requested."

I did review the documents briefly and did not feel that I have enough knowledge to comments on as we haven't really gotten into biosafety policy etc. some of the areas need to be commented are relevant to us such as dual use research policy etc. But I just don't know if China has such policy and I was told don't ask the Chinese for information. So I did not comment at all. I would like to get some guidance on 1) would it be OK if I don't comment on things I don't know but the topics could be relevant to NIAID's mission and scope 2) If I need to comment and the content is beyond my knowledge then what I should do.

Thank you and told to you tonight.

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 12 Jan 2015 04:22:37 -0500
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Jan 12 update from Beijing Office
Attachments: Flu_MERS Meeting Agenda V2.docx, Draft Concept_agenda_Ebola_China_Jan 11_2015.docx

Hi,

Here is my first update in 2015.

Flu-MERS meeting: we have made a great deal of progress on this meeting. All speakers but one have confirmed their participation. The agenda is pretty much developed (see the attached) and was sent to [redacted] to put it on the web. Website for this meeting is up and allows registration online for we have a way to track how many people will attend. All the international speakers (7 from US and Europe, 5 from Hong Kong) have been contacted and CRDF has already contacted the speakers to begin arranged their travels. I have contacted our co-sponsor at NSFC requesting its standard letter for VISA and haven't gotten any response (has been very slow to get any information out of them). CRDF has paid deposit to hold down the hotel rooms for the paid speakers and the fund has been successfully transferred. China CDC has agreed to help with some of the logistics such as collecting abstracts and putting up an abstract book and provide airport picking up for a couple of VIP speakers. The Institute of Microbiology of CAS ([redacted]'s lab) will be responsible for arranging the travels for the domestic speakers and other meeting logistics. NSFC's funding of 80,000 RMB was finally arrived. I have a meeting tomorrow with the staff at [redacted] office to discuss the logistics. Today I have shared meeting website with our contacts in China. Hopefully we will get a good traffic to the website.

I met with China CDC on Wednesday upon their request. The purpose was they asked me to help them develop an agenda for an international conference on Ebola which will be held in Beijing on March 19-20. So I provided a suggested speaker list with the help of DMID staff and helped them edited the meeting concept and agenda. They agree that I can share the draft with NIAID. Please notice that they haven't reached for the speakers, several of them are from NIAID. It's better let the Chinese reaching out to the speakers, not us. So just don't distribute the draft till the Chinese has sent the invitation. If they can get most speakers on the list to come, it would be a good meeting. I do prepared back up for them as well.

I sent a request to the Wuhan Institute of Virology for invitation to attend its BSL4 laboratory completion ceremony. I got a message from the contact I have that limited number of international people outside France will be invited to the ceremony as it is the French who helped with the construction of BSL4 lab. I just received a reply that I won't be able to attend the ceremony but will have the opportunity to visit the institute at a later time.

I received a message from ESTH asking the representatives from US Fed agencies to provide information on China's biosecurity. The message says "State's office that deals with biosecurity has sent to Embassy Beijing the email below regarding China's policies, capabilities, and activities related to a range of

biological threats and risks: including infectious diseases, biosecurity, biological weapons, and bio-terrorism.

The National Security Council is seeking Embassy input on the "End State Indicators" spreadsheet (final attachment). If you could review the attached spreadsheet and other documents and reply to me with your comments and suggestions by noon on Monday, January 12, I will send in a consolidated reply for Embassy Beijing. Negative replies (i.e. "nothing to add") are requested."

I did review the documents briefly and did not feel that I have enough knowledge to comments on as we haven't really gotten into biosafety policy etc. some of the areas need to be commented are relevant to us such as dual use research policy etc. But I just don't know if China has such policy and I was told don't ask the Chinese for information. So I did not comment at all. I would like to get some guidance on 1) would it be OK if I don't comment on things I don't know but the topics could be relevant to NIAID's mission and scope 2) If I need to comment and the content is beyond my knowledge then what I should do.
Thank you and told to you tonight.
Ping

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Advancement in our Scientific Understanding of Avian Influenza and MERS as Emerging Respiratory Threat to Public Health in Asia and beyond-- from viral evolution to animal and human hosts

March 9-10, 2015

Conference Facility in Institute of Microbiology, Chinese Academy of Sciences
#1 Bei Chen Xi Lu, Chanyang District, Beijing

Sunday, March 8, 2015	14:00-17:00	Registration	IM Conference Facility	
		Day 1		
Monday, March 9, 2015	7:30-8:15	Registration		
	8:15-9:00	Opening Session	Moderator: Ping Chen	US NIAID Beijing Office
		NSFC representative	TBD	National Natural Science Foundation , China
		HHS representative	[redacted]	Health Attaché, US Department of Health and Human Services
		China CDC and CAS	[redacted]	Institute of Microbiology, Chinese Academy of Sciences
	9:00-9:30	**Key Note**: Structural Virology of the Human-Infecting Influenza A (H7N9) Virus	[redacted]	
	9:30-10:00	**Key Note**: New Development and Improving Influenza Therapeutics	[redacted]	University of Virginia
	10:10-10:30	Tea Break		
		Session 1: Virology and Epidemiology Avian Influenza Virus and Human-animal Interface Risk	Moderator: [redacted]	
	10:30-10:55	Overview of Current Situation and Defining the Epidemiology of A (H7N9) Influenza	[redacted]	China CDC
	10:55-11:20	Transmission Dynamic Modeling and its Implication in Public Health Policy Intervention	[redacted]	University of Hong Kong
	11:20-11:45	Avian H7N9 Influenza Virus: Discovery, Origin, and Evolution	[redacted]	China National Influenza Center
	11:45-12:10	Avian Influenza Transmission Dynamics	[redacted]	Universite Libra de Bruxelles
	12:10-13:10	Lunch		
	13:10-13:35	Animal Models for Influenza A Viruses	[redacted]	University of Hong Kong
	13:35-14:00	H7N9 Influenza Virus Transmission in Ferrets	[redacted]	Harbin Veterinary Research Institute

	14:00-14:25	Use of ex vivo Human Cultures to Assess Pandemic Risk of Animal Viruses	[redacted]	University of Hong Kong
	14:25-14:45	Tea Break		
		Session 2: Immunology to Avian Influenza Virus	Moderator: [redacted]	
	14:45-15:10	Avian Influenza Immunology-Signature for Poor Outcome Prediction	[redacted]	St. Jude Children's Research Hospital
	15:10-15:35	Host Genetics and Early Hypercytokinemia—predictive fatal H7N9 Infection	[redacted]	Shanghai Public Health Clinical Center, Fudan University
	15:35-16:00	Structural and Functional Characterization of Ab Recognition in Convalescent Influenza Infected Individuals	[redacted]	Tsinghua University
	16:00-16:15	Tea Break		
		Session 3: Development of New Vaccines, and Therapeutics	Moderator: [redacted]	
	16:15-16:40	Universal Flu Vaccines	[redacted]	Icahn School of Medicine at Mount Sinai
	16:40-17:05	Flu Vaccines in Clinical Development	[redacted]	Emory University School of Medicine
	17:05-17:30	Adjunctive Therapies for Severe Influenza	[redacted]	Chinese University of Hong Kong
	17:30-17:55	Repurposing Drugs in Acute Lung Injury Induced by Avian Influenza	[redacted]	Institute of Basic Medical Sciences, Chinese Academy of Medical Sciences
		Day 2		
Tuesday March 10, 2015	8:30-9:00	NIAID International Research Programs	[redacted]	Division of Microbiology and Infectious Diseases, NIAID
	9:00-9:25	US CDC Flu Programs	[redacted]	US CDC Beijing Office
		Session 4: Clinical Characteristics and Treatment of Avian Influenza Human Infection	Moderator: [redacted]	
	9:30-9:55	Clinical Findings in Human infected with Avian Influenza A (H7N9)	[redacted]	Guangzhou Institute of Respiratory Diseases
	9:55-10:20	Comparison of Hospitalized Patients Infected Influenza A Viruses	[redacted]	China-Japan Friendship Hospital
	10:20-10:45	Treatment of Severe Cases of Avian Influenza Infection	[redacted]	Zhejiang University
	10:45-11:00	Tea Break		
	11:00-11:25	Association between Adverse Clinical Outcome, Viral shedding, and Emergence of Antiviral Resistance in Patients Infected with Avian Influenza Virus	[redacted]	Shanghai Public Health Clinical Center, Fudan University
		Session 5: MERS-Cov	Moderator: [redacted]	
	11:30-11:55	NIAID MERS-Cov Programs	[redacted]	Respiratory Disease Branch, Division of Microbiology and Infectious Diseases, NIAID
	12:00-13:00	Lunch		

	13:00-13:25	MERS-Cov Virology	[redacted]	Loyola University Chicago, Stritch School of Medicine
	13:25-13:50	Non-Human Primate MERS Model	[redacted]	Institute of Laboratory Animal Sciences, Chinese Academy of Medical Sciences
	13:50-14:15	Seroepidemiology of MERS by Microneutralization and Pseudo-viral Particle Neutralization Assays	[redacted]	University of Hong Kong
	14:15-14:30	Tea Break		
		Session 6: Clinical and Treatment of MERS Infection	Moderator: [redacted]	
	14:30-14:55	Broad-spectrum Antivirals against MERS-Cov	[redacted]	University of Hong Kong
	14:55-15:20	Repurposing FDA Approved Drugs for Coronavirus Infection	[redacted]	University of Maryland School of Medicine
	15:20-15:45	Peptide Fusion Inhibitors against MERS-Cov	[redacted]	Fudan University, Shanghai Medical College
	15:45-16:10	Potent Neutralization of MERS-Cov by Human mAbs to the Viral Spike Glycoprotein	[redacted]	Tsinghua University
	16:10-16:35	Closing Remark	TBD	

Concept Note
(Draft as of 11 January 2015)

International Conference on Scientific Insight and Response of Ebola Virus Disease
March 23-24, 2015, Beijing, China

1. Rationale of the conference

The largest outbreak of Ebola Virus Disease (EVD) that was ever reported in the history has been attacking the West Africa since December of 2013. Although EVD itself is not a new disease, which was first discovered in 1976, this EVD outbreak in West Africa is very different. Multiple outbreaks in the affected countries were occurring against a backdrop of compromised health systems, urbanized settings, histories ravaged by civil war, cultural practices and rampant fear of this deadly disease never before seen on this side of Africa. Countries are struggling to control this unprecedented crisis, the complexity of which is seen in the intensive case numbers and deaths from this virus. There have been over 20,206 reported cases and 7,905 deaths according to the latest report from World Health Organization (WHO).

The current Ebola outbreak in West Africa is unprecedented in its scope, severity and complexity. On 8 August, under IHR (2005), WHO declared this EVD outbreak a Public Health Emergency of International Concern (PHEIC), previously grading it a Grade 3 Emergency-- the highest grade that can be assigned to any event under the WHO Emergency Response Framework. In response to the extraordinary situation, an UN mission for Ebola Emergency Response (UNMEER) has also been launched in mid-September 2014. The tremendous human and other resources from international societies have been deployed to support the global response to Ebola. As one of the major contributors, Chinese government has deployed more than 600 medical and public health officers to support the response actions in the affected countries, and also donated/pledged a total amount of $123 million.

As we move into the second year of the epidemic in West Africa, Ebola still presents a huge challenge to global public health and security. Majority of unaffected countries have strengthened their preparedness efforts on the existing surveillance systems, laboratory testing capacity, infection prevention and control practices, travel-related measures and risk communication. In response to the crisis, scientists worldwide have speeded up their research efforts to test new vaccines and therapeutics for prevention and treatment of Ebola infection, and to develop new diagnostic tools for better detection of the virus. At this point, a comprehensive scientific review to update the knowledge and understanding on Ebola virus and its disease based on the available evidence and lessons learnt from the epidemic response is urgently needed and will be critical to assist unaffected countries in further enhancing the preparedness level.

In this regard, under the support of Chinese government, China NHFPC in collaboration with WHO and Pasteur Institute are proposing to organize an international conference on Ebola

Virus Disease with the participation of emergency responders in the field, well-known experts on Ebola research, and public health practitioners from the world to provide an scientific update on the aspects of Ebola virology and laboratory diagnosis, EVD epidemiology and situation, clinical treatment and vaccine development, infection prevention and control, and share lessons learnt from emergency response and preparedness. The conference will be held during 19-20 March 2015 in Beijing, China.

2. Objectives of the conference

The objectives of the conference are to:

i) Provide an scientific update on Ebola virology, epidemiology, clinical manifestation, laboratory diagnosis, treatment and vaccine and public health intervention;

ii) Review the situation and impacts of EVD, and progress, lessons learnt and gaps in the response to EVD outbreak in West Africa;

iii) Share the experiences in preparedness efforts to improve national health systems in the unaffected countries in response to potential EVD cases and identify the gaps;

iv) Identify the opportunities and develop approaches for improving collaboration and coordination between countries and international organizations on EVD detecting, investigating and responding.

3. Expected Outputs

At the end of the international conference, the following outputs are expected:

i) Scientific knowledge on Ebola virus and EVD updated;

ii) Situation and impacts of EVD epidemic, progress, lessons learnt and gaps from EVD response reviewed;

iii) Experiences in EVD preparedness efforts from unaffected countries shared;

iv) Approaches for improving collaboration on EVD between countries developed.

4. Time and venue

March 23-24 (Monday and Tuesday), Beijing, China

5. Participants:

Approximately 200 people, including:

i) Speakers: 30
   a. International speakers: 20
      DG/ADG of WHO, DG of Pasteur Institute, Invited EVD experts from universities and research institutes as resource persons; invited experts with field response experiences;
   b. Chinese speakers: 10
      Minister of NHFPC, DG of China CDC, Invited speakers from Chinese Academy of Military Medical Sciences and Chinese Academy of Sciences

ii) Government officials and national institutes: 30
   a. NHFPC: 7
      Department of International Cooperation: 3, Health Emergency Response Office: 2, Bureau of Disease Control: 2
   b. China CDC: 18
      Department of International Cooperation: 3, Division of Infectious Disease: 6, Health Emergency Center: 6, Institute of Virology: 3
   c. Institute of Microbiology, Chinese Academy of Sciences: 2
   d. Institute of Microbiology and Epidemiology, Chinese Academy of Military Medical Sciences: 3

iii) Representatives from international organizations and partners: 30
   WHO, ASEAN, MSF, US NIAID, US CDC, Red Cross and embassies in Beijing;

iv) Potential collaborators involved in EVD collaboration: 15
   Shanghai Public Health Center, 302 Military Hospital, Beijing Ditan Hospital, etc

v) Provincial level CDCs, Hong Kong HPC and Macau CDC: 65
   2 Public health emergency responders from each

vi) Media and other departments, NGOs: 10

vii) Other international participants: 10

Chinese government will sponsor the speakers from research institutes or universities. The delegates from WHO and Pasteur Institute will be self-sponsored.

6. Organizers and Contact Persons:

Co-organized by China CDC and Pasteur Institute
Division of Infectious Disease: [redacted], [redacted]
Department of International Cooperation: [redacted]

Sponsored by: China NHFPC and WHO

7. Working language:
English, simultaneous translation to Chinese as needed

International Conference on Scientific Insight and Response of Ebola Virus Disease
PROPOSED AGENDA

March 23-24, 2015
Beijing, China

DAY 0 – Sunday, 22 March 2015

Arrival of participants

DAY 1 – Monday, 23 March 2015

08.00 – 09.00 Registration

09.00 - 09.30 Session 1: Welcome and Opening Remarks

Moderator: [redacted] China NHFPC

Mrs. [redacted], Vice Prime Minister, China or Dr. [redacted], Minister of NHFPC, China

Dr. [redacted], DG of WHO or ADG of WHO

Dr. [redacted] DG of China CDC

09.30 – 10.00 Group photo and Tea break

10.00 – 12.00 Session 2: EVD Situation Update and Epidemiology

Moderator: TBC and TBC

Global EVD Situation and trend of EVD epidemic, WHO HQ TBC

Update Epidemiology of Ebola infection, US CDC, TBC

Epidemiology of EVD patient in Sierra Leone- a report from the field, [redacted], Chinese Academy of Military Medical Sciences

Transmission dynamics of EVD in West Africa, NEJM paper, Imperial College, UK

Lancet ID paper, Northwest University, USA

Group Q & A

12.00 – 13.00 LUNCH

13.00 – 15.30 Session 3: Ebola Virology, Immunology, and Diagnosis

Evolution of Ebola virus, [redacted], London School of Hygiene & Tropical Medicine, UK

Ebola virus origin and transmission during the 2014 outbreak, [redacted] or [redacted], Center for Systems Biology, Department of Organismic and Evolutionary Biology, Harvard University, USA

Topic TBC, Dr [redacted], China CDC

Virus structure, neutralization, evolution, and immunopathogenesis, [redacted] Scripps Research Institute

Animal models of disease/Natural History Studies, [redacted] Emerging viral pathogens section, NIAID, NIH or [redacted] Office of the Chief Scientist, NIH

Laboratory testing of Ebola Virus and biosafety, TBC, Pasteur Institute

Lateral Flow Immunoassay (LFI) and ELISA diagnosis, [redacted] Tulane, [redacted] Corgenix

Lateral flow detection of viral RNA via loop-mediated isothermal amplification (LAMP), [redacted] Lucigen

Photonics/microfluidics detection system, [redacted] Boston University

Development of rapid and bed side testing, TBC

Development of diagnostic capacity in China and support to Sierra Leone, [redacted] China CDC

Group Q & A

15.30 – 16.00 Tea break

16.00 – 18.00 Session 4: Clinical characteristics and treatment of EVD

Summary of clinical Illness, outcomes and treatment in Patients with Ebola, [redacted] or [redacted] Departments of Medicine and Pediatrics, School of Medicine, Tulane University, USA

Clinical Care of Two Patients with Ebola Virus Disease in the United States, [redacted] Departments of Medicine, Emory University

Animal models and implications for the development of Ebola Vaccine and therapeutics, [redacted] Medical Branch, University of Texas, USA

Role of life support technology to EVD patients, TBC, Emory University, or US CDC, or NIH clinical center

Update of Ebola experimental therapy and clinical trials, [redacted] Oxford University

Immunotherapeutics: [redacted] Mapp Biopharmaceutical; or [redacted] Public Health Agency of Canada

Role of antibodies: Passive transfer in NHPs and humans, and summary of ZMapp, Update of medical research on monoclonal antibody therapy of Ebola, [redacted] NIAID NIH , or [redacted], University of Maryland School of Medicine, USA

Update and clinical trials of convalescent plasma therapy, TBC

Group Q & A

18.30 – 20.00 RECEPTION DINNER

DAY 2 – Tuesday, 24 March 2015

08.30 – 10.30 Session 5: Vaccine

Overview and update on Ebola vaccine development, [redacted] Laboratory of Virology, NIH or [redacted] NIAID Clinical research, or [redacted] laboratory of virology, NIAID

Live-attenuated vectors, [redacted] Public Health Agency of Canada

Human adenovirus and MVA-vectored vaccines, [redacted] J&J

VRC study of Chimpanzee Adenovirus 3 Vectored Vaccine with MVA-vectored vaccine boost, [redacted] NIAID, NIH, USA or [redacted] NIAID, NIH, USA, or [redacted] Oxford University

Studies of VSV-vectored vaccines, [redacted] Newlink Genetics

Considerations for dose selection with the Chimpanzee Adenovirus 3 vectored vaccine, [redacted], GlaxoSmithKline

Safety and immunogenicity of Ebola virus and Marburg virus glycoprotein DNA vaccines, [redacted], Vaccine Research Center, NIH, USA

Group Q & A

10.30 – 11.00 Tea break

11.00 – 12.00 Session 6: Infection Control

Controversies of transmission route of Ebola virus, TBC

EVD infection control in health care settings, TBC, [redacted]

Compliance of standard precaution in hospitals and challenges, TBC, US CDC

Safe burials practices in West Africa, TBC, WHO AFRO/SL CO

Group Q & A

12.00 – 13.00 LUNCH

13.00 - 16.00 Session 7: Ebola emergency response, control, and preparedness

Global response to Ebola crisis, TBC, WHO HQ

Overview of Ebola response and preparedness activities from China's perspective, [redacted] or [redacted] China CDC

The Institute Pasteur network: a crucial partner against Ebola, TBC, Institute Pasteur

Response actions and progress in Sierra Leone, TBC, Sierra Leone

Response actions and progress in Guinea, TBC, Guinea

Response actions and progress in Liberia, TBC, Liberia

Modeling public health intervention measures of Ebola, TBC

The way forward: Ebola response and preparedness, WHO TBC

Group Q & A

16.00 – 16.30 Tea break

16.30 – 17:00 Session 8: Close

Moderator: [redacted] China CDC

[redacted] Director of International Cooperation, NHFPC

TBC, WHO

Dr. [redacted], DG of China CDC

DAY 3 – Wednesday, 25 March 2015

Departure of participants

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 16 Mar 2015 07:47:09 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: internet issue and update

Hi [redacted] and [redacted]
DOS is updating the security on internet access so I have no access to the NIAID emails in the office. I spent a day writing a summary of the flu meeting, which went very well, beyond my expectations. I wanted to share the highlights of the meeting with you. Although the OpenNet email system worked in the embassy, it seems only worked within its own network because I emailed the meeting summary to my NIAID account I did not receive it. Also other messages sent from my OpenNet account. This situation may continue for a few days, we were told. You will have to wait a few more days for the summary. Again, it has been difficult to access NIAID account through Citrix and the Cisco VPN provided in my NIAID laptop lately. Most time I rely on my personal VPN to access NIAID emails through web-based system. ([redacted] I may need a new Blackberry. Recently I have to frequently power off the device in order to receive messages. I am not sure if this is a sign for possible break down in the near future. I depend on the BB when having internet problems).
I think the meeting has reached its goals for scientific knowledge exchange, for fostering collaborations, and for identifying future NSFC-NIH/NIAID activities. We had very good turn out on the first day, less on the second day. Very active discussions both during the sessions and after. I have been informed already that several collaborations are in discussion and planning right after the meeting. Good suggestions to our NSFC-NIH projects. A couple of big item projects came out of the discussion and they have the potential to influence public health policy and provide research resources to the Chinese research community. I don't want to re-write the meeting summary. You will have to wait a few days to read it. I received very positive feedback. Thank you for your help and support for making the meeting possible. Now the flu meeting is over, I am moving on to several projects.
1. attend China's Ebola meeting Mar 23-24 ([redacted] and [redacted] of NIAID will attend and present)
2. a WHO forum on antimicrobial resistance Mar. 25
3. April 6-10 in [redacted] with meeting NSFC on April 9. During the week, I plan to meet with CSR for their visit to China on April 15-17, [redacted] for his visit in May, staff in research resources, project officer for hepatitis program.
4. in Shanghai for TB vaccine meeting, [redacted] meet intramural TB scientists and introduce them to a potential collaborator in Fudan University. While I am in Shanghai, I will visit PIs who collaborate with US PIs who receive NIAID funding.
5. First week of May, visit Wuhan Institute of Virology with [redacted] to see its BSL4 lab and talk about common interests. While in Wuhan, I will meet the Chinese PIs on NIAID grants.
6. Will meet [redacted] in South Korea and attend the International Symposium for antimicrobial agents and resistance May 13-14. Return to Beijing with [redacted] and host his visit in Beijing, Shanghai and Hangzhou till May 23.
So my next two months will be very busy.
Will talk to you at 9 tonight.
Thanks
Ping

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From: [redacted] (NIH/NIAID) [E]
Sent: Mon, 29 Jun 2015 17:43:33 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]
Subject: RE: short update

Were you all able to answer her questions about GHSA? She might like seeing the slides used by CDC at the VP meeting last week to describe the GHSA, if we can get a copy.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, June 29, 2015 4:25 AM
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]
Subject: short update

Hi everyone,

DMID's [redacted] and [redacted] were at China CDC for a workshop to introduce a bioinformatics tool, PATRIC, for AMR projects. PATRIC is supported by a DMID contract to the University of Chicago. I had a brief conversation with [redacted] on AMR workshop in China. She did not raise the concern on budget as the workshop would fall under the FY16 budget. I did not get a sense that she is not supporting such a meeting. She agreed that AMR in China would be important. The workshop was held at the National Institute of Communicable Disease Control and Prevention in China CDC. The institute works on bacterial diseases (exclude viruses). Only since 2012 the institute started working on AMR. According to the former director, AMR has not been the top priority for the institute. The PIs working on AMR hope to have PATRIC system established at China CDC. I suggest once they have the PATRIC system, China CDC can be the provider on bioinformatic data analyses for the clinicians and researchers at hospitals who have the access to clinical microbiology samples and patients but are limited in bioinformatics knowledge. Such collaboration would benefit both. However, the challenge is to make the data available to the public before any publications.

I sent a follow up message to MOST on the AMR workshop this morning.

Had a meeting with [redacted], CDC, and FDA colleagues this morning to discuss the preparation for [redacted] China visit (possible visit) Sept 10-11. The advanced team visit for her trip is scheduled for July 16-17. I kind feel that the visit would be more focused with the National Health and Family Planning Commission with which NIAID has little interaction so far. I told them that I would want to take the opportunity of her visit to expand our collaboration with new partners such as MOST. I would like to learn any suggestions you may have regarding the activities for the secretary's visit.

I also would like to get a sense how much NIAID has been involved in GHSA. I was told that [redacted] will attend the GHSA meeting in Seoul in Sept and then he will come to Dalian, China, for a meeting (don't know what's the meeting). It seems to me NIAID should be the institute being involved in GHSA if NIH is. It is a top priority for HHS and CDC in China but not sure what NIAID's role is... Some information on this would be helpful for me in deciding the level of my involvement.

Embassy will hold its 4th of July celebration this Thursday. We have invited our NSFC, MOST and China CDC colleagues to attend the party. Shall see how many will attend.

I am traveling to Wuhan next week to visit some NIAID funded PIs. Two of the PIs are in the Wuhan Institute of Virology, where the first Chinese BSL4 lab is. We had to cancel the previous trip scheduled to visit the P4 lab. It was suggested to schedule a visit to the institute first, later follow up with a visit to the P4 lab.

Will talk to you tonight.

Thanks

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Tue, 14 Jul 2015 23:00:26 -0400
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: July update

Thanks [redacted] I will work with NSFC on preparing the document for the international sample sharing regulations. I can't promise anything soon but will try. It is more clear on how to obtain the permits for sharing the samples from human source but less clear about infectious samples and other biological samples in that nature.
Regarding the referrals to the virology meeting, there would be only a couple of slots they can sponsor. I would like to target the US researchers in the diseases that are more prevelent for China such as HBV, emerging viral infections, and on new vaccine and antiviral development. The purpose is to create opportunities for collaborations in the research areas where Chinese scientists have a lot to offer. If we receive too many responses, the meeting sponsor won't be able to support them all. I have reached out to RDB, VB, and EHDB as well as [redacted] in intramural, who is already responded with yes. I received recommendations from RDB and will consult with the meeting sponsor to determine who they would want to invite.
Ping

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From: [redacted] (NIH/NIAID) [E]
Sent: Monday, July 13, 2015 22:18
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: July update

See Comments below.

