

From: [Wojtowicz, Emma \(NIH/OD\) \[E\]](#)
To: [Routh, Jennifer \(NIH/NIAID\) \[E\]](#); [Tucker, Jessica \(NIH/OD\) \[E\]](#); [Myles, Renate \(NIH/OD\) \[E\]](#); [Wolinetz, Carrie \(NIH/OD\) \[E\]](#); [Jorgenson, Lyric \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#); [Stover, Kathy \(NIH/NIAID\) \[E\]](#)
Cc: [Burklow, John \(NIH/OD\) \[E\]](#); [Fine, Amanda \(NIH/OD\) \[E\]](#); [OER Press Group](#)
Subject: RE: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth
Date: Saturday, February 6, 2021 8:32:54 PM

Thanks, Jen. The responses below are updated with OSP and NIAID input. I am going to send to HHS for clearance now and respond to the producer in the morning. Please let me know if you have any additional edits or concerns. Thank you-

(b) (5)

(b) (5)

From: Routh, Jennifer (NIH/NIAID) [E] (b) (6)
Sent: Saturday, February 6, 2021 6:07 PM
To: Wojtowicz, Emma (NIH/OD) [E] (b) (6); Tucker, Jessica (NIH/OD) [E] (b) (6); Myles, Renate (NIH/OD) [E] (b) (6); Wolinetz, Carrie (NIH/OD) [E] (b) (6); Jorgenson, Lyric (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6)
Cc: Burklow, John (NIH/OD) [E] (b) (6); Fine, Amanda (NIH/OD) [E] (b) (6); OER Press Group (b) (6)
Subject: RE: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth

(b) (5)

Jennifer Routh [E]
News and Science Writing Branch
Office of Communications and Government Relations
National Institute of Allergy and Infectious Diseases (NIAID)
NIH/HHS
31 Center Drive Room 7A17C
Bethesda, MD 20892
Direct: (b) (6)
(b) (6)

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

From: Wojtowicz, Emma (NIH/OD) [E] (b) (6)
Sent: Saturday, February 6, 2021 5:11 PM
To: Tucker, Jessica (NIH/OD) [E] (b) (6); Myles, Renate (NIH/OD) [E] (b) (6); Wolinetz, Carrie (NIH/OD) [E] (b) (6); Jorgenson, Lyric (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6); Routh, Jennifer (NIH/NIAID) [E] (b) (6)
Cc: Burklow, John (NIH/OD) [E] (b) (6); Fine, Amanda (NIH/OD) [E] (b) (6); OER Press Group (b) (6)
Subject: Re: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth

Hi Mike, Kathy and Jen-

Following up to see if you have any edits or concerns.

Thanks!
Emma

From: "Tucker, Jessica (NIH/OD) [E]" (b) (6)
Date: Saturday, February 6, 2021 at 11:03:25 AM
To: "Wojtowicz, Emma (NIH/OD) [E]" (b) (6), "Myles, Renate (NIH/OD) [E]" (b) (6), "Wolinetz, Carrie (NIH/OD) [E]" (b) (6), "Jorgenson, Lyric (NIH/OD) [E]" (b) (6), "Lauer, Michael (NIH/OD) [E]" (b) (6), "Stover, Kathy (NIH/NIAID) [E]" (b) (6), "Routh, Jennifer (NIH/NIAID) [E]" (b) (6)
Cc: "Burklow, John (NIH/OD) [E]" (b) (6), "Fine, Amanda (NIH/OD) [E]" (b) (6), "OER Press Group" (b) (6)
Subject: RE: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth

Thanks for looping us in. I communicated with Carrie, and we largely defer to NIAID and OER on most of the content, but for consideration, (b) (5)

Suggested edits to the text are made below in yellow highlight and strikethrough, accordingly.

From: Wojtowicz, Emma (NIH/OD) [E] (b) (6)
Sent: Friday, February 5, 2021 7:13 PM
To: Myles, Renate (NIH/OD) [E] (b) (6); Wolinetz, Carrie (NIH/OD) [E] (b) (6); Jorgenson, Lyric (NIH/OD) [E] (b) (6); Tucker, Jessica

(NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6);
Stover, Kathy (NIH/NIAID) [E] (b) (6); Routh, Jennifer (NIH/NIAID) [E]
(b) (6)

Cc: Burklow, John (NIH/OD) [E] (b) (6); Fine, Amanda (NIH/OD) [E]
(b) (6); OER Press Group (b) (6)

Subject: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth

Hi All-

Apologies for the Friday evening email. As you are aware, Fox News' Steve Hilton has been reporting misinformation on the EcoHealth Alliance grant. We have expanded on our canned responses to provide additional background and information on NIH grant cycles and gain-of-function research. Please review the responses below and let us know if you have any edits or concerns. The producer's deadline is Sunday at 1:00 p.m. and we still need to clear with HHS, so we are hoping everyone can review by Saturday afternoon. For your reference, the clips of the Fox News segments are at the bottom of the email.

Thank you in advance and hope everyone has a good weekend-
Emma

(b) (5)

Fox News segments:

1/31/21: <https://video.foxnews.com/v/6225847837001#sp=show-clips>

1/24/21: <https://video.foxnews.com/v/6227902415001#sp=show-clips>

From: [Wojtowicz, Emma \(NIH/OD\) \[E\]](#)
To: [Tucker, Jessica \(NIH/OD\) \[E\]](#); [Myles, Renate \(NIH/OD\) \[E\]](#); [Wolinetz, Carrie \(NIH/OD\) \[E\]](#); [Jorgenson, Lyric \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#); [Stover, Kathy \(NIH/NIAID\) \[E\]](#); [Routh, Jennifer \(NIH/NIAID\) \[E\]](#)
Cc: [Burklow, John \(NIH/OD\) \[E\]](#); [Fine, Amanda \(NIH/OD\) \[E\]](#); [OER Press Group](#)
Subject: Re: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth
Date: Saturday, February 6, 2021 12:03:04 PM

Thanks, Jessica!

From: "Tucker, Jessica (NIH/OD) [E]" (b) (6)
Date: Saturday, February 6, 2021 at 11:03:25 AM
To: "Wojtowicz, Emma (NIH/OD) [E]" (b) (6), "Myles, Renate (NIH/OD) [E]" (b) (6), "Wolinetz, Carrie (NIH/OD) [E]" (b) (6), "Jorgenson, Lyric (NIH/OD) [E]" (b) (6), "Lauer, Michael (NIH/OD) [E]" (b) (6), "Stover, Kathy (NIH/NIAID) [E]" (b) (6), "Routh, Jennifer (NIH/NIAID) [E]" (b) (6)
Cc: "Burklow, John (NIH/OD) [E]" (b) (6), "Fine, Amanda (NIH/OD) [E]" (b) (6), "OER Press Group" (b) (6)
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Sent: Friday, February 5, 2021 7:13 PM
To: Myles, Renate (NIH/OD) [E] (b) (6); Wolinetz, Carrie (NIH/OD) [E] (b) (6); Jorgenson, Lyric (NIH/OD) [E] (b) (6); Tucker, Jessica (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6); Routh, Jennifer (NIH/NIAID) [E] (b) (6)
Cc: Burklow, John (NIH/OD) [E] (b) (6); Fine, Amanda (NIH/OD) [E] (b) (6); OER Press Group (b) (6)
Subject: FOR REVIEW/INPUT: Fox News inquiry on EcoHealth

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Thank you in advance and hope everyone has a good weekend-
Emma

(b) (5)

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1/31/21: <https://video.foxnews.com/v/6225847837001#sp=show-clips>

1/24/21: <https://video.foxnews.com/v/6227902415001#sp=show-clips>

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [OER Executive Secretariat](#); [Black, Jodi \(NIH/OD\) \[E\]](#)
Cc: [Bundesen, Liza \(NIH/OD\) \[E\]](#); [Kosub, David \(NIH/OD\) \[E\]](#); [Joshi, Pritty \(NIH/OD\) \[E\]](#); [Showe, Melanie \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)
Date: Sunday, May 3, 2020 2:18:32 PM
Attachments: [McSally-Gaetz Letter to NIH-Wuhan Institute funding - FINAL\[4\].pdf](#)
[WF390335 Draft Response McSally Gaetz.docx](#)

Hi Aesha – here's my draft.

Many thanks, Mike

From: OER Executive Secretariat (b) (6)
Date: Wednesday, April 29, 2020 at 10:21 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Black, Jodi (NIH/OD) [E]" (b) (6)
Cc: "Bundesen, Liza (NIH/OD) [E]" (b) (6), "Kosub, David (NIH/OD) [E]" (b) (6), "Joshi, Pritty (NIH/OD) [E]" (b) (6), "Showe, Melanie (NIH/OD) [E]" (b) (6)
Subject: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Mike and Jodi –

Please see the attached letter from Members of Congress who write with concerns about NIH's past and current relationship with China's bio-agent laboratory Wuhan Institute of Virology (WIV) and to ensure no additional tax dollars are directed to this institution. OER has been asked to draft a direct reply for OD Clearance. Would you mind forwarding me a draft response for OD clearance. Please let me know if you have any questions or if you feel this should be assigned to another SME for drafting.

Thanks,

Best Regards,

Aesha Brandy, MBA*

Program Analyst

NIH Office of Extramural Research

Immediate Office of the Director

Building 1, Room 150

Bethesda, MD 20814

(b) (6)

(b) (6)

*Contractor

Congress of the United States
Washington, DC 20515

April 21, 2020

The Honorable Francis Collins, M.D.
Director, U.S. National Institutes of Health
600 Rockville Pike
Bethesda, MD 20892

Dear Dr. Collins,

Thank you for your leadership in confronting the coronavirus pandemic. We are writing to express our deep concerns regarding the National Institutes of Health's (NIH) past and current relationship with China's controversial bio-agent laboratory the Wuhan Institute of Virology (WIV) and to ensure no additional U.S. tax dollars are directed to this notorious institution.

On Friday evening, President Donald Trump announced his intention to cut NIH funding for WIV following reports that the agency has been supporting secretive and treacherous laboratory research at the WIV for many years.^{1,2} According to the NIH's website, the WIV is currently authorized to receive taxpayer funding for animal research (Assurance ID# F16-00279).³

Taxpayers' money should not be sent to a dangerous Chinese state-run bio-agent laboratory that lacks any meaningful oversight from U.S. authorities and is run by adversaries with a history of lab leaks, including SARS, and deception about the causes and extent of deadly disease outbreaks, including COVID-19.

We respectfully request that all active grants, sub-grants and contracts awarded to WIV be canceled immediately and that WIV be stripped of its eligibility to receive taxpayer funds from the NIH in the future.

Additionally, please provide the following details about the NIH's relationship with the WIV:

- When did WIV first start receiving funding from the NIH?
- How much total taxpayer funding, by year, has WIV received from the NIH?
- List all active *and* inactive NIH grants, sub-grants or contracts that have in any way supported research at WIV. For each grant, please include:
 - Project title
 - Project number
 - Grantee institution

¹ Taxpayer-funded Animal Experiments Tied To Chinese 'Wet Markets' and Wuhan Laboratory, Carlin Becker - <https://www.washingtonexaminer.com/news/taxpayer-funded-animal-experiments-tied-to-chinese-wet-markets-and-wuhan-laboratory>

² Trump Says He'll End Obama-Era Funding To Chinese Lab That May Have Spawned The Coronavirus. David Krayden - <https://dailycaller.com/2020/04/18/donald-trump-end-funding-china-lab-coronavrus-covid-19/>

³ NIH website, Institutions with a PHS Approved Animal Welfare Assurance - <https://olaw.nih.gov/assured/app/index.html#FOREIGN>

- Start and end dates
- Fiscal Year 2019 funding
- Total funding since grant's inception
- Details about WIV's involvement in the project

Thank you for your efforts and assistance in this matter. We look forward to working with you to ensure no future NIH funds are directed to the WIV. If you have any questions regarding this letter, please contact Ed Kim with Sen. Martha McSally (edward_kim@mcsally.senate.gov) or Devin Murphy with Rep. Matt Gaetz (devin.murphy@mail.house.gov).

Sincerely,



Martha McSally
U.S. Senator



Matt Gaetz
Member of Congress

Cc: The Honorable Alex Azar
Secretary
U.S. Department of Health & Human Services
200 Independence Avenue, SW
Washington, DC 20201

From: [Black, Jodi \(NIH/OD\) \[E\]](#)
To: [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)
Date: Thursday, April 30, 2020 5:46:34 PM
Attachments: [image001.png](#)

I sent another note to Michelle. She was supposed to be drafting a letter also

Best,
Jodi

Jodi B. Black, PhD, MMSc
Deputy Director
Office of Extramural Research, NIH

From: Mike Lauer [REDACTED] (b) (6)
Date: Thursday, April 30, 2020 at 4:50 PM
To: Jodi OER [REDACTED] (b) (6)
Cc: Mike Lauer [REDACTED] (b) (6)
Subject: FW: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Thanks Jodi – according to USASpending.gov, the subaward was for 216K. [See here](#) and attached screenshot.

I must be missing something.

Thanks, Mike

From: "Black, Jodi (NIH/OD) [E]" [REDACTED] (b) (6)
Date: Thursday, April 30, 2020 at 4:20 PM
To: "Lauer, Michael (NIH/OD) [E]" [REDACTED] (b) (6)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Mike,

[REDACTED] (b) (5)

Does that help?

Best,

Jodi

Jodi B. Black, PhD, MMSc
Deputy Director
Office of Extramural Research, NIH

From: Mike Lauer (b) (6)
Date: Thursday, April 30, 2020 at 2:30 PM
To: Jodi OER (b) (6)
Cc: Mike Lauer (b) (6)
Subject: FW: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Many thanks Jodi – (b) (5)

Thanks, Mike

From: "Black, Jodi (NIH/OD) [E]" (b) (6)
Date: Thursday, April 30, 2020 at 1:37 PM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Mike, Michelle has been working with NIMH (b) (5) See attached. Michelle is working on a letter for you.

(b) (5)

Best,
Jodi

From: Mike Lauer (b) (6)
Date: Thursday, April 30, 2020 at 8:34 AM
To: Jodi OER (b) (6)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Thanks Jodi!

Mike

From: "Black, Jodi (NIH/OD) [E]" (b) (6)
Date: Thursday, April 30, 2020 at 8:32 AM

To: "Lauer, Michael (NIH/OD) [E]" (b) (6)

Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Mike, I'm checking with OPERA for options.

Best,

Jodi

Jodi B. Black, PhD, MMSc
Deputy Director
Office of Extramural Research, NIH

From: Mike Lauer (b) (6)

Date: Thursday, April 30, 2020 at 7:15 AM

To: "Pearson, Katrina (NIH/OD) [E]" (b) (6), "Haugen, Brian (NIH/OD) [E]" (b) (6), Jodi OER (b) (6)

Cc: "Brining, Sheryl (NIH/OD) [E]" (b) (6), OER Executive Secretariat (b) (6), liza bundesen (b) (6), "Schwetz, Tara (NIH/OD) [E]" (b) (6), Mike Lauer (b) (6)

Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Many thanks Katrina for checking and confirming the results.

Hi Aesha – I'll continue to work on this.

Best, Mike

From: "Pearson, Katrina (NIH/OD) [E]" (b) (6)

Date: Wednesday, April 29, 2020 at 11:41 PM

To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Haugen, Brian (NIH/OD) [E]" (b) (6), "Black, Jodi (NIH/OD) [E]" (b) (6)

Cc: "Brining, Sheryl (NIH/OD) [E]" (b) (6), OER Executive Secretariat (b) (6), "Bundesen, Liza (NIH/OD) [E]" (b) (6)

(b) (6), "Schwetz, Tara (NIH/OD) [E]" (b) (6)

Subject: RE: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Mike,

(b) (5)

See breakdown below and FACTS snapshots attached.

Katrina

Katrina Pearson

Office: (b) (6) / Mobile: (b) (6)

Website: <http://report.nih.gov>



From: Lauer, Michael (NIH/OD) [E] (b) (6)

Sent: Wednesday, April 29, 2020 8:22 PM

To: Pearson, Katrina (NIH/OD) [E] (b) (6); Haugen, Brian (NIH/OD) [E] (b) (6); Black, Jodi (NIH/OD) [E] (b) (6)

Cc: Lauer, Michael (NIH/OD) [E] (b) (6); Brining, Sheryl (NIH/OD) [E] (b) (6); OER Executive Secretariat (b) (6); Bundesen, Liza (NIH/OD) [E] (b) (6); Schwetz, Tara (NIH/OD) [E] (b) (6)

Subject: FW: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Katrina and Brian

Please see the letter from Senator McSally and Congressman Gaetz. (b) (5)

(b) (5)

Hi Jodi – (b) (5)

(b) (5)

Many thanks!

Mike

From: OER Executive Secretariat (b) (6)
Date: Wednesday, April 29, 2020 at 10:21 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Black, Jodi (NIH/OD) [E]" (b) (6)
Cc: "Bundesen, Liza (NIH/OD) [E]" (b) (6), "Kosub, David (NIH/OD) [E]" (b) (6), "Joshi, Pritty (NIH/OD) [E]" (b) (6), "Showe, Melanie (NIH/OD) [E]" (b) (6)
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Thanks,

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Aesha Brandy, MBA*

Program Analyst

NIH Office of Extramural Research

Immediate Office of the Director

Building 1, Room 150

Bethesda, MD 20814

(b) (6)

(b) (6)

*Contractor

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Pearson, Katrina \(NIH/OD\) \[E\]](#); [Haugen, Brian \(NIH/OD\) \[E\]](#); [Black, Jodi \(NIH/OD\) \[E\]](#)
Cc: [Brining, Sheryl \(NIH/OD\) \[E\]](#); [OER Executive Secretariat](#); [Bundesen, Liza \(NIH/OD\) \[E\]](#); [Schwetz, Tara \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: Re: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)
Date: Thursday, April 30, 2020 7:15:49 AM
Attachments: [image001.png](#)
[performance_site_1RF1MH_UCIF11.pdf](#)
[performance_site_2R01AI_ecohealth_alliacef11.pdf](#)

Many thanks Katrina for checking and confirming the results.

Hi Aesha – I'll continue to work on this.

Best, Mike

From: "Pearson, Katrina (NIH/OD) [E]" (b) (6)
Date: Wednesday, April 29, 2020 at 11:41 PM
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Katrina

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Website: <http://report.nih.gov>



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Sent: Wednesday, April 29, 2020 8:22 PM

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Cc: Lauer, Michael (NIH/OD) [E] (b) (6); Brining, Sheryl (NIH/OD) [E] (b) (6); OER Executive Secretariat (b) (6); Bundesen, Liza (NIH/OD) [E] (b) (6); Schwetz, Tara (NIH/OD) [E] (b) (6)

Subject: FW: Direct Reply w/ OD Clearance - Wuhan Institute of Virology (WF390335)

Hi Katrina and Brian

Please see the letter from Senator McSally and Congressman Gaetz. (b) (5)

Hi Jodi – (b) (5)

Many thanks!

Mike

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Date: Wednesday, April 29, 2020 at 10:21 AM

To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Black, Jodi (NIH/OD) [E]" (b) (6)

Cc: "Bunden, Liza (NIH/OD) [E]" (b) (6), "Kosub, David (NIH/OD) [E]" (b) (6), "Joshi, Pritty (NIH/OD) [E]" (b) (6), "Showe, Melanie (NIH/OD) [E]" (b) (6)

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Aesha Brandy, MBA*

Program Analyst

NIH Office of Extramural Research

Immediate Office of the Director

Building 1, Room 150

Bethesda, MD 20814

(b) (6)

(b) (6)

**Contractor*



QVR *FACTS*

[PRINT CLOSE](#)

(b) (5)





QVR *FACTS*

(b) (5)





From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Black, Jodi \(NIH/OD\) \[E\]](#)
Cc: [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: FW: Partial Suspension-IMPORTANT
Date: Sunday, April 19, 2020 10:38:28 AM
Attachments: [Suspension of WIV NIHB edits\[1\].docx](#)

Hi Jodi – yes, Tony knows. I doubt Emily knows, so if you could follow-up with her, that would be great.

I'm about to send this off.

Best, Mike

From: "Black, Jodi (NIH/OD) [E]" (b) (6)
Date: Sunday, April 19, 2020 at 8:37 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Subject: Re: Partial Suspension-IMPORTANT

Ok. Does Fauci know and has Emily (CGMO) been informed? Michelle is taking leave for tomorrow so I can contact Emily if needed.

Best,
Jodi

Jodi B. Black, PhD, MMSc
Deputy Director
Office of Extramural Research, NIH

From: Mike Lauer (b) (6)
Date: Saturday, April 18, 2020 at 9:37 PM
To: Jodi OER (b) (6)
Cc: Mike Lauer (b) (6)
Subject: FW: Partial Suspension-IMPORTANT

Hi Jodi – FYI. I will send it out tomorrow.

Also, you may have seen this [news report](#), as well as [this one](#).

Best, Mike

From: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Date: Saturday, April 18, 2020 at 9:33 PM
To: "Tabak, Lawrence (NIH/OD) [E]" (b) (6)

Cc: "Lauer, Michael (NIH/OD) [E]" [REDACTED] (b) (6)

Subject: FW: Partial Suspension-IMPORTANT

Hi Larry – it should come from me. I will get to the appropriate official tomorrow.

Thanks, Mike

From: "Tabak, Lawrence (NIH/OD) [E]" [REDACTED] (b) (6)

Date: Saturday, April 18, 2020 at 9:30 PM

To: "Lauer, Michael (NIH/OD) [E]" [REDACTED] (b) (6)

Subject: Partial Suspension-IMPORTANT

Mike,

I have been directed to have this sent on Sunday. I presume you are the right person to send it? I will send if you prefer. Just let me know.