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, July 13, 2015 5:39 AM
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] Chen, Ping

(NIH/NIAID) [E]
Subject: July update

Hi,

Here are the activity updates for the past a couple of weeks.

1. Have been working with [redacted] on preparing for the pre advance team visit in preparation for the possible HHS Secretary visit to China in Sept. 9-11. The pre advance team will be in Beijing this Wednesday. I will meet them on Wednesday to brief on the NIAID activities in China. The team will visit several places and I will be with the team to China CDC (will visit the National Flu Surveillance lab), Peking University Health Center, NHFPC, and PUMCH.
2. I visited three Chinese PIs on NIAID funded projects in Wuhan (I contacted 5 PIs, one was not available and one never responded) last week. Briefly, one PI at the Wuhan Institute of Virology, [redacted] is known as the bat lady. She studies the viruses carried by the Chinese bats trying to identify the viral reservoirs, particularly focusing on coronaviruses such as SARS and MERS. She has identified bat viruses that are genetically very close to the SARS virus that caused the outbreak in China in 2003. Now she is trying to conduct epidemiology studies in the populations living close to bat caves using serology approach to determine whether these populations have existing antibodies against the viruses found in bats. She also develops detection tools for the viruses which can be useful during future outbreaks by emerging viruses (they may come from bats). She has multiple collaborations with international partners. I learned that she had previous applied for NSFC funding and was not able to obtain funding for the reasons "no previous collaboration with the international collaborators" and "have not published enough in the proposed subject". She hopes the review and evaluation of a proposal should focus on the project itself as well as the nature of the collaboration—should be mutually complementary between the collaborators to be successful. Her experience is not specific for NIH-NSFC program but to certain degree reflects the emphasis of NSFC reviewers weighing more on existing experience while NIH has placed more emphasis on innovation, willing to take higher risk. We have seen this difference in the recent HIV/AIDS Cure project review. As we proceed to draft the next RFA round we need to take this into account and see if NSFC would be ready to show more flexibility on the issue of prior award being an eligibility criteria. Other ideas of how to open up the program also would be welcomed. Got any?

Another PI I visited is [redacted] Chief of the infectious diseases at Union Hospital, Tongji Medical College. [redacted] had one of the one-year programs where he collaborated with US PI on universal HIV vaccine research. His role in the collaboration was to collect HIV isolates from Chinese patients, sequencing the viruses, and close the envelope genes for the US collaborators to screen for conserved epitopes via a novel screening technology. Thus, this project requires material transfer and shipment. He finds it is difficult to do so and he has not been able to send the plasmid DNA to his US collaborator. He told me he contacted NSFC on the issue of sending the materials and was told that this issue is not handled by NSFC. But who does? Now the funding period for this project is over and he has not been able to send the DNA samples. He also hoped for longer funding period, one year, in his opinion is too short. Because he had obtained one such international collaborative award, he was not able to apply for the recent HIV/AIDS Cure program. To follow up on the problem with exchanging research materials, [redacted] has mentioned that we should consider organizing an informational meeting for clarification on the policy and procedures for sample sharing. Do you have an idea in mind when we would like to plan for this? Union Hospital is a large teaching and general hospital. Its infectious disease unit has 110 beds treating patients from HBV, extra-pulmonary TB, schistosomiasis, HIV to other respiratory and common infections. The hospital has the certificates and ability to conduct clinical trials from Phase 1 to 4 and has a large biobank on liver diseases with 10 year follow up. [redacted] asked for help to identify excellent doctors/researchers in bacterial infections to come and work at his hospital. He also asked about animal models for HBV. I will refer his questions to the program staff. The way I recall we left this after our last joint meeting was that you, Ping, would work with NSFC and the Ministry of S&T where this clearance responsibility resides, to prepare a step-by-step document explaining the process a

Chinese Scientist must go through to obtain permission. I expected you would interview Chinese scientists who have been successful for their advice and "tips" to include. I also know that there are regional and provincial variations that need to be included in this document. We hope this document will be available pretty soon so NSFC and NIH can review it. This document will be an aid to people like [redacted] in the future. It also gives you a chance, with NSFC colleagues, to meet and interact with those who know the most about this process and the hurdles.

The third PI I visited is [redacted] who is the head of the state key lab of virology in Wuhan University. It is the powerhouse of Chinese virology. It has 57 outstanding virologists working under this key lab including 2 academicians. [redacted] is a close collaborator with the lab. In addition to basic research on virology, the lab also does translational research in antivirals, vaccines and reagents with industry partners. It would be a great group open for collaboration on virology projects.
Wuhan University is the host for an ATCC like facility in China, which provides cell lines and viruses for the Chinese researchers with a fee, perhaps the only one in China (I know so far). The University also has the BSL3 lab for conducting large animal studies for infectious diseases. The best-known one is the monkey TB model. The lab is hosting an international virology meeting and I was asked to help find US virologists to attend and present. I was also asked to give a 10 min talk on NIH, NIAID. The meeting is in late Oct. I will reach out to the program staff for speaker recommendations. Very good. Late October is quite soon so we would need more details about the meeting, especially whether they would like to invite US scientists to present. Be sure to reach out to all the Divisions when you have more information.

I will stop here and let me know if you have any questions.

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 18 Jul 2016 01:11:50 -0400
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E];Chen, Ping (NIH/NIAID) [E]
Subject: China activity update July

Hi,
Since I returned from US-Shanghai-Nanchang trip in late Jun, I haven't provided an update on China activities. Below is a summary what can highlighted during the past 3 weeks or so.
CAMS-NIAID immunology meeting planning has been the main focus. Now we are facing the challenge of identifying travel funding for our intramural researchers to attend this meeting. I think this is essential for the success of this meeting. As I said in another message sent out a minute ago to the planning group that it is critical that we find money to support them, otherwise I don't know how to tell CAMS that we could not get any NIAID intramural researchers to come because we can't pay for them while CAMS has agreed to pay all other cost of the meeting and we also know from the beginning that CAMS wants NIAID intramural researchers the most. They accepted our demand to include extramural researchers we need to try our best to at least include some intramural researchers to attend this meeting. At this point, the only thing I can do is to push you to push NIAID leadership for funding! We have planned this meeting this far and we need to make our best effort to make it happen and successful.
In Shangai, I attended a consultation meeting organized by GSK to learn about Chinese clinical travel capacity for new antibiotic trials. Because NIAID ([redacted] at DMID) has shared common interest with GSK, I was invited to attend this meeting. GSK invited several Chinese experts in ID, AMR, and clinical research. It was a very informative meeting. We have learned major issues facing conducting clinical trials for new antibiotics such as recruitment issues with inclusion and exclusion criteria, patient consent forms, lack of experienced clinicians for recruitment, etc. Although many hospitals have established clinical research centers, have certified by the Chinese regulatory agent for conducting clinical trials, and have done GCP training, they still have issues with compliant to GCP and GLP operations. At this meeting and later at the National TB meeting I heard repeated issues on errors during clinical trials due to unfamiliar with (or ignorant) the practical requirement of GCP/GLP, which affect the quality of the studies. When GSK asked for the expert to comment on its proposal for establishing a clinical trial network for AMR, the consultants applauded idea and eager to participate. GSK's [redacted] (the head of the GSK anti-infective program and led the GSK center for infectious diseases and public health in Beijing) met with [redacted] on Monday the 11th, asking for NIAID support for this clinical trial network in China. I know [redacted] and [redacted] attended the meeting with [redacted]. I don't know the outcome of the meeting.
In Nanchang at the Chinese National TB meeting, I gave a presentation on NIAID's TB programs including the intramural TB project at Henan Chest Hospital, DAIDS TB clinical trial network, DMID's TB portfolio, and NIAID's research resources. Thanks [redacted] and [redacted] for providing me their program information.
After returned to Beijing, I arranged a meeting for GSK [redacted] to meet with [redacted] and CDC people at the embassy. He discussed clinical trial network idea and the newly established GSK center for infectious diseases and public health in Beijing. In addition to move new antibiotic development to China, they are also planning to be involved in public health related activities such as training. They hope to work closely with US, UK, and China on AMR, Clinical research, and public health.
Through my US connection, Eli Lilly company contacted me and wanted to meet to discuss its company's activities in China. I learned from them at this meeting the company has had a long history of supporting MDR TB programs in China because the company had manufactured the second line TB drugs. But they are phasing out the TB program in China and plan to initiate diabetes program in China (Lilly makes diabetes drugs). I included CDC's NCD person and HHS at this meeting so they can give them their prospective.

I met with EcoHealth Alliance, a NY based non-profit organization on health. They have a R01 grant from DMID on identifying SARS-like coronaviruses in China. They partner with [redacted] at Wuhan Institute of Virology. I visited [redacted] over a year ago. She took bat samples in caves in certain regions of China, isolated and identified viruses and found some viruses are similar to SARS by sequencing. Now they are surveying the levels of exposure of local residents near the caves or have close contact with bats (they showed me photos of bats in the open market!). Very interesting work and their finding can be used as evidence to push improving Chinese policy on wild life marketing and prevention of future outbreaks in human infection from common zoonotic viruses. I just saw free ranged chicks in my neighborhood running under the tables of eating places on the street. We are talking about close animal-human close contact in densely populated city.

Another meeting was with a group of public health students from North Dakota University. The led professor knew [redacted] and wanted to take his students to visit US embassy. They met with me and CDC office to learn what we are doing in China and what kind of advice we can give to the students as they are entering this profession.

In addition to NIAID-CAMS meeting, I received a request from CAMS of assisting a visit by two CAMS officials to NIH. They want to spend 4 days at NIH to meet with NIAID and NIH clinical center to learn about project management and operation, and everything for establishing a clinical center. They need to have an invitation letter from NIH so that they can prove to CAMS' management office for the duration of their visit to NIH. [redacted] at FIC can issue the invitation but thinks 4 days are too long. I think 4 days are a little long (maybe not if you see the list of what they want to see and learn). The proposed dates are Aug 15-19. We will need to provide assistance to their NIAID visit. I will work with [redacted] on this.

I am invited to attend the first meeting organized by the Chinese NIH Alumni and to give a 10 min remark at the opening on Aug. 6. Based on the information I received, about 2-3 years ago [redacted] met with a former NCI researcher and now the head of the Peking University Medical College and two talked about establishment of a Chinese NIH Alumni as there are so many Chinese researchers trained and worked at NIH in the past. This is the first such a meeting among ex NIH researchers and trainees, and an opportunity for networking and set up collaborations among them. I think this is also an opportunity to introduce our NIH-NSFC funding and other NIH resources available for them. [redacted] will help me prepare for the talk.

Personnel update: [redacted] left China to a position at the Navy research center at San Diego. The health attache's position is empty now. No idea when the replacement will come. ESTH section has contacted all HHS agencies and other related agencies in the embassy for a meeting with DCM on health related topics. The first meeting is this Thursday. I threw AMR and Clinical research as the possible topics.

[redacted] I need the signed ICASS documents. The deadline for turning them in has passed.

Talk to you tonight.

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Thu, 13 Oct 2016 23:09:42 -0400
To: [redacted] M. (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: China JCM - input by COB, if possible

Thanks [redacted]
I will come up a few points to send back to [redacted] as our response.
I don't know [redacted] But he is the top DoS person for this meeting.

Ping
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From: [redacted] (NIH/NIAID) [E]
Sent: Friday, October 14, 2016 7:36
To: Chen, Ping (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]
Subject: RE: China JCM - input by COB, if possible

Thanks Ping. I see the topic of "prevention and control" by your name. While we have occasional projects in that realm, they are at the border of our mission area relative to CDC who list their name that way sometimes in reverse order.

https://www.cdc.gov/

I would focus on the three by three mantra of basic, translational and clinical research with an eye to better drugs, diagnostics and vaccines as our central tenets on AR. And from that, I think the clinical and translational parts are the more uniquely relevant. The vaccines space is our counterpart to the "prevention" piece, but that is not the way most practitioners and hospitalists see term. I believe you have some slides I sent for a similar occasion that show the NIAID AR pdf (strategic plan of our antibacterial resistance program) etc. If not, let me know.

Interesting that [redacted] is listed.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Wednesday, October 12, 2016 10:28 PM
To: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted] (NIH/NIAID) [E] [redacted]
Subject: FW: China JCM - input by COB, if possible
Importance: High

Hi [redacted] and [redacted],

I am forwarding you the draft agenda for the JCM meeting in Beijing in Nov. I just saw it this morning and it has me give 5 min speech under Prevention and Control of Emerging Infectious Diseases and Antimicrobial Resistance under session 2. I need to work with you for the outline of the speech. Part of the topic is for prevention and control of eID, it is really for CDC but no one so far from CDC has stepped in for this.

Another interest for us is the topic of Clinical Medicine Research Centers and Clinical Research Capacity also under session 2. As you can see no one is assigned to speak on this topic. I think the request for this topic is from MOST. I am thinking our current TB and planned AMR activities in China actually fit more under the clinical research capacity building than under the current one for eID and AMR. What do you think?

Another topic under session 1, Zoonotic Disease Characterization and Prevention, has some relevance to us. NIAID funded [redacted] at CAS for avian flu (I think it was on avian flu genetics in birds) and we have grant from RDB funding coronavirus survey in bats. The Chinese collaborator is in Wuhan Institute of Virology, a CAS institute too. The request for zoonotic diseases is from a Chinese agency I don't know, AQSIQ. It seems they want to collaborate on detection methods development.

[redacted] this is the meeting you asked me to give you a brief description. I would really like to have your input on how to present our AMR/clinical research emphasis in China.

[redacted] would like to have the response back to her (I guess soon). So your comments, all of you, would be really helpful for our response.

Many Thanks

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Fri, 20 Jan 2017 02:41:02 -0500
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted]
Subject: Jan Update
Attachments: AMR workshop background 1-14-2017.docx

Hi All,
Here are the few things I am working on.
1. The intramural TB lab will launch its clinical trial--Predict Trial--in Henan in March. It is an international multi-site clinical trial in China and South Africa to shorten the standard treatment for drug-sensitive TB from 6 months to 4 months by using the imaging technology to predict the prognosis of patients in response to the standard TB therapy. Three sites in Henan are selected. The investigator initiation meeting will be held on Saturday, March 11 at Zhengzhou. In conjunction with this event Henan Provincial Bureau of Health is organizing a conference on TB for the China's Central Region on March 10. Some internationally renowned TB researchers (several from South Africa attending both events) will be invited to attend conference. I prepared an action memo inviting the Charge des Affair [redacted] to attend the events (I am waiting to hear from [redacted] lab which event they want him to attend most if he can only be there for one day). Before passing the memo to [redacted] the front office suggested that I make recommendations for the trip itinerary. I asked [redacted] to provide the information and asked [redacted] and [redacted] for the attending priority. Once I have the information needed, I can submit the memo, hopefully before next Friday--beginning of the Chinese New Year holiday.
2. Coordinate with CIO [redacted] CTO [redacted] and [redacted] visit in February. I issued invitation letters for them and are coordinating their trip in Beijing. They will in Beijing at the weekend of Feb. 11-12. On Monday Feb. 13, I have a motorpool car to take them to Peking University, then back to the embassy for a meeting with the ISO to discuss the installation of direct NIH server connection in NIAID and NCI offices. The meeting has been scheduled.
3. I finally received the revised draft meeting outline (without agenda) for the NIAID-CAMS AMR workshop from DMID and shared it with CAMS. The workshop is scheduled for the week of Sept 18 (There is an AMR meeting in Seoul Sept 14-16. Some of the DMID people can come for both meetings). The POC from CAMS for this meeting is D[redacted] who is the director of CAMS' Institute of Materia Medica. [redacted] we met him during our visit to the institute. He has responded and agreed to the proposed contents of the workshop. I am going to meet him on Feb. 16 to discuss the details. The revised outline is attached for your reference. Because of its focus on clinical trials and patient access, I suggested not to include an AMR genomic arm to this workshop, instead, we can consider a separate and focused workshop on AMR genomics. Will meet with [redacted] group in DMID to discuss this idea when I am going back in Feb.
4. Two days ago I received the notice that ARLG issued selection decision letters to the hospitals we visited in Dec. 5 hospitals are selected: 2 in Beijing, one in Shanghai and 2 in Hangzhou (for your information [redacted] hospital, Shulan is on the selected list). GSK has provided assistance and will continue to provide help on training and trial monitoring. ARLG hopes to get at least two sites start this year.
5. One MOST-sponsored TB treatment clinical trial has started using some CTCTC hospitals (CTCTC is TB clinical trial network DAIDS has provided technical and training supports). One of the CTCTC sites in Wuhan has been chosen to implement our RePort system.
6. DEA will hold a NIAID post award policy and management event in Beijing. Its Beijing host is [redacted] who should not be a stranger to you (he accompanied [redacted] to visit NIAID) and our grantee on HIV vaccine. [redacted] asked me if I can facilitate the issue of invitation letter by [redacted] I offered to send invitation letter to her and other help she may need in Beijing.

7. I plan to attend the US-Japan EID meeting in Seoul. However, the link for registration sent by [redacted] does not work. I have the hotel reservation already. I will need help to register if the link continuously gives me the error message.
8. A group called Global Virome Project will be visiting Beijing to discuss the scope of the project, which is sponsored by USAID and other organizations. They plan to have US and China be the leaders of the project. The China host is China CDC and our dear friend [redacted] is China POC for this project. The purpose of the project is to identify viruses present in the wild life with potential crossing over to humans, causing human infection and disease. Following the identification of the viruses is the development of vaccines to protect human population. China has huge capacity for vaccine development (I think it has 7 national owned vaccine manufacturing facility and over 30 private vaccine making companies). This can be an very interesting collaboration. One of the partners in this project is EcoHealth Alliance. [redacted] from EcoHealth Alliance is one of the leaders for the GVP project and he has NIAID grant from RDB looking at the coronaviruses in Bat populations in China in collaboration with Wuhan Institute of Virology. He came to visit me once in the Embassy. This grant has direct connection with the purpose of GVP. The meeting is scheduled for Feb. 6-7 in Beijing and it is conflict with our Japan EID meeting.
Thank you and have a nice weekend.
Ping

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AMR workshop in Beijing

Title: China – U.S. Conference: New Frontiers and Challenges in Antibacterial Resistance (AR) Research

Purpose: This meeting will enhance China-U.S. collaboration on AR research through the exchange of information about the current state of knowledge, immediate scientific challenges and issues essential to advance understanding and the development of new medical countermeasures to address antimicrobial resistance. It also will allow U.S. and Chinese scientists to explore the potential for expanded or new research collaboration and it will help inform research support organizations about opportunities for further scientific achievement.

Location: Beijing, China

Date: Sept. 18-20, 2017

Duration: 2.5-3.0 days

Organizers and Sponsors: NIAID and CAMS

Anticipated Participants: scientists and science administrators from government research funding and regulatory agencies, Chinese and U.S. investigators from public and private sector institutions, pharmaceutical and biotech company representatives, clinical investigators, representatives from philanthropic organizations, and others interested in AR resistance.

Size: 100-150 participants

Budget: Funding support to be provided by both Chinese and U.S. organizers/sponsors

Background: Since the discovery of penicillin, antibiotics have become the powerful weapon for people fighting against bacterial infections and have saved lives for more than 7 decades. However, excessive and improper use of antibiotics and pathogen evolution over time have created a wide range of bacterial resistance to the existing antibiotics, making them powerless for some life-threatening infections. According to the review report, Tackling Drug-Resistant Infections Globally, released in May 2016 by UK chaired by [redacted] the burden of deaths from antimicrobial resistance (AMR) would rise to 10 million by 2050 globally if the world does not take actions to tackle AMR problem now. The economic loss associated with AMR would reach 100 trillion USD cumulatively by then. The world has to act together now to save us, our economy, and our future generations from AMR. In September 2014, President Obama's administration in response to the global AMR crisis published the National Strategy for Combating Antibiotic-Resistant Bacteria (CARB). The resulting National Action Plan on CARB lists 5 goals among which is the action to improve international collaboration and capacities for antibiotic resistance prevention, surveillance, control, and antibiotic research and development. As the largest US government funding agency for research on infectious diseases, NIAID is at

the front line in combating antibiotic resistance. NIAID supports basic, translational, and clinical research on all aspects of antibiotic resistance with the ultimate goal of better diagnostics, vaccines and therapeutics. CAMS is the leading institute in China for Biomedical research. It has made tremendous investment and progress in recent years in combating the urgent issues of antimicrobial resistance in the country. China is poised to make a major impact on AR.

China and US are countries with large amount of antibiotic use and are facing similar threat by the increase in antibiotic resistance. Joining our research resources and knowledge will synergize our efforts in combating antibiotic resistance. This proposed AR workshop in Beijing will create an opportunity for the experts from both countries to learn from each other, to collaborate, to share each other's resources, to identify challenges, to continue to improve and perfect regulation, policies, and requirements, and to develop better and smarter partnerships for urgently needed new antibiotics.

The development of the agenda will focus on clinical research and key late stage challenges like access to patients with the specific infections to evaluate potential new therapeutics and study existing ones to improve patient care.

Contents for Agenda Development:

1. Opening remarks by leadership from organizers and sponsors
    - Overview on world AR
    - China AR situation
    - US AR situation
2. Government's roles in AMR research and new product development including incentives approaches
    - Government issued programs (NIH and other government accelerated AMR programs)
    - Chinese government AR and Antibiotic R&D programs (NSFC, MOST, NHFPC, CAS, CAMS, CDC)
3. Regulation— the gate keeper and the facilitators
    - US FDA
    - CFDA
    - EMA
4. Clinical research, clinical trials—focusing on trial design
    - Trials for optimizing existing antibiotic use
    - New drugs trials
        - Foreign pharmaceuticals and companies
        - Domestic pharmaceuticals and companies
        - Research institutes
    - Resources for enabling clinical trials

5. Future directions, potential collaborating areas
    - Frontier areas of scientific promise
    - Clinical trial network – be part of international AR clinical trial network in future.
    - Challenges and ideas for tackling them.

From: [redacted] (NIH/NIAID) [E]
Sent: Mon, 23 Jan 2017 22:01:26 +0000
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted]
(NIH/NIAID) [E] [redacted] (NIH/NIAID) [E] [redacted] (NIH/NIAID) [E]
Subject: RE: Jan Update

Very helpful report, Ping. Looks like you are pretty busy.

I have copied [redacted] who can help with your EID registration.

See you soon.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Friday, January 20, 2017 2:41 AM
To: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted]
(NIH/NIAID) [E] [redacted]
Cc: [redacted] <[redacted]
Subject: Jan Update

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(There is an AMR meeting in Seoul Sept 14-16. Some of the DMID people can come for both meetings). The POC from CAMS for this meeting is [redacted] who is the director of CAMS' Institute of Materia Medica. [redacted] we met him during our visit to the institute. He has responded and agreed to the proposed contents of the workshop. I am going to meet him on Feb. 16 to discuss the details. The revised outline is attached for your reference. Because of its focus on clinical trials and patient access, I suggested not to include an AMR genomic arm to this workshop, instead, we can consider a separate and focused workshop on AMR genomics. Will meet with [redacted] group in DMID to discuss this idea when I am going back in Feb.

4. Two days ago I received the notice that ARLG issued selection decision letters to the hospitals we visited in Dec. 5 hospitals are selected: 2 in Beijing, one in Shanghai and 2 in Hangzhou (for your information [redacted] hospital, Shulan is on the selected list). GSK has provided assistance and will continue to provide help on training and trial monitoring. ARLG hopes to get at least two sites start this year.

5. One MOST-sponsored TB treatment clinical trial has started using some CTCTC hospitals (CTCTC is TB clinical trial network DAIDS has provided technical and training supports). One of the CTCTC sites in Wuhan has been chosen to implement our RePort system.

6. DEA will hold a NIAID post award policy and management event in Beijing. Its Beijing host is [redacted] who should not be a stranger to you (he accompanied [redacted] to visit NIAID) and our grantee on HIV vaccine. [redacted] asked me if I can facilitate the issue of invitation letter by [redacted]. I offered to send invitation letter to her and other help she may need in Beijing.

7. I plan to attend the US-Japan EID meeting in Seoul. However, the link for registration sent by [redacted] does not work. I have the hotel reservation already. I will need help to register if the link continuously gives me the error message.

8. A group called Global Virome Project will be visiting Beijing to discuss the scope of the project, which is sponsored by USAID and other organizations. They plan to have US and China be the leaders of the project. The China host is China CDC and our dear friend George Gao is China POC for this project. The purpose of the project is to identify viruses present in the wild life with potential crossing over to humans, causing human infection and disease. Following the identification of the viruses is the development of vaccines to protect human population. China has huge capacity for vaccine development (I think it has 7 national owned vaccine manufacturing facility and over 30 private vaccine making companies). This can be an very interesting collaboration. One of the partners in this project is EcoHealth Alliance. [redacted] from EcoHealth Alliance is one of the leaders for the GVP project and he has NIAID grant from RDB looking at the coronaviruses in Bat populations in China in collaboration with Wuhan Institute of Virology. He came to visit me once in the Embassy. This grant has direct connection with the purpose of GVP. The meeting is scheduled for Feb. 6-7 in Beijing and it is conflict with our Japan EID meeting.

Thank you and have a nice weekend.

Ping

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From: [redacted] (NIH/NIAID) [E]
Sent: Fri, 7 Jul 2017 14:43:43 +0000
To: Chen, Ping (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: Jun/Jul update

All good. Too bad about Henan visit. We still need to determine whether there is a larger problem there or were they just tired of putting on the show.

On the CAMS agreement, we did know they wanted one but once this was turned over to FIC we had not heard much. It would be fine if it were to be signed during the [redacted] visit. But that will mean that CAMS has to respond quickly to the FIC draft and FIC has to get a little more actively engaged. [redacted] can you ask [redacted] if they are serious about this and point out that at this point there is very little activity focused on NIH during the [redacted] visit. The signing of a non-binding agreement with CAMS would give us and them something to focus attention.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Friday, July 07, 2017 3:48 AM
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Jun/Jul update

Hi,

There have been many activities in China during the past 2 weeks since my return.

1. [redacted] pre-advanced team visited Beijing from Jun. 20-23. As you already knew the trip to our TB site in Henan was canceled because Henan Health and Family Planning Commission refused to host the team. I went to CAMS with the team only. The latest on the dates for [redacted] trip is Aug. 20-22, prior to the APEC meeting in Vietnam. The activities on the agenda include a proposed meeting with Chinese vice primer [redacted] and Commissioner of NHFPC [redacted] and other NHFPC officials, visit China CDC, visit CAMS Cancer Hospital (NCI project), a forum at WHO Beijing office on One Health, an all-hands meeting in the embassy or somewhere, reception with China MOFCom (ministry of finance) and HCP (US-China Health Cooperation Program under US Trade and Development Agency, Department of Commerce, and HHS)--a FDA/commerce for health care industry event, perhaps a meeting with the ministry of security on controlled drug substance--fentanyl (over 90% fentanyl found in US are from China. Evidently Sec. is interested), and an ambassador reception or dinner for the secretary. There is no NIAID activity on the list. I was told by HHS Health Attache's office that HHS wants to include at least one NIAID's activity. It is possible that they may somehow link CAMS to NIAID also since we have HIV and AMR projects with PUMCH.

Learned from our Henan experience, we need to think of other projects we have in China that can be a good "show case". One of the potential sites is the Wuhan Institute of Virology (WIV). RDB has a grant to

EcoHealth which has a Chinese collaborator at WIV working on finding similar SARS viruses in bats population and then look for human exposures to the viruses carried by the bats in the villagers near the caves. USAID funds the same organization and they do more virus seeking projects in China.

If possible, we should learn more about our intramural research collaborations on various vaccines in China. I was asked about if we have any vaccine programs in China by the pre-advance team. I could not share detailed info with them on these projects.

Please provide any suggestions you may have and we should look into them in preparing for the next big visit.

2. We finally received signed co-sponsor agreement from our Chinese partners for the US-Japan EID meeting. I have contacted Shenzhen and plan to visit July 18-21.

3. AMR workshop is in two months. I learned last week that CAMS Department of International Cooperation had no idea about this meeting. Evidently our POC at Institute of Materia Medica (IMM) did not inform them ([redacted] assigned the director of IMM, [redacted] to be in charge of our AMR meeting). He did not even sent the co-sponsor agreement to CAMS for signature. I discovered this when I visited CAMS with the pre advance team. Now CAMS has the co-sponsor agreement and the list of people who would need visa invitation. I raised the urgency to them and will follow up next week. Finally today IMM told me the hotel for the meeting. I will go to the hotel next week to find out about payment, meeting room etc. I contacted DMID asking for how their meeting contractor would like to do in terms of hotel payment for sponsored guests. The meeting agenda is almost final. Still missing a few speakers, all in the China side. I will continue working with them to finalize it.

4. New ambassador [redacted] arrived in Beijing last week just before the 4th of July celebration event last Friday. The embassy has started a serious briefing meetings with him. On the 18 subject list Health Issues is the last one. Currently [redacted] the Health Attache for HHS, is out of the office. So it is likely that the brief for the health issue will be later after she is back. We were given 2-3 sentence time at the country team meeting last week to introduce agencies and what we do.

5. Learned from ESTH that the US-China S&T talk goes no where. The deadline is July 26. Without an agreement or agreement on extension, the S&T will lapse. Hopefully it won't have much effects on our programs in China.

6. Learned that CAMS wants to sign a MOU with NIH. A draft was presented to me by CAMS asking for possible signing during [redacted] visit or sooner. I passed the draft MOU to [redacted] and learned that was a copy FIC did not agree. CAMS has not given the feedback for the NIH version of the MOU. [redacted] is the one taking the lead on drafting the MOU. I had not heard [redacted] or anyone else mention the NIH-CAMS MOU. What is your thought on this? Maybe a non-binding MOU would make easier for us to continue working with CAMS considering CAMS would be very happy to have a MOU with NIH.

6. I owe you the review of a few Chinese documents (the "Thirteen-Five" health and innovation plan, precision medicine etc). I also haven't forgotten [redacted] suggestion on a cable describing cFDA's recent policy drafts (ESTH is interested and will work with them; time dependent).

Have a nice weekend and talk to some of you next Monday.

Ping

Ping Chen, PhD
Director of NIAID Office in China

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From: [redacted] (NIH/NIAID) [E]
Sent: Tue, 5 Sep 2017 12:35:26 +0000
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: End of Aug Update on Activities in China

Thanks. Very interesting. We will assure we take into account for GAO visit. [redacted]

Sent from my iPad

On Sep 5, 2017, at 4:04 AM, "Chen, Ping (NIH/NIAID) [E]" [redacted] wrote:

Hi,

August had come and gone. I had reported on [redacted] visit and thanks everyone who had worked on providing briefing documents and background.

I attended the "Belt and Road" High Level Meeting for Health Cooperation: towards a Health Silk Road on Sept. 18. Vice Premier [redacted] outlined the principle and China's commitment to build the Health Silk Road, which is in alliance with China's Belt and Road Initiative by President Xi a few years ago. The new WHO director general [redacted] attended the meeting and praised Chinese's global health efforts, and support China's Health Silk Road initiative. A few foreign country health officials gave very short speech supporting and participating the health silk road network. USAID, NIH, CDC attended this meeting and we hope to produce a cable soon. I will share the information later.

Last week USAID, CDC, ESTH and I met with Gates Foundation, initially planned to talk about global Malaria eradication efforts to see if there is any area we can work together. But we ended talking in general Chinese policies and the foundation's current strategies in China--capacity building to help China raise its national standards and leverage China's resource to help others. One of the examples for raising the national standards is to help China FDA for its reform. Gates foundation has managed to work out a mechanism with China FDA to provide fund to China FDA for placing experienced Chinese-Americans who had worked at US FDA for many years to work in China FDA as senior consultants. These people play a key role for China FDA's reform such as the release of several draft documents on drug regulation reform in May 2017 for public comments (I invited two of them to attend our AMR workshop in Beijing). You have read the cable on Ambassador's meeting with China FDA's director general, [redacted], in which it mentioned that in the next month or so, we expect to see the release of policy in a form of opinion documents from the State Counsel as the results of finalizing these draft documents. I provide the summary of the draft documents that relevant to our research activities back in May or Jun. I think once these draft documents become policies, it would benefit our clinical activities in China.

On the approach for leveraging China's resource to help others, Gates Foundation is working with Chinese government on donations to its neighboring countries and African countries such as anti-malaria medicines, bed nest, diagnostics etc. More specifically, it helps Chinese companies to gain pre-qualification on medications so that Chinese company manufactured drugs can be sold outside China, helps the Chinese to establish bilateral collaboration with specific countries in Africa, teaches the Chinese how to do resource mobilization, and helps raise China's voice of governance by placing representatives from China on important international counsels as high level commitment from China. I told them about NIAID's ICEMR program. Another officer from the foundation noticed one of the PIs for our ICEMR also receives the fund from the Foundation. I told them for the second time about the detection method for fake and substandard anti-malarial drugs developed by one of the PIs in ICEMR, hoping the foundation can help the professor develop it into a product. I think there is an interest by the foundation.

AMR planning is it final stage of preparation. Now Chinese are working on it and told me repeatedly things will be fine. I had discussion with them on covering Chinese invited speaker's travel. Their reaction is they are normally don't (previous meetings they organized) pay for speaker's travel. They received a request from one invitee from a company and they told him he has to find his own fund to pay for the airfare. I know you are working on using OGR money to pay. I would ask at least to pay the airfare for two doctors from Huashan Hospital. Another item our Chinese partner brought up today is if we can print a meeting handout including brief bio and abstracts. I will try to ask but unlikely to have the abstract collected on time. I will ask the speakers at least mention their special area of interests and roles in AMR. Still waiting for the final confirmation from Chinese government officials.

Just met with a group from the Global Virome Project (GVP) which is funded partially by USAID. The head of the project, [redacted] of EcoHealth Alliance, is an NIAID funded PI. His collaborator at the Wuhan Institute of Virology in China has done excellent work on corona viruses in Chinese bat populations. Just heard the story that because of her research on corona viruses the scientists were able to quickly identify the virus that caused rapid death of thousands of farmed pigs in Guangdong province in China recently. It was one kind of corona viruses that has been identified in bats. [redacted] is the lead on GVP in China, trying to get some funding from China's "Belts and Roads" Initiative. [redacted] is on the board of GVP (He came to Beijing to attend a GVP meeting in March this year). During [redacted] visit to NIAID in Oct, [redacted] may mention GVP project to [redacted] seeking NIAID support. Maybe should have [redacted] (he knows George) at the meeting. Embassy is very interested in this project as it is one of the areas that US and China can work together without much political confrontation. And GVP is in alliance with GHSA. During the meeting embassy staff brought up three high level US-China interactive events: the social and cultural dialogue possibly at the end of Sept and possibly led by Vice Premier [redacted], who will meet with Secretary Price and GHSA will be on the meeting agenda, thus, possibly include GVP. The next GHSA ministerial meeting in Kampala in Oct. [redacted] will attend--another opportunity to meet Chinese counterpart and to discuss GHSA and possibly GVP. The third event is possible Trump's visit to China in Nov. Emerging infectious disease poses threat to both societies and two countries should work

together. Of course, there are many complicated issues such as data ownership, sample collections and exporting / importing, funding, etc. BGI--Beijing Genomics Institute has agreed to carry out 30-40% sequencing for GVP, which has a target of collecting 85% viruses found in mammals and water birds. BGI is located in Shenzhen. A site visit to BGI has been suggested by [redacted].

I have a few things to follow for the EID meeting in Shenzhen, waiting for responses from our Chinese co-sponsors.

Very busy time.

Please let me know if you have any questions.

Best,

Ping

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[redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Fri, 20 Oct 2017 17:46:45 +0000
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: Oct. Update

Please make a very careful and full report on what you learn during this visit. It will be a very important interaction and one that many are interested in. Please share your report with us before it goes into any other reporting.

We will be glad to engage directly or via grantees in whatever will help assure safe operations.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Friday, October 20, 2017 10:20 AM
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: Oct. Update

The lab will be operational soon. The visit has been arranged through one of our grantees. I know [redacted] has been worked with WIV and had done some training. One possible follow up from the visit is that they may need some training for the management of the P4 lab. Also, I was told only certain viruses can be worked in this lab. Can find out what kind viruses and may be some collaborations among PIs working on these viruses.
Ping

Sent from my iPhone

On Oct 20, 2017, at 9:54 PM, [redacted] (NIH/NIAID) [E] wrote:

Thanks, Ping. Interesting note.

[redacted] I don't understand what you are offering? Could easily backfire to have someone from the US contact the BSL-4 lab and it sounds like Ping has worked it all out.

Also, can OSR assist with putting together information for her to use for the flu meeting in Thailand? I think Ping also is in direct contact with some of the DMID folks, but she can clarify.

[redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Friday, October 20, 2017 9:39 AM

To: Chen, Ping (NIH/NIAID) [E] [redacted]
Cc: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Subject: Re: Oct. Update

[redacted] at U Texas Medical Branch, Director of the Galveston BSL4, works closely with them. In1986 [redacted] and I spent the year on and off in Wuhan setting up a virology lab and studying Hantavirus infections and treating patients with ribavirin. We trained many, and some later came to the States. I think that helped it on its way to becoming a center for virology.
Is the visit all set, or should I contact [redacted] and have him help set things up?

(6)

Sent from my iPhone

On Oct 20, 2017, at 9:09 AM, Chen, Ping (NIH/NIAID) [E] [redacted] wrote:

Yes

Sent from my iPhone

On Oct 20, 2017, at 8:28 PM, [redacted] (NIH/NIAID) [E] [redacted] wrote:

Is the BSL4 in Wuhan?

Sent from my iPhone

On Oct 20, 2017, at 8:23 AM, Chen, Ping (NIH/NIAID) [E] [redacted] wrote:

Yes. I am available. 9 pm my time.

Sent from my iPhone

On Oct 20, 2017, at 8:06 PM, [redacted] (NIH/NIAID) [E] [redacted] wrote:

We can have the call on Monday if you are available.

Thanks,

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Friday, October 20, 2017 5:09 AM
To: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Subject: Oct. Update

Dear all,

I traveled to Zhengzhou for the formal beginning of the Predict TB trial in Henan this week. The week before the Henan site received the approval from China's Human Genetic Resources office. So now the trial can start enroll patients. The Henan official wanted to have another initiation celebration and wanted to have NIAID official to attend. I was invited. The ceremony was postponed from Tuesday to Thursday because of the opening of the 19th national meeting of the Chinese communist party. All officials had to watch to opening and to listen to the president's speech, which I was told lasted for 3.5 hours! On Tuesday we traveled to one of the 4 sites in Henan, Kaifeng City TB institute and witnessed the screen of the first TB patient. The head of the provincial Bureau of Health and others from provincial CDC attended the ceremony. The event was sent on the street in the front of the hospital. They had placed 4 cannons and fired up at the beginning of the ceremony and later with confetti. I gave a 5 mins remark to thanks [redacted] for long term and successful collaborations, and wishing a successful trail. See the photo attached.

I have been worked with [redacted] on the logistics of the USJCMSP EID meeting. The first batch of the visa invitation has been sent back. Both hotel and of Shenzhen sponsor have been very responsive. We are making progress.

I am going to visit the only BSL4 level laboratory in China next week. The lab will become operational soon. Once it is hot, it won't be able to accept visitors.

Thank you for the funding cable.

The health team in Beijing suggested to do a public event on AMR at the Beijing American Center this month. I agree to it. But now it looks like that we may not be able to find a time slot for Nov. Will keep you posted when we will do it.

I will need you to help me prepare the information that CDC wants for the H7N9 round table event in Thailand. [redacted] knows what I need for the meeting.

As for the NIH-CAMS annual symposium on liver diseases, I will need to discuss it with [redacted]. He needs to talk to the cancer institute about the idea of joining to meetings in Sept. We will

need to schedule a meeting with [redacted] once we know what the cancer institute wants. Although the cancer institute is under CAMS, I was told that the head of the Cancer institute and [redacted] do not get along, which is unfortunate. I will work with [redacted] till I can hand the majority of responsibility to him.

Are we have the call on Monday? I can take it from Wuhan.

Have a nice weekend.

Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Thu, 26 Oct 2017 09:01:13 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: trip report
Attachments: IMG_5695.JPG

Hi,
This week I went to Wuhan to visit the Bio safety lab 4 in Wuhan Institute of Virology (WIV), an institute under the Chinese Academy of Sciences (CAS). My contact who helped arrange the visit is [redacted] who is a Chinese collaborator on a NIAID grant to EcoHealth for SARS like corona virus project.
The P4 lab is located in a new developing zone about one hour car ride from the current institute location in central Wuhan city. The location will be the new campus for the entire institute in the near future (a lot of construction is going on right now). Since we are not allowed to take photos so only the photo from the outside is attached.
Although the labs are not hot yet we were not allowed to enter the laboratories. The facility is larger than I thought it would be. It has three laboratories inside, two of them can have 4 people work inside at the same time, quite spacious (can look into it through a window, not open to the outside). Another smaller one is connected to the animal housing area for conducting animal experiments. There are two animal housing and operating areas, one for the small animals and one for the mid size animals such as ferrets and non-human primates.
Several teams are involved in the management of the facility. There is a team of technicians who are trained to conduct experiments inside the P4 lab. Others include the facility people, the management personnel, biosafety team, and security.
I learned from the conversation and find interesting is that the institute has to apply for permission for the types of pathogens they can work with in the P4 lab. So far they only have three permissions: Ebola, Nipah virus, and Xinjiang hemorrhagic fever (a strain of Crimean Congo hemorrhagic fever found in Xinjiang Province in China). The permission is given by the National Health and Family Planning Commission. Interestingly Chinese government does not allow the import of Ebola viruses. So what is the point to give the permission for working on Ebola viruses when there is no pathogen available. The technician who gave us the tour said that they are considering doing the reverse genetic engineering to generate the virus (will need to get permission too). On the other hand, they did not get the permission to work on SARS as [redacted] is working on SARS and MERS. So the facility won't get much of use at this point. They also don't know what were the criteria or considerations that NHFPC had when they made the decision on what viruses can or can't be worked in the P4 lab.
It is clear to me by talking to the technician that certainly there is the need for training support as he said being the first one in China, they have to learn from others. I don't think the French does much now after the facility has been turned to China. Right now they rely on Chinese who had worked in P4 labs before and now returned to China. A couple of researchers in WIV returned from UTMB in Galveston. I learned that UTMB will come to WIV soon to conduct a

training. I think the institute would welcome any help and technical support that NIAID can provide when there is need.
I asked about whether the institute would welcome and host high level of US visitors. The response is yes. The institute can be a back up for our Henan TB project to cope with request for site visits by US officials. I obtained contact info and forwarded to the consulate in Wuhan as they had shown interest to visit the lab.
I also learned from the conversation that another P4 lab is either under the construction or planning, which will be for veterinary use. Will be located in Harbin Veterinary Research Institute, another CAS institute. This P4 lab would have the capacity to work on large animals.
I am getting a lot of detailed questions from [redacted] on the EID planning. We are getting good responses from our contacts.
I am working with CAMS for a couple of follow ups following the AMR meeting.
Please let me know if you have any questions.
Thanks
Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Wed, 22 Nov 2017 07:03:29 +0000
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E] [redacted]
(NIH/NIAID) [E]
Subject: Re: trip report
Attachments: WIV P4 lab Summary.docx

I drafted the following report for my visit to the P4 lab as you requested. ESTH has been working with the health group in the embassy for cables. Not sure this would be their interests. And we can decide whether to do a cable or not. There is just not enough info I think for a full cable.
Anyway I want to get it out before the holiday starts now in the embassy (early release).
Have a nice Thanksgiving! I won't eat any turkeys but will try to find chicken in Gulangyu Island.
Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, November 6, 2017 21:24
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: trip report

OK.

Sent from my iPhone

On Nov 6, 2017, at 9:21 PM, [redacted] (NIH/NIAID) [E] [redacted] wrote:

Please send us by e-mail your full report on the visit and then we can decide what to do with that information. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, October 26, 2017 11:28 PM
To: [redacted] (NIH/NIAID) [E] [redacted]
Cc: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Subject: Re: trip report

I don't think [redacted] had brought any Ebola viruses back from West Africa. I suspect the fact that the country does not allow Ebola to be brought in is, at least in part, contributed to his strong push to establish the China CDC African center in Sierra Leone. So that they can study viruses, not just Ebola but any emerging viruses, on site. They did all the Ebola virus sequencing in Sierra Leone after shipped the sequencing equipment there.

I was also concerned when I heard the technician said about reverse genetics. I am not sure if they are actually going to do that. It will need to get government approval. But just the thought raises concerns.

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Let me know what you would like me to do.

Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: [redacted]
Cell: [redacted]
U.S. Cell: [redacted]
U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District, 100600
Beijing, China
[redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Friday, October 27, 2017 1:40:04 AM
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: trip report

Thanks for this report, Ping. I recommend you turn this into a short cable but before you send it for clearance, please share with us for a quick review. This is a sensitive subject and will be of interest to others.

It is good they welcomed your visit and will be good to keep in touch so we are aware of what they are doing in the future.

I am surprised and concerned to hear their idea on reverse engineering Ebola. I would have thought that the samples [redacted] collected could be made available to them. I had the impression that he likely brought home some samples related to the West Africa outbreak.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, October 26, 2017 5:01 AM
To: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Subject: trip report

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conducting animal experiments. There are two animal housing and operating areas, one for the small animals and one for the mid size animals such as ferrets and non-human primates.

Several teams are involved in the management of the facility. There is a team of technicians who are trained to conduct experiments inside the P4 lab. Others include the facility people, the management personnel, biosafety team, and security.

I learned from the conversation and find interesting is that the institute has to apply for permission for the types of pathogens they can work with in the P4 lab. So far they only have three permissions: Ebola, Nipah virus, and Xinjiang hemorrhagic fever (a strain of Crimean Congo hemorrhagic fever found in Xinjiang Province in China). The permission is given by the National Health and Family Planning Commission. Interestingly Chinese government does not allow the import of Ebola viruses. So what is the point to give the permission for working on Ebola viruses when there is no pathogen available. The technician who gave us the tour said that they are considering doing the reverse genetic engineering to generate the virus (will need to get permission too). On the other hand, they did not get the permission to work on SARS as [redacted] is working on SARS and MERS. So the facility won't get much of use at this point. They also don't know what were the criteria or considerations that NHFPC had when they made the decision on what viruses can or can't be worked in the P4 lab.

It is clear to me by talking to the technician that certainly there is the need for training support as he said being the first one in China, they have to learn from others. I don't think the French does much now after the facility has been turned to China. Right now they rely on Chinese who had worked in P4 labs before and now returned to China. A couple of researchers in WIV returned from UTMB in Galveston. I learned that UTMB will come to WIV soon to conduct a training. I think the institute would welcome any help and technical support that NIAID can provide when there is need.

I asked about whether the institute would welcome and host high level of US visitors. The response is yes. The institute can be a back up for our Henan TB project to cope with request for site visits by US officials. I obtained contact info and forwarded to the consulate in Wuhan as they had shown interest to visit the lab.

I also learned from the conversation that another P4 lab is either under the construction or planning, which will be for veterinary use. Will be located in Harbin Veterinary Research Institute, another CAS institute. This P4 lab would have the capacity to work on large animals.

I am getting a lot of detailed questions from [redacted] on the EID planning. We are getting good responses from our contacts.

I am working with CAMS for a couple of follow ups following the AMR meeting.

Please let me know if you have any questions.

Thanks

Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
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Cell: [redacted]
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U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District, 100600
Beijing, China
[redacted]

Summary on China's Bio-safety Protection Level 4 (P4) laboratory, Wuhan Institute of Virology

Ping Chen

Background

China decided to build a P4 laboratory in 2003 when the outbreak of SARS spread across the country. In April 2003, the former prime minister of France, [redacted] visited China, and the two countries agreed to cooperate over infectious disease control. The construction of the P4 laboratory became the top priority.

In collaboration with Jean Merieux BSL-4 Laboratory in Lyon, France, China's first P4 lab was constructed in Wuhan Institute of Virology (WIV, an institute under the Chinese Academy of Sciences, CAS). It took 11 years to complete. In January 31, 2015 WIV celebrated the completion of the facility. Now 2 years and 9 months later the lab is operational and ready to be used for research on highly infectious pathogens. This is the first P4 laboratory in Asia.

Facility

The P4 lab is located in a new developing zone about one hour car ride from the current institute location in the city of Wuhan, Hubei Province. The location will be the new campus for the entire institute in the near future. The building, which looks like a giant cube from outside, occupies over 3000 square meters. It has 4 floors. The bottom floor is for water treatment and essential equipment for protection and safety operation such as oxygen generators. The second floor has 3 experimental laboratories (two equally sized labs each can have 4 people working at the same time; another smaller lab is connected to the animal housing area for conducting animal experiments), 2 animal laboratories (one for small sized animals and one for mid-sized animals such as non-human primates or ferrets), 1 operating room for animals, and one viral storage room. The third floor holds various ducts and wires. The fourth floor is for air filtering and circulation.

Several teams are involved in the management of the facility. There is a team of technicians who are trained to conduct experiments inside the P4 lab. Others include the facility people, the management personnel, biosafety team, and security. The person who gave me the tour is a trained technician. According to him, being the first P4 lab in the country, they have to learn everything from zero. They rely on those scientists who have worked in P4 labs outside China to train the other scientists how to operate in the P4 laboratory.

I learned from the conversation and find interesting is that the institute has to apply for permission for the types of pathogens they can work with in the P4 lab. So far WIV only obtained the permissions for three viruses: Ebola, Nipah virus, and Xinjiang hemorrhagic fever (a strain of Crimean Congo hemorrhagic fever found in Xinjiang Province in China). The permission is given by the National Health and Family Planning Commission. Interestingly Chinese government does not allow the import of Ebola viruses. So what is the point to give the

permission for working on Ebola viruses when there is no pathogen to work with. The technician who gave us the tour said that one idea is to apply reverse genetics to create the virus (it is alarming for the approach. I suspect the institute would need to obtain permission too if it would consider going down that road).

How NHFPC determines what kind of viruses can or can't be worked in the P4 lab now is unclear. I asked [redacted] who is one of the few professors with P4 lab training, and she said that they are not clear either how NHFPC made the decision. [redacted] works mainly on coronaviruses including SARS and MERS and the institute had requested working on SARS in the P4 lab. Their request was denied. At present, the facility won't get much of use.

It is clear to me by talking to the technician that certainly there is the need for training support. The French lab that helped the construction of the lab does not provide technical training for laboratory operations. From limited information I have UTMB (University of Texas Medical Branch) in Galveston, which also hosts one of several P4 labs in the United States and supported by NIAID, has provided training to WIV. I think the institute would welcome any help and technical support that NIAID can provide when there is need.

I also learned from the conversation that another P4 lab is either under the construction or planning, which will be for veterinary use. It would be located in the Harbin Veterinary Research Institute, another CAS institute. This P4 lab would have the capacity to work on large animals.

From: [redacted] (NIH/NIAID) [E]
Sent: Mon, 27 Nov 2017 06:30:37 +0000
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: trip report

P.S. There is enough good information in your report that it needs to be shared in some form or another. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Wednesday, November 22, 2017 2:03 AM
To: [redacted] (NIH/NIAID) [E] <[redacted]niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]
Subject: Re: trip report

I drafted the following report for my visit to the P4 lab as you requested. ESTH has been working with the health group in the embassy for cables. Not sure this would be their interests. And we can decide whether to do a cable or not. There is just not enough info I think for a full cable.

Anyway I want to get it out before the holiday starts now in the embassy (early release).

Have a nice Thanksgiving! I won't eat any turkeys but will try to find chicken in Gulangyu Island.

Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: [redacted]
Cell: [redacted]
U.S. Cell: [redacted]
U.S. Embassy Beijing
#55 An Jia Lou Road

ChaoYang District, 100600
Beijing, China
[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, November 6, 2017 21:24
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: trip report

OK.

Sent from my iPhone

On Nov 6, 2017, at 9:21 PM, [redacted] (NIH/NIAID) [E] [redacted] wrote:

Please send us by e-mail your full report on the visit and then we can decide what to do with that information. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, October 26, 2017 11:28 PM
To: [redacted] (NIH/NIAID) [E] [redacted]
Cc: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E]
[redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Subject: Re: trip report

I don't think [redacted] had brought any Ebola viruses back from West Africa. I suspect the fact that the country does not allow Ebola to be brought in is, at least in part, contributed to his strong push to establish the China CDC African center in Sierra Leone. So that they can study viruses, not just Ebola but any emerging viruses, on site. They did all the Ebola virus sequencing in Sierra Leone after shipped the sequencing equipment there.