Thanks,

Larry

Subject: Project Number: 2R01AI110964-06

(b) (5)



From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Fenton, Matthew \(NIH/NIAID\) \[E\]](#); [Bulls, Michelle G. \(NIH/OD\) \[E\]](#)
Cc: [Lauer, Michael \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#)
Subject: Just FYI, no response please, thanks, Mike -- FW: Regarding 2R01AI110964-06
Date: Wednesday, March 10, 2021 5:39:17 AM
Attachments: [Daszak 7 8 20.pdf](#)
[NIH Response to EcoHealth Response to Suspension 10 23 20.pdf](#)



National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

8 July 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

In follow-up to my previous letter of April 24, 2020, I am writing to notify you that the National Institute of Allergy and Infectious Diseases (NIAID), an Institute within the National Institutes of Health (NIH), under the Department of Health and Human Services (HHS), has withdrawn its termination of grant R01AI110964, which supports the project *Understanding the Risk of Bat Coronavirus Emergence*. Accordingly, the grant is reinstated.

However, as you are aware, the NIH has received reports that the Wuhan Institute of Virology (WIV), a subrecipient of EcoHealth Alliance under R01AI110964, has been conducting research at its facilities in China that pose serious bio-safety concerns and, as a result, create health and welfare threats to the public in China and other countries, including the United States. Grant award R01AI110964 is subject to biosafety requirements set forth in the NIH Grants Policy Statement (e.g., NIH GPS, Section 4.1.24 "Public Health Security") and the Notice of Award (e.g., requiring that "Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)]."). Moreover, NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients. 45 C.F.R. § 75.101.

As the grantee, EcoHealth Alliance was required to "monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . ." 45 C.F.R. § 75.352(d). We have concerns that WIV has not satisfied safety requirements under the award, and that EcoHealth Alliance has not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance.

Moreover, as we have informed you through prior Notices of Award, this award is subject to the Transparency Act subaward and executive compensation reporting requirement of 2 C.F.R. Part

170. To date you have not reported any subawards in the [Federal Subaward Reporting System](#).

Therefore, effective the date of this letter, July 8, 2020, NIH is suspending all activities related to R01AI110964, until such time as these concerns have been addressed to NIH's satisfaction. This suspension is taken in accordance with [45 C.F.R. § 75.371](#), Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, [Section 8.5.2](#), which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare. This action is not appealable in accordance with 42 C.F.R. § 50.404 and the NIH GPS [Section 8.7](#), Grant Appeals Procedures. However, EcoHealth Alliance has the opportunity to provide information and documentation demonstrating that WIV and EcoHealth Alliance have satisfied the above-mentioned requirements.

Specifically, to address the NIH's concerns, EcoHealth must provide the NIH with the following information and materials, which must be complete and accurate:

1. Provide an aliquot of the actual SARS-CoV-2 virus that WIV used to determine the viral sequence.
2. Explain the apparent disappearance of Huang Yanling, a scientist / technician who worked in the WIV lab but whose lab web presence has been deleted.
3. Provide the NIH with WIV's responses to the 2018 U.S. Department of State cables regarding safety concerns.
4. Disclose and explain out-of-ordinary restrictions on laboratory facilities, as suggested, for example, by diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019.
5. Explain why WIV failed to note that the RaTG13 virus, the bat-derived coronavirus in its collection with the greatest similarity to SARS-CoV-2, was actually isolated from an abandoned mine where three men died in 2012 with an illness remarkably similar to COVID-19, and explain why this was not followed up.
6. Additionally, EcoHealth Alliance must arrange for WIV to submit to an outside inspection team charged to review the lab facilities and lab records, with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019. The inspection team should be granted full access to review the processes and safety of procedures of all of the WIV field work (including but not limited to collection of animals and biospecimens in caves, abandoned man-made underground cavities, or outdoor sites). The inspection team could be organized by NIAID, or, if preferred, by the U.S. National Academy of Sciences.
7. Lastly, EcoHealth Alliance must ensure that all of its subawards are fully reported in the [Federal Subaward Reporting System](#)

During this period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess compliance by EcoHealth Alliance and WIV, including compliance with other terms and conditions of award that may be implicated. Additionally, during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the

recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. Once the original award is reinstated, NIH will take additional steps to restrict all funding in the HHS Payment Management System in the amount of \$369,819. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 CFR Part 75, including, but not limited to, terminating the grant award. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

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Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: [REDACTED] (b) (6)

cc: Dr. Erik Stemmy
Ms. Emily Linde



National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

23 October 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

I am following up on Mr. Krinsky's August 13, 2020, letter on behalf of EcoHealth Alliance, Inc. ("EcoHealth") responding to NIH's suspension of grant R01AI110964, which funds the project *Understanding the Risk of Bat Coronavirus Emergence* (the "Project"). Per my letter of July 8, 2020, NIH reinstated the grant but suspended all award activities because we have concerns that the Wuhan Institute of Virology (WIV), which previously served as a subrecipient of the Project, had not satisfied safety requirements that applied to its subawards with EcoHealth, and that EcoHealth had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. EcoHealth objected to the suspension on the grounds that WIV has no *current* connection to the Project or EcoHealth's research, and EcoHealth had not issued any subawards in connection with the Grant *at the time of the suspension*.

The fact that EcoHealth does not currently have a subrecipient relationship with WIV and had not issued subawards to WIV at the time of suspension does not absolve EcoHealth of any past non-compliance with the terms and conditions of award for grant R01AI110964. While EcoHealth did not issue a subaward to WIV for year 6 of the grant, WIV served as a subrecipient for years 1 through 5. NIH awarded EcoHealth grant R01AI110964 in 2014, with a project period of June 1, 2014, through June 30, 2024, as renewed. In EcoHealth's grant application, EcoHealth listed Drs. Zheng Li Shi and Xing Yi Ge of WIV as co-investigators and senior/key personnel. It stated that "Drs. Shi, Zhang, and Daszak have collaborated together since 2002 and have been involved in running joint conferences, and shipping samples into and out of China." EcoHealth listed WIV as a Project/Performance Site Location. In describing WIV's facilities, EcoHealth described WIV as China's premier institute for virological research" and touted WIV's "fully equipped biosafety level 3 laboratory" and "a newly opened BLS-4 laboratory." In support of the application, Dr. Zheng Li Shi's personal statement indicated that "My lab will be responsible for diagnosis, genomics and isolation of coronavirus from wild and domestic animals in Southern China and for analyzing their receptor binding domains." The application stated that "Wuhan Institute of Virology and the Wuhan University Center for Animal Experiment BSL-3

lab have an Internal Biosafety Committee and are accredited BSL-2 and BSL 3 laboratories. All experimental work using infectious material will be conducted under appropriate biosafety standards. Disposal of hazardous materials will be conducted according to the institutional biosafety regulations.”

EcoHealth requested funding specifically for activities to be carried out by WIV. NIH awarded EcoHealth a total of \$749,976 for WIV’s work in the following annual amounts for years 1 through 5:

	-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Total Direct Costs	\$123,699	\$128,718	\$147,335	\$147,335	\$147,335
F&A Costs @ 8%	\$9,896	\$10,297	\$11,787	\$11,787	\$11,787
TOTAL COSTS	\$133,595	\$139,015	\$159,122	\$159,122	\$159,122

As stated in the Notices of Award for each budget period of the grant, the awards were subject to terms and conditions, which include the NIH Grants Policy Statement (GPS) and applicable HHS grant regulations. As I indicated in my letter of July 8, 2020, as a term and condition of award EcoHealth was required to “monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . .” 45 C.F.R. § 75.352(d). See also, 45 C.F.R. § 75.342(a) (“The non-Federal entity is responsible for oversight of the operations of the Federal award supported activities.”). Moreover, EcoHealth was required to “Establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award[.]” 45 C.F.R. § 75.303(a). The Notice of Award stated that as a term and condition of award, “Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)].” Moreover, the NIH GPS provides that NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients, so these terms applied to WIV. 45 C.F.R. § 75.101.

As I stated, NIH has concerns of non-compliance with terms and conditions of award—namely, that WIV had not satisfied safety requirements under the award and that EcoHealth Alliance had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. Accordingly, NIH suspended all activities related to R01AI110964, pursuant to 45 C.F.R. § 75.371, Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, Section 8.5.2, which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare.

In my letter of July 8, 2020, I provided EcoHealth with the opportunity to object and to provide information and documentation challenging the suspension. Specifically, I sought information and materials that speak to WIV’s lab safety and EcoHealth’s oversight of its subrecipient, and an inspection of WIV’s laboratory records and facilities. I indicated that as a specific condition of award, during the period of suspension, EcoHealth Alliance may not allow research under this

project to be conducted and that no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients.

EcoHealth objected to the requests on the grounds that “NIAID is not authorized under 45 CFR §§ 75.371, 75.205, and 75.207, entitled *Specific Award Conditions*, to impose, *inter alia*, conditions that consist of demands for information regarding entities that are neither subrecipients of grant funds nor project affiliates.”

These provisions are irrelevant to NIH’s requests. NIH is required to permit the opportunity for recipients to object and provide information and documentation challenging a suspension, 45 C.F.R. § 75.374, so we specifically gave EcoHealth the opportunity to provide information that speaks to NIH’s concerns. Moreover, as a granting agency, NIH is required to “manage and administer the Federal award in a manner so as to ensure that Federal funding is expended and associated programs are implemented in full accordance with U.S. statutory and public policy requirements: Including, but not limited to, those protecting public welfare [and] the environment[.]” 45 C.F.R. § 75.300(a). In addition to seeking information that speaks to compliance with terms and conditions of award, NIH is entitled to “make site visits as warranted by program needs.” 45 C.F.R. § 75.342. As a term and condition of award, NIH “must have the right of access to any documents, papers, or other records of the non-Federal entity which are pertinent to the Federal award, in order to make audits, examinations, excerpts, and transcripts” (45 C.F.R. § 75.364); and must have “timely and reasonable access to the non-Federal entity’s personnel for the purpose of interview and discussion related to such documents” (*id.*). These requirements flow down to subawards to subrecipients. 45 C.F.R. § 75.101. “Non-Federal entities must comply with requirements in [45 C.F.R. Part 75] regardless of whether the non-Federal entity is a recipient or subrecipient of a Federal award.” 45 C.F.R. 75.101. As the grantee, EcoHealth was required to have in place, “A requirement that the subrecipient permit the pass-through entity and auditors to have access to the subrecipient’s records and financial statements as necessary for the pass-through entity to meet the requirements of this part.” 45 C.F.R. § 75.352(a)(5). For each of these reasons, NIH is justified in seeking the materials, information, and a site visit specified in my letter of July 8, 2020.

In addition to objecting to NIH’s authority to seek the materials, information, and a site visit, EcoHealth has responded that it lacks knowledge or information regarding the requests; that it is not in possession, custody, or control of the specified items; and that it has no authority to grant NIAID and the U.S. National Academy of Sciences access to WIV’s facility to conduct an inspection. EcoHealth’s responses have not satisfied NIH’s concerns that EcoHealth had failed to adequately monitor the compliance of its subrecipient, and that the subrecipient, WIV, had failed to comply with safety requirements.

Notwithstanding this, NIH is providing an additional opportunity for EcoHealth to provide information and documentation challenging these concerns of non-compliance. Accordingly, in addition to reiterating our prior requests (1) through (6) per our letter of July 8, 2020, NIH requests the following information and materials, which must be complete and accurate:

1. Provide copies of all EcoHealth Alliance – WIV subrecipient agreements as well as any other documents and information describing how EcoHealth Alliance monitored WIV's compliance with the terms and conditions of award, including with respect to biosafety.
2. Describe EcoHealth's efforts to evaluate WIV's risk of noncompliance with Federal statutes, regulations, and the terms and conditions of the subaward.
3. Provide copies of all WIV biosafety reports from June 1, 2014 through May 31, 2019.

During the ongoing period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess whether EcoHealth Alliance and WIV complied with the terms and conditions of award, including compliance with other terms and conditions of award that may be implicated. We remind you that during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the continued suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 C.F.R. Part 75, including, but not limited to, terminating the grant award or disallowing costs. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: [REDACTED] (b) (6)

cc: Dr. Erik Stemmy (NIAID)
Ms. Emily Linde (NIAID)

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Kosub, David \(NIH/OD\) \[E\]](#); [Valdez, Patricia \(NIH/OD\) \[E\]](#); [Bulls, Michelle G. \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#); [Bundesen, Liza \(NIH/OD\) \[E\]](#)
Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [OER Executive Secretariat](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: Re: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority
Date: Thursday, April 8, 2021 1:44:50 PM
Attachments: [2021.03.16 - NIH Letter on WIV\[2\].pdf](#)
[US STATE DEPT CABLES in Appendix to GOP-Report-OriginsOfCOVID-19-Global-Pandemic-Including-Roles-of-CCPandWHO.09.20.20\[2\].pdf](#)
[Re 3.18.21 Letter to Director Collins from House Energy and Commerce Minority.msg](#)
[FW Response Creation - Origins on COVID 19 vaccine - Due by Tuesday March 30th \(WF398508\).msg](#)
[Theory That COVID Came From A Chinese Lab Takes On New Life In Wake Of WHO Report Coronavirus Updates NPR.pdf](#)
[Baker New York Magazine Did the Coronavirus Escape From a Lab.pdf](#)

Thanks David – I'm leaving your 4th attachment out since it dealt with a different topic / different letter.

The 4th attachment here has a draft response I put together along with some materials sent to OLPA. I have nothing else except to say that, as evidenced by stories in *NPR* and *New York Magazine*, the lab leak hypothesis is gaining traction.

Best, Mike

From: "Kosub, David (NIH/OD) [E]" (b) (6)
Date: Thursday, April 8, 2021 at 10:22 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Valdez, Patricia (NIH/OD) [E]" (b) (6), "Bulls, Michelle G. (NIH/OD) [E]" (b) (6), "Ta, Kristin (NIH/OD) [E]" (b) (6), "Bundesen, Liza (NIH/OD) [E]" (b) (6)
Cc: "Columbus, Megan (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6), OER Executive Secretariat (b) (6)
Subject: FW: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Good day all,
OLPA is circling back to us on this letter to Dr. Collins regarding the origins of the coronavirus. As you may recall, OLPA shared a head's up about this letter in March (3rd attachment), (b) (5)

(b) (5)
by COB Wednesday, April 14th. I've also included Patricia's email regarding the recent Burr letter for reference (4th attachment). Please advise if you would like us to pull together additional information we have shared

related to these questions, or defer to other OER staff.

Thank you
David

From: LaMontagne, Karen (NIH/OD) [E] (b) (6)
Sent: Wednesday, April 7, 2021 4:06 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Rabin, Elise (NIH/OD) [E] (b) (6)
Subject: Re: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hi, David,

Circling back on this letter from House Energy & Commerce Oversight that I flagged for Dr. Lauer and your team on March 18. (b) (5)

(b) (5)

(b) (5)
by COB next Wednesday, April 14th? (b) (5)

Happy to discuss by phone if helpful.

Thanks, and let me know if you have any questions.
Karen

From: Michael Lauer (b) (6)
Date: Thursday, March 18, 2021 at 10:29 AM
To: Karen LaMontagne (b) (6)
Cc: David Kosub (b) (6), Elise Rabin (b) (6), Michael Lauer (b) (6)
Subject: Re: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Thanks Karen, appreciate your letting me know.

Mike

From: "LaMontagne, Karen (NIH/OD) [E]" (b) (6)
Date: Thursday, March 18, 2021 at 10:25 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Kosub, David (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)

Subject: FW: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hi, Dr. Lauer,

Sharing the attached letter related to WIV that OLPA just received from House E&C.

Karen

From: "Clutterbuck, William" [REDACTED] (b) (6)
Date: Thursday, March 18, 2021 at 9:38 AM
To: "Lohmann, Larry (NIH/OD) [E]" [REDACTED] (b) (6)
Cc: "Slobodin, Alan" [REDACTED] (b) (6)
Subject: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hello Larry,

Please see the attached letter to NIH Director Collins, regarding the origins of the COVID-19 pandemic.

This letter was signed by House Energy and Commerce Ranking Members McMorris Rodgers, Guthrie, and Griffith.

Attached to this email, you will find the 2018 U.S. Department of State cables mentioned in the letter.

Please respond to this email to confirm receipt.

Thank you,

William Clutterbuck
Staff Assistant
House Committee on Energy & Commerce
2322 Rayburn House Office Building
Tel: [REDACTED] (b) (6) | [REDACTED] (b) (6)

FRANK PALLONE, JR., NEW JERSEY
CHAIRMAN

CATHY McMORRIS RODGERS, WASHINGTON
RANKING MEMBER

ONE HUNDRED SEVENTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6115

Majority (202) 225-2927

Minority (202) 225-3641

March 18, 2021

The Honorable Francis Collins, M.D., Ph.D.
Director
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Dear Dr. Collins,

We write to request information, assistance, and needed-leadership from the National Institutes of Health (NIH) to advance an independent, scientific investigation into the origins of the COVID-19 pandemic.

The COVID-19 pandemic has been the worst public health crisis in the U.S. in about a hundred years. Over a year has passed since the deadly virus reached our shores and yet, the origin of the virus has yet to be determined. An independent, expert investigation of the origin of COVID-19 is of paramount importance to public health and biosecurity. As noted by Stanford Medical School Professor David Relman:

A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet. It will limit further recriminations and diminish the likelihood of conflict; it will lead to more effective responses to this pandemic, as well as efforts to anticipate and prevent the next one. It will also advance our discussions about risky science. And it will do something else: Delineating COVID-19's origin story will help elucidate the nature of our very precarious coexistence within the biosphere.¹

Recently, the World Health Organization (WHO) attempted to investigate the origin of COVID-19. The WHO said that this investigative mission would be guided by the science, be

¹ David A. Relman, *Opinion: To stop the next pandemic, we need to unravel the origins of COVID-19*, PNAS (Nov. 2020), available at <https://www.pnas.org/content/117/47/29246>.

“open-minded,” and “not exclude[e] any hypothesis.”² Unfortunately, China did not provide complete access or independence for the critical WHO mission. On February 13, 2021, National Security Advisor Jake Sullivan issued the following statement:

We have deep concerns about the way in which the early findings of the COVID-19 investigation were communicated and questions about the process used to reach them. It is imperative that this report be independent, with expert findings free from intervention or alteration by the Chinese government. To better understand this pandemic and prepare for the next one, China must make available its data from the earliest days of the outbreak.³

Because of rising tensions between the U.S. and China, the WHO scrapped plans for an interim report.⁴ An international group of science experts, including specialists in virology, microbiology, and zoology, asked for a new review.⁵

The NIH, as a premier scientific institution, must lead in order to foster a transparent, independent, and science-based investigation into the origin of the COVID-19 pandemic. Such an effort must meet the WHO’s stated goals of an open-minded investigation that does not exclude any plausible hypothesis.⁶ In addition, the NIH is well-positioned to gather and provide information through oversight of its grants and other federal awards. Thus, the NIH is in a unique position to investigate the possibility that the pandemic stemmed from a laboratory accident or leak, especially regarding the Wuhan Institute of Virology (WIV).

NIH raised concerns over a possible link between WIV and the COVID-19 outbreak during its review of federal awards to EcoHealth Alliance, a global environmental health nonprofit organization dedicated to protecting wildlife and public health from the emergence of disease. Of the \$13.7 million in federal awards that NIH authorized for EcoHealth Alliance, 17

² Smriti Mallapaty, *Where did COVID come from? WHO investigation begins but faces challenges*, NATURE (Nov. 11, 2020), available at <https://www.nature.com/articles/d41586-020-03165-9>.

³ The White House, Statement of National Security Advisor Jake Sullivan (Feb. 13, 2021), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/13/statement-by-national-security-advisor-jake-sullivan/>.

⁴ Betsy McKay, Drew Hinshaw and Jeremy Page, *WHO Investigators to Scrap Plans for Interim Report on Probe of Covid-19 Origins*, THE WALL STREET JOURNAL (Mar. 4, 2021), available at https://www.wsj.com/articles/who-investigators-to-scrap-interim-report-on-probe-of-covid-19-origins-11614865067?mod=latest_headlines

⁵ Jaime Metzl, et al, *Call for a Full and Unrestricted International Forensic Investigation into the Origins of COVID-19* (March 4, 2021), available at [https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20\(1\).pdf](https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20(1).pdf). The co-organizer of the letter and a WHO advisor on human genome editing, Jaime Metzl, PhD, said there is an eighty-five percent chance the pandemic started with an accidental leak from the WIV or Wuhan CDC laboratory, available at <https://jamiemetzl.com/origins-of-sars-cov-2/>. (“I have no definitive way of proving this thesis but the evidence is, in my view, extremely convincing. If forced to place odds on the confidence of my hypothesis, I would say there’s an 85% chance the pandemic started with an accidental leak from the Wuhan Institute of Virology or Wuhan CDC and a 15% chance it began in some other way (in fairness, here is an article making the case for a zoonotic jump “in the wild”). If China keeps preventing a full and unrestricted international forensic investigation into the origins of the pandemic, I believe it is fair to deny Beijing the benefit of the doubt.”)

⁶ Washington Post Editorial Board, *We’re still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

projects sponsored by the National Institute of Allergy and Infectious Disease (NIAID) have provided over \$7.9 million in federal awards for research of viral emergence from bats in Southeast Asia.⁷ EcoHealth Alliance passed some of its funding to the WIV, and in 2020, NIH made efforts to obtain information from EcoHealth Alliance about WIV related to concerns about the origins of COVID-19. In April 2020, NIH wrote to EcoHealth Alliance and Columbia University about an NIH-funded project entitled, “Understanding the Risk of Bat Coronavirus Emergency:”

It is our understanding that one of the sub-recipients of the grant funds is the Wuhan Institute of Virology (‘WIV’). It is our understanding that WIV studies the interaction between corona viruses and bats. The scientific community believes that the coronavirus causing COVID-19 jumped from bats to humans likely in Wuhan where the COVID-19 pandemic began. There are now allegations that the current crisis was precipitated by the release from WIV of the coronavirus responsible for COVID-19. Given these concerns, we are pursuing suspension of WIV from participation in Federal programs. It is in the public interest that NIH ensure that a sub-recipient has taken all appropriate precautions to prevent the release of pathogens that it is studying. This suspension of the sub-recipient does not affect the remainder of your grant assuming that no grant funds are provided to WIV following receipt of this email during the period of suspension.⁸

In January 2021, the U.S. Department of State issued a fact sheet about the activity at the WIV.⁹ Among other revelations, it reported the following:

- The U.S. government has reason to believe that several researchers inside the WIV became sick in autumn 2019, before the first identified case of the outbreak, with symptoms consistent with both COVID-19 and common seasonal illnesses. This raises questions about the credibility of WIV senior researcher Shi Zhengli’s public claim that there was “zero infection” among the WIV’s staff and students of SARS-CoV-2 or SARS-related viruses.¹⁰
- Starting in at least 2016, WIV researchers conducted experiments involving RaTG13, the bat coronavirus identified by the WIV in January 2020 as the closest sample to SARS-CoV-2 (96.2 percent similar).¹¹ There was no indication that this research was suspended at any time prior to the COVID-19 outbreak.
- The WIV has a published record of conducting “gain-of-function” research to engineer chimeric viruses.¹² But the WIV has not been transparent or consistent about its record of

⁷ NIH RePORTER, *Research Portfolio Online Reporting Tools* (queried Mar. 4, 2021), available at <https://reporter.nih.gov/search/qlYUeI9DIk2JfWUdCcWxcA/projects/charts>.

⁸ Mark Moore, *NIH investigating Wuhan lab at center of coronavirus pandemic*, NEW YORK POST (Apr. 28, 2020), available at <https://nypost.com/2020/04/28/nih-investigating-wuhan-lab-at-center-of-coronavirus-pandemic/>.

⁹ U.S. Department of State, *Fact Sheet: Activity at the Wuhan Institute of Virology*, Office of the Spokesperson (Jan. 15, 2021), available at <https://2017-2021.state.gov/fact-sheet-activity-at-the-wuhan-institute-of-virology/index.html>.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

studying viruses similar to the COVID-19 virus, including “RaTG13,” which was sampled from a cave in Yunnan Province in 2013 after several miners died of SARS-like illness.¹³

- WHO investigators must have access to the records of the WIV’s work on bat and other coronaviruses before the COVID-19 outbreak. As part of a thorough inquiry, they must have a full accounting of why the WIV altered and then removed online records of its work with RaTG13 and other viruses.¹⁴
- Despite the WIV presenting itself as a civilian institution, the U.S. has determined that the WIV has collaborated on projects with China’s military.¹⁵ The WIV has engaged in classified research, including laboratory animal experiments, on behalf of the Chinese military since at least 2017.¹⁶
- The U.S. and other donors who funded or collaborated on civilian research at the WIV have a right and obligation to determine whether any of our research funding was diverted to secret Chinese military projects at the WIV.¹⁷

Notably, the State Department’s former lead investigator who oversaw the Task Force into the COVID-19 virus origin stated recently that he not only believes the virus escaped from the WIV, but that it may have been the result of research that the Chinese military, or People’s Liberation Army, was doing on a bioweapon.¹⁸

Accordingly, it is imperative to determine not only where SARS-CoV-2 originated, but also how and if NIH’s funding and research to projects at the WIV could have contributed to SARS CoV-2. To assist our requests and inquiry, please provide the following by April 19, 2021:

1. An assessment from a classified U.S. Defense Intelligence Agency (DIA) report included the possibility that the origins of SARS CoV-2 could have emerged accidentally from a laboratory in Wuhan, China due to unsafe laboratory practices.¹⁹ The DIA report cited U.S. government and Chinese researchers who found “about 33 percent of the original 41 identified cases did not have direct exposure” to the market.²⁰ That, along with what is known of the WIV’s work in past few years, raised reasonable suspicion that the

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Jennifer Griffin, Former top State Dept. investigator says COVID-19 outbreak may have resulted from bioweapons research accident, Fox News (March 13, 2021), available at <https://www.foxnews.com/world/top-state-official-coronavirus-bioweapon-accident>

¹⁹ Fred Guterl, Naveed Jamali and Tom O’Connor, *The Controversial Experiments at Wuhan Lab Suspected of Starting the Coronavirus Pandemic*, NEWSWEEK (Apr. 27, 2020), available at <https://www.newsweek.com/controversial-wuhan-lab-experiments-that-may-have-started-coronavirus-pandemic-1500503>.

²⁰ *Id.*

pandemic may have been caused by a lab error, not a wet market.²¹ Further, a WHO inspector on the recent mission noted that “we know not all of those first 174 early COVID-19 cases visited the market, including the man diagnosed in December 2019 with the earliest onset date.”²² What information does the NIH have on the earliest COVID-19 cases?

2. According to an editorial on February 23, 2021, in *The Wall Street Journal* by former Secretary of State Mike Pompeo and Miles Yu, “[China’s] army of scientists claim to have discovered almost 2,000 new viruses in a little over a decade.”²³ How many of these discovered viruses does the NIH have information on and were any of these viruses discovered at the WIV?
3. According to *The Wall Street Journal* editorial mentioned in the previous question, some have alleged that the WIV’s virus-carrying animals were sold as pets and may even show up at local wet markets.²⁴ Is the NIH aware of these allegations? If so, please provide any information the NIH has related to these allegations.
4. Please provide all information that NIH has about laboratory accidents and/or biosafety practices at the WIV since January 1, 2015.
5. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about communications and events at the WIV from August 2019 to the present.
6. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about their communications with China-based NIH, Chinese National Science Foundation, CDC, and China CDC about events at the WIV from August 2019 to the present.

State Department Cables

²¹ *Id.*

²² Dominic Dwyer, I was the Australian doctor on the WHO’s COVID-19 mission to China. Here’s what we found about the origins of the coronavirus, *THE CONVERSATION* (Feb. 21, 2021), available at <https://www.theguardian.com/commentisfree/2021/feb/22/i-was-on-the-whos-covid-mission-to-china-heres-what-we-found>. See also Jeremy Page and Drew Hinshaw, *China Refuses to Give WHO Raw Data on Early Covid-19 Cases*, *THE WALL STREET JOURNAL* (Feb. 12, 2021), available at [https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail](https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail.). (“Chinese authorities refused to provide World Health Organization investigators with raw, personalized data on early Covid-19 cases that could help them determine how and when the coronavirus first began to spread in China, according to WHO investigators who described heated exchanges over the lack of detail. The Chinese authorities turned down requests to provide such data on 174 cases of Covid-19 that they have identified from the early phase of the outbreak in the Chinese city of Wuhan in December 2019. Investigators are part of a WHO team that this week completed a monthlong mission in China aimed at determining the origins of the pandemic.”)

²³ *Id.*

²⁴ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, *THE WALL STREET JOURNAL* (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

7. What information does NIH have about the WIV's responses to the 2018 U.S. Department of State cables (attached to this letter) regarding safety concerns?
8. The April 2018 cable from the U.S. Department of State stated that the WIV planned to invite University of Texas Medical Branch Galveston (UTMBG) researchers to do research in Wuhan's labs. Please provide any information NIH received that indicates whether the WIV invited UTMBG researchers, and whether UTMBG researchers conducted any research in Wuhan's labs.
 - a. If there was such research, please provide information and any documents related to this research.
9. Why was it pertinent to the NIH investigation that the "nonprofit [EcoHealth Alliance] must provide the "WIV's responses to the 2018 Department of State cables regarding safety concerns"?²⁵
 - a. Did EcoHealth Alliance provide this information? If so, how did NIH use the information to further its investigation?

EcoHealth Alliance, Columbia University Health Sciences

10. Was the 2019 NIH federal award to EcoHealth Alliance reviewed and approved by the HHS Potential Pandemic Pathogen Care and Oversight (P3CO) committee?²⁶
 - a. If so, please provide the documentation with the committee's decision.
 - b. Please also provide the names of the individuals who were members of the committee at the time.
11. Please provide all correspondence and communications between NIH and EcoHealth Alliance, since January 1, 2020, related to federal funding involving the WIV. The documentation should include, but not be limited to, correspondence between NIH and EcoHealth Alliance dated sometime in April 2020, on July 8, 2020, and sometime in August 2020.
12. In April 2020, NIH suspended a 2019 federal award to EcoHealth Alliance, in part, because NIH did not believe the work aligned with "program goals and agency priorities."²⁷ Please specify the work that was done by the EcoHealth Alliance that did

²⁵ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

²⁶ National Institutes of Health, *Notice Announcing the Removal of the Funding Pause for Gain-of-Function Research Project* (Dec. 19, 2017), available at <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-071.html>.

²⁷ *Id.*

not align with the agency's program goals and priorities, and when that work was conducted.

- a. Was an evaluation of EcoHealth Alliance's work and whether it aligned with the agency's program goals and priorities conducted by the NIH before the award was issued? If yes, please provide any related documentation. If not, why not?
13. In April 2020 correspondence with EcoHealth Alliance, NIH wrote that it "received reports that the Wuhan Institute of Virology...has been conducting research at its facilities in China that pose serious bio-safety concerns."²⁸ What are the sources for those reports to NIH and what were the specific allegations reported?
 14. Why did the NIH request that EcoHealth Alliance provide a sample of the pandemic coronavirus that the WIV used to determine its genetic sequence for SARS CoV-2?²⁹
 - a. Why is this information important to NIH's investigation?
 - b. Has NIH obtained the sample and if so, what evaluations have been done, and for what purpose?
 - c. If NIH has not yet obtained the sample, what are the planned studies and evaluations NIH will conduct with the sample when it is obtained?
 15. What is the nature of NIH's concerns about purported restrictions at the WIV including "diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019[.]" about the WIV lab or virus origin?³⁰
 - a. What is the basis of information to NIH about the purported restrictions at the WIV?
 - b. What are the other purported restrictions at the WIV in October 2019?
 16. After terminating EcoHealth Alliance's 2019 project entitled "Understanding the Risk of Bat Coronavirus Emergence," the NIH later offered to reinstate the EcoHealth Alliance funding in July 2020 if EcoHealth Alliance agreed to meet certain conditions.³¹

²⁸ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

²⁹ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

³⁰ *Id.*

³¹ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

- a. Please provide all of the information presented to NIH from EcoHealth Alliance in response to NIH's conditions for reinstatement.
 - b. What actions did NIH take based upon the information received? How has the information been used in NIH's investigation?
 - c. One condition for the federal award reinstatement was for EcoHealth Alliance to arrange for an outside inspection of the WIV and its records, "with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019."³² Why is it pertinent to the NIH's investigation if staff at WIV had SARS-CoV-2 in their possession prior to December 2019? What is the potential significance if the staff did have the virus in their possession prior to December 2019?
 - d. What information does NIH have that was used for the basis of requesting that the EcoHealth Alliance "must 'explain the apparent disappearance' of a scientist who worked in the Wuhan lab," and on social media was rumored to be "patient zero" of the pandemic?³³
 - i. What is the potential significance about the whereabouts of this scientist and the photo being removed from the website?
17. Please provide all correspondence and communications between NIH and Columbia University related to federal funding involving the WIV, including email correspondence in April 2020 between Dr. Michael Lauer, Deputy Director of extramural research, and Naomi Schrag of Columbia University.
- a. In an April 2020 email, Dr. Lauer advised Naomi Schrag of Columbia University that it would be helpful for NIH "to know about all China-based participants in this work since the Type 1 grant started in 2014 - who they were and how much money they received."³⁴ Why did NIH request that Columbia University provide information about all of the China-based participants?
 - i. What is the pertinence of the timeframe starting in 2014 for the requested information?
 - ii. Did Columbia University provide the NIH with the requested information about all of the China-based participants from all grantees since 2014? If so, please provide the information. If not, why not?

Federal Funding Records

³² *Id.*

³³ *Id.*

³⁴ Meredith Wadman and Jon Cohen, *NIH's axing of bat coronavirus grant a 'horrible precedent' and might break rules, critics say*, SCIENCEMAG (Apr. 30, 2020), available at <https://www.sciencemag.org/news/2020/04/nih-s-axing-bat-coronavirus-grant-horrible-precedent-and-might-break-rules-critics-say>.

18. Please provide ledgers or any accounting for dispersion of all NIH federal funding awards that EcoHealth Alliance has sent to the WIV, including through contracts, grants, donations, cooperative agreements, staffing, or any other support or means. In addition, please provide the results and outcomes from the funding and support.³⁵
19. What is the total amount of NIH federal funding per year from 2017 through 2021 that has directly or indirectly supported the WIV scientists or research through grant recipients, including to EcoHealth Alliance; Wildlife Trust, Inc.; Columbia University Health Sciences; Trustees of Columbia University; University of North Carolina Chapel Hill; Vanderbilt University; University of Virginia; and Oregon Health and Science University?³⁶
20. According to a report in *The Washington Post* on April 14, 2020, the WIV issued a news release in English about the final visit from U.S. Embassy scientist diplomats in Beijing, which occurred on March 27, 2018.³⁷ Does the NIH have a copy of this news release? If so, please provide a copy.
21. For NIH award recipients that have provided support to the WIV since January 1, 2012, please provide annual reports, trip reports related to the WIV, documentation of any survey or field trips by the WIV, and interim data summaries from the WIV.
22. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 where foreign sites for all Type 1 and Type 2 awards have been documented as involving the WIV.
23. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 for NIH domestic grantee awards with a foreign component involving the WIV.
24. Please provide the name(s) of the NIH program manager(s) or officer(s) responsible for overseeing the grants to EcoHealth Alliance and time period(s) of responsibility.
25. Please provide the name(s) of the NIH Scientific Review Officers responsible for reviewing and approving any NIH financial awards to EcoHealth Alliance and any other funding recipients that supported the WIV.

³⁵ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

³⁶ National Institutes of Health, Research Portfolio online Reporting Tools, NIH RePorter available at <https://report.nih.gov/> (last accessed March 6, 2020).

³⁷ Josh Rogin, *Opinion: State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses*, THE WASHINGTON POST (Apr. 14, 2020), available at <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>.

26. According to an editorial in *The Wall Street Journal*, the WIV housed tens of thousands of bat samples and laboratory animals in 2019.³⁸ Please provide any information the NIH has on the number of bat samples and animals at the WIV.
- a. Did any NIH scientists who are fluent in Mandarin review the Chinese scientific literature on the WIV research related to coronaviruses that is dated before February 1, 2020?
27. Does the NIH have the unpublished sequences of bat coronaviruses that were maintained in the WIV database before December 30, 2019, or before the database was removed from the internet?³⁹ Does NIH have the full sequences of the eight viruses sampled in the Yunnan province on an EcoHealth Alliance bat-virus sampling trip in 2015?
- a. Please provide NIH's analysis if the sequences have been analyzed.
 - b. If NIH does not have the sequences, can NIH get this information from the EcoHealth Alliance or from other NIH-funded sources?
28. Please provide the original version of "Origin and cross-species transmission of bat coronaviruses in China" that was submitted to *Nature* by EcoHealth Alliance on October 6, 2019, published August 25, 2020, and funded in part by NIAID (award number R01AI110964).⁴⁰ If NIH does not have the October 6, 2019 report, can NIH obtain it from EcoHealth Alliance for this response? If so, please provide the report.
29. Have NIH, EcoHealth Alliance, or other NIH award recipient(s) been denied permission or access to results of any WIV research, which indirectly received financial support from NIH awards? If so, please provide the date(s), individuals involved, and circumstances of each denial.

We request that the NIH provide the requested documents and information in a coordinated response from all stakeholders and the appropriate divisions within NIH, including but not limited to subject matter experts from NIH's Division of Security and Emergency Response, the Office of Management Assessment, the Center for Scientific Review, the National Institute of Allergy and Infectious Diseases, and the Office of Extramural Research. After the requested information has been provided, we ask that the NIH provide a briefing to the Minority Committee staff to discuss the information that the NIH has related to the origins of SARS-CoV-2, including any potential links to the WIV. Finally, we request that you appoint an NIH working group representing an appropriate diversity of scientific disciplines to collect data and

³⁸ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

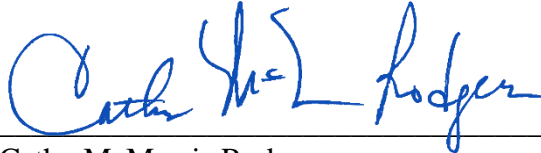
³⁹ Washington Post Editorial Board, *We're still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

⁴⁰ Latinne, A., Hu, B., Olival, K.J. et al., *Origin and cross-species transmission of bat coronaviruses in China*, *Nature* (Aug. 25, 2020), available at <https://www.nature.com/articles/s41467-020-17687-3#Ack1>.

information related to COVID-19 origins (including the WIV), and that the NIH working group coordinate and consult with foreign scientific agencies involved in similar work.

Your assistance with this request is greatly appreciated. If you have any questions, please contact Alan Slobodin or Diane Cutler of the Minority Committee staff.

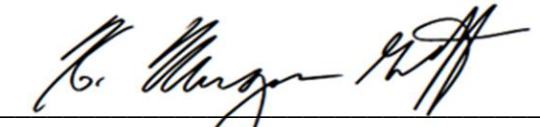
Sincerely,



Cathy McMorris Rodgers
Republican Leader
Committee on Energy and Commerce



Brett Guthrie
Republican Leader
Subcommittee on Health



H. Morgan Griffith
Republican Leader
Subcommittee on Oversight and Investigations

Attachment

Cc: The Honorable Frank Pallone, Chairman
The Honorable Diana DeGette, Chair, Subcommittee on Oversight and Investigations
The Honorable Anna Eshoo, Chair, Subcommittee on Health

2018 Cables from Embassy Beijing and Consulate General Wuhan to State Department
Headquarters in Washington, D.C.

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Subject: China Opens First Bio Safety Level 4 Laboratory

1. (SBU) **Summary and Comment:** The Chinese Academy of Sciences (CAS) has recently established what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. This state-of-the-art facility is designed for prevention and control research on diseases that require the highest level of biosafety and biosecurity containment. Ultimately, scientists hope the lab will contribute to the development of new antiviral drugs and vaccines, but its current productivity is limited by a shortage of the highly trained technicians and investigators required to safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policies and guidelines. (b)(5)

(b)(5)

(b)(5)

End Summary and Comment.

China Investing in Infectious Disease Control

2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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two years of effort, which is not unusual for such facilities, the WIV lab was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment. It occupies four floors and consists of over 32,000 square feet. WIV leadership now considers the lab operational and ready for research on class-four pathogens (P4), among which are the most virulent viruses that pose a high risk of aerosolized person-to-person transmission.

Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

(b)(6)

(b)(6) Thus, while the BSL-4 lab is ostensibly fully accredited, its utilization is limited by lack of access to specific organisms and by opaque government review and approval processes. As long as this situation continues, Beijing's commitment to prioritizing infectious disease control - on the regional and international level, especially in relation to highly pathogenic viruses, remains in doubt.

(b)(6)

(b)(6) noted that the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory. University of Texas Medical Branch in Galveston (UTMB), which has one of several well-established BSL-4 labs in the United States (supported by the National Institute of Allergy and Infectious Diseases (NIAID of NIH)), has scientific collaborations with WIV, which may help alleviate this talent gap over time. Reportedly, researchers from GTMB are helping train technicians who work in the WIV BSL-4 lab. Despite this, (b)(6) they would welcome more help from U.S. and international organizations as they establish "gold standard" operating procedures and training courses for the first time in China. As China is building more BSL-4 labs, including one in Harbin Veterinary Research Institute subordinated to the Chinese Academy of Agricultural Sciences (CAAS) for veterinary research use (b)(6) the training for technicians and investigators working on dangerous pathogens will certainly be in demand.

Despite Limitations, WIV Researchers Produce SARS Discoveries

6. (SBU) The ability of WIV scientists to undertake productive research despite limitations on the use of the new BSL-4 facility is demonstrated by a recent publication on the origins of SARS. Over a five-year study, (b)(6) (and their research team) widely sampled bats in Yunnan province with funding support from NIAID/NIH, USAID, and several Chinese funding agencies. The study results were published in PLoS Pathogens online on Nov. 30, 2017 (1), and it demonstrated that a SARS-like coronavirus isolated from horseshoe bats in a single cave contain all the building blocks of the pandemic SARS-coronavirus genome that caused the human outbreak. These results strongly suggest that the highly pathogenic SARS-coronavirus originated in this bat population. Most importantly, the researchers also showed that various SARS-like coronaviruses can interact with ACE2, the human receptor identified for SARS-coronavirus. This finding strongly suggests that SARS-like coronaviruses from bats can be transmitted to humans to cause SARS-like disease. From a public health perspective, this makes the continued surveillance of SARS-like coronaviruses in bats and study of the animal-human interface critical to future emerging coronavirus outbreak prediction and prevention. (b)(5)

(b)(5) WIV scientists are allowed to study the SARS-like coronaviruses isolated from bats while they are precluded from studying human-disease causing SARS coronavirus in their new BSL-4 lab until permission for such work is granted by the NHFCP.

1. Hu B, Zeng L-P, Yang X-L, Ge X-Y, Zhang W, Li B, et al. (2017) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. PLoS Pathog 13(11): e1006698. <https://doi.org/10.1371/journal.ppat.1006698>

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Reference: A) 18 BEIJING 138
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D) 17 TOKYO 716
E) 13 SEOUL 790
Subject: China Virus Institute Welcomes More U.S. Cooperation on Global Health Security

1. (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). (b)(5)

(b)(5)

(b)(5)

End Summary with

Comment.