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Sent: Friday, October 27, 2017 1:40:04 AM
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
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Sent: Thursday, October 26, 2017 5:01 AM
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
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Please let me know if you have any questions.

Thanks

Ping

Ping Chen, PhD

Director of NIAID Office in China

Office of Global Research, NIAID, NIH

Bethesda Office: [redacted]

BB: [redacted]

Beijing Office: [redacted]

Cell: [redacted]

U.S. Cell: [redacted]

U.S. Embassy Beijing

#55 An Jia Lou Road

ChaoYang District, 100600

Beijing, China

[redacted]

[redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Fri, 12 Jan 2018 11:00:10 +0000
To: Chen, Ping (NIH/NIAID) [E]
Subject: RE: P4 cable

As we discussed. Delete that comment but include info on future BSL-4 labs we were told would be constructed.

Thanks. [redacted]

[redacted]
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: [redacted]
Fax: [redacted]
[redacted]

5601 Fishers Lane, Room 1E50
Bethesda, MD 20892-9802

From: Chen, Ping (NIH/NIAID) [E]
Sent: Wednesday, January 10, 2018 10:04 AM
To: [redacted] (NIH/NIAID) [E]
Subject: P4 cable

Thanks [redacted]

Regarding the comment on using the reverse genetics to create the virus. It was said by the technician who showed me the facility. He is one of the trained technicians at WIV. I remember he said that since they don't have the Ebola virus, they had "considered using reverse genetics to create the virus". I was shocked to hear what he said that. I also worry the reaction of people in Washington when they read this. The technician is only a worker, not a decision maker nor a PI. So how much we should believe what he said? If further question is raised on this sentence, I won't be able to provide further information as there is no further information there.

I included it in my report because that was just for OGR. I reported what I heard and saw. But I don't feel comfortable for broader audience within the government circle. It could be very sensitive. Should we not include it?

I also realize one piece information is not in there. China has other P4 facilities being built. One is in the Harbin Veterinary Research Institute, another institute under CAS. This one is for veterinary use. I I can try to find more info. Or not include this

I lost your message after I saved the draft cable. So still have the draft cable.

Thank you

Ping

陈平
Ping Chen, PhD
Director, NIAID China Office
#55 An Jia Lou Road, Beijing 100600
Office: [redacted]
Mobile: [redacted]
US Mobile: [redacted]
[redacted]
[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Tue, 27 Feb 2018 01:51:58 +0000
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: 2/26/2018 updates

I am not sure when the article would be published. I think it is soon.
[redacted] is scheduled to return to US in Jun. She is in DC now trying to figure out the logistics. She has two local staff. The closing notice was a surprise to them. They need to give enough time for the local staff to find new position. The EEID meeting is in April 9-11 in Shenzhen. So it is before the closing.
According to [redacted], FIC thought it is a good idea but they don't have the money to support an overseas staff. NCI had told [redacted] that they may not be able to keep him in Beijing. [redacted] made an effort recently organized a meeting while he was at NCI last month to demonstrate the benefits to have a field staff. He said it went well and [redacted] loved it. But at the same time NCI can't tell him definitively what it's the decision on the China position. [redacted] is very frustrated.
Regarding the NSFC grant program this year. It is likely that [redacted] won't be involved much (I suspect). It would be someone from CGHR and perhaps [redacted], who works on China matters independently from [redacted].
It's difficult to get a meeting with [redacted]. I have been sending him messages asking for an appointment. He said this week but still don't know when. I will bother him again tomorrow if I don't hear from him.
Thanks
Ping
Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: [redacted]
Cell: [redacted]
U.S. Cell: [redacted]
U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District 100600
Beijing, China
[redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Monday, February 26, 2018 11:14:14 PM
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: 2/26/2018 updates

Thanks, Ping. All quite interesting developments.

Where will the flu article be published and when? I am not surprised about the censorship because those doing the censuring are not scientists and probably have a set of key words that they automatically use to delete material with a very conservative approach.

Eager to hear if [redacted] has anything in mind for an [redacted] award or visit. (6)

Sorry to hear about NCI and NSF closing shop. [redacted] must be quite upset given that his family situation requires him to be in Beijing. I am a little surprised by this NCI decision because [redacted] just told me they would take leadership in the next round of NSFC grants program. They are in a bit of a mess. What has FIC said about sharing the post? That would be a good solution, in my view.

Will NSF close before their environmental health meeting?

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, February 26, 2018 2:42 AM
To: [redacted] (NIH/NIAID) [E] [redacted]; [redacted] (NIH/NIAID) [E] [redacted]
Cc: [redacted] (NIH/NIAID) [E] [redacted] Chen, Ping (NIH/NIAID) [E] [redacted]
Subject: 2/26/2018 updates

Good morning.

Just a brief update.

Last week was a short week as we return to work from the Chinese New Year holiday on Wednesday.

Last week [redacted] sent me the following news from China on a type of new flu vaccine using nano-technology from China's Wuhan Institute of Virology (the institute with the P4 lab). I shared the information with embassy's ESTH and Wuhan Consulate as they are always interested in news report on health (please reference the news below). I wanted to learn more about this vaccine. So I did search at the institute's website using both Chinese and English. When I could not find any, I did broader search but still could not find any information. Later ESTH got back to me and said they could not find anything either. Any link related to this topic was blocked. The next day they found all links they previous found were gone. So the ESTH officer [redacted] decided to write a night note (I never knew this before. It is used to inform embassy something is unusual in a brief paragraph). Here is the night note [redacted] and I developed and shared.

News Reports of Development of New Flu Vaccine Censored
(SBU) English-language media reported that a research group from Wuhan Institute of Virology, Chinese Academy of Sciences, developed a new type of flu vaccine using nano-

technology. The reported nano-vaccine is delivered intranasally and can target broad-spectrum flu viruses and induce robust immune responses in mice. A broad spectrum or universal flu vaccine is urgently needed to protect populations from flu infection worldwide. However, the effort of searching for more information on this vaccine candidate has gone nowhere. Chinese-language media initially showed links to related articles, but blocked full access to them. Chinese media has now blocked all mention of this announcement. It is unclear why this scientific-based research development has been censored as the Chinese government usually welcomes the announcement of scientific breakthroughs and has been generally open to discussions on flu.
(ESTH-[redacted] NIAID/NIH- Ping Chen)

I then contacted the scientist mentioned in the news directly. [redacted] responded to my email the same day and shared the manuscript (accepted for publication but has not been printed) with me. I did not sense any concern for sharing the manuscript with me. So we really don't understand why the news on this was blocked or inconveniently unavailable.

I finally received the presentations from the AMR meeting. Will work with DMID on how we can distribute them.

I have completed the questionnaires for renewing my security clearance last week and submitted today.

I contacted [redacted] again last week after the holiday for a meeting with him. He responded and hopefully I can meet him this week.

[redacted] the director of NSF office in Beijing, told me today that NSF is closing down the Beijing office. In addition, whether NCI would keep its office in the embassy is uncertain. CGHR wants FIC to share the position with NCI. Or [redacted] would have to work in the office back in US.

Please let me know if you have any questions.

Have a nice week.

Ping

Chinese scientists develop new flu vaccine

Source: Xinhua| 2018-02-17 18:29:04|Editor: [redacted]

WUHAN, Feb. 17 (Xinhua) -- A research group from Wuhan Institute of Virology, Chinese Academy of Sciences, announced that they have developed a new type of flu vaccine using nano-technology.

The intranasal nano-vaccine can target broad-spectrum flu viruses and induces robust immune responses, said [redacted], leader of the research group.

"In our study, an intranasal nanovaccine worked well against infections of H1N1 and H9N2 virus in mice," [redacted] said.

"The results suggest that the 3M2e-rHF nanoparticle is a promising, needle-free, intranasally administered, cross-protective influenza vaccine," he said.

Across China, measures have been taken contain the winter flu outbreak. Experts said flu infections this winter are 71 percent above the average for the same period in the previous three years, with child cases rising sharply.

Flu outbreaks have been also reported worldwide including the United States, Canada, Britain, Italy, North Africa, Japan, and the Republic of Korea since winter last year.

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: [redacted]
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[redacted]@niaid.nih.gov
[redacted]@state.gov

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 5 Mar 2018 08:26:40 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (6) (NIH/NIAID) [C]
Subject: March 5 updates
Attachments: MOST Press Conference on S&T_partial translation.docx

Hi,
During last week, the main activities were meeting with [redacted] and learned about his transition to NSFC. We had brief discussion about what he can do, as the deputy director of NSFC (equivalent to the entire extramural program of NIH), to host [redacted] if [redacted] agrees to the visit. I sent a message to you already, so not repeating it.
Another task I did was to go over the press conference on China's S&T accomplishment, policies, and basic research. Attached is my translation and summary of the Press Conference by MOST. From this Press Conference it is clear that China is boosting its basic research capacity. The timing and having our friend [redacted] in charge of China's biomedical funding would work for us in considering collaborative programs with China. Please let me know if you have any questions regarding the content of the S&T press release.
China's MOST last week also announced 10 major S&T accomplishments. These accomplishments were based on the publications and expert voting and were considered big breakthroughs or filling a scientific gap. The number two breakthrough is the molecular approach to convert a virus to vaccine and therapeutics by only mutating DNA codons into termination codon, a research project by the College of Pharmacy in Peking University.
The embassy health group met with the Council General from Wuhan. Later he reached out for my help to contact Wuhan Institute of Virology (WIV) to arrange a visit by him and the head of the ESTH section in Beijing embassy. So far no word from the people I contacted at WIV. Today I attended a meeting with US CDC influenza group and the Agriculture and animal health people from the embassy updating on the current avian influenza situation. So far there were only 3 reported Avian Flu cases in China, much lower than the cases reported from last wave. We consider the dramatic reduction in human H7N9 infection can be partially contributed to the massive poultry immunization with an inactivated H5 and H7 bivalent vaccine. The data released by the Chinese show the average vaccination coverage of all poultry species is above 85% with regional variation from 55% in some remote regions to 100%. The vaccination also brings the concerns on the increase in viral mutation under pressure and sub-clinical symptom in poultry infected with high pathogenic influenza virus, which has been used as a trigger to initiate emergency the influenza-like illness surveillance.
I will be in Fishers Lane Thursday morning. Will see you then.
Thank you
Ping
Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH

Bethesda Office: [redacted]
BB: [redacted]
Beijing Office: [redacted]
Cell: [redacted]
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Translation/summary of The Chinese State Council Press Conference on S&T Innovation

On Feb. 26, the Chinese State Council Information Office organized a press conference led by the minister of Ministry of Science and Technology, [redacted]. The purpose of the press conference was to highlight the China's achievement in S&T in the past 5 years (2012-2017. PChen Note: Minister [redacted] is expected to step down as the minister of MOST in March following the annual People's Congress). To help the audience/press better understand the science and technology, the minister invited five scientists to attend the conference and to answer questions. Our friend, [redacted] was one of the five.

Minister [redacted]

The entire press conference was "propaganda-heavy" (I used the term from a night note prepared by ESTH), praised the current government for its leadership and the achievements that China has made in S&T in the past several years are the results of the government policies. In his summary, Mr. [redacted] summarized that the first time China has entered the stage that either leading or in parallel with the front runners in S&T innovations worldwide. In 2017 the estimated whole society spending budget on R&D was 1.76 trillion RMB (about $270 billion), which was increased by 70.9% from 2012. Industry spending accounted for about 77-78% the R&D budget for 2017. China ranks No. 2 in R&D publications worldwide. Patent application and approval rate is among the world front. The total number of full time researchers is number 1 in the world. Rate for scientific contribution rose from 52.2% in 2012 to 57.5%. The innovative ability of the country has advanced from No. 20 in 2012 to No. 17 in the world.

Second area that [redacted] talked about was the S&T accomplishments and innovations strongly supported the reform and improvement of people's lives. The mega projects such as high-speed rail system, quantum experimentation, space science and technology, automation, nuclear powers, renewable energy, new generation electrical automobiles, artificial intelligence, big data, and cloud computing let the economic transformation and growth. In medicine, he mentioned over 1.3 million innovative medical devices have been tested and used in primary clinics, served for more than 450 million people. During this period, China has established its emergency response system for the prevention and control of emerging infectious diseases, successfully invented the Ebola vaccine, and demonstrated the ability of China as an international player in disease control and prevention.

The third successful area that [redacted] mentioned is the reform in S&T infrastructure has continued systematically and advanced in depth. The new policies in promoting society investment into R&D, awards for S&T innovations, patents, national S&T planning and management, and other new regulations promoting research and innovation have seen its positive results and increased the accomplishment feeling of the researchers.

The fourth area is to continue developing the R&D approach with professional scientists leading the efforts of R&D while encouraging mass participation in innovations and encourage the use of science incubators at various levels of administration to promote innovation.

The last area mentioned is S&T diplomacy has become the important component of national diplomacy. China has made the historical leap in international S&T collaboration, particularly mentioned was the "Belts and Roads" initiative by President Xi. China has established S&T collaboration with 158 countries and joined more than 200 international organizations.

(PChen Note: from here below I only selected the content I thought relevant to NIAID and health)

[redacted] ***self-introduction***

"I studied and worked in Shanghai for 30 years, worked at CAMS for 7 years, and have been in basic immunology and cancer immunotherapy research. Currently I am the chairman of Chinese Society of Biomedical Engineering, chairman of the Chinese Association for Live Science, last year became the principal for the basic science center in NSFC. It is fair to say I grew up in China. It is the international recognition to the Chinese capability that I am the chairman for the Asia-Pacific Immunology Coalition and the chairman of the global NCD control and prevention Coalition. As a result, I am grateful for the education and nurture that this country has provided to this generation of scientists.

I feel deeply that during past several decades, S&T in our country has developed quickly, and made significant accomplishment internationally. As you all know, since the eighteenth Party Conference, the Chinese Communist Party led by President Xi made strategic plans for S&D innovation, science and education fusion, and building a healthy China. MOST since then has been actively implementing these strategic plans, and has done successfully in some focused priority, frontier areas including those projects related to people's lives. MOST's efforts provided opportunity for us to gain some financial support and pointed out clearly the direction of our efforts. As a result, we have made a series of success in frontier research topics internationally. The success, in my opinion, belongs to everyone, to the country. I believe with the strong support of the country leadership there will be more accomplishments in basic science and new technology that are discovered in China with the Chinese wisdom. At the meantime there will be more China contribution, more products made and innovated in China to the world demonstrating the Chinese power. Thank you"

Summarize [redacted] answers to journalists' questions

1. The question was on how China can do to improve its ability to demonstrate the originality of innovation.
   [redacted] first used his observation on how foreign researchers to react on how fast China's biomedical research has been accelerated in the past few years. Often the word used to describe the acceleration is "hard to believe" and he thought the description is not overly stated. He gave the example that in the first 2 months of 2018, China has 12 scientific populations appeared in *Nature, Science*, and *Cell*, three major prestigious international scientific journals. All 12 publications are original to Chinese researchers. He was very proud to point out 11 of the 12 publications are in the biomedical research. He contributed the accomplishment to the unique system that China has established for S&T innovation, which is first strengthen the top design that defines the ultimate direction. Centered by the overall goal, large platform technology has been established, large infrastructure has been set up, and working groups with

various cutting edge technical expertise are put together to tackle important project. This approach has been working well and produced many results.

He then pointed out that another contributor to the rocket speed advancement in innovation in China is the culture in innovation, which is confidence. Chinese should have confidence in their philosophy and wisdom, and the ability to create unique system for research. He commented that it is not enough just to "speed up at the curved road". We should do "split mountain to build roads and bridges" in order to reach to the peak that others can't. One can make the Chinese voice, the originality in discovery, and promote the research in application of new technology in China. He used the SARS as an example. In 2003 China was hit by SARS epidemic by surprise, unprepared for the epidemic. Since then MOST has implemented mega projects to prevent and control infectious diseases. When avian influenza H7N9 came in 2013, China had the system to react. The responses from the discovery of the source of infection, clinical treatment, new drug R&D, to the establishment of SOPs for the treatment of bird flu patients have been recognized by WHO as the classical example for response to emerging infectious diseases. Ten plus publications on H7N9 were published in high impact medical journals such as *JAMA, Lancet, Nature, Science* within only 8 months. All of the research was Chinese original. He feels that as long as the country can sustain steady support, play out the excellence of our system, and bring out the best innovation ability from researchers the basic research and original innovation in China will have bright future.

Minister [redacted] referred to a recent opinion paper titled "Opinions related to comprehensively strengthening the basic scientific research" and pointed out this document is the first policy guidance by the country in strengthening the basic scientific research. This is a significant signal which marks that China is marching toward becoming a new powerful innovative nation. He provided some statistic figures. The investment into basic research in the past several years have been increasing dramatically, from 50 billion RMB (about 8 billion US dollars) in 2012 to 82.3 billion RMB (about 12 billion US Dollars) in 2016. The highlights of this guidance are

1. Reinforce the long term commitment to continue and gradual increase in supporting the basic research. In addition to the gradual increase in government financial support, the country would attract investment from local and industry and the society to strengthen the support to basic research.
2. Accomplish a comprehensive, well organized path for the development of major S&T projects from basic research, to applied research, and eventually to technology innovation and market place.
3. Strengthen the infrastructure for major innovative projects including building the state key laboratories and other research bases.
4. Deepen the reform; merge research and production to attract private industry participating in original innovation research.
5. Educate and train scientists for basic research. In 2017 NSFC's budget for natural science has reached 28 billion RMB (about 4.3 billion US dollars)

6. Increase in building the environment for innovation; accept failure while promote scientific spirits and culture for innovation.

2. The question was on the nation's reform in S&T system. What has the government done in S&T reform?

Minister Wan pointed out the goal of the S&T system reform is to advance S&T innovation and the system innovation in parallel. First is to make the industry become the core of innovation. Second is to allow the results of innovation to be applied to economic and social development. Third is to establish a multi-departmental synchronized national S&T planning and budget management system. Forth is to carry out system or organizational reform including reform on the academician system, scientific award system, S&T evaluation system, consultation on national key S&T decision system etc. Firth is to benefit all parties including the researchers, industry and research institutions from S&T innovation.

[redacted] added two points. First, he said that China emphasizes on collaborative innovation, and pay great attention to the development of unique system for innovation. It is very important to build a national system centered for the national needs and interests. From the point of biomedical research, the United States of American has the NIH with annual research budget over 30 billion US dollars in 2016, which was 6 times more than US NSF's annual budget. NIH is, from top, in charge of the research design and innovation for biomedical research. Compared to NIH, China has different approach for the same purpose. In recent years, MOST has established several national clinical research centers. This is a high prospective approach. The original innovation from universities provides the basic scientific core. The clinical sites are the core for translational research to evaluate the innovation. Industry functions as the core for technology innovation and application. Three components combine into one system. MOST plans to have 100 national clinical centers. This is the national plan. Such a plan has laid solid foundation for future research. He went further to say that such a national system as the focus will generate acceleration and fission effect and play a key role in system building. He reinforced that the central government has to build such system and system needs to include various resources including international high standards.

He mentioned that CAMS has established a CAMS-Oxford institute in Oxford, UK. This is the first case in Oxford over 800-history that allowed a foreign institute to build its appearance on campus. Both Oxford and CAMS contribute fund to hire personnel, however, based on the agreement, the publications will belong to CAMS and the foreign researchers hired there work for CAMS. CAMS can also send students for training there. Since Oxford has the highest reputation in clinical research in Europe, we can improve our originality innovation ability via this approach.

At the end, Minister [redacted] touched on international collaboration in S&T. Using the clinical research center example the development of clinical centers also can promote international

collaboration in S&T. China needs to improve its ability to collaborate internationally from emphasizing disease control and prevention to meeting the international treatment standards. The next step and goals are to build the national innovative system, promote the economic development by further deepening the cooperation among education, research and production. China needs to merge into the global innovation system and make our contribution to new technology, environment, health and agriculture etc.

Translated and summarized by Ping Chen

From: [redacted] (NIH/NIAID) [E]
Sent: Tue, 6 Mar 2018 22:11:21 +0000
To: Chen, Ping (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [C]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: For review: World Health day April 7
Attachments: China select successful activities_World Health Day.docx

Hi Ping,

I discussed this with [redacted] and [redacted] Because of the short turnaround time (with the deadline this Thursday), there is not much time to write up "success stories" that would be developed with the Divisions, reviewed by OCGR, and cleared by the front office.

As you pointed out, there are good examples of success stories, but these would have to be carefully developed and cleared for public consumption, and will need more time.

Building on the examples you mentioned in your email, attached is a list of select successful activities with China for consideration. Most of the text has already been cleared by the Front Office, but the document may need to be reviewed again for this context.

Others may have additional insights.

Thanks,
[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Tuesday, March 06, 2018 1:57 AM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>
Cc: [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [C] [redacted]@niaid.nih.gov> (6)
Subject: Fw: World Health day April 7

Hi [redacted] and [redacted]

the embassy is collecting US-China collaboration success stories in preparation for the World Health Day on April 7. Attached is an example of the success story they are looking for.

I don't know if we have the story like this. Maybe we can talk about our TB program in China on clinical trial capacity building (either Henan TB project or DAIDS' CTCTC network), or collaboration on avian influenza research geared towards universal flu vaccines ([redacted] flu collaboration with Fudan Public Health Clinical Research Center), or NIAID funded research in collaboration with Chinese scientist to chase the possible origin of SARS to

the cave bats (RDB grant to EcoHealth Alliance in collaboration with Wuhan Institute of Virology in China). I am traveling tomorrow and won't have the time to respond by this Thursday (April 8th deadline in the message below is a mistake. Should be March 8). I think for each of the suggestions we will need to collect information from the scientists. We can talk about this when I am in Bethesda. Please think about these and see which one makes better story.

Thank you

Ping

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Director of NIAID Office in China
Office of Global Research, NIAID, NIH
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Beijing Office: [redacted]
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[redacted]@niaid.nih.gov
[redacted]@state.gov

From: [redacted] (Beijing) [redacted]@state.gov>
Sent: Tuesday, March 6, 2018 11:42
To: [redacted] (FDA/OC); [redacted] (NIH/NCI) [E]; Chen, Ping (NIH/NIAID) [E]; [redacted] (CDC/CGH/DGHP); [redacted] (CDC/CGH/DGHP); [redacted] (FDA/OC)
Cc: [redacted] (CDC/CGH/OD); [redacted] (Beijing); [redacted] (Beijing); [redacted] (Beijing)
Subject: World Health day April 7

Hi all,

As we had spoken earlier today. For World Health Day (April 7) we would like to coordinate some HHS Collaboration success stories from the field that will be shared via Public Affairs platforms as part of the commemoration of World Health Day. This has really been just ideas floating around but now solidifying into action.

[redacted] from US CDC had taken part in a CDC training on developing/ telling success stories and has agreed to give a presentation this Thursday afternoon, for those available (will

send a calendar invite, 2pm?). Please also reach out to other staff who would benefit from this type of presentation. Attached is a sample story.

Please send [redacted] and I, your ideas, stories already shared through other channels and new examples from your section's work **by Thursday morning April 8th**. We will be working with Public Affairs to further develop them for both Chinese Audience and PAS platforms and will need time to have that and returned to you all for final sign offs.

Best,
[redacted]

Health Coordinator
Dept. of Health and Human Services
U.S. Embassy Beijing

Tel: [redacted]
[redacted]@state.gov

Official
UNCLASSIFIED

National Institute of Allergy and Infectious Diseases (NIAID) of the National Institutes of Health (NIH): Select Successful Activities with China for World Health Day 2018

March 6, 2018

Coronavirus

- NIH-funded investigators are conducting detailed surveillance throughout China and in other countries on the emergence of novel coronaviruses (such as SARS and MERS-CoV) and studying the dynamics of viral transmission from animals to humans, which may identify potential outbreak threats to the U.S. and other parts of the world.

Influenza

- NIAID's Centers of Excellence for Influenza Research and Surveillance (CEIRS) collaborate with worldwide teams of researchers, including several organizations throughout China and Hong Kong, to expand influenza surveillance in domestic and wild birds, swine and other vector species, and to study influenza virus pathogenesis, emergence, transmission, and the immunological determinants of illness severity and outcome. This research is critical to the global health security program and preparedness effort.

- NIH receives influenza samples and information on circulating viruses from China and Hong Kong to assess risks associated with emerging variants for pandemic and zoonotic threat and to monitor the prevalence and evolution of the novel H7N9 and H10N8 viruses in China. These strains are otherwise unavailable and they are essential to the development of vaccines needed for a potential influenza pandemic.

Tuberculosis

- NIAID's cooperative tuberculosis research program in Henan, China, performs clinical research to validate molecular diagnostics, bio-imaging techniques, and therapeutic approaches to drug-resistant tuberculosis. NIAID scientists collaborating with clinical researchers in Henan are linking this research to investigators in South Africa to assess the efficacy of shortened standard TB treatment using radiographic and residual bacterial loads, which means overall cheaper treatment and less chance for transmission – clear global health benefits for TB clinical care around the world.

U.S.-China Program for Biomedical Research Cooperation

- NIH and the National Natural Science Foundation of China (NSFC), through the U.S.-China Program for Biomedical Research Cooperation, jointly fund collaborative, high-priority research projects. These projects provide unique opportunities to access endemic sites as well as rare and genetically diverse biological samples and data, such as those from patients with malaria and avian influenza, and thus gain first hand understanding of human immune responses. This information is unavailable in the United States and often essential for the development of

diagnostics, therapeutics, and vaccines for various emerging and re-emerging infectious diseases, including emerging highly pathogenic strains of avian influenza.

- Specifically under the U.S.-China Program, targeted human immunology collaborations have resulted in novel insights into immune system function. For example, one collaboration resulted in the discovery of a new class of natural killer cells and another collaboration has identified a key regulator T follicular helper cell development. By providing a clearer understanding of basic immune function, these discoveries identify possible avenues to improve vaccines and therapeutics against infectious diseases.
- Also under the U.S.-China Program, Chinese and NIH experts in vaccine design are collaborating on vaccine development for pathogens of global health importance such as Respiratory Syncytial Virus (RSV) and HIV.

From: Chen, Ping (NIH/NIAID) [E]
Sent: Fri, 30 Mar 2018 00:24:57 +0000
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: NSFC update

Add on that the reason to keep NSFC as it is is good for both iChinese researchers and its international programs, not mention the US programs.

Sent from my iPhone

On Mar 30, 2018, at 6:21 AM, [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov> wrote:

All quite troubling but we won't panic yet.