2. (U) Wuhan Institute of Virology researchers and staff gave an overview of the lab and current cooperation with the United States to visiting Environment, Science, Technology and Health Counsellor Rick Switzer and Consulate Wuhan Consul General Jamie Fouss in late March. In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation, and experts from the University of Texas Medical Branch in Galveston. The institute reports to the Chinese Academy of Sciences in Beijing.

P4 Lab is Open and Transparent, Officials Emphasize

3. (SBU) The Wuhan P4 lab, referring to labs with the highest level of safety precautions, became fully operational and began working with live viruses early this year. Institute officials said they believed it is the only operational P4 lab in Asia aside from a U.S. Centers for Disease

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Control (CDC)-supported facility in Pune, India (Ref C). China plans to stand up a second P4 lab in Harbin. Institute officials said Japan's biosafety labs are "old" and lack cutting-edge equipment, so they consider Japan's labs to be "P3 Plus" (Note: the Japanese government says it has one P4-level lab in the Tokyo suburbs, though its activities are limited, and Japan is building a new P4 lab in Nagasaki, see Ref D. Taiwan operates at least one P4 lab. South Korea was close to opening a P4 lab as of last year, see Ref E. *End Note.*) Wuhan's lab is located about 20 miles from the city center in Zhengdian district, and the institute plans to gradually consolidate its other training, classroom and lab facilities at that location.

4. (U) Officials described the lab as a "regional node" in the global biosafety system and said it would play an emergency response role in an epidemic or pandemic. The lab's English brochure highlighted a national security role, saying that it "is an effective measure to improve China's availability in safeguarding national bio-safety if [a] possible biological warfare or terrorist attack happens."

5. (SBU) Institute officials said there would be "limited availability" for international and domestic scientists who had gone through the necessary approval process to do research at the lab. They stressed that the lab aimed to be a "worldwide, open platform" for virology. They said they welcomed U.S. Centers for Disease Control (CDC) experts, noting that the Chinese Academy of Sciences was not strong on human disease expertise, having only focused on it in the last 15 years, after the SARS outbreak. A Wuhan-based French consulate official who works on science and technology cooperation with China also emphasized that the lab, which was initiated in 2004 as a France-China joint project, was meant to be "open and transparent" to the global scientific community. "The intent was to set up a lab to international standards, and open to international research," he said. French experts have provided guidance and biosafety training to the lab, which will continue, the French official said. Institute officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a "handover" ceremony in 2016.

6. (U) In addition to French assistance, experts from the NIH-supported P4 lab at the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, institute officials said. The Wuhan institute plans to invite scientists from the Galveston lab to do research in Wuhan's lab. One Wuhan Institute of Virology researcher trained for two years at the Galveston lab, and the institute also sent one scientist to U.S. CDC headquarters in Atlanta for six months' work on influenza.

NIH-Supported Research Revises SARS Origin Story

7. (U) NIH was a major funder, along with the Natural Science Foundation of China (NSFC), of SARS research by the Wuhan Institute of Virology's (b)(6) (b)(6)

(b)(6) (b)(6) This lends weight to the theory that SARS originated in bat populations before jumping first to civet cats (likely via bat feces) and then to humans. (b)(6)

(b)(6) (b)(6) (b)(6)

(b)(6)
 (b)(6) team has provided support in statistical modeling to assess the risk of more coronaviruses like SARS crossing over to human populations.

Ready to Help with the Global Virome Project

8. (U) Institute officials expressed strong interest in the Global Virome Project (GVP), and said Chinese funding for the project would likely come from Chinese Academy of Sciences funding already earmarked for One Belt, One Road-related initiatives. The GVP aims to launch this year as an international collaborative effort to identify within ten years virtually all of the planet's viruses that have pandemic or epidemic potential and the ability to jump to humans. "We hope China will be one of the leading countries to initiate the Global Virome Project," one Wuhan Institute of Virology official said. China attended a GVP unveiling meeting in January in Thailand and is waiting for more details on the initiative. The officials said that the Chinese government funds projects similar to GVP to investigate the background of viruses and bacteria. This essentially constituted China's own Virome Project, officials said, but they noted the program currently has no official name.

9. (SBU) The Wuhan Institute of Virology's (b)(6) is the (b)(6) (b)(6) which is designed to show "proof of concept" and be a forerunner to the Global Virome Project. (b)(6) with the EcoHealth Alliance (a New York City-based NGO that is working with the University of California, Davis to manage the (b)(6) recently planned to visit Wuhan to meet with (b)(6) (b)(6) noted that China has expressed interest in building the GVP database, which would put China in a leadership position. Other countries have confidence in China's ability to build such a database, but are skeptical on whether China could remain transparent as a "gatekeeper" for this information (b)(6) said (b)(6) expressed frustration with the slow progress so far in launching GVP, noting that the effort lacked funding sources, needed to hire a CEO, and would have to boost its profile at G7, G20 and other high-level international meetings.

U.S.-China Workshop Explores Research Partnerships

10. (U) The Institute also has ongoing collaboration with the U.S. National Science Foundation, including a just-concluded workshop in Shenzhen, involving about 40 scientists from the United States and China, on the topic of the "Ecology and Evolution of Infectious Diseases." Co-sponsored by the Natural Science Foundation of China (NSFC), (b)(6)

(b)(6)
 (b)(6) The workshop explored opportunities for U.S.-China research cooperation in areas like using "big data" to predict emerging infectious diseases, climate change's effect on vector-borne diseases, and pathogen transmission between wildlife, domestic animals and humans.

11. (SBU) Some workshop participants also expressed skepticism about the Global Virome Project's (GVP) approach, saying that gaining a predictive understanding of viruses with pandemic potential would require going beyond the GVP's strategy of sample collection, to take an "ecological" approach that considers the virome beyond vertebrate systems to identify

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mechanisms driving pathogen evolution. A follow-on workshop will be held in June at the University of Berkeley. NSF and NSFC hope to jointly announce a funding call for collaborative projects later this year.

Signature: FOUSS

Drafted By:

Cleared By:

(b)(5)

Approved By:

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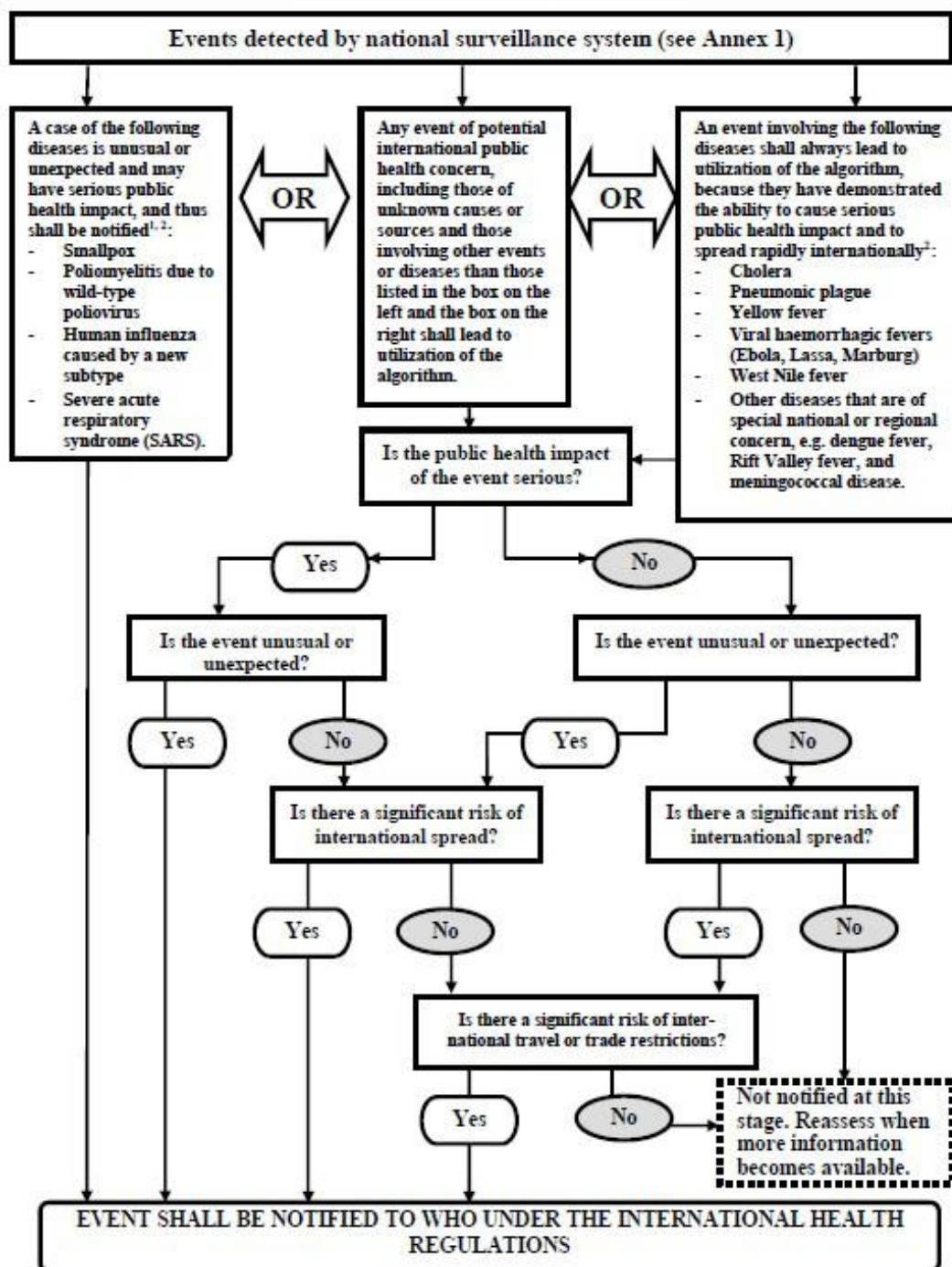
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Annex 2 of the 2005 International Health Regulations

ANNEX 2 DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN



¹ As per WHO case definitions.

² The disease list shall be used only for the purposes of these Regulations.

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [LaMontagne, Karen \(NIH/OD\) \[E\]](#)
Cc: [Kosub, David \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: Re: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority
Date: Thursday, March 18, 2021 10:29:38 AM
Attachments: [2021.03.16 - NIH Letter on WIV\[2\].pdf](#)
[US STATE DEPT CABLES in Appendix to GOP-Report-OriginsOfCOVID-19-Global-Pandemic-Including-Roles-of-CCPandWHO.09.20.20\[2\].pdf](#)

Thanks Karen, appreciate your letting me know.

Mike

From: "LaMontagne, Karen (NIH/OD) [E]" (b) (6)
Date: Thursday, March 18, 2021 at 10:25 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Kosub, David (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)
Subject: FW: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hi, Dr. Lauer,

Sharing the attached letter related to WIV that OLPA just received from House E&C.

Karen

From: "Clutterbuck, William" (b) (6)
Date: Thursday, March 18, 2021 at 9:38 AM
To: "Lohmann, Larry (NIH/OD) [E]" (b) (6)
Cc: "Slobodin, Alan" (b) (6)
Subject: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hello Larry,

Please see the attached letter to NIH Director Collins, regarding the origins of the COVID-19 pandemic.

This letter was signed by House Energy and Commerce Ranking Members McMorris Rodgers, Guthrie, and Griffith.

Attached to this email, you will find the 2018 U.S. Department of State cables mentioned in the letter.

Please respond to this email to confirm receipt.

Thank you,

William Clutterbuck

Staff Assistant

House Committee on Energy & Commerce

2322 Rayburn House Office Building

Tel: (b) (6) | (b) (6)

FRANK PALLONE, JR., NEW JERSEY
CHAIRMAN

CATHY McMORRIS RODGERS, WASHINGTON
RANKING MEMBER

ONE HUNDRED SEVENTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6115

Majority (202) 225-2927

Minority (202) 225-3641

March 18, 2021

The Honorable Francis Collins, M.D., Ph.D.
Director
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Dear Dr. Collins,

We write to request information, assistance, and needed-leadership from the National Institutes of Health (NIH) to advance an independent, scientific investigation into the origins of the COVID-19 pandemic.

The COVID-19 pandemic has been the worst public health crisis in the U.S. in about a hundred years. Over a year has passed since the deadly virus reached our shores and yet, the origin of the virus has yet to be determined. An independent, expert investigation of the origin of COVID-19 is of paramount importance to public health and biosecurity. As noted by Stanford Medical School Professor David Relman:

A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet. It will limit further recriminations and diminish the likelihood of conflict; it will lead to more effective responses to this pandemic, as well as efforts to anticipate and prevent the next one. It will also advance our discussions about risky science. And it will do something else: Delineating COVID-19's origin story will help elucidate the nature of our very precarious coexistence within the biosphere.¹

Recently, the World Health Organization (WHO) attempted to investigate the origin of COVID-19. The WHO said that this investigative mission would be guided by the science, be

¹ David A. Relman, *Opinion: To stop the next pandemic, we need to unravel the origins of COVID-19*, PNAS (Nov. 2020), available at <https://www.pnas.org/content/117/47/29246>.

“open-minded,” and “not exclude[e] any hypothesis.”² Unfortunately, China did not provide complete access or independence for the critical WHO mission. On February 13, 2021, National Security Advisor Jake Sullivan issued the following statement:

We have deep concerns about the way in which the early findings of the COVID-19 investigation were communicated and questions about the process used to reach them. It is imperative that this report be independent, with expert findings free from intervention or alteration by the Chinese government. To better understand this pandemic and prepare for the next one, China must make available its data from the earliest days of the outbreak.³

Because of rising tensions between the U.S. and China, the WHO scrapped plans for an interim report.⁴ An international group of science experts, including specialists in virology, microbiology, and zoology, asked for a new review.⁵

The NIH, as a premier scientific institution, must lead in order to foster a transparent, independent, and science-based investigation into the origin of the COVID-19 pandemic. Such an effort must meet the WHO’s stated goals of an open-minded investigation that does not exclude any plausible hypothesis.⁶ In addition, the NIH is well-positioned to gather and provide information through oversight of its grants and other federal awards. Thus, the NIH is in a unique position to investigate the possibility that the pandemic stemmed from a laboratory accident or leak, especially regarding the Wuhan Institute of Virology (WIV).

NIH raised concerns over a possible link between WIV and the COVID-19 outbreak during its review of federal awards to EcoHealth Alliance, a global environmental health nonprofit organization dedicated to protecting wildlife and public health from the emergence of disease. Of the \$13.7 million in federal awards that NIH authorized for EcoHealth Alliance, 17

² Smriti Mallapaty, *Where did COVID come from? WHO investigation begins but faces challenges*, NATURE (Nov. 11, 2020), available at <https://www.nature.com/articles/d41586-020-03165-9>.

³ The White House, Statement of National Security Advisor Jake Sullivan (Feb. 13, 2021), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/13/statement-by-national-security-advisor-jake-sullivan/>.

⁴ Betsy McKay, Drew Hinshaw and Jeremy Page, *WHO Investigators to Scrap Plans for Interim Report on Probe of Covid-19 Origins*, THE WALL STREET JOURNAL (Mar. 4, 2021), available at https://www.wsj.com/articles/who-investigators-to-scrap-interim-report-on-probe-of-covid-19-origins-11614865067?mod=latest_headlines

⁵ Jaime Metzl, et al, *Call for a Full and Unrestricted International Forensic Investigation into the Origins of COVID-19* (March 4, 2021), available at [https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20\(1\).pdf](https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20(1).pdf). The co-organizer of the letter and a WHO advisor on human genome editing, Jaime Metzl, PhD, said there is an eighty-five percent chance the pandemic started with an accidental leak from the WIV or Wuhan CDC laboratory, available at <https://jamiemetzl.com/origins-of-sars-cov-2/>. (“I have no definitive way of proving this thesis but the evidence is, in my view, extremely convincing. If forced to place odds on the confidence of my hypothesis, I would say there’s an 85% chance the pandemic started with an accidental leak from the Wuhan Institute of Virology or Wuhan CDC and a 15% chance it began in some other way (in fairness, here is an article making the case for a zoonotic jump “in the wild”). If China keeps preventing a full and unrestricted international forensic investigation into the origins of the pandemic, I believe it is fair to deny Beijing the benefit of the doubt.”)

⁶ Washington Post Editorial Board, *We’re still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

projects sponsored by the National Institute of Allergy and Infectious Disease (NIAID) have provided over \$7.9 million in federal awards for research of viral emergence from bats in Southeast Asia.⁷ EcoHealth Alliance passed some of its funding to the WIV, and in 2020, NIH made efforts to obtain information from EcoHealth Alliance about WIV related to concerns about the origins of COVID-19. In April 2020, NIH wrote to EcoHealth Alliance and Columbia University about an NIH-funded project entitled, “Understanding the Risk of Bat Coronavirus Emergency:”

It is our understanding that one of the sub-recipients of the grant funds is the Wuhan Institute of Virology (‘WIV’). It is our understanding that WIV studies the interaction between corona viruses and bats. The scientific community believes that the coronavirus causing COVID-19 jumped from bats to humans likely in Wuhan where the COVID-19 pandemic began. There are now allegations that the current crisis was precipitated by the release from WIV of the coronavirus responsible for COVID-19. Given these concerns, we are pursuing suspension of WIV from participation in Federal programs. It is in the public interest that NIH ensure that a sub-recipient has taken all appropriate precautions to prevent the release of pathogens that it is studying. This suspension of the sub-recipient does not affect the remainder of your grant assuming that no grant funds are provided to WIV following receipt of this email during the period of suspension.⁸

In January 2021, the U.S. Department of State issued a fact sheet about the activity at the WIV.⁹ Among other revelations, it reported the following:

- The U.S. government has reason to believe that several researchers inside the WIV became sick in autumn 2019, before the first identified case of the outbreak, with symptoms consistent with both COVID-19 and common seasonal illnesses. This raises questions about the credibility of WIV senior researcher Shi Zhengli’s public claim that there was “zero infection” among the WIV’s staff and students of SARS-CoV-2 or SARS-related viruses.¹⁰
- Starting in at least 2016, WIV researchers conducted experiments involving RaTG13, the bat coronavirus identified by the WIV in January 2020 as the closest sample to SARS-CoV-2 (96.2 percent similar).¹¹ There was no indication that this research was suspended at any time prior to the COVID-19 outbreak.
- The WIV has a published record of conducting “gain-of-function” research to engineer chimeric viruses.¹² But the WIV has not been transparent or consistent about its record of

⁷ NIH RePORTER, *Research Portfolio Online Reporting Tools* (queried Mar. 4, 2021), available at <https://reporter.nih.gov/search/qlYUeI9DIk2JfWUdCcWxcA/projects/charts>.

⁸ Mark Moore, *NIH investigating Wuhan lab at center of coronavirus pandemic*, NEW YORK POST (Apr. 28, 2020), available at <https://nypost.com/2020/04/28/nih-investigating-wuhan-lab-at-center-of-coronavirus-pandemic/>.

⁹ U.S. Department of State, *Fact Sheet: Activity at the Wuhan Institute of Virology*, Office of the Spokesperson (Jan. 15, 2021), available at <https://2017-2021.state.gov/fact-sheet-activity-at-the-wuhan-institute-of-virology/index.html>.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

studying viruses similar to the COVID-19 virus, including “RaTG13,” which was sampled from a cave in Yunnan Province in 2013 after several miners died of SARS-like illness.¹³

- WHO investigators must have access to the records of the WIV’s work on bat and other coronaviruses before the COVID-19 outbreak. As part of a thorough inquiry, they must have a full accounting of why the WIV altered and then removed online records of its work with RaTG13 and other viruses.¹⁴
- Despite the WIV presenting itself as a civilian institution, the U.S. has determined that the WIV has collaborated on projects with China’s military.¹⁵ The WIV has engaged in classified research, including laboratory animal experiments, on behalf of the Chinese military since at least 2017.¹⁶
- The U.S. and other donors who funded or collaborated on civilian research at the WIV have a right and obligation to determine whether any of our research funding was diverted to secret Chinese military projects at the WIV.¹⁷

Notably, the State Department’s former lead investigator who oversaw the Task Force into the COVID-19 virus origin stated recently that he not only believes the virus escaped from the WIV, but that it may have been the result of research that the Chinese military, or People’s Liberation Army, was doing on a bioweapon.¹⁸

Accordingly, it is imperative to determine not only where SARS-CoV-2 originated, but also how and if NIH’s funding and research to projects at the WIV could have contributed to SARS CoV-2. To assist our requests and inquiry, please provide the following by April 19, 2021:

1. An assessment from a classified U.S. Defense Intelligence Agency (DIA) report included the possibility that the origins of SARS CoV-2 could have emerged accidentally from a laboratory in Wuhan, China due to unsafe laboratory practices.¹⁹ The DIA report cited U.S. government and Chinese researchers who found “about 33 percent of the original 41 identified cases did not have direct exposure” to the market.²⁰ That, along with what is known of the WIV’s work in past few years, raised reasonable suspicion that the

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Jennifer Griffin, Former top State Dept. investigator says COVID-19 outbreak may have resulted from bioweapons research accident, Fox News (March 13, 2021), available at <https://www.foxnews.com/world/top-state-official-coronavirus-bioweapon-accident>

¹⁹ Fred Guterl, Naveed Jamali and Tom O’Connor, *The Controversial Experiments at Wuhan Lab Suspected of Starting the Coronavirus Pandemic*, NEWSWEEK (Apr. 27, 2020), available at <https://www.newsweek.com/controversial-wuhan-lab-experiments-that-may-have-started-coronavirus-pandemic-1500503>.

²⁰ *Id.*

pandemic may have been caused by a lab error, not a wet market.²¹ Further, a WHO inspector on the recent mission noted that “we know not all of those first 174 early COVID-19 cases visited the market, including the man diagnosed in December 2019 with the earliest onset date.”²² What information does the NIH have on the earliest COVID-19 cases?

2. According to an editorial on February 23, 2021, in *The Wall Street Journal* by former Secretary of State Mike Pompeo and Miles Yu, “[China’s] army of scientists claim to have discovered almost 2,000 new viruses in a little over a decade.”²³ How many of these discovered viruses does the NIH have information on and were any of these viruses discovered at the WIV?
3. According to *The Wall Street Journal* editorial mentioned in the previous question, some have alleged that the WIV’s virus-carrying animals were sold as pets and may even show up at local wet markets.²⁴ Is the NIH aware of these allegations? If so, please provide any information the NIH has related to these allegations.
4. Please provide all information that NIH has about laboratory accidents and/or biosafety practices at the WIV since January 1, 2015.
5. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about communications and events at the WIV from August 2019 to the present.
6. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about their communications with China-based NIH, Chinese National Science Foundation, CDC, and China CDC about events at the WIV from August 2019 to the present.

State Department Cables

²¹ *Id.*

²² Dominic Dwyer, I was the Australian doctor on the WHO’s COVID-19 mission to China. Here’s what we found about the origins of the coronavirus, *THE CONVERSATION* (Feb. 21, 2021), available at <https://www.theguardian.com/commentisfree/2021/feb/22/i-was-on-the-whos-covid-mission-to-china-heres-what-we-found>. See also Jeremy Page and Drew Hinshaw, *China Refuses to Give WHO Raw Data on Early Covid-19 Cases*, *THE WALL STREET JOURNAL* (Feb. 12, 2021), available at [https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail](https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail.). (“Chinese authorities refused to provide World Health Organization investigators with raw, personalized data on early Covid-19 cases that could help them determine how and when the coronavirus first began to spread in China, according to WHO investigators who described heated exchanges over the lack of detail. The Chinese authorities turned down requests to provide such data on 174 cases of Covid-19 that they have identified from the early phase of the outbreak in the Chinese city of Wuhan in December 2019. Investigators are part of a WHO team that this week completed a monthlong mission in China aimed at determining the origins of the pandemic.”)

²³ *Id.*

²⁴ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, *THE WALL STREET JOURNAL* (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

7. What information does NIH have about the WIV's responses to the 2018 U.S. Department of State cables (attached to this letter) regarding safety concerns?
8. The April 2018 cable from the U.S. Department of State stated that the WIV planned to invite University of Texas Medical Branch Galveston (UTMBG) researchers to do research in Wuhan's labs. Please provide any information NIH received that indicates whether the WIV invited UTMBG researchers, and whether UTMBG researchers conducted any research in Wuhan's labs.
 - a. If there was such research, please provide information and any documents related to this research.
9. Why was it pertinent to the NIH investigation that the "nonprofit [EcoHealth Alliance] must provide the "WIV's responses to the 2018 Department of State cables regarding safety concerns"?²⁵
 - a. Did EcoHealth Alliance provide this information? If so, how did NIH use the information to further its investigation?

EcoHealth Alliance, Columbia University Health Sciences

10. Was the 2019 NIH federal award to EcoHealth Alliance reviewed and approved by the HHS Potential Pandemic Pathogen Care and Oversight (P3CO) committee?²⁶
 - a. If so, please provide the documentation with the committee's decision.
 - b. Please also provide the names of the individuals who were members of the committee at the time.
11. Please provide all correspondence and communications between NIH and EcoHealth Alliance, since January 1, 2020, related to federal funding involving the WIV. The documentation should include, but not be limited to, correspondence between NIH and EcoHealth Alliance dated sometime in April 2020, on July 8, 2020, and sometime in August 2020.
12. In April 2020, NIH suspended a 2019 federal award to EcoHealth Alliance, in part, because NIH did not believe the work aligned with "program goals and agency priorities."²⁷ Please specify the work that was done by the EcoHealth Alliance that did

²⁵ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

²⁶ National Institutes of Health, *Notice Announcing the Removal of the Funding Pause for Gain-of-Function Research Project* (Dec. 19, 2017), available at <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-071.html>.

²⁷ *Id.*

not align with the agency's program goals and priorities, and when that work was conducted.

- a. Was an evaluation of EcoHealth Alliance's work and whether it aligned with the agency's program goals and priorities conducted by the NIH before the award was issued? If yes, please provide any related documentation. If not, why not?
13. In April 2020 correspondence with EcoHealth Alliance, NIH wrote that it "received reports that the Wuhan Institute of Virology...has been conducting research at its facilities in China that pose serious bio-safety concerns."²⁸ What are the sources for those reports to NIH and what were the specific allegations reported?
 14. Why did the NIH request that EcoHealth Alliance provide a sample of the pandemic coronavirus that the WIV used to determine its genetic sequence for SARS CoV-2?²⁹
 - a. Why is this information important to NIH's investigation?
 - b. Has NIH obtained the sample and if so, what evaluations have been done, and for what purpose?
 - c. If NIH has not yet obtained the sample, what are the planned studies and evaluations NIH will conduct with the sample when it is obtained?
 15. What is the nature of NIH's concerns about purported restrictions at the WIV including "diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019[.]" about the WIV lab or virus origin?³⁰
 - a. What is the basis of information to NIH about the purported restrictions at the WIV?
 - b. What are the other purported restrictions at the WIV in October 2019?
 16. After terminating EcoHealth Alliance's 2019 project entitled "Understanding the Risk of Bat Coronavirus Emergence," the NIH later offered to reinstate the EcoHealth Alliance funding in July 2020 if EcoHealth Alliance agreed to meet certain conditions.³¹

²⁸ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

²⁹ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

³⁰ *Id.*

³¹ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

- a. Please provide all of the information presented to NIH from EcoHealth Alliance in response to NIH's conditions for reinstatement.
 - b. What actions did NIH take based upon the information received? How has the information been used in NIH's investigation?
 - c. One condition for the federal award reinstatement was for EcoHealth Alliance to arrange for an outside inspection of the WIV and its records, "with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019."³² Why is it pertinent to the NIH's investigation if staff at WIV had SARS-CoV-2 in their possession prior to December 2019? What is the potential significance if the staff did have the virus in their possession prior to December 2019?
 - d. What information does NIH have that was used for the basis of requesting that the EcoHealth Alliance "must 'explain the apparent disappearance' of a scientist who worked in the Wuhan lab," and on social media was rumored to be "patient zero" of the pandemic?³³
 - i. What is the potential significance about the whereabouts of this scientist and the photo being removed from the website?
17. Please provide all correspondence and communications between NIH and Columbia University related to federal funding involving the WIV, including email correspondence in April 2020 between Dr. Michael Lauer, Deputy Director of extramural research, and Naomi Schrag of Columbia University.
- a. In an April 2020 email, Dr. Lauer advised Naomi Schrag of Columbia University that it would be helpful for NIH "to know about all China-based participants in this work since the Type 1 grant started in 2014 - who they were and how much money they received."³⁴ Why did NIH request that Columbia University provide information about all of the China-based participants?
 - i. What is the pertinence of the timeframe starting in 2014 for the requested information?
 - ii. Did Columbia University provide the NIH with the requested information about all of the China-based participants from all grantees since 2014? If so, please provide the information. If not, why not?

Federal Funding Records

³² *Id.*

³³ *Id.*

³⁴ Meredith Wadman and Jon Cohen, *NIH's axing of bat coronavirus grant a 'horrible precedent' and might break rules, critics say*, SCIENCEMAG (Apr. 30, 2020), available at <https://www.sciencemag.org/news/2020/04/nih-s-axing-bat-coronavirus-grant-horrible-precedent-and-might-break-rules-critics-say>.

18. Please provide ledgers or any accounting for dispersion of all NIH federal funding awards that EcoHealth Alliance has sent to the WIV, including through contracts, grants, donations, cooperative agreements, staffing, or any other support or means. In addition, please provide the results and outcomes from the funding and support.³⁵
19. What is the total amount of NIH federal funding per year from 2017 through 2021 that has directly or indirectly supported the WIV scientists or research through grant recipients, including to EcoHealth Alliance; Wildlife Trust, Inc.; Columbia University Health Sciences; Trustees of Columbia University; University of North Carolina Chapel Hill; Vanderbilt University; University of Virginia; and Oregon Health and Science University?³⁶
20. According to a report in *The Washington Post* on April 14, 2020, the WIV issued a news release in English about the final visit from U.S. Embassy scientist diplomats in Beijing, which occurred on March 27, 2018.³⁷ Does the NIH have a copy of this news release? If so, please provide a copy.
21. For NIH award recipients that have provided support to the WIV since January 1, 2012, please provide annual reports, trip reports related to the WIV, documentation of any survey or field trips by the WIV, and interim data summaries from the WIV.
22. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 where foreign sites for all Type 1 and Type 2 awards have been documented as involving the WIV.
23. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 for NIH domestic grantee awards with a foreign component involving the WIV.
24. Please provide the name(s) of the NIH program manager(s) or officer(s) responsible for overseeing the grants to EcoHealth Alliance and time period(s) of responsibility.
25. Please provide the name(s) of the NIH Scientific Review Officers responsible for reviewing and approving any NIH financial awards to EcoHealth Alliance and any other funding recipients that supported the WIV.

³⁵ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

³⁶ National Institutes of Health, Research Portfolio online Reporting Tools, NIH RePorter available at <https://report.nih.gov/> (last accessed March 6, 2020).

³⁷ Josh Rogin, *Opinion: State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses*, THE WASHINGTON POST (Apr. 14, 2020), available at <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>.

26. According to an editorial in *The Wall Street Journal*, the WIV housed tens of thousands of bat samples and laboratory animals in 2019.³⁸ Please provide any information the NIH has on the number of bat samples and animals at the WIV.
- a. Did any NIH scientists who are fluent in Mandarin review the Chinese scientific literature on the WIV research related to coronaviruses that is dated before February 1, 2020?
27. Does the NIH have the unpublished sequences of bat coronaviruses that were maintained in the WIV database before December 30, 2019, or before the database was removed from the internet?³⁹ Does NIH have the full sequences of the eight viruses sampled in the Yunnan province on an EcoHealth Alliance bat-virus sampling trip in 2015?
- a. Please provide NIH's analysis if the sequences have been analyzed.
 - b. If NIH does not have the sequences, can NIH get this information from the EcoHealth Alliance or from other NIH-funded sources?
28. Please provide the original version of "Origin and cross-species transmission of bat coronaviruses in China" that was submitted to *Nature* by EcoHealth Alliance on October 6, 2019, published August 25, 2020, and funded in part by NIAID (award number R01AI110964).⁴⁰ If NIH does not have the October 6, 2019 report, can NIH obtain it from EcoHealth Alliance for this response? If so, please provide the report.
29. Have NIH, EcoHealth Alliance, or other NIH award recipient(s) been denied permission or access to results of any WIV research, which indirectly received financial support from NIH awards? If so, please provide the date(s), individuals involved, and circumstances of each denial.

We request that the NIH provide the requested documents and information in a coordinated response from all stakeholders and the appropriate divisions within NIH, including but not limited to subject matter experts from NIH's Division of Security and Emergency Response, the Office of Management Assessment, the Center for Scientific Review, the National Institute of Allergy and Infectious Diseases, and the Office of Extramural Research. After the requested information has been provided, we ask that the NIH provide a briefing to the Minority Committee staff to discuss the information that the NIH has related to the origins of SARS-CoV-2, including any potential links to the WIV. Finally, we request that you appoint an NIH working group representing an appropriate diversity of scientific disciplines to collect data and

³⁸ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

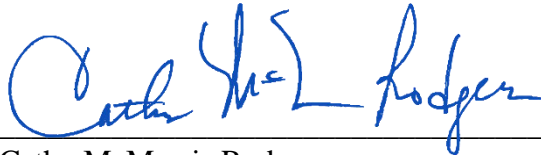
³⁹ Washington Post Editorial Board, *We're still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

⁴⁰ Latinne, A., Hu, B., Olival, K.J. et al., *Origin and cross-species transmission of bat coronaviruses in China*, *Nature* (Aug. 25, 2020), available at <https://www.nature.com/articles/s41467-020-17687-3#Ack1>.

information related to COVID-19 origins (including the WIV), and that the NIH working group coordinate and consult with foreign scientific agencies involved in similar work.

Your assistance with this request is greatly appreciated. If you have any questions, please contact Alan Slobodin or Diane Cutler of the Minority Committee staff.

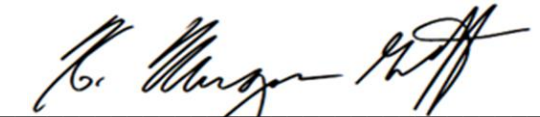
Sincerely,



Cathy McMorris Rodgers
Republican Leader
Committee on Energy and Commerce



Brett Guthrie
Republican Leader
Subcommittee on Health



H. Morgan Griffith
Republican Leader
Subcommittee on Oversight and Investigations

Attachment

Cc: The Honorable Frank Pallone, Chairman
The Honorable Diana DeGette, Chair, Subcommittee on Oversight and Investigations
The Honorable Anna Eshoo, Chair, Subcommittee on Health

2018 Cables from Embassy Beijing and Consulate General Wuhan to State Department
Headquarters in Washington, D.C.

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MRN: 18 BEIJING 138
Date/DTG: Jan 19, 2018 / 190739Z JAN 18
From: AMEMBASSY BEIJING
Action: WASHDC, SECSTATE ROUTINE
E.O.: 13526
TAGS: SHLH, ETRD, ECON, PGOV, CN
Captions: SENSITIVE
Reference: 17 WUHAN 48
Subject: China Opens First Bio Safety Level 4 Laboratory

1. (SBU) **Summary and Comment:** The Chinese Academy of Sciences (CAS) has recently established what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. This state-of-the-art facility is designed for prevention and control research on diseases that require the highest level of biosafety and biosecurity containment. Ultimately, scientists hope the lab will contribute to the development of new antiviral drugs and vaccines, but its current productivity is limited by a shortage of the highly trained technicians and investigators required to safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policies and guidelines. (b)(5)

(b)(5)

(b)(5)

End Summary and Comment.

China Investing in Infectious Disease Control

2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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two years of effort, which is not unusual for such facilities, the WIV lab was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment. It occupies four floors and consists of over 32,000 square feet. WIV leadership now considers the lab operational and ready for research on class-four pathogens (P4), among which are the most virulent viruses that pose a high risk of aerosolized person-to-person transmission.

Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

(b)(6)

(b)(6) Thus, while the BSL-4 lab is ostensibly fully accredited, its utilization is limited by lack of access to specific organisms and by opaque government review and approval processes. As long as this situation continues, Beijing's commitment to prioritizing infectious disease control - on the regional and international level, especially in relation to highly pathogenic viruses, remains in doubt.

(b)(6) noted that the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory. University of Texas Medical Branch in Galveston (UTMB), which has one of several well-established BSL-4 labs in the United States (supported by the National Institute of Allergy and Infectious Diseases (NIAID of NIH)), has scientific collaborations with WIV, which may help alleviate this talent gap over time. Reportedly, researchers from GTMB are helping train technicians who work in the WIV BSL-4 lab. Despite this, (b)(6) they would welcome more help from U.S. and international organizations as they establish "gold standard" operating procedures and training courses for the first time in China. As China is building more BSL-4 labs, including one in Harbin Veterinary Research Institute subordinated to the Chinese Academy of Agricultural Sciences (CAAS) for veterinary research use (b)(6) the training for technicians and investigators working on dangerous pathogens will certainly be in demand.

Despite Limitations, WIV Researchers Produce SARS Discoveries

6. (SBU) The ability of WIV scientists to undertake productive research despite limitations on the use of the new BSL-4 facility is demonstrated by a recent publication on the origins of SARS. Over a five-year study, (b)(6) (and their research team) widely sampled bats in Yunnan province with funding support from NIAID/NIH, USAID, and several Chinese funding agencies. The study results were published in PLoS Pathogens online on Nov. 30, 2017 (1), and it demonstrated that a SARS-like coronavirus isolated from horseshoe bats in a single cave contain all the building blocks of the pandemic SARS-coronavirus genome that caused the human outbreak. These results strongly suggest that the highly pathogenic SARS-coronavirus originated in this bat population. Most importantly, the researchers also showed that various SARS-like coronaviruses can interact with ACE2, the human receptor identified for SARS-coronavirus. This finding strongly suggests that SARS-like coronaviruses from bats can be transmitted to humans to cause SARS-like disease. From a public health perspective, this makes the continued surveillance of SARS-like coronaviruses in bats and study of the animal-human interface critical to future emerging coronavirus outbreak prediction and prevention. (b)(5)

(b)(5) WIV scientists are allowed to study the SARS-like coronaviruses isolated from bats while they are precluded from studying human-disease causing SARS coronavirus in their new BSL-4 lab until permission for such work is granted by the NHFCP.

1. Hu B, Zeng L-P, Yang X-L, Ge X-Y, Zhang W, Li B, et al. (2017) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. PLoS Pathog 13(11): e1006698. <https://doi.org/10.1371/journal.ppat.1006698>

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MRN: 18 WUHAN 38
Date/DTG: Apr 19, 2018 / 190551Z APR 18
From: AMCONSUL WUHAN
Action: WASHDC, SECSTATE ROUTINE
E.O.: 13526
TAGS: SHLH, PGOV, CN, PREL, TBIO, KGH, CDC, EAID, KHIV, IN, JP, TW, TSPL, PINS, SENV
Captions: SENSITIVE
Reference: A) 18 BEIJING 138
B) 17 BEIJING 2458
C) 11 MUMBAI 630
D) 17 TOKYO 716
E) 13 SEOUL 790
Subject: China Virus Institute Welcomes More U.S. Cooperation on Global Health Security

1. (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). (b)(5)

(b)(5)

(b)(5)

End Summary with

Comment.

2. (U) Wuhan Institute of Virology researchers and staff gave an overview of the lab and current cooperation with the United States to visiting Environment, Science, Technology and Health Counsellor Rick Switzer and Consulate Wuhan Consul General Jamie Fouss in late March. In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation, and experts from the University of Texas Medical Branch in Galveston. The institute reports to the Chinese Academy of Sciences in Beijing.

P4 Lab is Open and Transparent, Officials Emphasize

3. (SBU) The Wuhan P4 lab, referring to labs with the highest level of safety precautions, became fully operational and began working with live viruses early this year. Institute officials said they believed it is the only operational P4 lab in Asia aside from a U.S. Centers for Disease

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Control (CDC)-supported facility in Pune, India (Ref C). China plans to stand up a second P4 lab in Harbin. Institute officials said Japan's biosafety labs are "old" and lack cutting-edge equipment, so they consider Japan's labs to be "P3 Plus" (Note: the Japanese government says it has one P4-level lab in the Tokyo suburbs, though its activities are limited, and Japan is building a new P4 lab in Nagasaki, see Ref D. Taiwan operates at least one P4 lab. South Korea was close to opening a P4 lab as of last year, see Ref E. *End Note.*) Wuhan's lab is located about 20 miles from the city center in Zhengdian district, and the institute plans to gradually consolidate its other training, classroom and lab facilities at that location.

4. (U) Officials described the lab as a "regional node" in the global biosafety system and said it would play an emergency response role in an epidemic or pandemic. The lab's English brochure highlighted a national security role, saying that it "is an effective measure to improve China's availability in safeguarding national bio-safety if [a] possible biological warfare or terrorist attack happens."

5. (SBU) Institute officials said there would be "limited availability" for international and domestic scientists who had gone through the necessary approval process to do research at the lab. They stressed that the lab aimed to be a "worldwide, open platform" for virology. They said they welcomed U.S. Centers for Disease Control (CDC) experts, noting that the Chinese Academy of Sciences was not strong on human disease expertise, having only focused on it in the last 15 years, after the SARS outbreak. A Wuhan-based French consulate official who works on science and technology cooperation with China also emphasized that the lab, which was initiated in 2004 as a France-China joint project, was meant to be "open and transparent" to the global scientific community. "The intent was to set up a lab to international standards, and open to international research," he said. French experts have provided guidance and biosafety training to the lab, which will continue, the French official said. Institute officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a "handover" ceremony in 2016.

6. (U) In addition to French assistance, experts from the NIH-supported P4 lab at the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, institute officials said. The Wuhan institute plans to invite scientists from the Galveston lab to do research in Wuhan's lab. One Wuhan Institute of Virology researcher trained for two years at the Galveston lab, and the institute also sent one scientist to U.S. CDC headquarters in Atlanta for six months' work on influenza.

NIH-Supported Research Revises SARS Origin Story

7. (U) NIH was a major funder, along with the Natural Science Foundation of China (NSFC), of SARS research by the Wuhan Institute of Virology's (b)(6) (b)(6)

(b)(6) (b)(6) This lends weight to the theory that SARS originated in bat populations before jumping first to civet cats (likely via bat feces) and then to humans. (b)(6)

(b)(6) (b)(6) (b)(6)

(b)(6)
 (b)(6) team has provided support in statistical modeling to assess the risk of more coronaviruses like SARS crossing over to human populations.

Ready to Help with the Global Virome Project

8. (U) Institute officials expressed strong interest in the Global Virome Project (GVP), and said Chinese funding for the project would likely come from Chinese Academy of Sciences funding already earmarked for One Belt, One Road-related initiatives. The GVP aims to launch this year as an international collaborative effort to identify within ten years virtually all of the planet's viruses that have pandemic or epidemic potential and the ability to jump to humans. "We hope China will be one of the leading countries to initiate the Global Virome Project," one Wuhan Institute of Virology official said. China attended a GVP unveiling meeting in January in Thailand and is waiting for more details on the initiative. The officials said that the Chinese government funds projects similar to GVP to investigate the background of viruses and bacteria. This essentially constituted China's own Virome Project, officials said, but they noted the program currently has no official name.