Please continue to keep your ear to the ground.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, March 29, 2018 4:57 AM
To: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Subject: NSFC update

Hi,

[redacted] of NSF went to NSFC to meet with [redacted]. Just before their meeting, [redacted] was called to meet with MOST at the Great Hall of the People right away. So [redacted] rode in his car and they talked in the car. The bottom line is that he also doesn't know what would happen to NSFC. But he plans to defend NSFC's independence. He also knows that MOST staff lacks the scientific knowledge needed to manage country's basic research portfolio. Learned also from [redacted] that MOST will pay its visit to NSFC next week to discuss the merge. To my surprise the movement on this merge happens very quickly. With this speed, we may learn some details in a month perhaps. [redacted], the head of ESTH, who just returned from visiting the Wuhan Institute of Virology and he said the scientists he met there do not like the merge either.

Will keep you posted on the development of the merge.

Best,

Ping

Ping Chen, PhD
Director of NIAID Office in China
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[redacted]@state.gov

From: [redacted] (NIH/NIAID) [E]
Sent: Fri, 30 Mar 2018 02:42:26 +0000
To: Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: RE: NSFC update

I think we keep quiet unless asked by one of our Chinese friends to say something. My guess is that [redacted] will know exactly how we feel and will take whatever actions he can. I would not make a special call except to seek clarification about what is going on and whether there will be any impact on our programs, which we can say we hope there will not be. When we interact during the regular course of business, if it comes up, we can express our concerns gently.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, March 29, 2018 8:23 PM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Subject: Re: NSFC update

I will.
One thought I have is to write or call [redacted] to voice our concern and ask him to defend current NSFC. I don't want to leave the impression that US is 'influencing' the Chinese internal affairs.
What do you think?
Thanks
Ping

Sent from my iPhone

On Mar 30, 2018, at 6:21 AM, [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov> wrote:

All quite troubling but we won't panic yet.

Please continue to keep your ear to the ground.

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, March 29, 2018 4:57 AM
To: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Subject: NSFC update

Hi,

[redacted] of NSF went to NSFC to meet with Director [redacted] Just before their meeting, [redacted] was called to meet with MOST at the Great Hall of the People right away. So [redacted] rode in his car and they talked in the car. The bottom line is that he also doesn't know what would happen to NSFC. But he plans to defend NSFC's independence. He also knows that MOST staff lacks the scientific knowledge needed to manage country's basic research portfolio. Learned also from [redacted] that MOST will pay its visit to NSFC next week to discuss the merge. To my surprise the movement on this merge happens very quickly. With this speed, we may learn some details in a month perhaps. [redacted], the head of ESTH, who just returned from visiting the Wuhan Institute of Virology and he said the scientists he met there do not like the merge either.

Will keep you posted on the development of the merge.

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Ping

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From: Chen, Ping (NIH/NIAID) [E]
Sent: Sat, 7 Apr 2018 08:50:11 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Fw: NPR: A Novel Virus Killed 24,000 Piglets In China. Where Did It Come From?
Attachments: Zhou-etal_Nature-SADS-CoV_2018.pdf

Have you seen this report? What is the connection between Piglets virus and NIAID? The scientists that helped the farmers identified the virus are from Wuhan Institute of Virology, Dr. [redacted] team. Dr. [redacted] is the Chinese collaborator on a RDB grant award to EcoHealth in NYC. Her lab has published the connection of SARS-like coronavirus found in cave bats in Southwestern China to the SARS that caused human infection in 2003. NIAID funding has supported her research on SARS-like coronaviruses in China. Her team has developed tests to identify SARS-like coronaviruses. The test was used to identify the virus that caused piglets death at the farm. I learned this story last year when she visited embassy with EcoHealth to USAID on the Global Virome Project. Very interesting, another successful story for US-China collaboration on basic research.
Dr. [redacted] was the researcher who made the arrangement for me to visit WIV's P4 lab.
Attached is the research paper and NIAID grant was acknowledged.
Ping

Ping Chen, PhD
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From: [redacted] (NIH/NIAID) [E]
Sent: Thursday, April 5, 2018 3:56
To: Chen, Ping (NIH/NIAID) [E]
Subject: FW: NPR: A Novel Virus Killed 24,000 Piglets In China. Where Did It Come From?

FYI

From: [redacted] (NIH/NIAID) [E]
Sent: Wednesday, April 04, 2018 3:46 PM
Subject: NPR: A Novel Virus Killed 24,000 Piglets In China. Where Did It Come From?

A Novel Virus Killed 24,000 Piglets In China. Where Did It Come From?

• • • April 4, 20181:54 PM ET

[redacted]

Piglets suckling on a farm in Guangdong province in southeast China, where the virus struck.
xPacifica /Getty Images

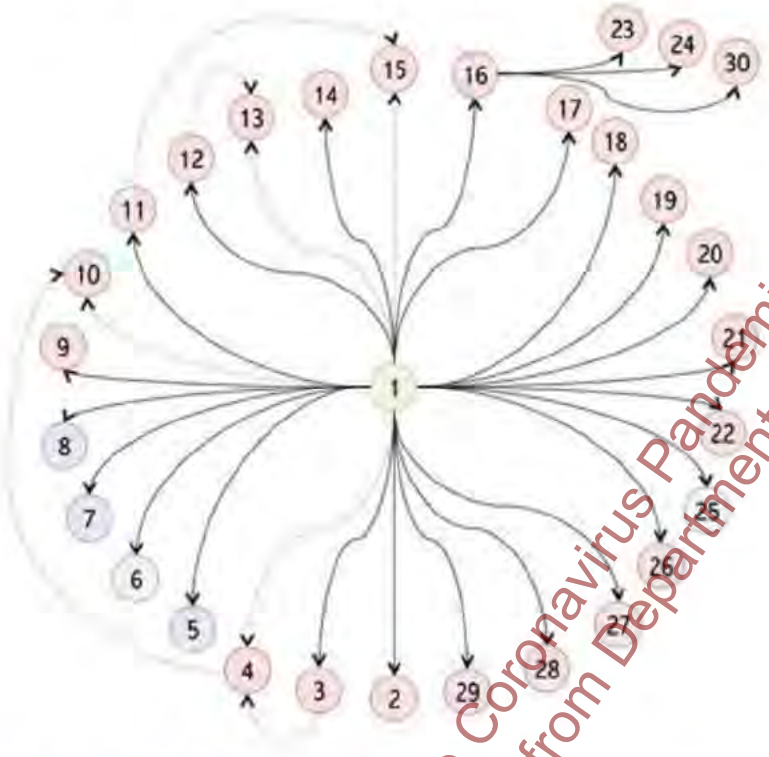
When the newborn piglets first started getting sick in October 2016, farmers in China's Guangdong province suspected porcine epidemic diarrhea virus (PEDV) — a disease they'd seen in the pigs before. And, at first, the tests did come back positive for PEDV. But then something strange happened. By January 2017, the pigs stopped testing positive for that virus — but kept getting sick.

Researchers began looking for another cause of the piglets' illness. The four farms where the pigs were dying were located about 60 miles from Foshan — the place where severe acute respiratory syndrome (SARS), first emerged back in 2002. Before it was halted in 2004, SARS spread to 33 countries and sickened more than 8,000 people, killing 774.

Once researchers got this new virus under the microscope, they confirmed that it was a virus in the same family as both PEDV and SARS — but it wasn't one they'd seen before. It was a brand-

new disease. They named it SADS, or swine acute diarrhea syndrome. It had infected the piglets during an outbreak of PEDV, and then it rapidly took over; by May 2017, more than 24,000 piglets had died.

Researchers tested the workers who had come in close contact with the infected pigs and were relieved to discover the virus was not transmissible to humans — this time.



Goats and Soda

Viral Superspreader? How One Man Triggered A Deadly MERS Outbreak

These alphabet-soup viruses all belong to the same family: the coronavirus. Most coronaviruses are mild to moderate infections, but some types are severe and deadly. SARS is one such strain; another is MERS (Middle East respiratory syndrome), which was discovered in Saudi Arabia in 2012 and has since killed 640 people. The SADS virus in the Chinese pigs affected the gastrointestinal tract. SARS and MERS, on the other hand, are upper-respiratory infections. They are particularly frightening because they are usually spread by coughing or sneezing; they're airborne, which means they can disseminate easily and quickly. That's why they scare virologists more than Ebola. They're widely distributed, highly diverse, evolve rapidly and adapt easily to new hosts. And there are currently no vaccines against any coronavirus strains.

To The Bat Cave

In Guangdong province, the next step was finding out where the novel coronavirus had come from. The answer hangs upside-down and lives in caves: Bats.

Researchers compared SADS to samples that had been taken the year before in nearby bat caves. (Here's where the life a disease researcher can get a bit unusual: the samples came from swabbing the butts of bats.) They found that 9.8 percent of horseshoe bats in Guangdong were hosts to a very similar virus that had likely mutated during the spillover.

In a new study published by *Nature* on Wednesday, those researchers highlight the possibility of deadly coronavirus transmission from bats to domesticated animals and, in turn, to humans. "Bats have been recognized as one of the most important reservoirs for emerging viruses," the researchers write. Bats don't just spread SARS and MERS; they can also harbor diseases like Ebola, Hendra, Marburg and Nipah, a virus in Southeast Asia that also spilled over from bats to pigs and then moved on to humans.

Goats and Soda

A Taste For Pork Helped A Deadly Virus Jump To Humans

But predicting the next pandemic is tricky work.

[redacted] is a virologist at Columbia University in New York City and lead author of a 2017 study on bats as a major animal reservoir for coronaviruses around the world.

"It is very difficult to predict which virus will be the next to spill over into humans, and even harder to predict whether that virus will cause disease," he says. But, given the number of coronaviruses that have now spread from animals to people, he adds, "it seems a safe bet to think it will happen again. We just don't know which virus it will [be], where it will come from, or when."

Zoonotic viruses — diseases that spill over into new animal and human populations — occur as people and domesticated animals push up against previously isolated wildlife. Add to that the surge in factory farming, where thousands or even millions of animals live in tight quarters, and diseases can move through a herd swiftly.

New Hot Spots

[redacted] the principle investigator of emerging viruses at the Wuhan Institute of Virology and a co-author on the *Nature* report, says it appears that China is emerging as a hotspot for the detection of novel viruses.

"The increased farm factories disrupt the living niches of bats," she says, "thus increasing the contact chance between wildlife and domestic animals and the risk of diseases transmitted from wild animals."

China is not alone. Any country increasing agricultural intensification and land-use changes may also experience viral spillover and the rapid spread of new diseases.

Moving forward, [redacted] recommends long-term surveillance for viruses in wildlife.

"Monitoring bat populations can help people to understand how viruses are transmitted and which regions are at high risk of bat-borne diseases," she says. That knowledge, in turn, can inform prevention strategies.

[redacted] agrees, calling wildlife surveillance efforts to find viruses and analyze their potential for spreading to humans "critical."

"They give us a head start by identifying viruses with the genetic prerequisites for human infection, and viruses in areas where the ecological conditions might facilitate spillover," he says. "It's a very difficult thing to do, but it's surely better than just waiting for viruses to emerge one after the other."

[redacted] adds an important concern: "Bats are super important!" he says. While they do carry zoonotic viruses, they are critical for a well-balanced ecosystem. For example: some bats eat mosquitoes, which also carry dangerous viruses like malaria, yellow fever, chikungunya, Zika and more.

"Culling bats because of fears they carry dangerous viruses is not the way forward – and this can actually have the opposite effect and *increase* transmission risk," [redacted] cautions. "It appears that the rate of new zoonotic disease emergence is increasing, but these events are still rare."

In Guangdong, the disease struck newborn piglets the hardest. On one farm in February 2017 alone, 64 percent of all newborn piglets died. But once the farmers separated sick piglets and sows from the rest of the herd, the outbreak abated within a few months.

The bats in caves nearby, however, likely still harbor the virus — and other unknown coronaviruses — and they're still flying over farms at night.

[redacted] *(@[redacted] on Twitter) is a freelance journalist in Washington, D.C.*

LETTER

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Fatal swine acute diarrhoea syndrome caused by an HKU2-related coronavirus of bat origin

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Cross-species transmission of viruses from wildlife animal reservoirs poses a marked threat to human and animal health[1]. Bats have been recognized as one of the most important reservoirs for emerging viruses and the transmission of a coronavirus that originated in bats to humans via intermediate hosts was responsible for the high-impact emerging zoonosis, severe acute respiratory syndrome (SARS)[2–10]. Here we provide virological, epidemiological, evolutionary and experimental evidence that a novel HKU2-related bat coronavirus, swine acute diarrhoea syndrome coronavirus (SADS-CoV), is the aetiological agent that was responsible for a large-scale outbreak of fatal disease in pigs in China that has caused the death of 24,693 piglets across four farms. Notably, the outbreak began in Guangdong province in the vicinity of the origin of the SARS pandemic. Furthermore, we identified SADS-related CoVs with 96–98% sequence identity in 9.8% (58 out of 591) of anal swabs collected from bats in Guangdong province during 2013–2016, predominantly in horseshoe bats (*Rhinolophus* spp.) that are known reservoirs of SARS-related CoVs. We found that there were striking similarities between the SADS and SARS outbreaks in geographical, temporal, ecological and aetiological settings. This study highlights the importance of identifying coronavirus diversity and distribution in bats to mitigate future outbreaks that could threaten livestock, public health and economic growth.

The emergence of SARS in southern China in 2002, which was caused by a previously unknown coronavirus (SARS-CoV)[11–15] and has led to more than 8,000 human infections and 774 deaths (http://www.who.int/csr/sars/en/), highlights two new frontiers in emerging infectious diseases. First, it demonstrates that coronaviruses are capable of causing fatal diseases in humans. Second, the identification of bats as the reservoir for SARS-related coronaviruses, and the fact that SARS-CoV[3–10] probably originated in bats, firmly establishes that bats are an important source of highly lethal zoonotic viruses, such as Hendra, Nipah, Ebola and Marburg viruses[16].

Here we report on a series of fatal swine disease outbreaks in Guangdong province, China, approximately 100 km from the location of the purported index case of SARS. Most strikingly, we found that the causative agent of this swine acute diarrhoea syndrome (SADS) is a novel HKU2-related coronavirus that is 98.48% identical in genome sequence to a bat coronavirus, which we detected in 2016 in bats in a cave in the vicinity of the index pig farm. This new virus (SADS-CoV) originated from the same genus of horseshoe bats (*Rhinolophus*) as SARS-CoV.

From 28 October 2016 onwards, a fatal swine disease outbreak was observed in a pig farm in Qingyuan, Guangdong province, China, very close to the location of the first known index case of SARS in 2002, who lived in Foshan (Extended Data Fig. 1a). Porcine epidemic diarrhoea virus (PEDV, a coronavirus) had caused prior outbreaks at this farm, and was detected in the intestines of deceased piglets at the start of the outbreak. However, PEDV could no longer be detected in deceased piglets after 12 January 2017, despite accelerating mortality (Fig. 1a) and extensive testing for other common swine viruses yielded no results (Extended Data Table 1). These findings suggested that this was an outbreak of a novel disease. Clinical signs are similar to those caused by other known swine enteric coronaviruses[17,18] and include severe and acute diarrhoea and acute vomiting, leading to death due to rapid weight loss in newborn piglets that are less than five days of age. Infected piglets died 2–6 days after disease onset, whereas infected sows suffered only mild diarrhoea and most sows recovered within two days. The disease caused no signs of febrile illness in piglets or sows. The mortality rate was as high as 90% in piglets that were five days or younger, whereas in piglets that were older than eight days, the mortality dropped to 5%. Subsequently, SADS-related outbreaks were found in three additional pig farms within 20–150 km of the index farm (Extended Data Fig. 1a) and, by 2 May 2017, the disease had caused the death of 24,693 piglets at these four farms (Fig. 1a). In farm A alone, 64% (4,659 out of 7,268) of all piglets that were born in February died. The outbreak has abated, and measures that were taken to control SADS included separation of sick sows and piglets from the rest of the herd. A qPCR test described below was used as the main diagnostic tool to confirm SADS-CoV infection.

A sample collected from the small intestine of a diseased piglet was analysed by metagenomics analysis using next-generation sequencing (NGS) to identify potential aetiological agents. Of the 15,256,565 total reads obtained, 4,225 matched sequences of the bat CoV HKU2, which was first detected in Chinese horseshoe bats in Hong Kong and Guangdong province, China[19]. By de novo assembly and targeted PCR, we obtained a 27,173-bp CoV genome that shared 95% sequence identity to HKU2-CoV (GenBank accession number NC_009988). Thirty-three full genome sequences of SADS-CoV were subsequently obtained (8 from farm A, 5 from farm B, 11 from farm C and 9 from farm D) that were 99.9% identical to each other (Supplementary Table 1).

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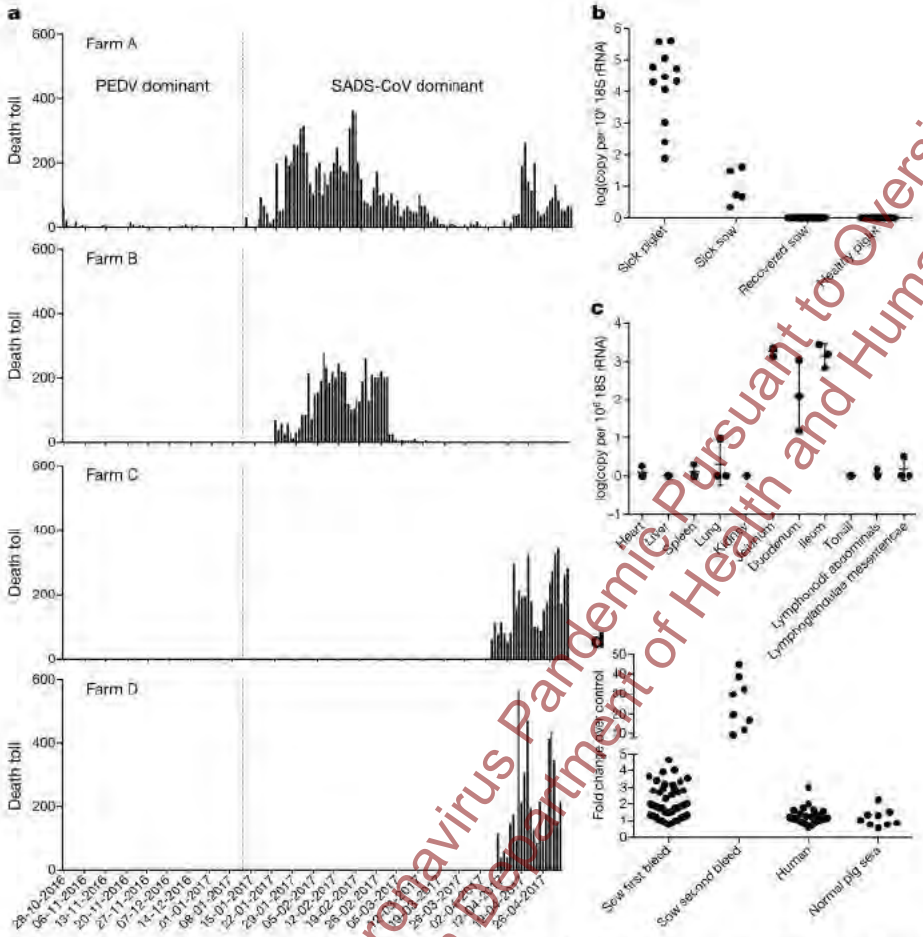

Fig. 1 | Detection of SADS-CoV infection in pigs in Guangdong, China. **a**, Records of daily death toll on the four farms from 28 October 2016 to 2 May 2017. **b**, Detection of SADS-CoV by qPCR. The *y* axis shows the log(copy number per 10^6 copies of 18S rRNA). $n = 12$ sick piglets, 5 sick sows, 16 recovered sows and 10 healthy piglets. **c**, Tissue distribution of SADS-CoV in diseased pigs. $n = 3$. Data are mean ± s.d.; dots represent individual values. **d**, Detection of SADS-CoV antibodies. $n = 46$ sows from whom serum was first taken in the first three weeks of the outbreak (First bleed), $n = 8$ sows from whom serum was taken again (Second bleed) at more than one month after the onset of the outbreak, $n = 8$ sera from healthy pig controls, $n = 35$ human sera from pig farmers.

Using qPCR targeting the nucleocapsid gene (Supplementary Table 2), we detected SADS-CoV in acutely sick piglets and sows, but not in recovered or healthy pigs on the four farms, nor in nearby farms that showed no evidence of SADS. The virus replicated to higher titres in piglets than in sows (Fig. 1b). SADS-CoV displayed tissue tropism of the small intestine (Fig. 1c), as observed for other swine enteric coronaviruses[20]. Retrospective PCR analysis revealed that SADS-CoV was present on farm A during the PEDV epidemic, where the first strongly positive SADS-CoV sample was detected on 6 December 2016. From mid-January onwards, SADS-CoV was the dominant viral agent detected in diseased animals (Extended Data Fig. 1b). It is possible that the presence of PEDV earlier in the SADS-CoV outbreak may have somehow facilitated or enhanced spillover and amplification of SADS. However the fact that the vast majority of piglet mortality occurred after PEDV infection had become undetectable suggests that SADS-CoV itself causes a lethal infection in pigs that was responsible for these large-scale outbreaks, and that PEDV does not directly contribute to its severity in individual pigs. This was supported by the absence of PEDV and other known swine diarrhoea viruses during the peak and later phases of the SADS outbreaks in the four farms (Extended Data Table 3).

We rapidly developed an antibody assay based on the S1 domain of the spike (S) protein using a luciferase immunoprecipitation system[21]. Because SADS occurs acutely and has a rapid onset in piglets, serological investigation was conducted only in sows. Among 46 recovered sows tested, 12 were seropositive for SADS-CoV within three weeks of infection (Fig. 1d). To investigate possible zoonotic transmission, serum samples from 35 farm workers who had close contact with sick pigs were also analysed using the same luciferase immunoprecipitation system approach and none were positive for SADS-CoV.

Although the overall genome identity of SADS-CoV and HKU2-CoV is 95%, the S gene sequence identity is only 86%, suggesting that the previously reported HKU2-CoV is not the direct progenitor of SADS-CoV, but that they may have originated from a common ancestor. To test this hypothesis, we developed a SADS-CoV-specific qPCR assay based on its RNA-dependent RNA polymerase (*RdRp*) gene (Supplementary Table 2) and screened 591 bat anal swabs collected between 2013 and 2016 from seven different locations in Guangdong province (Extended Data Fig. 1a). A total of 58 samples (9.8%) tested positive (Extended Data Table 2), all were from *Rhinolophus* spp. bats that are also the natural reservoir hosts of SARS-related coronaviruses[3–10]. Four complete genome sequences with the highest *RdRp* PCR-fragment sequence identity to that of SADS-CoV were determined by NGS. They are very similar in size (27.2 kb) compared to SADS-CoV (Fig. 2a) and we tentatively call them SADS-related coronaviruses (SADSr-CoV). Overall sequence identity between SADSr-CoV and SADS-CoV ranges from 96 to 98%. Most importantly, the S protein of SADS-CoV shared more than 98% sequence identity with sequences of two of the SADSr-CoVs (samples 162149 and 141388), compared to 86% with HKU2-CoV. The major sequence differences among the four SADSr-CoV genomes were found in the predicted coding regions of the *S* and *NS7a* and *NS7b* genes (Fig. 2a). In addition, the coding region

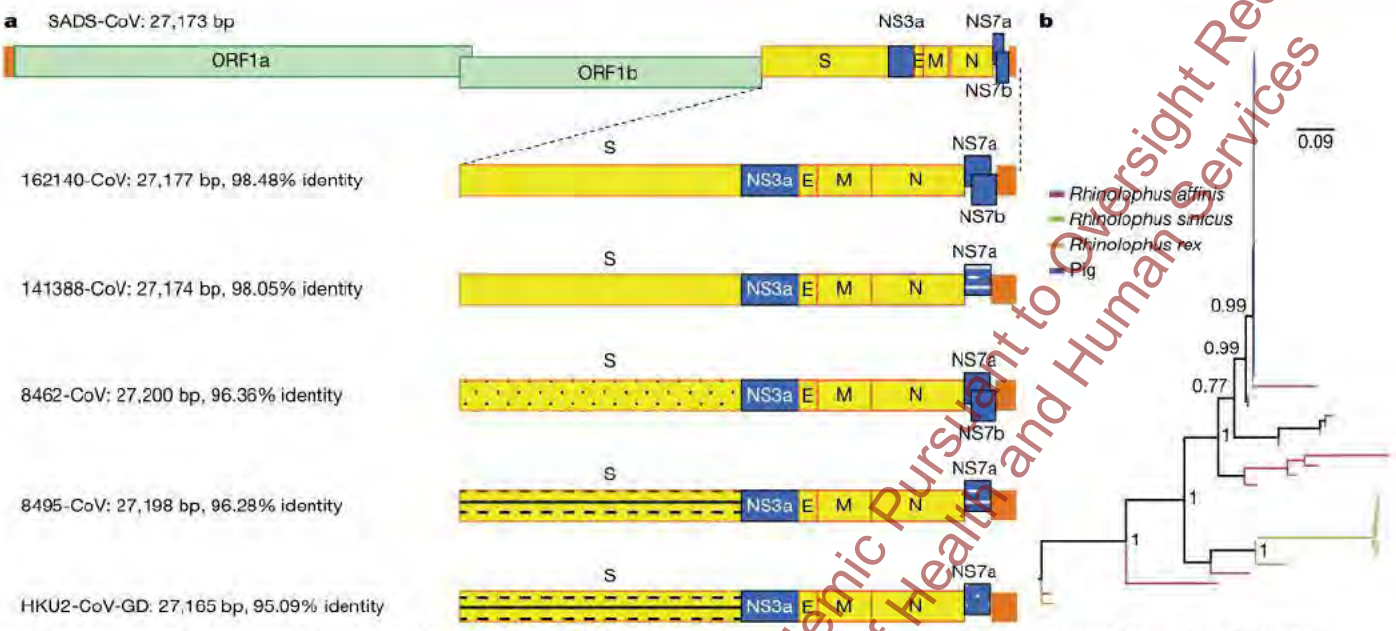

Fig. 2 | Genome and phylogenetic analysis of SADS-CoV and SADSr-CoV. a, Genome organization and comparison. Colour-coding for different genomic regions as follows. Green, non-structural polyproteins *ORF1a* and *ORF1b*; yellow, structural proteins *S*, *E*, *M* and *N*; blue, accessory proteins *NS3a*, *NS7a* and *NS7b*; Orange, untranslated regions. The level of sequence identity of SADSr-CoV to SADS-CoV is illustrated by different patterns of boxes: Solid colour, highly similar; Dotted fill, moderately similar; Dashed fill, least similar. **b**, Phylogenetic analysis of 57 *S1* sequences (33 from SADS-CoV and 24 from SADSr-CoV). Different colours represent different host species as shown on the left. Scale bar, nucleotide substitutions per site.

of the S protein N-terminal (S1) domain was determined from 19 bat SADSr-CoVs to enable more detailed phylogenetic analysis.