9. (SBU) The Wuhan Institute of Virology's (b)(6) is the (b)(6) (b)(6) which is designed to show "proof of concept" and be a forerunner to the Global Virome Project. (b)(6) with the EcoHealth Alliance (a New York City-based NGO that is working with the University of California, Davis to manage the (b)(6) recently planned to visit Wuhan to meet with (b)(6) (b)(6) noted that China has expressed interest in building the GVP database, which would put China in a leadership position. Other countries have confidence in China's ability to build such a database, but are skeptical on whether China could remain transparent as a "gatekeeper" for this information (b)(6) said (b)(6) expressed frustration with the slow progress so far in launching GVP, noting that the effort lacked funding sources, needed to hire a CEO, and would have to boost its profile at G7, G20 and other high-level international meetings.

U.S.-China Workshop Explores Research Partnerships

10. (U) The Institute also has ongoing collaboration with the U.S. National Science Foundation, including a just-concluded workshop in Shenzhen, involving about 40 scientists from the United States and China, on the topic of the "Ecology and Evolution of Infectious Diseases." Co-sponsored by the Natural Science Foundation of China (NSFC), (b)(6)
 (b)(6)
 (b)(6) The workshop explored opportunities for U.S.-China research cooperation in areas like using "big data" to predict emerging infectious diseases, climate change's effect on vector-borne diseases, and pathogen transmission between wildlife, domestic animals and humans.

11. (SBU) Some workshop participants also expressed skepticism about the Global Virome Project's (GVP) approach, saying that gaining a predictive understanding of viruses with pandemic potential would require going beyond the GVP's strategy of sample collection, to take an "ecological" approach that considers the virome beyond vertebrate systems to identify

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mechanisms driving pathogen evolution. A follow-on workshop will be held in June at the University of Berkeley. NSF and NSFC hope to jointly announce a funding call for collaborative projects later this year.

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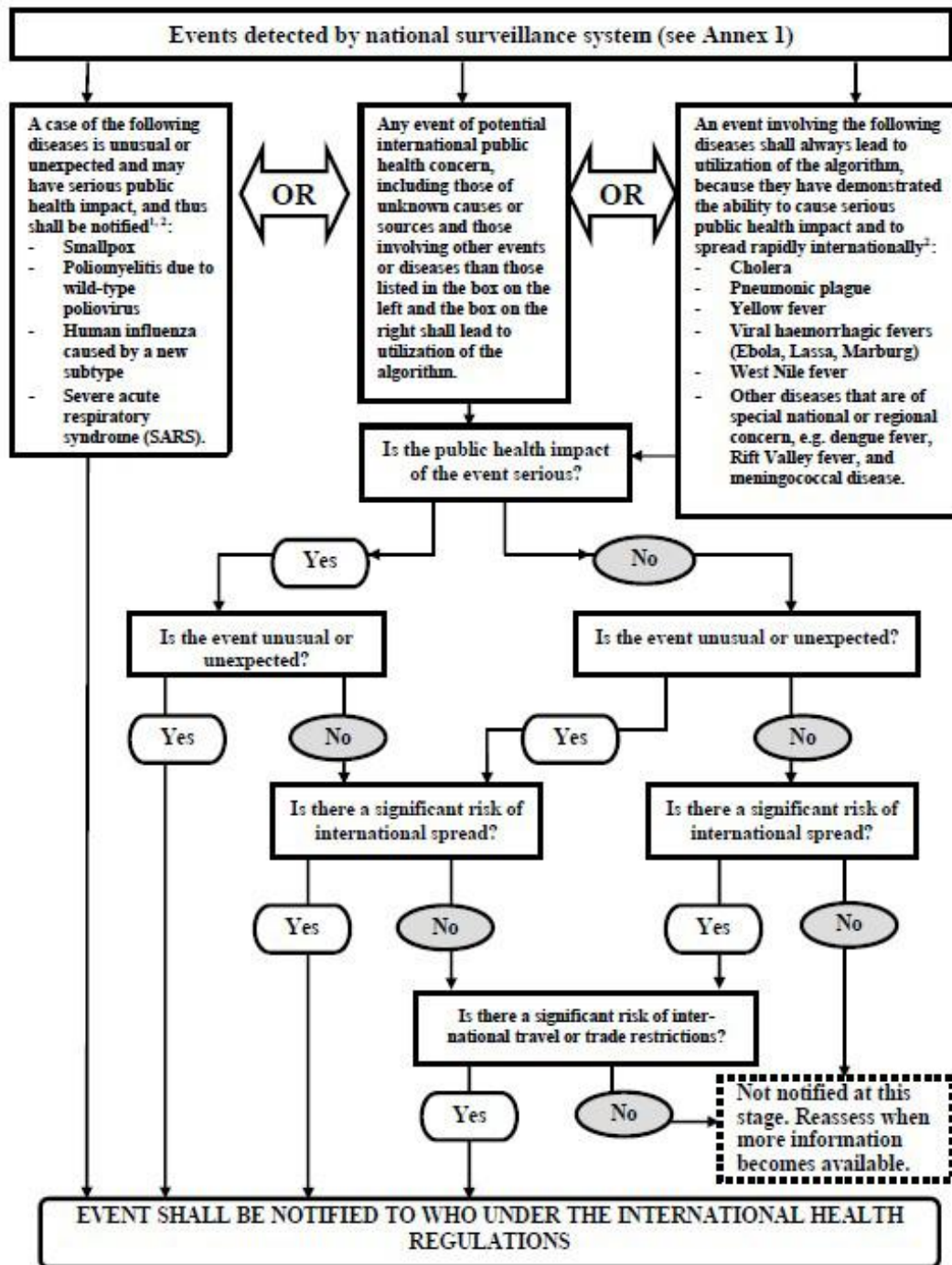
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Page 4 of 4

Annex 2 of the 2005 International Health Regulations

ANNEX 2 DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN



¹ As per WHO case definitions.

² The disease list shall be used only for the purposes of these Regulations.

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Hallett, Adrienne \(NIH/OD\) \[E\]](#)
Cc: [Lauer, Michael \(NIH/OD\) \[E\]](#); [Bundesen, Liza \(NIH/OD\) \[E\]](#)
Subject: FW: Response Creation - Origins on COVID 19 vaccine - Due by Tuesday March 30th (WF398508)
Date: Monday, March 22, 2021 6:29:26 AM
Attachments: [2021.03.16 - NIH Letter on WIV.pdf](#)
[US STATE DEPT CABLES in Appendix to GOP-Report-OriginsOfCOVID-19-Global-Pandemic-Including-Roles-of-CCPandWHO.09.20.20.pdf](#)
[FW 3.18.21 Letter to Director Collins from House Energy and Commerce Minority.pdf](#)
[Response to Rodgers Guthrie Griffith WIV origins COVID 19 draft.docx](#)
[Daszak 7 8 20.pdf](#)
[Daszak letter 4 24 20.pdf](#)
[NIH Response to EcoHealth Response to Suspension 10 23 20.pdf](#)

Hi Adrienne – I wonder whether Liza Bundesen and I could connect with you sometime in the next few days to discuss this. I've attached my first thoughts (4th attachment). FYI I'm attaching the 3 letters we've sent to EcoHealth (5th through 7th attachments).

Thanks, Mike

From: OER Executive Secretariat (b) (6)
Date: Friday, March 19, 2021 at 11:20 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Bundesen, Liza (NIH/OD) [E]" (b) (6), "Kosub, David (NIH/OD) [E]" (b) (6), "Joshi, Pritty (NIH/OD) [E]" (b) (6), "Showe, Melanie (NIH/OD) [E]" (b) (6)
Subject: Response Creation - Origins on COVID 19 vaccine - Due by Tuesday March 30th (WF398508)

Hi Dr. Lauer –

Please see the attached letter from Reps. McMorris Rodgers, Guthrie, and Griffith who write to Dr. Collins requesting information to advance an independent, scientific investigation into the origins of the COVID-19 pandemic. OER has been asked to work with OLPA and NIAID on a draft response for Dr. Tabak's signature. Would you please forward me a response by 4pm Tuesday March 30th.

Let me know if you have any questions or would like to discuss.
Thanks.

NOTE: FYIs have been sent to DEPD, CoS, OSP, SAIMOD, OGC, and OCPL

Best Regards,

Aesha Brandy, MBA

Management and Program Analyst
NIH Office of Extramural Research
Immediate Office of the Director

Building 1, Room 150
Bethesda, MD 20814

(b) (6)

(b) (6)

FRANK PALLONE, JR., NEW JERSEY
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Congress of the United States

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COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6115

Majority (202) 225-2927

Minority (202) 225-3641

March 18, 2021

The Honorable Francis Collins, M.D., Ph.D.
Director
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Dear Dr. Collins,

We write to request information, assistance, and needed-leadership from the National Institutes of Health (NIH) to advance an independent, scientific investigation into the origins of the COVID-19 pandemic.

The COVID-19 pandemic has been the worst public health crisis in the U.S. in about a hundred years. Over a year has passed since the deadly virus reached our shores and yet, the origin of the virus has yet to be determined. An independent, expert investigation of the origin of COVID-19 is of paramount importance to public health and biosecurity. As noted by Stanford Medical School Professor David Relman:

A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet. It will limit further recriminations and diminish the likelihood of conflict; it will lead to more effective responses to this pandemic, as well as efforts to anticipate and prevent the next one. It will also advance our discussions about risky science. And it will do something else: Delineating COVID-19's origin story will help elucidate the nature of our very precarious coexistence within the biosphere.¹

Recently, the World Health Organization (WHO) attempted to investigate the origin of COVID-19. The WHO said that this investigative mission would be guided by the science, be

¹ David A. Relman, *Opinion: To stop the next pandemic, we need to unravel the origins of COVID-19*, PNAS (Nov. 2020), available at <https://www.pnas.org/content/117/47/29246>.

“open-minded,” and “not exclude[e] any hypothesis.”² Unfortunately, China did not provide complete access or independence for the critical WHO mission. On February 13, 2021, National Security Advisor Jake Sullivan issued the following statement:

We have deep concerns about the way in which the early findings of the COVID-19 investigation were communicated and questions about the process used to reach them. It is imperative that this report be independent, with expert findings free from intervention or alteration by the Chinese government. To better understand this pandemic and prepare for the next one, China must make available its data from the earliest days of the outbreak.³

Because of rising tensions between the U.S. and China, the WHO scrapped plans for an interim report.⁴ An international group of science experts, including specialists in virology, microbiology, and zoology, asked for a new review.⁵

The NIH, as a premier scientific institution, must lead in order to foster a transparent, independent, and science-based investigation into the origin of the COVID-19 pandemic. Such an effort must meet the WHO’s stated goals of an open-minded investigation that does not exclude any plausible hypothesis.⁶ In addition, the NIH is well-positioned to gather and provide information through oversight of its grants and other federal awards. Thus, the NIH is in a unique position to investigate the possibility that the pandemic stemmed from a laboratory accident or leak, especially regarding the Wuhan Institute of Virology (WIV).

NIH raised concerns over a possible link between WIV and the COVID-19 outbreak during its review of federal awards to EcoHealth Alliance, a global environmental health nonprofit organization dedicated to protecting wildlife and public health from the emergence of disease. Of the \$13.7 million in federal awards that NIH authorized for EcoHealth Alliance, 17

² Smriti Mallapaty, *Where did COVID come from? WHO investigation begins but faces challenges*, NATURE (Nov. 11, 2020), available at <https://www.nature.com/articles/d41586-020-03165-9>.

³ The White House, Statement of National Security Advisor Jake Sullivan (Feb. 13, 2021), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/13/statement-by-national-security-advisor-jake-sullivan/>.

⁴ Betsy McKay, Drew Hinshaw and Jeremy Page, *WHO Investigators to Scrap Plans for Interim Report on Probe of Covid-19 Origins*, THE WALL STREET JOURNAL (Mar. 4, 2021), available at https://www.wsj.com/articles/who-investigators-to-scrap-interim-report-on-probe-of-covid-19-origins-11614865067?mod=latest_headlines

⁵ Jaime Metzl, et al, *Call for a Full and Unrestricted International Forensic Investigation into the Origins of COVID-19* (March 4, 2021), available at [https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20\(1\).pdf](https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20(1).pdf). The co-organizer of the letter and a WHO advisor on human genome editing, Jaime Metzl, PhD, said there is an eighty-five percent chance the pandemic started with an accidental leak from the WIV or Wuhan CDC laboratory, available at <https://jamiemetzl.com/origins-of-sars-cov-2/>. (“I have no definitive way of proving this thesis but the evidence is, in my view, extremely convincing. If forced to place odds on the confidence of my hypothesis, I would say there’s an 85% chance the pandemic started with an accidental leak from the Wuhan Institute of Virology or Wuhan CDC and a 15% chance it began in some other way (in fairness, here is an article making the case for a zoonotic jump “in the wild”). If China keeps preventing a full and unrestricted international forensic investigation into the origins of the pandemic, I believe it is fair to deny Beijing the benefit of the doubt.”)

⁶ Washington Post Editorial Board, *We’re still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

projects sponsored by the National Institute of Allergy and Infectious Disease (NIAID) have provided over \$7.9 million in federal awards for research of viral emergence from bats in Southeast Asia.⁷ EcoHealth Alliance passed some of its funding to the WIV, and in 2020, NIH made efforts to obtain information from EcoHealth Alliance about WIV related to concerns about the origins of COVID-19. In April 2020, NIH wrote to EcoHealth Alliance and Columbia University about an NIH-funded project entitled, “Understanding the Risk of Bat Coronavirus Emergency:”

It is our understanding that one of the sub-recipients of the grant funds is the Wuhan Institute of Virology (‘WIV’). It is our understanding that WIV studies the interaction between corona viruses and bats. The scientific community believes that the coronavirus causing COVID-19 jumped from bats to humans likely in Wuhan where the COVID-19 pandemic began. There are now allegations that the current crisis was precipitated by the release from WIV of the coronavirus responsible for COVID-19. Given these concerns, we are pursuing suspension of WIV from participation in Federal programs. It is in the public interest that NIH ensure that a sub-recipient has taken all appropriate precautions to prevent the release of pathogens that it is studying. This suspension of the sub-recipient does not affect the remainder of your grant assuming that no grant funds are provided to WIV following receipt of this email during the period of suspension.⁸

In January 2021, the U.S. Department of State issued a fact sheet about the activity at the WIV.⁹ Among other revelations, it reported the following:

- The U.S. government has reason to believe that several researchers inside the WIV became sick in autumn 2019, before the first identified case of the outbreak, with symptoms consistent with both COVID-19 and common seasonal illnesses. This raises questions about the credibility of WIV senior researcher Shi Zhengli’s public claim that there was “zero infection” among the WIV’s staff and students of SARS-CoV-2 or SARS-related viruses.¹⁰
- Starting in at least 2016, WIV researchers conducted experiments involving RaTG13, the bat coronavirus identified by the WIV in January 2020 as the closest sample to SARS-CoV-2 (96.2 percent similar).¹¹ There was no indication that this research was suspended at any time prior to the COVID-19 outbreak.
- The WIV has a published record of conducting “gain-of-function” research to engineer chimeric viruses.¹² But the WIV has not been transparent or consistent about its record of

⁷ NIH RePORTER, *Research Portfolio Online Reporting Tools* (queried Mar. 4, 2021), available at <https://reporter.nih.gov/search/qlYUeI9DIk2JfWUdCcWxcA/projects/charts>.

⁸ Mark Moore, *NIH investigating Wuhan lab at center of coronavirus pandemic*, NEW YORK POST (Apr. 28, 2020), available at <https://nypost.com/2020/04/28/nih-investigating-wuhan-lab-at-center-of-coronavirus-pandemic/>.

⁹ U.S. Department of State, *Fact Sheet: Activity at the Wuhan Institute of Virology*, Office of the Spokesperson (Jan. 15, 2021), available at <https://2017-2021.state.gov/fact-sheet-activity-at-the-wuhan-institute-of-virology/index.html>.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

studying viruses similar to the COVID-19 virus, including “RaTG13,” which was sampled from a cave in Yunnan Province in 2013 after several miners died of SARS-like illness.¹³

- WHO investigators must have access to the records of the WIV’s work on bat and other coronaviruses before the COVID-19 outbreak. As part of a thorough inquiry, they must have a full accounting of why the WIV altered and then removed online records of its work with RaTG13 and other viruses.¹⁴
- Despite the WIV presenting itself as a civilian institution, the U.S. has determined that the WIV has collaborated on projects with China’s military.¹⁵ The WIV has engaged in classified research, including laboratory animal experiments, on behalf of the Chinese military since at least 2017.¹⁶
- The U.S. and other donors who funded or collaborated on civilian research at the WIV have a right and obligation to determine whether any of our research funding was diverted to secret Chinese military projects at the WIV.¹⁷

Notably, the State Department’s former lead investigator who oversaw the Task Force into the COVID-19 virus origin stated recently that he not only believes the virus escaped from the WIV, but that it may have been the result of research that the Chinese military, or People’s Liberation Army, was doing on a bioweapon.¹⁸

Accordingly, it is imperative to determine not only where SARS-CoV-2 originated, but also how and if NIH’s funding and research to projects at the WIV could have contributed to SARS CoV-2. To assist our requests and inquiry, please provide the following by April 19, 2021:

1. An assessment from a classified U.S. Defense Intelligence Agency (DIA) report included the possibility that the origins of SARS CoV-2 could have emerged accidentally from a laboratory in Wuhan, China due to unsafe laboratory practices.¹⁹ The DIA report cited U.S. government and Chinese researchers who found “about 33 percent of the original 41 identified cases did not have direct exposure” to the market.²⁰ That, along with what is known of the WIV’s work in past few years, raised reasonable suspicion that the

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Jennifer Griffin, Former top State Dept. investigator says COVID-19 outbreak may have resulted from bioweapons research accident, Fox News (March 13, 2021), available at <https://www.foxnews.com/world/top-state-official-coronavirus-bioweapon-accident>

¹⁹ Fred Guterl, Naveed Jamali and Tom O’Connor, *The Controversial Experiments at Wuhan Lab Suspected of Starting the Coronavirus Pandemic*, NEWSWEEK (Apr. 27, 2020), available at <https://www.newsweek.com/controversial-wuhan-lab-experiments-that-may-have-started-coronavirus-pandemic-1500503>.

²⁰ *Id.*

pandemic may have been caused by a lab error, not a wet market.²¹ Further, a WHO inspector on the recent mission noted that “we know not all of those first 174 early COVID-19 cases visited the market, including the man diagnosed in December 2019 with the earliest onset date.”²² What information does the NIH have on the earliest COVID-19 cases?

2. According to an editorial on February 23, 2021, in *The Wall Street Journal* by former Secretary of State Mike Pompeo and Miles Yu, “[China’s] army of scientists claim to have discovered almost 2,000 new viruses in a little over a decade.”²³ How many of these discovered viruses does the NIH have information on and were any of these viruses discovered at the WIV?
3. According to *The Wall Street Journal* editorial mentioned in the previous question, some have alleged that the WIV’s virus-carrying animals were sold as pets and may even show up at local wet markets.²⁴ Is the NIH aware of these allegations? If so, please provide any information the NIH has related to these allegations.
4. Please provide all information that NIH has about laboratory accidents and/or biosafety practices at the WIV since January 1, 2015.
5. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about communications and events at the WIV from August 2019 to the present.
6. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about their communications with China-based NIH, Chinese National Science Foundation, CDC, and China CDC about events at the WIV from August 2019 to the present.

State Department Cables

²¹ *Id.*

²² Dominic Dwyer, I was the Australian doctor on the WHO’s COVID-19 mission to China. Here’s what we found about the origins of the coronavirus, *THE CONVERSATION* (Feb. 21, 2021), available at <https://www.theguardian.com/commentisfree/2021/feb/22/i-was-on-the-whos-covid-mission-to-china-heres-what-we-found>. See also Jeremy Page and Drew Hinshaw, *China Refuses to Give WHO Raw Data on Early Covid-19 Cases*, *THE WALL STREET JOURNAL* (Feb. 12, 2021), available at <https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail.> (“Chinese authorities refused to provide World Health Organization investigators with raw, personalized data on early Covid-19 cases that could help them determine how and when the coronavirus first began to spread in China, according to WHO investigators who described heated exchanges over the lack of detail. The Chinese authorities turned down requests to provide such data on 174 cases of Covid-19 that they have identified from the early phase of the outbreak in the Chinese city of Wuhan in December 2019. Investigators are part of a WHO team that this week completed a monthlong mission in China aimed at determining the origins of the pandemic.”)

²³ *Id.*

²⁴ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, *THE WALL STREET JOURNAL* (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

7. What information does NIH have about the WIV's responses to the 2018 U.S. Department of State cables (attached to this letter) regarding safety concerns?
8. The April 2018 cable from the U.S. Department of State stated that the WIV planned to invite University of Texas Medical Branch Galveston (UTMBG) researchers to do research in Wuhan's labs. Please provide any information NIH received that indicates whether the WIV invited UTMBG researchers, and whether UTMBG researchers conducted any research in Wuhan's labs.
 - a. If there was such research, please provide information and any documents related to this research.
9. Why was it pertinent to the NIH investigation that the "nonprofit [EcoHealth Alliance] must provide the "WIV's responses to the 2018 Department of State cables regarding safety concerns"?²⁵
 - a. Did EcoHealth Alliance provide this information? If so, how did NIH use the information to further its investigation?

EcoHealth Alliance, Columbia University Health Sciences

10. Was the 2019 NIH federal award to EcoHealth Alliance reviewed and approved by the HHS Potential Pandemic Pathogen Care and Oversight (P3CO) committee?²⁶
 - a. If so, please provide the documentation with the committee's decision.
 - b. Please also provide the names of the individuals who were members of the committee at the time.
11. Please provide all correspondence and communications between NIH and EcoHealth Alliance, since January 1, 2020, related to federal funding involving the WIV. The documentation should include, but not be limited to, correspondence between NIH and EcoHealth Alliance dated sometime in April 2020, on July 8, 2020, and sometime in August 2020.
12. In April 2020, NIH suspended a 2019 federal award to EcoHealth Alliance, in part, because NIH did not believe the work aligned with "program goals and agency priorities."²⁷ Please specify the work that was done by the EcoHealth Alliance that did

²⁵ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

²⁶ National Institutes of Health, *Notice Announcing the Removal of the Funding Pause for Gain-of-Function Research Project* (Dec. 19, 2017), available at <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-071.html>.

²⁷ *Id.*

not align with the agency's program goals and priorities, and when that work was conducted.

- a. Was an evaluation of EcoHealth Alliance's work and whether it aligned with the agency's program goals and priorities conducted by the NIH before the award was issued? If yes, please provide any related documentation. If not, why not?
13. In April 2020 correspondence with EcoHealth Alliance, NIH wrote that it "received reports that the Wuhan Institute of Virology...has been conducting research at its facilities in China that pose serious bio-safety concerns."²⁸ What are the sources for those reports to NIH and what were the specific allegations reported?
 14. Why did the NIH request that EcoHealth Alliance provide a sample of the pandemic coronavirus that the WIV used to determine its genetic sequence for SARS CoV-2?²⁹
 - a. Why is this information important to NIH's investigation?
 - b. Has NIH obtained the sample and if so, what evaluations have been done, and for what purpose?
 - c. If NIH has not yet obtained the sample, what are the planned studies and evaluations NIH will conduct with the sample when it is obtained?
 15. What is the nature of NIH's concerns about purported restrictions at the WIV including "diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019[.]" about the WIV lab or virus origin?³⁰
 - a. What is the basis of information to NIH about the purported restrictions at the WIV?
 - b. What are the other purported restrictions at the WIV in October 2019?
 16. After terminating EcoHealth Alliance's 2019 project entitled "Understanding the Risk of Bat Coronavirus Emergence," the NIH later offered to reinstate the EcoHealth Alliance funding in July 2020 if EcoHealth Alliance agreed to meet certain conditions.³¹

²⁸ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

²⁹ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

³⁰ *Id.*

³¹ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

- a. Please provide all of the information presented to NIH from EcoHealth Alliance in response to NIH's conditions for reinstatement.
 - b. What actions did NIH take based upon the information received? How has the information been used in NIH's investigation?
 - c. One condition for the federal award reinstatement was for EcoHealth Alliance to arrange for an outside inspection of the WIV and its records, "with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019."³² Why is it pertinent to the NIH's investigation if staff at WIV had SARS-CoV-2 in their possession prior to December 2019? What is the potential significance if the staff did have the virus in their possession prior to December 2019?
 - d. What information does NIH have that was used for the basis of requesting that the EcoHealth Alliance "must 'explain the apparent disappearance' of a scientist who worked in the Wuhan lab," and on social media was rumored to be "patient zero" of the pandemic?³³
 - i. What is the potential significance about the whereabouts of this scientist and the photo being removed from the website?
17. Please provide all correspondence and communications between NIH and Columbia University related to federal funding involving the WIV, including email correspondence in April 2020 between Dr. Michael Lauer, Deputy Director of extramural research, and Naomi Schrag of Columbia University.
- a. In an April 2020 email, Dr. Lauer advised Naomi Schrag of Columbia University that it would be helpful for NIH "to know about all China-based participants in this work since the Type 1 grant started in 2014 - who they were and how much money they received."³⁴ Why did NIH request that Columbia University provide information about all of the China-based participants?
 - i. What is the pertinence of the timeframe starting in 2014 for the requested information?
 - ii. Did Columbia University provide the NIH with the requested information about all of the China-based participants from all grantees since 2014? If so, please provide the information. If not, why not?

Federal Funding Records

³² *Id.*

³³ *Id.*

³⁴ Meredith Wadman and Jon Cohen, *NIH's axing of bat coronavirus grant a 'horrible precedent' and might break rules, critics say*, SCIENCEMAG (Apr. 30, 2020), available at <https://www.sciencemag.org/news/2020/04/nih-s-axing-bat-coronavirus-grant-horrible-precedent-and-might-break-rules-critics-say>.

18. Please provide ledgers or any accounting for dispersion of all NIH federal funding awards that EcoHealth Alliance has sent to the WIV, including through contracts, grants, donations, cooperative agreements, staffing, or any other support or means. In addition, please provide the results and outcomes from the funding and support.³⁵
19. What is the total amount of NIH federal funding per year from 2017 through 2021 that has directly or indirectly supported the WIV scientists or research through grant recipients, including to EcoHealth Alliance; Wildlife Trust, Inc.; Columbia University Health Sciences; Trustees of Columbia University; University of North Carolina Chapel Hill; Vanderbilt University; University of Virginia; and Oregon Health and Science University?³⁶
20. According to a report in *The Washington Post* on April 14, 2020, the WIV issued a news release in English about the final visit from U.S. Embassy scientist diplomats in Beijing, which occurred on March 27, 2018.³⁷ Does the NIH have a copy of this news release? If so, please provide a copy.
21. For NIH award recipients that have provided support to the WIV since January 1, 2012, please provide annual reports, trip reports related to the WIV, documentation of any survey or field trips by the WIV, and interim data summaries from the WIV.
22. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 where foreign sites for all Type 1 and Type 2 awards have been documented as involving the WIV.
23. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 for NIH domestic grantee awards with a foreign component involving the WIV.
24. Please provide the name(s) of the NIH program manager(s) or officer(s) responsible for overseeing the grants to EcoHealth Alliance and time period(s) of responsibility.
25. Please provide the name(s) of the NIH Scientific Review Officers responsible for reviewing and approving any NIH financial awards to EcoHealth Alliance and any other funding recipients that supported the WIV.

³⁵ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

³⁶ National Institutes of Health, Research Portfolio online Reporting Tools, NIH RePorter available at <https://report.nih.gov/> (last accessed March 6, 2020).

³⁷ Josh Rogin, *Opinion: State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses*, THE WASHINGTON POST (Apr. 14, 2020), available at <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>.

26. According to an editorial in *The Wall Street Journal*, the WIV housed tens of thousands of bat samples and laboratory animals in 2019.³⁸ Please provide any information the NIH has on the number of bat samples and animals at the WIV.
- a. Did any NIH scientists who are fluent in Mandarin review the Chinese scientific literature on the WIV research related to coronaviruses that is dated before February 1, 2020?
27. Does the NIH have the unpublished sequences of bat coronaviruses that were maintained in the WIV database before December 30, 2019, or before the database was removed from the internet?³⁹ Does NIH have the full sequences of the eight viruses sampled in the Yunnan province on an EcoHealth Alliance bat-virus sampling trip in 2015?
- a. Please provide NIH's analysis if the sequences have been analyzed.
 - b. If NIH does not have the sequences, can NIH get this information from the EcoHealth Alliance or from other NIH-funded sources?
28. Please provide the original version of "Origin and cross-species transmission of bat coronaviruses in China" that was submitted to *Nature* by EcoHealth Alliance on October 6, 2019, published August 25, 2020, and funded in part by NIAID (award number R01AI110964).⁴⁰ If NIH does not have the October 6, 2019 report, can NIH obtain it from EcoHealth Alliance for this response? If so, please provide the report.
29. Have NIH, EcoHealth Alliance, or other NIH award recipient(s) been denied permission or access to results of any WIV research, which indirectly received financial support from NIH awards? If so, please provide the date(s), individuals involved, and circumstances of each denial.

We request that the NIH provide the requested documents and information in a coordinated response from all stakeholders and the appropriate divisions within NIH, including but not limited to subject matter experts from NIH's Division of Security and Emergency Response, the Office of Management Assessment, the Center for Scientific Review, the National Institute of Allergy and Infectious Diseases, and the Office of Extramural Research. After the requested information has been provided, we ask that the NIH provide a briefing to the Minority Committee staff to discuss the information that the NIH has related to the origins of SARS-CoV-2, including any potential links to the WIV. Finally, we request that you appoint an NIH working group representing an appropriate diversity of scientific disciplines to collect data and

³⁸ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

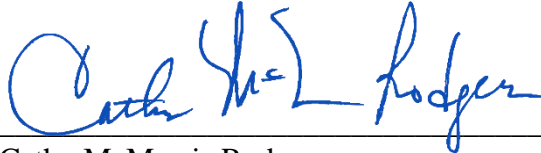
³⁹ Washington Post Editorial Board, *We're still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

⁴⁰ Latinne, A., Hu, B., Olival, K.J. et al., *Origin and cross-species transmission of bat coronaviruses in China*, *Nature* (Aug. 25, 2020), available at <https://www.nature.com/articles/s41467-020-17687-3#Ack1>.

information related to COVID-19 origins (including the WIV), and that the NIH working group coordinate and consult with foreign scientific agencies involved in similar work.

Your assistance with this request is greatly appreciated. If you have any questions, please contact Alan Slobodin or Diane Cutler of the Minority Committee staff.

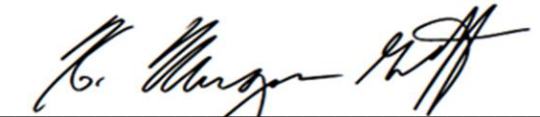
Sincerely,



Cathy McMorris Rodgers
Republican Leader
Committee on Energy and Commerce



Brett Guthrie
Republican Leader
Subcommittee on Health



H. Morgan Griffith
Republican Leader
Subcommittee on Oversight and Investigations

Attachment

Cc: The Honorable Frank Pallone, Chairman
The Honorable Diana DeGette, Chair, Subcommittee on Oversight and Investigations
The Honorable Anna Eshoo, Chair, Subcommittee on Health

2018 Cables from Embassy Beijing and Consulate General Wuhan to State Department
Headquarters in Washington, D.C.

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Subject: China Opens First Bio Safety Level 4 Laboratory

1. (SBU) **Summary and Comment:** The Chinese Academy of Sciences (CAS) has recently established what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. This state-of-the-art facility is designed for prevention and control research on diseases that require the highest level of biosafety and biosecurity containment. Ultimately, scientists hope the lab will contribute to the development of new antiviral drugs and vaccines, but its current productivity is limited by a shortage of the highly trained technicians and investigators required to safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policies and guidelines. (b)(5)

(b)(5)

(b)(5)

End Summary and Comment.

China Investing in Infectious Disease Control

2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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two years of effort, which is not unusual for such facilities, the WIV lab was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment. It occupies four floors and consists of over 32,000 square feet. WIV leadership now considers the lab operational and ready for research on class-four pathogens (P4), among which are the most virulent viruses that pose a high risk of aerosolized person-to-person transmission.

Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

(b)(6)

(b)(6) Thus, while the BSL-4 lab is ostensibly fully accredited, its utilization is limited by lack of access to specific organisms and by opaque government review and approval processes. As long as this situation continues, Beijing's commitment to prioritizing infectious disease control - on the regional and international level, especially in relation to highly pathogenic viruses, remains in doubt.

(b)(6)

(b)(6) noted that the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory. University of Texas Medical Branch in Galveston (UTMB), which has one of several well-established BSL-4 labs in the United States (supported by the National Institute of Allergy and Infectious Diseases (NIAID of NIH)), has scientific collaborations with WIV, which may help alleviate this talent gap over time. Reportedly, researchers from GTMB are helping train technicians who work in the WIV BSL-4 lab. Despite this, (b)(6) they would welcome more help from U.S. and international organizations as they establish "gold standard" operating procedures and training courses for the first time in China. As China is building more BSL-4 labs, including one in Harbin Veterinary Research Institute subordinated to the Chinese Academy of Agricultural Sciences (CAAS) for veterinary research use (b)(6) the training for technicians and investigators working on dangerous pathogens will certainly be in demand.

Despite Limitations, WIV Researchers Produce SARS Discoveries

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6. (SBU) The ability of WIV scientists to undertake productive research despite limitations on the use of the new BSL-4 facility is demonstrated by a recent publication on the origins of SARS. Over a five-year study, (b)(6) (and their research team) widely sampled bats in Yunnan province with funding support from NIAID/NIH, USAID, and several Chinese funding agencies. The study results were published in PLoS Pathogens online on Nov. 30, 2017 (1), and it demonstrated that a SARS-like coronavirus isolated from horseshoe bats in a single cave contain all the building blocks of the pandemic SARS-coronavirus genome that caused the human outbreak. These results strongly suggest that the highly pathogenic SARS-coronavirus originated in this bat population. Most importantly, the researchers also showed that various SARS-like coronaviruses can interact with ACE2, the human receptor identified for SARS-coronavirus. This finding strongly suggests that SARS-like coronaviruses from bats can be transmitted to humans to cause SARS-like disease. From a public health perspective, this makes the continued surveillance of SARS-like coronaviruses in bats and study of the animal-human interface critical to future emerging coronavirus outbreak prediction and prevention. (b)(5)

(b)(5) WIV scientists are allowed to study the SARS-like coronaviruses isolated from bats while they are precluded from studying human-disease causing SARS coronavirus in their new BSL-4 lab until permission for such work is granted by the NHFCP.

1. Hu B, Zeng L-P, Yang X-L, Ge X-Y, Zhang W, Li B, et al. (2017) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. PLoS Pathog 13(11): e1006698. <https://doi.org/10.1371/journal.ppat.1006698>

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MRN: 18 WUHAN 38
Date/DTG: Apr 19, 2018 / 190551Z APR 18
From: AMCONSUL WUHAN
Action: WASHDC, SECSTATE ROUTINE
E.O.: 13526
TAGS: SHLH, PGOV, CN, PREL, TBIO, KGH, CDC, EAID, KHIV, IN, JP, TW, TSPL, PINS, SENV
Captions: SENSITIVE
Reference: A) 18 BEIJING 138
B) 17 BEIJING 2458
C) 11 MUMBAI 630
D) 17 TOKYO 716
E) 13 SEOUL 790
Subject: China Virus Institute Welcomes More U.S. Cooperation on Global Health Security

1. (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). (b)(5)

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(b)(5)

End Summary with

Comment.

2. (U) Wuhan Institute of Virology researchers and staff gave an overview of the lab and current cooperation with the United States to visiting Environment, Science, Technology and Health Counsellor Rick Switzer and Consulate Wuhan Consul General Jamie Fouss in late March. In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation, and experts from the University of Texas Medical Branch in Galveston. The institute reports to the Chinese Academy of Sciences in Beijing.

P4 Lab is Open and Transparent, Officials Emphasize

3. (SBU) The Wuhan P4 lab, referring to labs with the highest level of safety precautions, became fully operational and began working with live viruses early this year. Institute officials said they believed it is the only operational P4 lab in Asia aside from a U.S. Centers for Disease

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Control (CDC)-supported facility in Pune, India (Ref C). China plans to stand up a second P4 lab in Harbin. Institute officials said Japan's biosafety labs are "old" and lack cutting-edge equipment, so they consider Japan's labs to be "P3 Plus" (Note: the Japanese government says it has one P4-level lab in the Tokyo suburbs, though its activities are limited, and Japan is building a new P4 lab in Nagasaki, see Ref D. Taiwan operates at least one P4 lab. South Korea was close to opening a P4 lab as of last year, see Ref E. *End Note.*) Wuhan's lab is located about 20 miles from the city center in Zhengdian district, and the institute plans to gradually consolidate its other training, classroom and lab facilities at that location.

4. (U) Officials described the lab as a "regional node" in the global biosafety system and said it would play an emergency response role in an epidemic or pandemic. The lab's English brochure highlighted a national security role, saying that it "is an effective measure to improve China's availability in safeguarding national bio-safety if [a] possible biological warfare or terrorist attack happens."

5. (SBU) Institute officials said there would be "limited availability" for international and domestic scientists who had gone through the necessary approval process to do research at the lab. They stressed that the lab aimed to be a "worldwide, open platform" for virology. They said they welcomed U.S. Centers for Disease Control (CDC) experts, noting that the Chinese Academy of Sciences was not strong on human disease expertise, having only focused on it in the last 15 years, after the SARS outbreak. A Wuhan-based French consulate official who works on science and technology cooperation with China also emphasized that the lab, which was initiated in 2004 as a France-China joint project, was meant to be "open and transparent" to the global scientific community. "The intent was to set up a lab to international standards, and open to international research," he said. French experts have provided guidance and biosafety training to the lab, which will continue, the French official said. Institute officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a "handover" ceremony in 2016.

6. (U) In addition to French assistance, experts from the NIH-supported P4 lab at the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, institute officials said. The Wuhan institute plans to invite scientists from the Galveston lab to do research in Wuhan's lab. One Wuhan Institute of Virology researcher trained for two years at the Galveston lab, and the institute also sent one scientist to U.S. CDC headquarters in Atlanta for six months' work on influenza.

NIH-Supported Research Revises SARS Origin Story

7. (U) NIH was a major funder, along with the Natural Science Foundation of China (NSFC), of SARS research by the Wuhan Institute of Virology's (b)(6) (b)(6)

(b)(6) (b)(6) This lends weight to the theory that SARS originated in bat populations before jumping first to civet cats (likely via bat feces) and then to humans. (b)(6)

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 (b)(6) team has provided support in statistical modeling to assess the risk of more coronaviruses like SARS crossing over to human populations.

Ready to Help with the Global Virome Project

8. (U) Institute officials expressed strong interest in the Global Virome Project (GVP), and said Chinese funding for the project would likely come from Chinese Academy of Sciences funding already earmarked for One Belt, One Road-related initiatives. The GVP aims to launch this year as an international collaborative effort to identify within ten years virtually all of the planet's viruses that have pandemic or epidemic potential and the ability to jump to humans. "We hope China will be one of the leading countries to initiate the Global Virome Project," one Wuhan Institute of Virology official said. China attended a GVP unveiling meeting in January in Thailand and is waiting for more details on the initiative. The officials said that the Chinese government funds projects similar to GVP to investigate the background of viruses and bacteria. This essentially constituted China's own Virome Project, officials said, but they noted the program currently has no official name.

9. (SBU) The Wuhan Institute of Virology's (b)(6) is the (b)(6) (b)(6) which is designed to show "proof of concept" and be a forerunner to the Global Virome Project. (b)(6) with the EcoHealth Alliance (a New York City-based NGO that is working with the University of California, Davis to manage the (b)(6) recently planned to visit Wuhan to meet with (b)(6) (b)(6) noted that China has expressed interest in building the GVP database, which would put China in a leadership position. Other countries have confidence in China's ability to build such a database, but are skeptical on whether China could remain transparent as a "gatekeeper" for this information (b)(6) said (b)(6) expressed frustration with the slow progress so far in launching GVP, noting that the effort lacked funding sources, needed to hire a CEO, and would have to boost its profile at G7, G20 and other high-level international meetings.

U.S.-China Workshop Explores Research Partnerships

10. (U) The Institute also has ongoing collaboration with the U.S. National Science Foundation, including a just-concluded workshop in Shenzhen, involving about 40 scientists from the United States and China, on the topic of the "Ecology and Evolution of Infectious Diseases." Co-sponsored by the Natural Science Foundation of China (NSFC), (b)(6)

(b)(6)
 (b)(6) The workshop explored opportunities for U.S.-China research cooperation in areas like using "big data" to predict emerging infectious diseases, climate change's effect on vector-borne diseases, and pathogen transmission between wildlife, domestic animals and humans.

11. (SBU) Some workshop participants also expressed skepticism about the Global Virome Project's (GVP) approach, saying that gaining a predictive understanding of viruses with pandemic potential would require going beyond the GVP's strategy of sample collection, to take an "ecological" approach that considers the virome beyond vertebrate systems to identify

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mechanisms driving pathogen evolution. A follow-on workshop will be held in June at the University of Berkeley. NSF and NSFC hope to jointly announce a funding call for collaborative projects later this year.