The phylogeny of S1 and the full-length genome revealed a high genetic diversity of alphacoronaviruses among bats and strong coevolutionary relationships with their hosts (Fig. 2b and Extended Data Fig. 2), and showed that SADS-CoVs were more closely related to SADSr-CoVs from *Rhinolophus affinis* than from *Rhinolophus sinicus*, in which HKU2-CoV was found. Both phylogenetic and haplotype network analyses demonstrated that the viruses from the four farms probably originated from their reservoir hosts independently (Extended Data Fig. 3), and that a few viruses might have undergone further genetic recombination (Extended Data Fig. 4). However, molecular clock analysis of the 33 SADS-CoV genome sequences failed to establish a positive association between sequence divergence and sampling date. Therefore, we speculate that either the virus was introduced into pigs from bats multiple times, or that the virus was introduced into pigs once, but subsequent genetic recombination disturbed the molecular clock.

For viral isolation, we tried to culture the virus in a variety of cell lines (see Methods for details) using intestinal tissue homogenates as starting material. Cytopathogenic effects were observed in Vero cells only after five passages (Extended Data Fig. 5a, b). The identity of SADS-CoV was verified in Vero cells by immunofluorescence microscopy (Extended Data Fig. 5c, d) and by whole-genome sequencing (GenBank accession number MG557844). Similar results were obtained by other groups[22,23].

Known coronavirus host cell receptors include angiotensin-converting enzyme 2 (ACE2) for SARS-related CoV, aminopeptidase N (APN) for certain alphacoronaviruses, such as human (H)CoV-229E, and dipeptidyl peptidase 4 (DPP4) for Middle East respiratory syndrome (MERS)-CoV[24–26]. To investigate the receptor usage of SADS-CoV, we tested live or pseudotyped SADS-CoV infection on HeLa cells that expressed each of the three molecules. Whereas the positive control worked for SARS-related CoV and MERS-CoV pseudoviruses, we found no evidence of enhanced infection or entry for SADS-CoV, suggesting that none of these receptors functions as a receptor for virus entry for SADS-CoV (Extended Data Table 3).

To fulfill Koch's postulates for SADS-CoV, two different types of animal challenge experiments were conducted (see Methods for details). The first challenge experiment was conducted with specific pathogen-free piglets that were infected with a tissue homogenate of SADS-CoV-positive intestines. Two days after infection, 3 out of 7 animals died in the challenge group whereas 4 out of 5 survived in the control group. Incidentally, the one piglet that died in the control group was the only individual that did not receive colostrum due to a shortage in the supply. It is thus highly likely that lack of nursing and

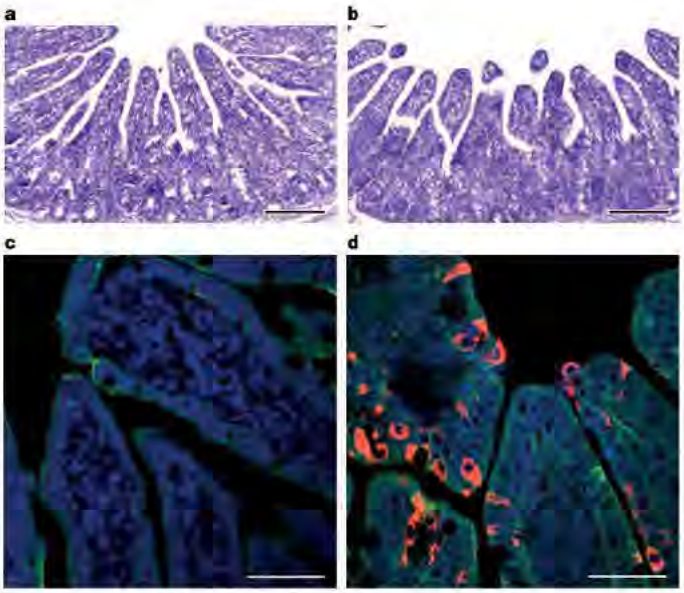

Fig. 3 | Immunohistopathology of SADS-CoV infected tissues. a–d, Sections of jejunum tissue from control (**a**, **c**) and infected (**b**, **d**) farm piglets four days after inoculation were stained with haematoxylin and eosin (**a**, **b**) or rabbit anti-SADSr-CoV N serum (red), DAPI (blue) and mouse antibodies against epithelial cell markers cytokeratin 8, 18 and 19 (green) in (**c**, **d**). SADS-CoV N protein is evident in epithelial cells and deeper in the tissue of infected piglets, which exhibit villus shortening. Scale bars, 200 μm (**a**, **b**) and 50 μm (**c**, **d**). The experiment was conducted three times independently with similar results.

inability to access colostrum was responsible for the death (Extended Data Table 4). For the second challenge, healthy piglets were acquired from a farm in Guangdong that had been free of diarrheal disease for a number of weeks before the experiment, and were infected with the cultured isolate of SADS-CoV or tissue-culture medium as control. Of those inoculated with SADS-CoV, 50% (3 out of 6) died between 2 and 4 days after infection, whereas all control animals survived (Extended Data Table 5). All animals in the infected group suffered watery diarrhoea, rapid weight loss and intestinal lesions (determined after euthanasia upon experiment termination, Extended Data Tables 4, 5). Histopathological examination revealed marked villus atrophy in SADS-CoV inoculated farm piglets four days after inoculation but not in control piglets (Fig. 3a, b) and viral N protein-specific staining was observed mainly in small intestine epithelial cells of the inoculated piglets (Fig. 3c, d).

The current study highlights the value of proactive viral discovery in wildlife, and targeted surveillance in response to an emerging infectious disease event, as well as the disproportionate importance of bats as reservoirs of viruses that threaten veterinary and public health[1]. It also demonstrates that by using modern technological platforms, such as NGS, luciferase immunoprecipitation system serology and phylogenetic analysis, key experiments that traditionally rely on the isolation of live virus can be performed rapidly before virus isolation.

Online content

Any Methods, including any statements of data availability and Nature Research reporting summaries, along with any additional references and Source Data files, are available in the online version of the paper at https://doi.org/10.1038/s41586-018-0004-7.

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1. Olival, K. J. et al. Host and viral traits predict zoonotic spillover from mammals. *Nature* **546**, 646–650 (2017).
2. Guan, Y. et al. Isolation and characterization of viruses related to the SARS coronavirus from animals in southern China. *Science* **302**, 276–278 (2003).
3. Lau, S. K. et al. Severe acute respiratory syndrome coronavirus-like virus in Chinese horseshoe bats. *Proc. Natl Acad. Sci. USA* **102**, 14040–14045 (2005).
4. Li, W. et al. Bats are natural reservoirs of SARS-like coronaviruses. *Science* **310**, 676–679 (2005).
5. Ge, X. Y. et al. Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor. *Nature* **503**, 535–538 (2013).
6. He, B. et al. Identification of diverse alphacoronaviruses and genomic characterization of a novel severe acute respiratory syndrome-like coronavirus from bats in China. *J. Virol.* **88**, 7070–7082 (2014).
7. Yang, X. L. et al. Isolation and characterization of a novel bat coronavirus closely related to the direct progenitor of severe acute respiratory syndrome coronavirus. *J. Virol.* **90**, 3253–3256 (2016).
8. Wu, Z. et al. ORF8-related genetic evidence for Chinese horseshoe bats as the source of human severe acute respiratory syndrome coronavirus. *J. Infect. Dis.* **213**, 579–583 (2016).
9. Wang, L. et al. Discovery and genetic analysis of novel coronaviruses in least horseshoe bats in southwestern China. *Emerg. Microbes Infect.* **6**, e14 (2017).
10. Hu, B. et al. Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. *PLoS Pathog.* **13**, e1006698 (2017).
11. Drosten, C. et al. Identification of a novel coronavirus in patients with severe acute respiratory syndrome. *N. Engl. J. Med.* **348**, 1967–1976 (2003).
12. Ksiazek, T. G. et al. A novel coronavirus associated with severe acute respiratory syndrome. *N. Engl. J. Med.* **348**, 1953–1966 (2003).
13. Marra, M. A. et al. The genome sequence of the SARS-associated coronavirus. *Science* **300**, 1399–1404 (2003).
14. Peiris, J. S. et al. Coronavirus as a possible cause of severe acute respiratory syndrome. *Lancet* **361**, 1319–1325 (2003).
15. Rota, P. A. et al. Characterization of a novel coronavirus associated with severe acute respiratory syndrome. *Science* **300**, 1394–1399 (2003).
16. Wang, L.-F. & Cowled, C. (eds) *Bats and Viruses: A New Frontier of Emerging Infectious Diseases* 1st edn (John Wiley & Sons, Hoboken, 2015).
17. Dong, N. et al. Porcine deltacoronavirus in mainland China. *Emerg. Infect. Dis.* **21**, 2254–2255 (2015).
18. Sun, D., Wang, X., Wei, S., Chen, J. & Feng, L. Epidemiology and vaccine of porcine epidemic diarrhea virus in China: a mini-review. *J. Vet. Med. Sci.* **78**, 355–363 (2016).
19. Lau, S. K. et al. Complete genome sequence of bat coronavirus HKU2 from Chinese horseshoe bats revealed a much smaller spike gene with a different evolutionary lineage from the rest of the genome. *Virology* **367**, 428–439 (2007).
20. Chen, J. et al. Molecular epidemiology of porcine epidemic diarrhea virus in China. *Arch. Virol.* **155**, 1471–1476 (2010).
21. Burbelo, P. D. et al. Serological diagnosis of human herpes simplex virus type 1 and 2 infections by luciferase immunoprecipitation system assay. *Clin. Vaccine Immunol.* **16**, 366–371 (2009).
22. Gong, L. et al. A new bat-HKU2-like coronavirus in swine, China, 2017. *Emerg. Infect. Dis.* **23**, 1607–1609 (2017).
23. Pan, Y. et al. Discovery of a novel swine enteric alphacoronavirus (SeACoV) in southern China. *Vet. Microbiol.* **211**, 15–21 (2017).
24. Li, W. et al. Angiotensin-converting enzyme 2 is a functional receptor for the SARS coronavirus. *Nature* **426**, 450–454 (2003).
25. Masters, P. S. & Perlman, S. in *Fields Virology* Vol. 2 (eds Knipe, D. M. & Howley, P. M.) 825–858 (Lippincott Williams & Wilkins, Philadelphia, 2013).
26. Raj, V. S. et al. Dipeptidyl peptidase 4 is a functional receptor for the emerging human coronavirus-EMC. *Nature* **495**, 251–254 (2013).

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Competing interests The authors declare no competing interests.

Additional information
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METHODS

Sample collection. Bats were captured and sampled in their natural habitat in Guangdong province (Extended Data Fig. 1) as described previously[4]. Faecal swab samples were collected in viral transport medium (VTM) composed of Hank's balanced salt solution at pH 7.4 containing BSA (1%), amphotericin (15 μg ml^{-1}), penicillin G (100 units ml^{-1}) and streptomycin (50 μg ml^{-1}). Stool samples from sick pigs were collected in VTM. When appropriate and feasible, intestinal samples were also taken from deceased animals. Samples were aliquoted and stored at −80 °C until use. Blood samples were collected from recovered sows and workers on the farms who had close contact with sick pigs. Serum was separated by centrifugation at 3,000*g* for 15 min within 24 h of collection and preserved at 4 °C. Human serum collection was approved by the Medical Ethics Committee of the Wuhan School of Public Health, Wuhan University and Hummingbird IRB. Human, pigs and bats were sampled without gender or age preference unless indicated (for example, piglets or sows). No statistical methods were used to predetermine sample size.

Virus isolation. The following cells were used for virus isolation in this study: Vero (cultured in DMEM and 10% FBS); *Rhinolophus sinicus* primary or immortalized cells generated in our laboratory (all cultured in DMEM/F12 and 15% FBS): kidney primary cells (RsKi9409), lung primary cells (RsLu4323), lung immortalized cells (RsLuT), brain immortalized cells (RsBrT) and heart immortalized cells (RsHeT); and swine cell lines: two intestinal porcine enterocytes cell lines, IPEC (RPMI1640 and 10% FBS) and SIEC (DMEM and 10% FBS), three kidney cell lines PK15, LLC-PK1 (DMEM and 10% FBS for both) and IBRS (MEM and 10% FBS), and one pig testes cell line, ST (DMEM and 10% FBS). All cell lines were tested free of mycoplasma contamination, species were confirmed and authenticated by microscopic morphologic evaluation. None of the cell lines was on the list of commonly misidentified cell lines (by the ICLAC).

Cultured cell monolayers were maintained in their respective medium. PCR-positive pig faecal samples or the supernatant from homogenized pig intestine (in 200 μl VTM) were spun at 8,000*g* for 15 min, filtered and diluted 1:2 with DMEM supplemented with 16 μg ml^{-1} trypsin before addition to the cells. After incubation at 37 °C for 1 h, the inoculum was removed and replaced with fresh culture medium containing antibiotics (below) and 16 μg ml^{-1} trypsin. The cells were incubated at 37 °C and observed daily for cytopathic effect (CPE). Four blind passages (three-day interval between every passage) were performed for each sample. After each passage, both the culture supernatant and cell pellet were examined for the presence of virus by RT–PCR using the SADS-CoV primers listed in Supplementary Table 2. Penicillin (100 units ml^{-1}) and streptomycin (15 μg ml^{-1}) were included in all tissue culture media.

RNA extraction, *S1* gene amplification and qPCR. Whenever commercial kits were used, the manufacturer's instructions were followed without modification. RNA was extracted from 200 μl of swab samples (bat), faeces or homogenized intestine (pig) with the High Pure Viral RNA Kit (Roche). RNA was eluted in 50 μl of elution buffer and used as the template for RT–PCR. Reverse transcription was performed using the SuperScript III kit (ThermoFisher Scientific).

To amplify *S1* genes from bat samples, nested PCR was performed with primers designed based on HKU2-CoV (GenBank accession number NC_009988.1)[19] (Supplementary Table 2). The 25-μl first-round PCR mixture contained 2.5 μl 10× PCR reaction buffer, 5 pmol of each primer, 50 mM $MgCl_2$, 0.5 mM dNTP, 0.1 μl Platinum Taq Enzyme (Thermo Fisher Scientific) and 1 μl cDNA. The 50-μl second-round PCR mixture was identical to the first-round PCR mixture except for the primers. Amplification of both rounds was performed as follows: 94 °C for 5 min followed by 60 cycles at 94 °C for 30 s, 50 °C for 40 s, 72 °C for 2.5 min, and a final extension at 72 °C for 10 min. PCR products were gel-purified and sequenced.

For qPCR analysis, primers based on SADS-CoV *RdRp* and *N* genes were used (Supplementary Table 2). RNA extracted from above was reverse-transcribed using PrimeScript RT Master Mix (Takara). The 10 μl qPCR reaction mix contained 5 μl 2× SYBR premix Ex Taq II (Takara), 0.4 μM of each primer and 1 μl cDNA. Amplification was performed as follows: 95 °C for 30 s followed by 40 cycles at 95 °C for 5 s, 60 °C for 30 s and a melting curve step.

Luciferase immunoprecipitation system assay. The SADS-CoV *S1* gene was codon-optimized for eukaryotic expression, synthesized (GenScript) and cloned in frame with the Renilla luciferase gene (Rluc) and a Flag tag in the pREN2 vector[21]. pREN2-S1 plasmids were transfected into Cos-1 cells using Lipofectamine 2000 (Thermo Fisher Scientific). At 48 h post-transfection, cells were collected, lysed and a luciferase assay was performed to determine Rluc expression for both the empty vector (pREN2) and the pREN2-S1 construct. For testing of unknown pig or human serum samples, 1 μl of serum was incubated with 10 million units of Rluc (alone vector) or Rluc-S1, respectively, together with 3.5 μl of a 30% protein A/G Ultralink resin suspension (Pierce, Thermo Fisher Scientific). After extensive washing to remove unbounded luciferase-tagged antigens, the captured luciferase amount was determined using the commercial luciferase substrate kit (Promega). The ratio of Rluc-S1:Rluc (vector) was used to determine the specific S1 reactivity of pig and human sera. Commercial Flag antibody (Thermo Fisher Scientific) was used as the positive control, and various pig sera (from uninfected animals in China or Singapore; or pigs infected with PEDV, TGEV or Nipah virus) were used as a negative control.

Protein expression and antibody production. The *N* gene from SADSr-CoV 3755 (GenBank accession number MF094702), which shared 98% amino acid sequence identity to the SADS-CoV N protein, was inserted into pET-28a+ (Novagen) for prokaryotic expression. Transformed *Escherichia coli* were grown at 37 °C for 12–18 h in medium containing 1 mM IPTG. Bacteria were collected by centrifugation and resuspended in 30 ml of 5 mM imidazole and lysed by sonication. The lysate, from which N protein expression was confirmed with an anti-His-tag antibody, was applied to Ni^{2+} resin (Thermo Fisher Scientific). The purified N protein, at a concentration of 400 μg ml^{-1}, was used to immunize rabbits for antibody production following published methods[27]. After immunization and two boosts, rabbits were euthanized and sera were collected. Rabbit anti-N protein serum was used 1:10,000 for subsequent western blots.

Amplification, cloning and expression of human and swine genes. Construction of expression clones for human *ACE2* in pcDNA3.1 has been described previously[5,28]. Human *DPP4* was amplified from human cell lines. Human *APN* (also known as *ANPEP*) was commercially synthesized. Swine *APN* (also known as *ANPEP*), *DPP4* and *ACE2* were amplified from piglet intestine. Full-length gene fragments were amplified using specific primers (provided upon request). Human *ACE2* was cloned into pCDNA3.1 fused with a His tag. Human *APN* and *DPP4*, swine *APN*, *DPP4* and *ACE2* were cloned into pCAGGS fused with an S tag. Purified plasmids were transfected into HeLa cells. After 24 h, expression human or swine genes in HeLa cells was confirmed by immunofluorescence assay using mouse anti-His tag or mouse anti-S tag monoclonal antibodies (produced in house) followed by Cy3-labelled goat anti-mouse/rabbit IgG (Proteintech Group).

Pseudovirus preparation. The codon-humanized *S* genes of SADS-CoV or MERS-CoV cloned into pcDNA3.1 were used for pseudovirus construction as described previously[5]. In brief, 15 μg of each pHIV-Luc plasmid (pNL4.3.Luc.R-E-Luc) and the S protein-expressing plasmid (or empty vector control) were co-transfected into 4 × 10^6 HEK293T cells using Lipofectamine 3000 (Thermo Fisher Scientific). After 4 h, the medium was replaced with fresh medium. Supernatants were collected 48 h after transfection and clarified by centrifugation at 3,000*g*, then passed through a 0.45-μm filter (Millipore). The filtered supernatants were stored at −80 °C in aliquots until use. To evaluate the incorporation of S proteins into the core of HIV virions, pseudoviruses in supernatant (20 ml) were concentrated by ultracentrifugation through a 20% sucrose cushion (5 ml) at 80,000*g* for 90 min using a SW41 rotor (Beckman). Pelleted pseudoviruses were dissolved in 50 μl phosphate-buffered saline (PBS) and examined by electron microscopy.

Pseudovirus infection. HeLa cells transiently expressing APN, ACE2 or DPP4 were prepared using Lipofectamine 2000 (Thermo Fisher Scientific). Pseudoviruses prepared above were added to HeLa cells overexpressing APN, ACE2 or DPP4 24 h after transfection. The unabsorbed viruses were removed and replaced with fresh medium at 3 h after infection. The infection was monitored by measuring the luciferase activity conferred by the reporter gene carried by the pseudovirus, using the Luciferase Assay System (Promega) as follows: cells were lysed 48 h after infection, and 20 μl of the lysates was taken for determining luciferase activity after the addition of 50 μl of luciferase substrate.

Examination of known CoV receptors for SADS-CoV entry/infection. HeLa cells transiently expressing APN, ACE2 or DPP4 were prepared using Lipofectamine 2000 (Thermo Fisher Scientific) in a 96-well plate, with mock-transfected cells as controls. SADS-CoV grown in Vero cells was used to infect HeLa cells transiently expressing APN, ACE2 or DPP4. The inoculum was removed after 1 h of absorption and washed twice with PBS and supplemented with medium. SARS-related-CoV WIV16[7] and MERS-CoV HIV-pseudovirus were used as positive control for human/swine ACE2 or human/swine DPP4, respectively. After 24 h of infection, cells were washed with PBS and fixed with 4% formaldehyde in PBS (pH 7.4) for 20 min at room temperature. SARS-related-CoV WIV16 replication was detected using rabbit antibody against the SARS-related-CoV Rp3 N protein (made in house, 1:100) followed by Cy3-conjugated goat anti-rabbit IgG (1:50, Proteintech)[7]. SADS-CoV replication was monitored using rabbit antibody against the SADSr-CoV 3755 N protein (made in house, 1:50) followed by FITC-conjugated goat anti-rabbit IgG (1:50, Proteintech). Nuclei were stained with DAPI (Beyotime). Staining patterns were examined using confocal microscopy on a FV1200 microscope (Olympus). Infection of MERS-CoV HIV-pseudovirus was monitored by luciferase 48 h after infection.

High-throughput sequencing, pathogen screening and genome assembly. Tissue from the small intestine of deceased pigs was homogenized and filtered through 0.45-μm filters before nucleic acid extraction and ribosomal RNA was depleted using the NEBNext rRNA Depletion Kit (New England Biolabs). Metagenomics analysis of both RNA and DNA viruses was performed. For RNA virus screening, the sequencing library was constructed using Ion Total RNA-Seq Kit v2 (Thermo Fisher Scientific). For DNA virus screening, NEBNext Fast DNA Fragmentation

& Library Prep Set for Ion Torrent (New England Biolabs) was used for library preparation. Both libraries were sequenced on an Ion S5 sequencer (Thermo Fisher Scientific). An analysis pipeline was applied to the sequencing data, which included the following analysis steps: (1) raw data quality filtering; (2) host genomic sequence filtering; (3) BLASTn search against the virus nucleotide database using BLAST; (4) BLASTx search against the virus protein database using DIAMOND v.0.9.0; (5) contig assembling and BLASTx search against the virus protein database. For whole viral genome sequencing, amplicon primers (provided upon request) were designed using the Thermo Fisher Scientific online tool with the HKU2-CoV and the SADS-CoV farm A genomes as references, and the sequencing libraries were constructed using NEBNext Ultra II DNA Library Prep Kit for Illumina and sequenced on an MiSeq sequencer. PCR and Sanger sequencing was performed to fill gaps in the genome. Genome sequences were assembled using CLC Genomic Workbench v.9.0. 5′-RACE was performed to determine the 5′-end of the genomes using SMARTer RACE 5′/3′ Kit (Takara). Genomes were annotated using Clone Manager Professional Suite 8 (Sci-Ed Software).

Phylogenetic analysis. SADS-CoV genome sequences and other representative coronavirus sequences (obtained from GenBank) were aligned using MAFFT v.7.221. Phylogenetic analyses with full-length genome, *S* gene and *RdRp* were performed using MrBayes v.3.2. Markov chain Monte Carlo was run for 20–50 million steps using the GTR+G+I model (general time reversible model of nucleotide substitution with a proportion of invariant sites and γ-distributed rates among sites). The first 10% was removed as burn-in. The association between phylogenies and phenotypes (for example, host species and farms) was assessed by BaTS beta-build2, with the trees obtained in the previous step used as input. For SADS-CoVs, a median-joining network analysis was performed using PopART v.1.7, with $\varepsilon = 0$. Phylogenetic analysis of the 33 full-length SADS-CoV genome sequences was performed using RAxML v.8.2.11, with GTRGAMMA as the nucleotide substitution model and 1,000 bootstrap replicates. The maximum likelihood tree was used to test the molecular clock using TempEst v.1.5. Potential genetic recombination events in our datasets were detected using RDP v.4.72.

Animal infection studies. Experiments were carried out strictly in accordance with the recommendations of the Guide for the Care and Use of Laboratory Animals of the National Institutes of Health. The use of animals in this study was approved by the South China Agricultural University Committee of Animal Experiments (approval number 201004152).

Two different animal challenge experiments were conducted. Pigs were used without gender preference. In the first experiment, which was conducted before the virus was isolated, we used three-day old specific pathogen-free (SPF) piglets of the same breeding line, cared for at a SPF facility, fed with colostrum (except one). These piglets were bred and reared to be free of PEDV, GEFV, SIV, PCV2 and PPV infections, and were routinely tested for viral infections using PCR. We also conducted NGS to further confirm that these were animals were free of infection of the above viruses before the animal experiment, and to demonstrate that the animals were free of SADS-CoV infection. The intestinal tissue samples from healthy and diseased animals (intestinal samples excised from euthanized piglets, then ground to make slurry for the inoculum and NGS) was performed to confirm no other pig pathogens were found in the samples), were used to feed two groups of 5 (control) and 7 (infection) animals, respectively. For the second experiment, isolated SADS-CoV was used to infect healthy piglets from a farm in Guangdong, which had been free of diarrheal disease for a number of weeks. These piglets were from the same breed as those on SADS-affected farms, to eliminate potential host factor differences and to more accurately reproduce the conditions that occurred during the outbreak in the region. Both groups of piglets were cared for at a known pig disease-free facility. Again, qPCR and NGS were used to make sure that there was no other known swine diarrhoea virus present in the virus inoculum or any of the experimental animals. Two groups (6 for each group) of three-day old piglets were inoculated with SADS-CoV culture supernatant or normal cell culture medium as control. NGS and qPCR were used to confirm that there were no other known swine pathogens in the inoculum.

For both experiments, animals were recorded daily for signs of diseases, such as diarrhoea, weight loss and death. Faecal swabs were collected daily from all animals and screened for known swine diarrhoea viruses by qPCR. Weight loss was calculated as the percentage weight loss compared the original weight at day 0 with a threshold of >5%. It is important to point out that piglets when they are three days old tend to suffer from diarrhoea and weight loss when they are taken away from sows and the natural breast-feeding environment even without infection. At experimental endpoints, piglets were humanely euthanized and necropsies performed. Pictures were taken to record gross pathological changes to the intestines. Ileal, jejunal and duodenal tissues were taken from selected animals and stored at −80 °C for further analysis.

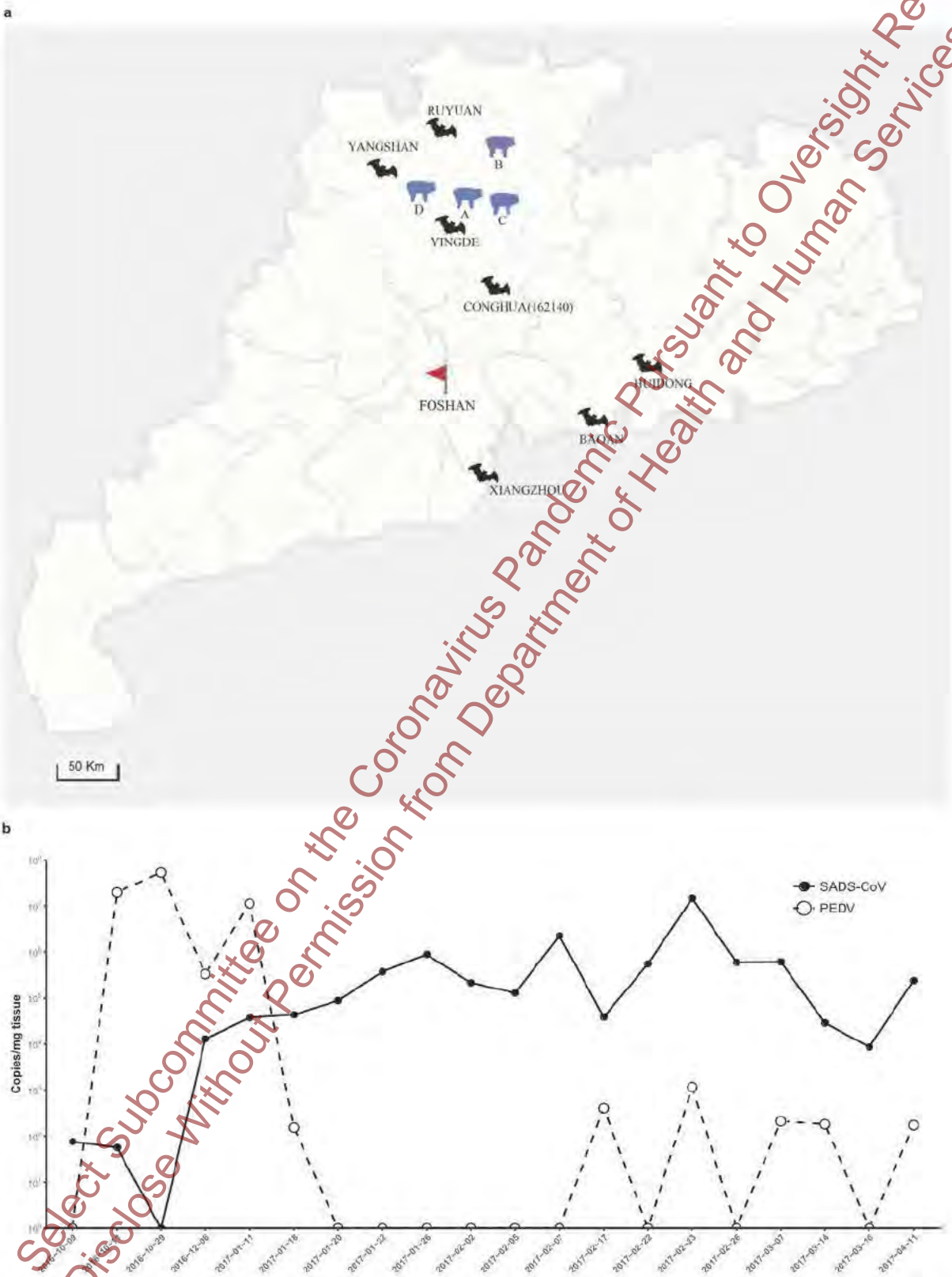
Haematoxylin and eosin and immunohistochemistry analysis. Frozen (−80 °C) small intestinal tissues including duodenum, jejunum and ileum taken from the experimentally infected pigs were pre-frozen at −20 °C for 10 min. Tissues were then embedded in optimal cutting temperature (OCT) compound and cut into 8-μm sections using the Cryotome FSE machine (Thermo Fisher Scientific). Mounted microscope slides were fixed with paraformaldehyde and stained with haematoxylin and eosin for histopathological examination.

For immunohistochemistry analysis, a rabbit antibody raised against the SADSr-CoV 3755 N protein was used for specific staining of SADS-CoV antigen. Slides were blocked by incubating with 10% goat serum (Beyotime) at 37 °C for 30 min, followed by overnight incubation at 4 °C with the rabbit anti-3755 N protein serum (1:1,000) and mouse anti-cytokeratin 8+18+19 monoclonal antibody (Abcam), diluted 1:100 in PBST buffer containing 5% goat serum. After washing, slides were then incubated for 50 min at room temperature with Cy3-conjugated goat-anti-rabbit IgG (Proteintech) and FITC-conjugated goat-anti-mouse IgG (Proteintech), diluted 1:100 in PBST buffer containing 5% goat serum. Slides were stained with DAPI (Beyotime) and observed under a fluorescence microscope (Nikon).

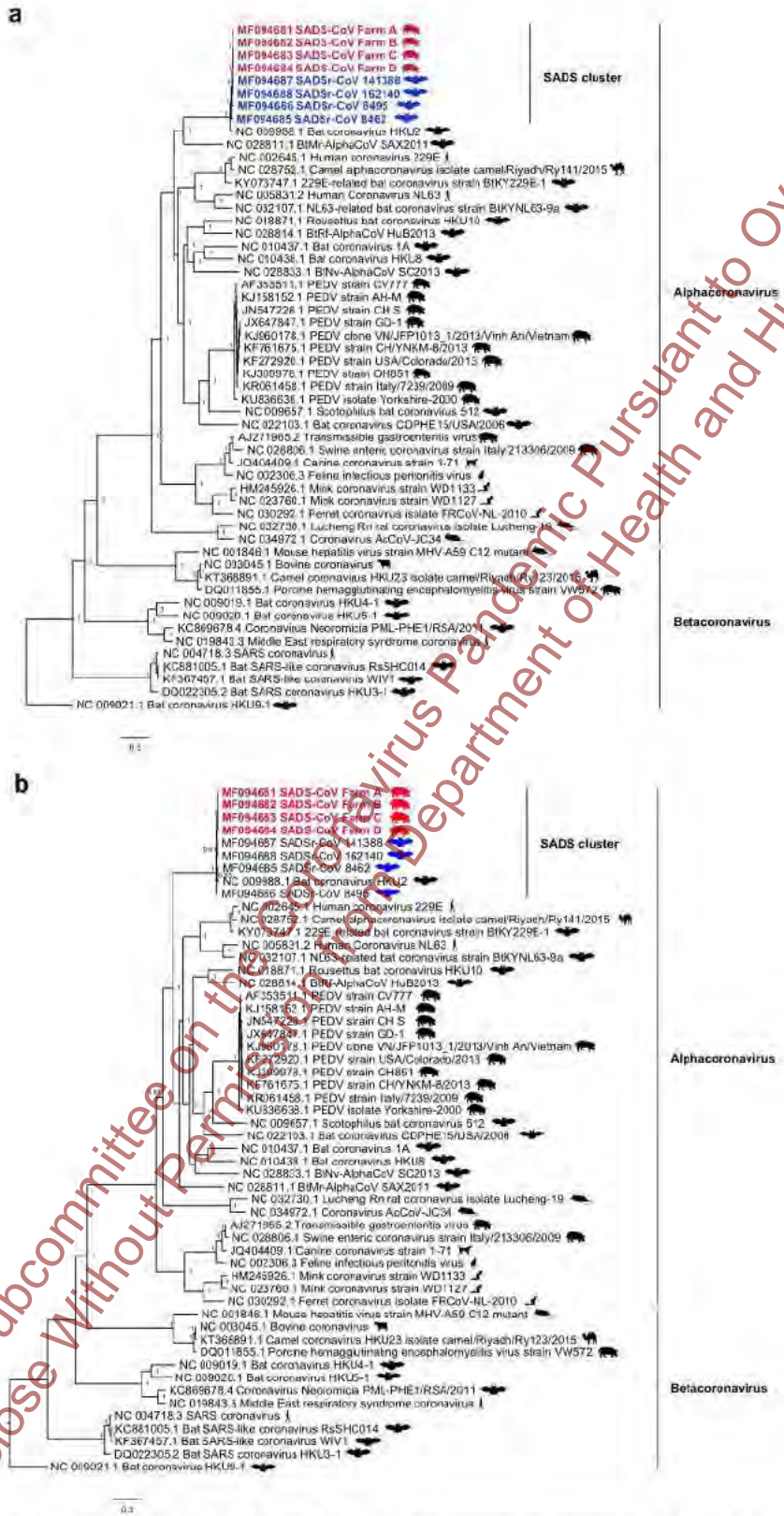
Reporting Summary. Further information on experimental design is available in the Nature Research Reporting Summary linked to this paper.

Data availability. Sequence data that support the findings of this study have been deposited in GenBank with accession codes MF094681–MF094688, MF769416–MF769444, MF094697–MF094701, MF769406–MF769415 and MG557844. Raw sequencing data that support the findings of this study have been deposited in the Sequence Read Achieve (SRA) with accession codes SRR5991648, SRR5991649, SRR5991650, SRR5991651, SRR5991652, SRR5991654, SRR5991655, SRR5991656, SRR5991657, SRR5991658 and SRR5995595.

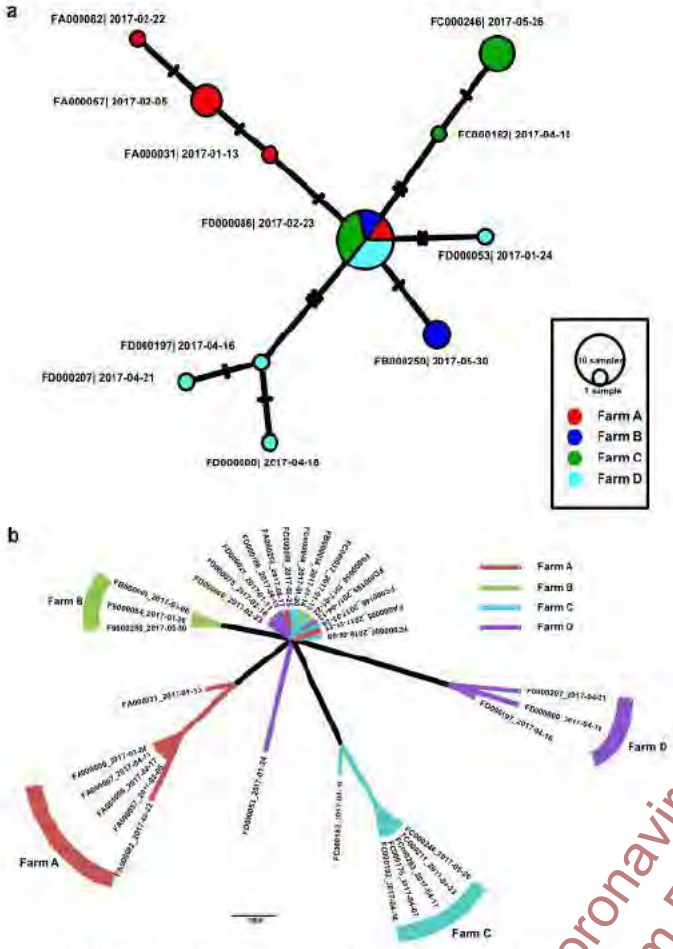
27. Harlow, E. & Lane, D. *Antibodies: A Laboratory Manual* (Cold Spring Harbor Laboratory Press, New York, 1988).
28. Ren, W. et al. Difference in receptor usage between severe acute respiratory syndrome (SARS) coronavirus and SARS-like coronavirus of bat origin. *J. Virol.* **82**, 1899–1907 (2008).



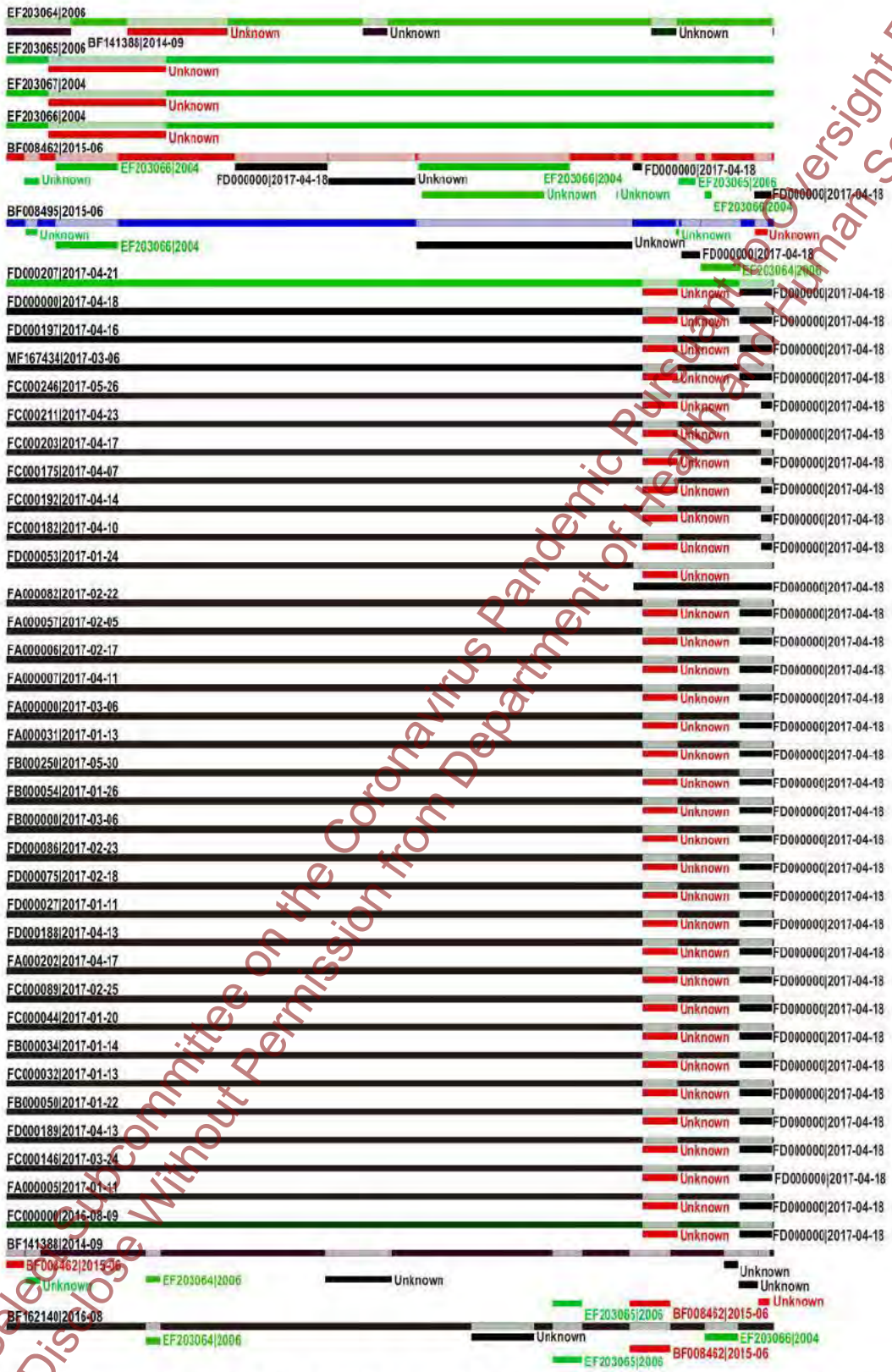
Extended Data Fig. 1 | Map of outbreak locations and sampling sites in Guangdong province, China and the co-circulation of PEDV and SADS-CoV during the initial outbreak on farm A. a, SADS-affected farms are labelled (farms A–D) with blue swine silhouettes following the temporal sequence of the outbreaks. Bat sampling sites are indicated with black bat silhouettes. The bat SADSr-CoV that is most closely related to SADS-CoV (sample 162140) originated in Conghua. The red flag marks Foshan city, the site of the SARS index case. **b**, Pooled intestinal samples ($n = 5$ or more biological independent samples) were collected at dates given on the x axis from deceased piglets and analysed by qPCR. The viral load for each piglet is shown as copy number per milligram of intestine tissue (y axis).



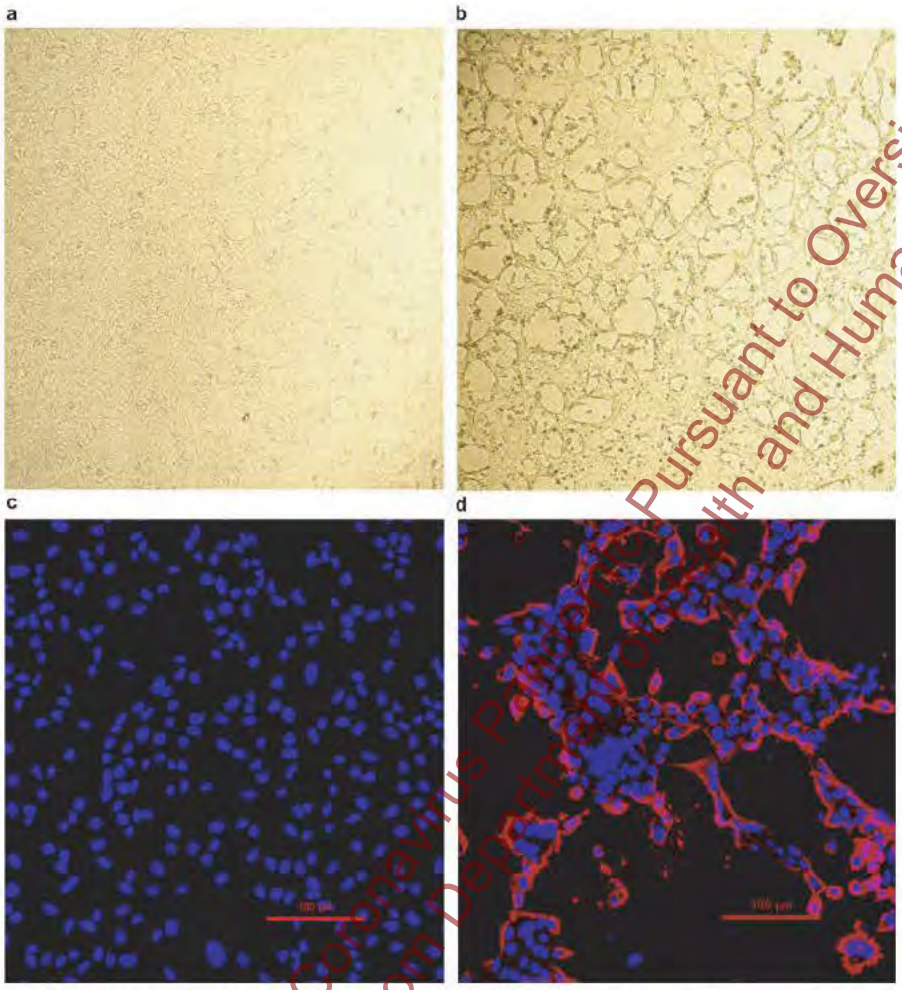
Extended Data Fig. 2 | Bayesian phylogenetic tree of the full-length genome and the *ORF1a* and *ORF1b* sequences of SADS-CoV and related coronaviruses. a, Bayesian phylogenetic tree of the full-length genome. **b**, Bayesian phylogenetic tree of the *ORF1a* and *ORF1b* sequences. Trees were constructed using MrBayes with the average standard deviation of split frequencies under 0.01. The host of each sequence is represented as a silhouette. Newly sequenced SADS-CoVs are highlighted in red, bat SADSr-CoVs are shown in blue and previously published sequences are shown in black. Scale bars, nucleotide substitutions per site.



Extended Data Fig. 3 | Phylogeny and haplotype network analyses of the 33 SADS-CoV strains from the four farms. a, Phylogenetic tree constructed using MrBayes. The GTR+GAMMA model was applied and 20 million steps were run, with the first 10% removed as burn-in. Viruses from different farms are labelled with different colours. Scale bar, nucleotide substitutions per site. **b**, Median-joining haplotype network constructed using ProART. In this analysis, $\varepsilon = 0$ was used. The size of the circles represents the number of samples. The larger the circle, the more samples it includes.



Extended Data Fig. 4 | Recombination analysis for SADS-CoV and related CoVs. The potential genetic recombination events were detected using RDP. For each virus strain, different colours represent different sources of the genomes.



Extended Data Fig. 5 | Isolation and antigenic characterization of SADS-CoV. a, **b**, Vero cells are shown 20 h after infection with mock (**a**) or SADS-CoV (**b**). **c**, **d**, Mock or SADS-CoV-infected samples stained with rabbit serum raised against the recombinant SADSr-CoV N protein (red) and DAPI (blue). The experiment was conducted independently three times with similar results. Scale bars, 100 μm.

Extended Data Table 1 | List of all known swine viruses tested by PCR at the beginning of the of SADS outbreak investigation on the four farms

	PEDV	PDCoV	TGEV	RV	PBV	PSV	SVA	SIV	NADC30	PRV	FMDV	CSFV	PCV2	PCV3	APPV	PPV	Norovirus
Farm A	-	-	-	-	-	-	-	-	-	-	-	-	-	-		ND	-
Farm B	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-
Farm C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND
Farm D	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND

Faeces, intestine or faecal swabs collected from January to April 2017 were tested. Sampling type and number of samples per farm were as follows: Farm A: 1 fecal sample, 20 intestinal sample and 6 faecal swabs; farm B: 1 faecal sample and 15 intestinal samples; farm C: 2 intestinal sample and 1 faecal swab; farm D: 5 faecal sample and 1 faecal swab. The dash indicates a negative PCR result. ND, not determined. APPV, atypical porcine pestivirus; CSFV, classical swine fever virus; FMDV, foot and mouth disease virus; NADC30, porcine reproductive and respiratory syndrome virus, strain NADC30; PBV, porcine picobirnavirus; PCV2, porcine circovirus 2; PCV3, porcine circovirus 3; PDCoV, porcine deltacoronavirus; PEDV, porcine epidemic diarrhoea virus; PPV, porcine parvovirus; PRV, porcine pseudorabies virus; PSV, porcine sapelovirus; RV, porcine rotavirus; SIV, swine influenza virus; SVA, porcine senecavirus A; TGEV, porcine transmissible gastroenteritis virus.

Extended Data Table 2 | List of SADSr-CoVs detected in bats in Guangdong, China

Sampling			PCR analysis	
Time (Month-Year)	Location	Bat Species	Fecal swabs sampled	PCR Positive
Jun 13	Yingde	*Rhinolophus sinicus*	1	0
		Pipistrellus abramus	8	0
		Myotis ricketti	2	0
Jul 13	Yangshan	*Pipistrellus abramus*	1	0
		Hipposideros pratti	36	0
Jul 13; May 14; Jun 15; Aug 16	Ruyuan	*Rhinolophus sinicus*	27	5
		Rhinolophus affinis	11	0
		Rhinolophus macrotis	3	0
		Rhinolophus pusillus	41	3
		Rhinolophus rex	9	7
		Hipposideros pratti	7	0
Sep 14; Jun 15; Aug 16	Conghua	*Rhinolophus sinicus*	70	2
		Rhinolophus affinis	34	7
		Rhinolophus pusillus	11	2
		Hipposideros pomona	10	0
		Myotis ricketti	1	0
Jun 13; Nov 13; Aug 14; Jun 15	Huidong	*Rhinolophus sinicus*	37	4
		Rhinolophus affinis	59	27
		Rhinolophus macrotis	15	0
		Rhinolophus pusillus	1	0
		Hipposideros pomona	2	0
		Myotis ricketti	84	0
Jun 15	Baoan	*Rhinolophus sinicus*	55	1
Sep 14	Xiangzhou	*Rhinolophus pusillus*	28	0
		Hipposideros pomona	38	0
		Total	591	58 (9.8%)

See Extended Data Fig. 1 for sampling sites in relation to SARS and SADS outbreak locations.

Extended Data Table 3 | Test of SADS-CoV entry and infection in Hela cells expressing known coronavirus receptors

	HuAPN*	HuACE2*	HuDPP4*	SwAPN*	SwACE2*	SwDPP4*
SADS-CoV	-	-	-	-	-	-
SARS-related-CoV	NA	+	NA	NA	+	NA
MERS-CoV†	NA	NA	+	NA	NA	NA
Expression‡	+ (S-tag)	+ (HIS-tag)	+ (S-tag)	+ (S-tag)	+ (S-tag)	+ (S-tag)

*Gene accession numbers for the genes used in this study: human APN, M22324.1; human ACE2, NM_021804; human DPP4, NM_001935.3; SwAPN (swine APN), NM_214277.1; SwACE2 (swine ACE2), NM_001116542.1; SwDPP4 (swine DPP4), NM_214257.1.
†For MERS-CoV infection, HIV-pseudovirus was used.
‡Expression of APN, ACE2 and DPP4 was confirmed by antibodies against fused tags.

Extended Data Table 4 | Experimental infection of SPF piglets using intestine tissue homogenate

a

Group	Animal Number	Age (days)	Inoculum material	SADS-CoV titer (copy/ml)	Inoculum volume	Inoculation route	Data recorded on day one and (day two) post challenge				
							Death	Weight loss	Watery diarrhea	SADS-CoV (+ve)	PEDV/PDCoV/RV (+ve)
Infected	7	3	PCR positive intestine slurry	1.55×10^6	4 ml	Oral + milk	0/7 (3/7)	4/7 (5/7)	5/7 (7/7)	6/7* (7/7)	0/7 (0/7)
Control	5	3	PCR negative intestine slurry	0	4 ml	Oral + milk	0/5 (1/5)	1/5 (3/5)	0/5 (1/5)	0/5 (0/5)	0/5 (0/5)

b

Group	Days post challenge	Piglet-I1*	Piglet-I2*	Piglet-I3*	Piglet-I4*	Piglet-I5†	Piglet-I6†	Piglet-I7†
Infected	0	0.565	0.66	0.6	0.68	0.49	0.57	0.62
	1	0.555	0.635	0.685	0.715	0.4	0.475	0.565
	2	0.51	0.52	0.665	0.785			
		Piglet-C1*	Piglet-C2*	Piglet-C3*	Piglet-C4‡‡	Piglet-C5*		
Control	0	0.67	0.59	0.5	0.53	0.525		
	1	0.765	0.53	0.49	0.51	0.535		
	2	0.765	0.53	0.575		0.505		

Experimental details can be found in the Methods. **a**, Animals were recorded every day for signs of disease, including weight loss, diarrhoea and death. PCR on DNA from faecal swabs was carried out to monitor the presence of SADS-CoV or other pig viruses. **b**, Daily body weight record of all piglets. Weights are in kg.
*Euthanized on the indicated day for further analysis.
†Animal died during the experiment.
‡The only animal that did not receive colostrum in this experiment due to shortage in supply.

Extended Data Table 5 | Experimental animal infection of farm piglets using cultured SADS-CoV

a

Group	Animal Number	Age (days)	Inoculum material	SADS-CoV titer ($TCID_{50}$/ml)	Inoculum volume	Inoculation route	Data recorded on day two and (day four) post challenge				
							Death	Weight loss	Watery diarrhea	SADS-CoV (+ve)	PEDV/PDCoV/RV (+ve)
Infected	6	3	Cultured SADS-CoV	10^6.625	6 ml	Oral + milk	1/6 (3/6)	4/6 (6/6)	6/6 (6/6)	6/6 (6/6)	0/6 (0/6)
Control	6	3	Mock culture supernatant	0	6 ml	Oral + milk	0/6 (0/6)	3/6 (3/6)	5/6 (3/6)	0/6 (0/6)	0/6 (0/6)

b

Group	Days post challenge	Piglet-I1†	Piglet-I2†	Piglet-I3*	Piglet-I4*	Piglet-I5*	Piglet-I6†
Infected	0	1.5	1.54	2.32	1.92	1.54	2.165
	1	1.41	1.575	2.58	1.885	1.46	2.08
	2	1.23	1.39	2.615	1.73	1.54	1.365
	3			2.115	1.54	1.335	1.725
	4						1.505
		Piglet-C1*	Piglet-C2*	Piglet-C3*	Piglet-C4*	Piglet-C5*	Piglet-C6*
Control	0	1.955	2.055	2.8	1.835	1.835	1.83
	1	1.765	1.955	1.9	1.68	1.645	1.93
	2		2.12	1.675	1.93	1.515	1.9
	3		2.25	1.69	2.18	1.66	2.38
	4				2.27	1.555	2.58

Experimental details can be found in the Methods. **a**, Animals were recorded every day for signs of disease, including weight loss, diarrhoea and death. PCR on DNA from faecal swabs was carried out to monitor the presence of SADS-CoV or other pig viruses. **b**, Daily body weight record of all piglets. Weights are in kg.
*Euthanized on the indicated day for further analysis.
†Animal died during the experiment.

nature research

Corresponding author(s): Peter Daszak, Lin-Fa Wang, Yi-Gang Tong, Jing-Yun Ma and Zheng-li Shi

☐ Initial submission ☐ Revised version ☒ Final submission

Life Sciences Reporting Summary

Nature Research wishes to improve the reproducibility of the work that we publish. This form is intended for publication with all accepted life science papers and provides structure for consistency and transparency in reporting. Every life science submission will use this form; some list items might not apply to an individual manuscript, but all fields must be completed for clarity.

For further information on the points included in this form, see Reporting Life Sciences Research. For further information on Nature Research policies, including our data availability policy, see Authors & Referees and the Editorial Policy Checklist.

Experimental design

1. Sample size

Describe how sample size was determined.

For the three main figures: figure 1 calculated all sick pigs or used more than five samples in epidemiology, or used three animals in tissue distribution (meets the minimal statistical requirements). Figure 2 used most of the representative CoV genomes thus should be adequate. For all other tables or figures that sample size involved, we used more than three samples per group. For animal experiments, we used at least five animal per group.

2. Data exclusions

Describe any data exclusions.

No data exclusion.

3. Replication

Describe whether the experimental findings were reliably reproduced.

As epidemiology study, we presented all results including positive or negative here. The authors guarantee the findings are reliably reproducible. At least three independent experiments were performed, which was stated in the text.

4. Randomization

Describe how samples/organisms/participants were allocated into experimental groups.

Animals were randomly assigned to groups prior to any experimentation.

5. Blinding

Describe whether the investigators were blinded to group allocation during data collection and/or analysis.

SADS-CoV histology was performed in a blinded manner.

Note: all studies involving animals and/or human research participants must disclose whether blinding and randomization were used.

6. Statistical parameters

For all figures and tables that use statistical methods, confirm that the following items are present in relevant figure legends (or in the Methods section if additional space is needed).

n/a	Confirmed	
☐	☒	The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement (animals, litters, cultures, etc.)
☐	☒	A description of how samples were collected, noting whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
☐	☒	A statement indicating how many times each experiment was replicated
☒	☐	The statistical test(s) used and whether they are one- or two-sided (note: only common tests should be described solely by name; more complex techniques should be described in the Methods section)
☒	☐	A description of any assumptions or corrections, such as an adjustment for multiple comparisons
☒	☐	The test results (e.g. *P* values) given as exact values whenever possible and with confidence intervals noted
☐	☒	A clear description of statistics including central tendency (e.g. median, mean) and variation (e.g. standard deviation, interquartile range)
☐	☒	Clearly defined error bars

See the web collection on statistics for biologists for further resources and guidance.

Software

Policy information about availability of computer code

7. Software

Describe the software used to analyze the data in this study.	BLAST+ v2.2.3, CLC Genomic Workbench v9.0, Clone Manager v8, MAFFT v7.221, MrBayes v3.2, DIAMOND v0.9.0, BaTS beta-build2, PopART v1.7, RAxML v8.2.11, TempEst v1.5, RDP v4.72.

For manuscripts utilizing custom algorithms or software that are central to the paper but not yet described in the published literature, software must be made available to editors and reviewers upon request. We strongly encourage code deposition in a community repository (e.g. GitHub). *Nature Methods* guidance for providing algorithms and software for publication provides further information on this topic.

Materials and reagents

Policy information about availability of materials

8. Materials availability

Indicate whether there are restrictions on availability of unique materials or if these materials are only available for distribution by a for-profit company.	There is no restriction to material availability.

9. Antibodies

Describe the antibodies used and how they were validated for use in the system under study (i.e. assay and species).	1, rabbit anti-HKU2-NP polyclonal antibody, made by ourselves, validated by immunogen in a WB (titer 1: 10000); 2, anti-HIS tag monoclonal antibody (Proteintect Group), validated in a WB (titer 1: 1000); 3, anti-S tag monoclonal antibody, made by ourselves, validated in a WB (titer 1: 10000); 4, cyanin 3-labeled goat anti-mouse/rabbit IgG (Proteintech Group), validated in IFA (titer 1: 1000); 5, mouse anti-FLAG tag antibody (Thermo Fisher Scientific), validated in a WB (titer 1: 1000); 6, mouse anti-Cytokeratin 8+18+19 mAb (Abcam), validated in IHC (1:100); 7, FITC conjugated goat-anti-rabbit IgG (Proteintech), validated in IHC (1:100);

10. Eukaryotic cell lines

a. State the source of each eukaryotic cell line used.	1, African green monkey origin, Vero from ATCC; 2, bat origin Rhinolophus sinicus (made by ourselves), Kidney primary RsKi9409, lung primary RsLu4323, lung immortalized RsLuT, brain immortalized RsBrT and heart immortalized RsHeT; all bats were made in house; 3, Swine cells: intestinal IPEC and SIEC, kidney PK15, LLC-PK1 and IBRS, testes cell ST; all swine cells were from ATCC; 4, human cells: Hela and HEK293T were from ATCC.
b. Describe the method of cell line authentication used.	All monkey and human cells were from ATCC with authentication. Swine cells (commercially available) were gifts of collaborators and were originally from ATCC with authentication. They were authentication by microscope observation during culture. Bat cells made by ourselves were from organ or cultured and immortalized. We guarantee they were from the organs described but there was no further authentication.
c. Report whether the cell lines were tested for mycoplasma contamination.	We confirm that all cells were tested as mycoplasma negative.
d. If any of the cell lines used are listed in the database of commonly misidentified cell lines maintained by ICLAC, provide a scientific rationale for their use.	None of the cell lines used are listed in the ICLAC database.

Animals and human research participants

Policy information about studies involving animals; when reporting animal research, follow the ARRIVE guidelines

11. Description of research animals

Provide details on animals and/or animal-derived materials used in the study.	Swine used in animal infection study aged between 2-4 days. The first experiment used healthy Chinese Bamaxiang SPF piglets that were cultured free of SADS-CoV or other known swine disease agents. The second experiment used healthy duroc-landrace-yokshire piglets (not SPF) that were not affected by SADS-CoV before. No gender preference when choose the animal. Piglets were from same breed and at same age and were randomly assigned into groups for the experiments.

Policy information about studies involving human research participants

12. Description of human research participants

Describe the covariate-relevant population characteristics of the human research participants.	Pig farm workers were bleed for testing possible spillover of SADS-CoV. These workers are also adult male who had close contact with sick pigs. None of them had clinical signs of diseases during sampling.

From: [redacted] (NIH/NIAID) [E]
Sent: Tue, 24 Apr 2018 15:04:41 +0000
To: [redacted] (NIH/NIAID) [E]
Subject: Re: MCB Cables for HHS U.S 19Apr18

Thanks
From: [redacted] (NIH/NIAID) [E]
Sent: Tuesday, April 24, 2018 10:58:44 AM
To: [redacted] (NIH/NIAID) [E]
Subject: FW: MCB Cables for HHS U.S 19Apr18

fyi

From: [redacted] (NIH/NIAID) [E]
Sent: Tuesday, April 24, 2018 9:48 AM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@nih.gov>
Subject: FW: MCB Cables for HHS U.S 19Apr18

Hi all,

Attached is a cable on the destruction of Ebola samples in Guinea. Please share with others who may be interested.

Warm regards,

[redacted] **PhD**
Sub-Saharan Africa Regional Program Officer
NIAID Office of Global Research
5601 Fishers Lane, 1E63A, MSC 9802
Bethesda, MD 20892-9802
Phone: [redacted]
Cell: [redacted]
Fax: [redacted]
[redacted]@nih.gov

From: [redacted] (NIH/NIAID) [E]
Sent: Sunday, April 22, 2018 6:30 PM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>
Cc: [redacted] (NIH/NIAID) [C] [redacted]@niaid.nih.gov>
Subject: FW: MCB Cables for HHS U.S 19Apr18

(b)

Please distribute these interesting cables on BSL-4 in China and Ebola in Guinea to anyone potentially interested.

Thanks. [redacted]

China Virus Institute Welcomes More U.S. Cooperation on Global Health Security

(SBU) Summary with Comment: China's Wuhan Institute of Virology, a global leader in virus research, is a key partner for the United States in protecting global health security. Its role as operator of the just-launched Biosafety Level 4 (or "P4") lab -- the first such lab in China -- opens up even more opportunities for expert exchange, especially in light of the lab's shortage of trained staff (Ref A). Given the legacy of SARS and the likelihood that the next global pandemic will originate in China, the United States should prioritize expanding our already significant cooperation with this institute. This should include partnering with the institute on basic science research and the Global Virome Project (Ref B), and possibly trilateral U.S.-China-EU projects, building on the institute's strong ties with France.

Guinea: Inactivation and Destruction of 18,000 Ebola Samples
SBU) Summary: The 2014 Ebola outbreak resulted in the accumulation of tens of thousands of infectious Ebola samples in laboratories across West Africa, many of which were stored in unsafe or unsecure conditions. In 2016, the USG decided to persuade the GOG to retain no live Ebola samples in the country, and that the USG should help Guinea to facilitate the inventory and inactivation or destruction of Guinean Ebola samples. Inactivating Ebola samples would render them unable to cause disease while retaining some of their research potential. Based on this review and per a November 2016 request for assistance from Guineas Minister of Health, a U.S.
interagency team of biosecurity expert s traveled to Guinea to evaluate Guineas Ebola laboratories.

From: [redacted] (NIH/NIAID) [E]
Sent: Tue, 24 Apr 2018 14:41:41 +0000
To: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: FW: MCB Cables for HHS U.S 19Apr18
Attachments: China Virus Institute Welcomes More U.S. Cooperation onGlobal Health Security, Guinea: Inactivation and Destruction of 18,000 Ebola Samples

FYI

From: "[redacted](NIH/NIAID) [E]" <[redacted]@nih.gov>
Date: Tuesday, April 24, 2018 at 9:48 AM
To: "[redacted]@niaid.nih.gov" [redacted]@niaid.nih.gov>, [redacted]@nih.gov" <[redacted]@niaid.nih.gov>, "[redacted] (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>, [redacted] <[redacted]@niaid.nih.gov>, "[redacted]@niaid.nih.gov" <[redacted]@niaid.nih.gov>, "[redacted]@nih.hhs.gov" [redacted]@niaid.nih.gov> [redacted]@nih.gov>, "[redacted]NIH/NIAID) [E]" [redacted]@niaid.nih.gov>, [redacted] [redacted]@nih.gov>, "[redacted]@nih.hhs.gov" [redacted]@niaid.nih.gov> [redacted] (NIH/NIAID) [E]" [redacted]@nih.gov>
Subject: FW: MCB Cables for HHS U.S 19Apr18

Hi all,

Attached is a cable on the destruction of Ebola samples in Guinea. Please share with others who may be interested.

Warm regards,

[redacted] **PhD**
Sub-Saharan Africa Regional Program Officer
NIAID Office of Global Research
5601 Fishers Lane, 1E63A, MSC 9802
Bethesda, MD 20892-9802
Phone: [redacted]
Cell: [redacted]
Fax: [redacted]
[redacted]@nih.gov

From: [redacted] (NIH/NIAID) [E]
Sent: Sunday, April 22, 2018 6:30 PM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@nih.gov>
Cc: [redacted] (NIH/NIAID) [C] <[redacted]@niaid.nih.gov>
Subject: FW: MCB Cables for HHS U.S 19Apr18

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Thanks. [redacted]

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interagency team of biosecurity expert s traveled to Guinea to evaluate Guineas Ebola laboratories.

From: Chen, Ping (NIH/NIAID) [E]
Sent: Mon, 28 May 2018 15:19:18 +0000
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Let me translate the email first. We can have a small group discussion. I can gather questions to get back to the Chinese sender.

Ping

Sent from my iPhone

On May 28, 2018, at 9:43 AM, [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov> wrote:

I completely agree. We can have our discussion first and get your advice. [redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Monday, May 28, 2018 10:12 AM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>
Cc: Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>
Subject: Re: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Ping and [redacted]

I am happy to do whatever you feel appropriate, including engage DMID leadership. I believe it is best to wait, however, to do this until the few of us have a better understanding of what they are asking. If you disagree with that, please don't hesitate to let me know.

Thanks.

[redacted]

On May 28, 2018, at 9:33 AM, [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov> wrote:

[redacted] and Ping,

This is an inquiry that requires careful consideration and strategic planning before we take any action or share this with anyone outside NIAID. I would like to schedule a call as soon as Ping is available and hopefully before the end of the week.

[redacted] I hope you can also engage DMID leadership so we can have the benefit of wider input as we consider how we might respond to these notices.

Ping, can you provide a translation of the e-mail sent to you with these attachments?

Thanks. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Sunday, May 27, 2018 11:36 PM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>
Subject: FW: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Dear [redacted]

It was good to see you a couple of weeks ago at Fishers Lane.

I am forwarding the announcement sent to me by people at Wuhan Institute of Virology where China's only publicly known P4 lab is hosted. I haven't had time to go through the document as I have been busy with my daughter's graduation and move.

It looks like the institute is looking for applicants to use the lab (I am not entirely sure what is the purpose. It uses the word "cultivation" in the announcement. I thought it could mean it looks for applicants who can provide bio-safety training for P4 lab. But with a quick browse, it looks like it is an announcement looking for domestic and international researchers to use the P4 lab.

The institute sent me the announcement asking for "feedback". First, I thought it was asking us to review the documents and provide comments. But after I browsed the text, I think they are asking me to distribute the announcement for Americans who may be interested in teaming up with the Chinese researchers doing research on highly pathogenic viruses using the P4 lab in WIV.

I copied [redacted] at OGR and she can forward to programs officers with the P4 pathogen portfolio.

Thank you

Best,

Ping

陈平
Ping Chen, PhD
Director, NIAID China Office
#55 An Jia Lou Road, Beijing 100600
Office: [redacted]
Mobile: [redacted]

US Mobile: [redacted]
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: [redacted] <[redacted]@wh.iov.cn>
Date: Wednesday, May 23, 2018 at 5:52 AM
To: "Chen, Ping (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>
Subject: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

尊敬的陈主任，您好！

中国科学院武汉国家生物安全（P4）实验室已正式运行。为依托重大科技基础设施，组建高等级生物安全实验室的高端用户群，培养国家生物安全高水平人才，形成重大科技突破和成果产出，提升生物安全和公共卫生科技支撑能力，中国科学院武汉病毒研究所于近期草拟了《中国科学院武汉国家生物安全实验室高端用户培育项目征集指南》，针对国内外发布征集。详情请见附件。

敬请您查阅。如方便，劳您费心帮忙转发动员美方相关人员申报。英文版指南和申请表一并附上，供转发动员使用。

网站链接：http://www.whiov.cas.cn/tzgg_105342/201805/t20180518_5013332.html（中文）
http://english.whiov.cas.cn/Notice2016/201805/t20180518_192593.html（英文）

感谢您的支持。期待您的宝贵意见或建议！

祝您工作愉快。

附件1：《高端用户培育项目征集指南》（中文）
附件2：《高端用户培育项目申请表》（中文）
附件3：《高端用户培育项目征集指南》（英文）
附件4：《高端用户培育项目申请表》（英文）

--

[redacted]
中国科学院武汉病毒研究所
科研计划处 [redacted]
手机：[redacted]

[redacted]@wh.iov.cn

From: Chen, Ping (NIH/NIAID) [E]
Sent: Tue, 29 May 2018 17:24:07 +0000
To: [redacted] (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]; [redacted] (NIH/NIAID) [E]
Subject: Re:
关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

I agree with [redacted] We don't have to do anything. I can simply send a courtesy message to the sender.

Some of US including NIAID funded PIs would have received same email asking for applications. They should be aware of the fact that what they do work on in WIV would be "owned" by the Chinese.

Please let me know if we still need to have a call.

Ping

Sent from my iPhone

On May 29, 2018, at 8:30 AM, [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov> wrote:

This makes me think that they are simply reaching out to you, as probably they are to multiple contacts, to assure you and others know that they are open for business and hoping to receive applications to use their facilities. I do not see a request here for any sort of assistance or formal engagement with NIH. Whether we distribute their application materials is a question we need to answer but my initial response is that we should not primarily because that would imply NIH endorsement of the facility.

Do others see this differently?

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, May 28, 2018 7:53 PM
To: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@nih.gov>
Subject: Re: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Here is the English translation of the email I received from the person who works in the Department of Scientific Research Planning at the Wuhan Institute of Virology. I have not met this person. I exchanged emails with her (or him) for setting up the visit by the US Wuhan Council General.

The national biosafety laboratory (P4) in the Wuhan Institute of Virology (WIV) of the Chinese Academy of Sciences (CAS) has officially started operations. In order to rely on the basic research infrastructure of science and technology, to establish a professional user community for high-level biosafety laboratory, to educate and train bio-safety professionals at the national level, to achieve major S&T breakthroughs and produce outputs, and to elevate biosafety and public health science and technology support capabilities, WIV recently drafted the "Guidelines for the solicitation of cultivational programs targeting professional P4 laboratory users at the Wuhan National biosafety laboratory, WIV, CAS". The solicitation calls for domestic and international applications. Please refer to the attachments for details.

Please review it. If it is convenient, please help forward the announcement to relevant American researchers to apply. The English version of the guidebook and the application form are attached together for forwarding convenience.

I am with my daughter on vacation at a resort in the west 2 hours behind Eastern Time zone. I am available most time throughout the day for calls.

Please let me know if you have any questions.

陈平
Ping Chen, PhD
Director, NIAID China Office
#55 An Jia Lou Road, Beijing 100600
Office: [redacted]
Mobile: [redacted]
US Mobile: [redacted]
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: "[redacted] (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>
Date: Monday, May 28, 2018 at 8:43 AM
To: "[redacted] (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>
Cc: "Chen, Ping (NIH/NIAID) [E]" <[redacted]@niaid.nih.gov>, "[redacted] (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>, "[redacted] (NIH/NIAID) [E]" [redacted]@nih.gov>
Subject: RE:
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I completely agree. We can have our discussion first and get your advice. [redacted]

From: [redacted], [redacted] (NIH/NIAID) [E]
Sent: Monday, May 28, 2018 10:12 AM
To: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>

Cc: Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>
Subject: Re: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Ping and [redacted]

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[redacted]

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Ping, can you provide a translation of the e-mail sent to you with these attachments?

Thanks. [redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Sunday, May 27, 2018 11:36 PM
To: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>
Subject: FW: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Dear [redacted]

It was good to see you a couple of weeks ago at Fishers Lane.

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I copied [redacted] at OGR and she can forward to programs officers with the P4 pathogen portfolio.

Thank you

Best,

Ping

陈平
Ping Chen, PhD
Director, NIAID China Office
#55 An Jia Lou Road, Beijing 100600
Office: [redacted]
Mobile: [redacted]
US Mobile: [redacted]
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: [redacted] <[redacted]@wh.iov.cn>
Date: Wednesday, May 23, 2018 at 5:52 AM
To: "Chen, Ping (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>
Subject: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

尊敬的陈主任，您好！

中国科学院武汉国家生物安全（P4）实验室已正式运行。为依托重大科技基础设施，组建高等级生物安全实验室的高端用户群，培养国家生物安全高水平人才，形成重大科技突破和成果产出，提升生物安全和公共卫生科技支撑能力，中国科学院武汉病毒研究所于近期草拟了《中国科学院武汉国家生物安全实验室高端用户培育项目征集指南》，针对国内外发布征集。详情请见附件。

敬请您查阅。如方便，劳您费心帮忙转发动员美方相关人员申报。英文版指南和申请表一并附上，供转发动员使用。

网站链接：http://www.whiov.cas.cn/tzgg_105342/201805/t20180518_5013332.html（中文）

http://english.whiov.cas.cn/Notice2016/201805/t20180518_192593.html（英文）

感谢您的支持。期待您的宝贵意见或建议！

祝您工作愉快。

附件1：《高端用户培育项目征集指南》（中文）
附件2：《高端用户培育项目申请表》（中文）
附件3：《高端用户培育项目征集指南》（英文）
附件4：《高端用户培育项目申请表》（英文）

--

[redacted]
中国科学院武汉病毒研究所
科研计划处 [redacted]
手机：[redacted]
[redacted]@wh.iov.cn

From: [redacted], [redacted] (NIH/NIAID) [E]
Sent: Tue, 29 May 2018 15:42:32 +0000
To: [redacted] (NIH/NIAID) [E];Chen, Ping (NIH/NIAID) [E]
Cc: [redacted] (NIH/NIAID) [E];[redacted] (NIH/NIAID) [E]
Subject: RE:
关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

I agree with you, [redacted]

[redacted]

[redacted]
Chief, Extramural Biodefense Facilities Section
Office of Biodefense, Research Resources and Translational Research
Division of Microbiology and Infectious Diseases
National Institute of Allergy and Infectious Diseases
National Institutes of Health, DHHS
[redacted]@niaid.nih.gov

5601 Fishers Lane, Room 8G21
Rockville, MD 20852
Voice: [redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Tuesday, May 29, 2018 10:30 AM
To: Chen, Ping (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]nih.gov>
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This makes me think that they are simply reaching out to you, as probably they are to multiple contacts, to assure you and others know that they are open for business and hoping to receive applications to use their facilities. I do not see a request here for any sort of assistance or formal engagement with NIH. Whether we distribute their application materials is a question

we need to answer but my initial response is that we should not primarily because that would imply NIH endorsement of the facility.

Do others see this differently?

[redacted]

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, May 28, 2018 7:53 PM
To: [redacted] (NIH/NIAID) [E] <[redacted]niaid.nih.gov>; [redacted], [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>
Cc: [redacted] (NIH/NIAID) [E] <[redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]nih.gov>
Subject: Re: 关于发布中国科学院武汉国家生物安全实验室高端用户培育项目征集指南的通知

Here is the English translation of the email I received from the person who works in the Department of Scientific Research Planning at the Wuhan Institute of Virology. I have not met this person. I exchanged emails with her (or him) for setting up the visit by the US Wuhan Council General.

The national biosafety laboratory (P4) in the Wuhan Institute of Virology (WIV) of the Chinese Academy of Sciences (CAS) has officially started operations. In order to rely on the basic research infrastructure of science and technology, to establish a professional user community for high-level biosafety laboratory, to educate and train bio-safety professionals at the national level, to achieve major S&T breakthroughs and produce outputs, and to elevate biosafety and public health science and technology support capabilities, WIV recently drafted the "Guidelines for the solicitation of cultivational programs targeting professional P4 laboratory users at the Wuhan National biosafety laboratory, WIV, CAS". The solicitation calls for domestic and international applications. Please refer to the attachments for details.

Please review it. If it is convenient, please help forward the announcement to relevant American researchers to apply. The English version of the guidebook and the application form are attached together for forwarding convenience.

I am with my daughter on vacation at a resort in the west 2 hours behind Eastern Time zone. I am available most time throughout the day for calls.

Please let me know if you have any questions.

陈平
Ping Chen, PhD
Director, NIAID China Office
#55 Anjia Lou Road, Beijing 100600
Office: [redacted]
Mobile: [redacted]
US Mobile: [redacted]
[redacted]@niaid.nih.gov
[redacted]@state.gov

From: "[redacted] (NIH/NIAID) [E]" <[redacted]niaid.nih.gov>
Date: Monday, May 28, 2018 at 8:43 AM
To: "[redacted] (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>
Cc: "Chen, Ping (NIH/NIAID) [E]" [redacted]@niaid.nih.gov>, "[redacted] (NIH/NIAID) [E]" <[redacted]@niaid.nih.gov>, "[redacted] (NIH/NIAID) [E]" <[redacted]nih.gov>
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I completely agree. We can have our discussion first and get your advice on [redacted]

From: [redacted] (NIH/NIAID) [E]
Sent: Monday, May 28, 2018 10:12 AM
To: [redacted] (NIH/NIAID) [E] <[redacted]niaid.nih.gov>
Cc: Chen, Ping (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] [redacted]@niaid.nih.gov>; [redacted] (NIH/NIAID) [E] <[redacted]nih.gov>
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Ping and [redacted]

I am happy to do whatever you feel appropriate, including engage DMID leadership. I believe it is best to wait, however, to do this until the few of us have a better understanding of what they are asking. If you disagree with that, please don't hesitate to let me know.

Thanks.

[redacted]

On May 28, 2018, at 9:33 AM, [redacted] (NIH/NIAID) [E] <[redacted]niaid.nih.gov> wrote:

[redacted] and Ping,

This is an inquiry that requires careful consideration and strategic planning before we take any action or share this with anyone outside NIAID. I would like to schedule a call as soon as Ping is available and hopefully before the end of the week.

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