Signature: FOUSS

Drafted By:

Cleared By:

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Approved By:

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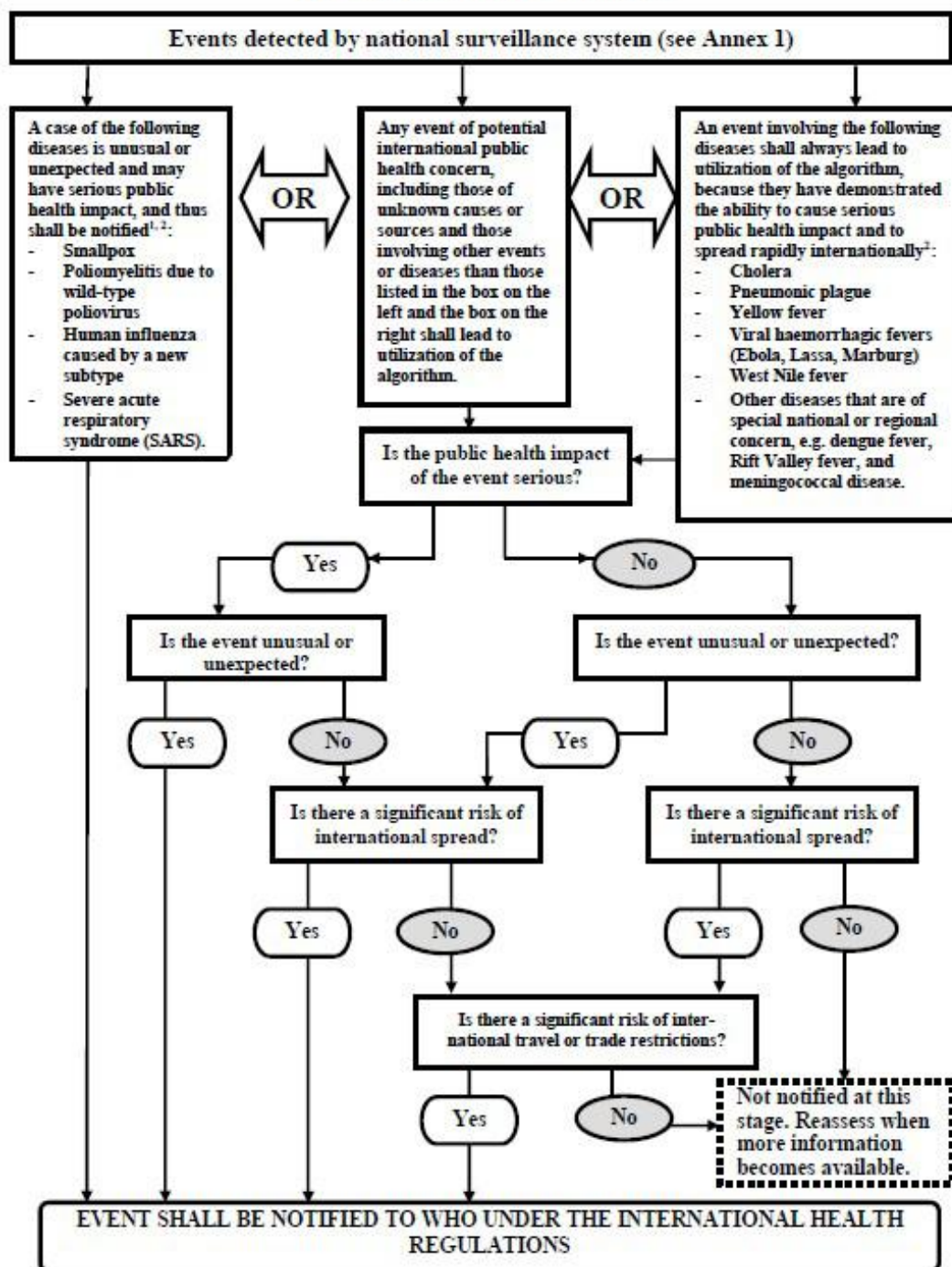
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Annex 2 of the 2005 International Health Regulations

ANNEX 2 DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN



¹ As per WHO case definitions.

² The disease list shall be used only for the purposes of these Regulations.

From: [Lohmann, Larry \(NIH/OD\) \[E\]](#)
To: [McBride, Aidan \(NIH/OD\) \[C\]](#)
Cc: [Higgins, Lauren \(NIH/OD\) \[E\]](#)
Subject: FW: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority
Date: Thursday, March 18, 2021 11:12:42 AM
Attachments: [2021.03.16 - NIH Letter on WIV.pdf](#)
[US STATE DEPT CABLES in Appendix to GOP-Report-OriginsOfCOVID-19-Global-Pandemic-Including-Roles-of-CCPandWHO.09.20.20.pdf](#)

Hi Aidan,

Thank you for checking on that other letter. Could you please enter this letter and the attachment in? [REDACTED] (b) (5), but want to make sure it is in there.

Thanks,
Larry

From: "Clutterbuck, William" [REDACTED] (b) (6)
Date: Thursday, March 18, 2021 at 9:38 AM
To: "Lohmann, Larry (NIH/OD) [E]" [REDACTED] (b) (6)
Cc: "Slobodin, Alan" [REDACTED] (b) (6)
Subject: 3.18.21 Letter to Director Collins from House Energy and Commerce Minority

Hello Larry,

Please see the attached letter to NIH Director Collins, regarding the origins of the COVID-19 pandemic.

This letter was signed by House Energy and Commerce Ranking Members McMorris Rodgers, Guthrie, and Griffith.

Attached to this email, you will find the 2018 U.S. Department of State cables mentioned in the letter.

Please respond to this email to confirm receipt.

Thank you,

William Clutterbuck

Staff Assistant

House Committee on Energy & Commerce

2322 Rayburn House Office Building

Tel: [REDACTED] (b) (6) | [REDACTED] (b) (6)

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Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE

2125 RAYBURN HOUSE OFFICE BUILDING

WASHINGTON, DC 20515-6115

Majority (202) 225-2927

Minority (202) 225-3641

March 18, 2021

The Honorable Francis Collins, M.D., Ph.D.
Director
National Institutes of Health
9000 Rockville Pike
Bethesda, MD 20892

Dear Dr. Collins,

We write to request information, assistance, and needed-leadership from the National Institutes of Health (NIH) to advance an independent, scientific investigation into the origins of the COVID-19 pandemic.

The COVID-19 pandemic has been the worst public health crisis in the U.S. in about a hundred years. Over a year has passed since the deadly virus reached our shores and yet, the origin of the virus has yet to be determined. An independent, expert investigation of the origin of COVID-19 is of paramount importance to public health and biosecurity. As noted by Stanford Medical School Professor David Relman:

A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet. It will limit further recriminations and diminish the likelihood of conflict; it will lead to more effective responses to this pandemic, as well as efforts to anticipate and prevent the next one. It will also advance our discussions about risky science. And it will do something else: Delineating COVID-19's origin story will help elucidate the nature of our very precarious coexistence within the biosphere.¹

Recently, the World Health Organization (WHO) attempted to investigate the origin of COVID-19. The WHO said that this investigative mission would be guided by the science, be

¹ David A. Relman, *Opinion: To stop the next pandemic, we need to unravel the origins of COVID-19*, PNAS (Nov. 2020), available at <https://www.pnas.org/content/117/47/29246>.

“open-minded,” and “not exclude[e] any hypothesis.”² Unfortunately, China did not provide complete access or independence for the critical WHO mission. On February 13, 2021, National Security Advisor Jake Sullivan issued the following statement:

We have deep concerns about the way in which the early findings of the COVID-19 investigation were communicated and questions about the process used to reach them. It is imperative that this report be independent, with expert findings free from intervention or alteration by the Chinese government. To better understand this pandemic and prepare for the next one, China must make available its data from the earliest days of the outbreak.³

Because of rising tensions between the U.S. and China, the WHO scrapped plans for an interim report.⁴ An international group of science experts, including specialists in virology, microbiology, and zoology, asked for a new review.⁵

The NIH, as a premier scientific institution, must lead in order to foster a transparent, independent, and science-based investigation into the origin of the COVID-19 pandemic. Such an effort must meet the WHO’s stated goals of an open-minded investigation that does not exclude any plausible hypothesis.⁶ In addition, the NIH is well-positioned to gather and provide information through oversight of its grants and other federal awards. Thus, the NIH is in a unique position to investigate the possibility that the pandemic stemmed from a laboratory accident or leak, especially regarding the Wuhan Institute of Virology (WIV).

NIH raised concerns over a possible link between WIV and the COVID-19 outbreak during its review of federal awards to EcoHealth Alliance, a global environmental health nonprofit organization dedicated to protecting wildlife and public health from the emergence of disease. Of the \$13.7 million in federal awards that NIH authorized for EcoHealth Alliance, 17

² Smriti Mallapaty, *Where did COVID come from? WHO investigation begins but faces challenges*, NATURE (Nov. 11, 2020), available at <https://www.nature.com/articles/d41586-020-03165-9>.

³ The White House, Statement of National Security Advisor Jake Sullivan (Feb. 13, 2021), available at <https://www.whitehouse.gov/briefing-room/statements-releases/2021/02/13/statement-by-national-security-advisor-jake-sullivan/>.

⁴ Betsy McKay, Drew Hinshaw and Jeremy Page, *WHO Investigators to Scrap Plans for Interim Report on Probe of Covid-19 Origins*, THE WALL STREET JOURNAL (Mar. 4, 2021), available at https://www.wsj.com/articles/who-investigators-to-scrap-interim-report-on-probe-of-covid-19-origins-11614865067?mod=latest_headlines

⁵ Jaime Metzl, et al, *Call for a Full and Unrestricted International Forensic Investigation into the Origins of COVID-19* (March 4, 2021), available at [https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20\(1\).pdf](https://s.wsj.net/public/resources/documents/COVID%20OPEN%20LETTER%20FINAL%20030421%20(1).pdf). The co-organizer of the letter and a WHO advisor on human genome editing, Jaime Metzl, PhD, said there is an eighty-five percent chance the pandemic started with an accidental leak from the WIV or Wuhan CDC laboratory, available at <https://jamiemetzl.com/origins-of-sars-cov-2/>. (“I have no definitive way of proving this thesis but the evidence is, in my view, extremely convincing. If forced to place odds on the confidence of my hypothesis, I would say there’s an 85% chance the pandemic started with an accidental leak from the Wuhan Institute of Virology or Wuhan CDC and a 15% chance it began in some other way (in fairness, here is an article making the case for a zoonotic jump “in the wild”). If China keeps preventing a full and unrestricted international forensic investigation into the origins of the pandemic, I believe it is fair to deny Beijing the benefit of the doubt.”)

⁶ Washington Post Editorial Board, *We’re still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

projects sponsored by the National Institute of Allergy and Infectious Disease (NIAID) have provided over \$7.9 million in federal awards for research of viral emergence from bats in Southeast Asia.⁷ EcoHealth Alliance passed some of its funding to the WIV, and in 2020, NIH made efforts to obtain information from EcoHealth Alliance about WIV related to concerns about the origins of COVID-19. In April 2020, NIH wrote to EcoHealth Alliance and Columbia University about an NIH-funded project entitled, “Understanding the Risk of Bat Coronavirus Emergency:”

It is our understanding that one of the sub-recipients of the grant funds is the Wuhan Institute of Virology (‘WIV’). It is our understanding that WIV studies the interaction between corona viruses and bats. The scientific community believes that the coronavirus causing COVID-19 jumped from bats to humans likely in Wuhan where the COVID-19 pandemic began. There are now allegations that the current crisis was precipitated by the release from WIV of the coronavirus responsible for COVID-19. Given these concerns, we are pursuing suspension of WIV from participation in Federal programs. It is in the public interest that NIH ensure that a sub-recipient has taken all appropriate precautions to prevent the release of pathogens that it is studying. This suspension of the sub-recipient does not affect the remainder of your grant assuming that no grant funds are provided to WIV following receipt of this email during the period of suspension.⁸

In January 2021, the U.S. Department of State issued a fact sheet about the activity at the WIV.⁹ Among other revelations, it reported the following:

- The U.S. government has reason to believe that several researchers inside the WIV became sick in autumn 2019, before the first identified case of the outbreak, with symptoms consistent with both COVID-19 and common seasonal illnesses. This raises questions about the credibility of WIV senior researcher Shi Zhengli’s public claim that there was “zero infection” among the WIV’s staff and students of SARS-CoV-2 or SARS-related viruses.¹⁰
- Starting in at least 2016, WIV researchers conducted experiments involving RaTG13, the bat coronavirus identified by the WIV in January 2020 as the closest sample to SARS-CoV-2 (96.2 percent similar).¹¹ There was no indication that this research was suspended at any time prior to the COVID-19 outbreak.
- The WIV has a published record of conducting “gain-of-function” research to engineer chimeric viruses.¹² But the WIV has not been transparent or consistent about its record of

⁷ NIH RePORTER, *Research Portfolio Online Reporting Tools* (queried Mar. 4, 2021), available at <https://reporter.nih.gov/search/qlYUeI9DIk2JfWUdCcWxcA/projects/charts>.

⁸ Mark Moore, *NIH investigating Wuhan lab at center of coronavirus pandemic*, NEW YORK POST (Apr. 28, 2020), available at <https://nypost.com/2020/04/28/nih-investigating-wuhan-lab-at-center-of-coronavirus-pandemic/>.

⁹ U.S. Department of State, *Fact Sheet: Activity at the Wuhan Institute of Virology*, Office of the Spokesperson (Jan. 15, 2021), available at <https://2017-2021.state.gov/fact-sheet-activity-at-the-wuhan-institute-of-virology/index.html>.

¹⁰ *Id.*

¹¹ *Id.*

¹² *Id.*

studying viruses similar to the COVID-19 virus, including “RaTG13,” which was sampled from a cave in Yunnan Province in 2013 after several miners died of SARS-like illness.¹³

- WHO investigators must have access to the records of the WIV’s work on bat and other coronaviruses before the COVID-19 outbreak. As part of a thorough inquiry, they must have a full accounting of why the WIV altered and then removed online records of its work with RaTG13 and other viruses.¹⁴
- Despite the WIV presenting itself as a civilian institution, the U.S. has determined that the WIV has collaborated on projects with China’s military.¹⁵ The WIV has engaged in classified research, including laboratory animal experiments, on behalf of the Chinese military since at least 2017.¹⁶
- The U.S. and other donors who funded or collaborated on civilian research at the WIV have a right and obligation to determine whether any of our research funding was diverted to secret Chinese military projects at the WIV.¹⁷

Notably, the State Department’s former lead investigator who oversaw the Task Force into the COVID-19 virus origin stated recently that he not only believes the virus escaped from the WIV, but that it may have been the result of research that the Chinese military, or People’s Liberation Army, was doing on a bioweapon.¹⁸

Accordingly, it is imperative to determine not only where SARS-CoV-2 originated, but also how and if NIH’s funding and research to projects at the WIV could have contributed to SARS CoV-2. To assist our requests and inquiry, please provide the following by April 19, 2021:

1. An assessment from a classified U.S. Defense Intelligence Agency (DIA) report included the possibility that the origins of SARS CoV-2 could have emerged accidentally from a laboratory in Wuhan, China due to unsafe laboratory practices.¹⁹ The DIA report cited U.S. government and Chinese researchers who found “about 33 percent of the original 41 identified cases did not have direct exposure” to the market.²⁰ That, along with what is known of the WIV’s work in past few years, raised reasonable suspicion that the

¹³ *Id.*

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ *Id.*

¹⁸ Jennifer Griffin, Former top State Dept. investigator says COVID-19 outbreak may have resulted from bioweapons research accident, Fox News (March 13, 2021), available at <https://www.foxnews.com/world/top-state-official-coronavirus-bioweapon-accident>

¹⁹ Fred Guterl, Naveed Jamali and Tom O’Connor, *The Controversial Experiments at Wuhan Lab Suspected of Starting the Coronavirus Pandemic*, NEWSWEEK (Apr. 27, 2020), available at <https://www.newsweek.com/controversial-wuhan-lab-experiments-that-may-have-started-coronavirus-pandemic-1500503>.

²⁰ *Id.*

pandemic may have been caused by a lab error, not a wet market.²¹ Further, a WHO inspector on the recent mission noted that “we know not all of those first 174 early COVID-19 cases visited the market, including the man diagnosed in December 2019 with the earliest onset date.”²² What information does the NIH have on the earliest COVID-19 cases?

2. According to an editorial on February 23, 2021, in *The Wall Street Journal* by former Secretary of State Mike Pompeo and Miles Yu, “[China’s] army of scientists claim to have discovered almost 2,000 new viruses in a little over a decade.”²³ How many of these discovered viruses does the NIH have information on and were any of these viruses discovered at the WIV?
3. According to *The Wall Street Journal* editorial mentioned in the previous question, some have alleged that the WIV’s virus-carrying animals were sold as pets and may even show up at local wet markets.²⁴ Is the NIH aware of these allegations? If so, please provide any information the NIH has related to these allegations.
4. Please provide all information that NIH has about laboratory accidents and/or biosafety practices at the WIV since January 1, 2015.
5. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about communications and events at the WIV from August 2019 to the present.
6. Please provide all information that NIH has from NIH staff, grantees, sub-grantees, contractors, or subcontractors about their communications with China-based NIH, Chinese National Science Foundation, CDC, and China CDC about events at the WIV from August 2019 to the present.

State Department Cables

²¹ *Id.*

²² Dominic Dwyer, I was the Australian doctor on the WHO’s COVID-19 mission to China. Here’s what we found about the origins of the coronavirus, *THE CONVERSATION* (Feb. 21, 2021), available at <https://www.theguardian.com/commentisfree/2021/feb/22/i-was-on-the-whos-covid-mission-to-china-heres-what-we-found>. See also Jeremy Page and Drew Hinshaw, *China Refuses to Give WHO Raw Data on Early Covid-19 Cases*, *THE WALL STREET JOURNAL* (Feb. 12, 2021), available at [https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail](https://www.wsj.com/articles/china-refuses-to-give-who-raw-data-on-early-covid-19-cases-11613150580#:~:text=BEIJING%E2%80%94Chinese%20authorities%20refused%20to,over%20the%20lack%20of%20detail.). (“Chinese authorities refused to provide World Health Organization investigators with raw, personalized data on early Covid-19 cases that could help them determine how and when the coronavirus first began to spread in China, according to WHO investigators who described heated exchanges over the lack of detail. The Chinese authorities turned down requests to provide such data on 174 cases of Covid-19 that they have identified from the early phase of the outbreak in the Chinese city of Wuhan in December 2019. Investigators are part of a WHO team that this week completed a monthlong mission in China aimed at determining the origins of the pandemic.”)

²³ *Id.*

²⁴ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, *THE WALL STREET JOURNAL* (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

7. What information does NIH have about the WIV's responses to the 2018 U.S. Department of State cables (attached to this letter) regarding safety concerns?
8. The April 2018 cable from the U.S. Department of State stated that the WIV planned to invite University of Texas Medical Branch Galveston (UTMBG) researchers to do research in Wuhan's labs. Please provide any information NIH received that indicates whether the WIV invited UTMBG researchers, and whether UTMBG researchers conducted any research in Wuhan's labs.
 - a. If there was such research, please provide information and any documents related to this research.
9. Why was it pertinent to the NIH investigation that the "nonprofit [EcoHealth Alliance] must provide the "WIV's responses to the 2018 Department of State cables regarding safety concerns"?²⁵
 - a. Did EcoHealth Alliance provide this information? If so, how did NIH use the information to further its investigation?

EcoHealth Alliance, Columbia University Health Sciences

10. Was the 2019 NIH federal award to EcoHealth Alliance reviewed and approved by the HHS Potential Pandemic Pathogen Care and Oversight (P3CO) committee?²⁶
 - a. If so, please provide the documentation with the committee's decision.
 - b. Please also provide the names of the individuals who were members of the committee at the time.
11. Please provide all correspondence and communications between NIH and EcoHealth Alliance, since January 1, 2020, related to federal funding involving the WIV. The documentation should include, but not be limited to, correspondence between NIH and EcoHealth Alliance dated sometime in April 2020, on July 8, 2020, and sometime in August 2020.
12. In April 2020, NIH suspended a 2019 federal award to EcoHealth Alliance, in part, because NIH did not believe the work aligned with "program goals and agency priorities."²⁷ Please specify the work that was done by the EcoHealth Alliance that did

²⁵ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

²⁶ National Institutes of Health, *Notice Announcing the Removal of the Funding Pause for Gain-of-Function Research Project* (Dec. 19, 2017), available at <https://grants.nih.gov/grants/guide/notice-files/NOT-OD-17-071.html>.

²⁷ *Id.*

not align with the agency's program goals and priorities, and when that work was conducted.

- a. Was an evaluation of EcoHealth Alliance's work and whether it aligned with the agency's program goals and priorities conducted by the NIH before the award was issued? If yes, please provide any related documentation. If not, why not?
13. In April 2020 correspondence with EcoHealth Alliance, NIH wrote that it "received reports that the Wuhan Institute of Virology...has been conducting research at its facilities in China that pose serious bio-safety concerns."²⁸ What are the sources for those reports to NIH and what were the specific allegations reported?
 14. Why did the NIH request that EcoHealth Alliance provide a sample of the pandemic coronavirus that the WIV used to determine its genetic sequence for SARS CoV-2?²⁹
 - a. Why is this information important to NIH's investigation?
 - b. Has NIH obtained the sample and if so, what evaluations have been done, and for what purpose?
 - c. If NIH has not yet obtained the sample, what are the planned studies and evaluations NIH will conduct with the sample when it is obtained?
 15. What is the nature of NIH's concerns about purported restrictions at the WIV including "diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019[.]" about the WIV lab or virus origin?³⁰
 - a. What is the basis of information to NIH about the purported restrictions at the WIV?
 - b. What are the other purported restrictions at the WIV in October 2019?
 16. After terminating EcoHealth Alliance's 2019 project entitled "Understanding the Risk of Bat Coronavirus Emergence," the NIH later offered to reinstate the EcoHealth Alliance funding in July 2020 if EcoHealth Alliance agreed to meet certain conditions.³¹

²⁸ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

²⁹ Meredith Wadman, *NIH imposes 'outrageous' conditions on resuming coronavirus grant targeted by Trump*, SCIENCEMAG (Aug. 19, 2020), available at <https://www.sciencemag.org/news/2020/08/nih-imposes-outrageous-conditions-resuming-coronavirus-grant-targeted-trump>.

³⁰ *Id.*

³¹ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

- a. Please provide all of the information presented to NIH from EcoHealth Alliance in response to NIH's conditions for reinstatement.
 - b. What actions did NIH take based upon the information received? How has the information been used in NIH's investigation?
 - c. One condition for the federal award reinstatement was for EcoHealth Alliance to arrange for an outside inspection of the WIV and its records, "with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019."³² Why is it pertinent to the NIH's investigation if staff at WIV had SARS-CoV-2 in their possession prior to December 2019? What is the potential significance if the staff did have the virus in their possession prior to December 2019?
 - d. What information does NIH have that was used for the basis of requesting that the EcoHealth Alliance "must 'explain the apparent disappearance' of a scientist who worked in the Wuhan lab," and on social media was rumored to be "patient zero" of the pandemic?³³
 - i. What is the potential significance about the whereabouts of this scientist and the photo being removed from the website?
17. Please provide all correspondence and communications between NIH and Columbia University related to federal funding involving the WIV, including email correspondence in April 2020 between Dr. Michael Lauer, Deputy Director of extramural research, and Naomi Schrag of Columbia University.
- a. In an April 2020 email, Dr. Lauer advised Naomi Schrag of Columbia University that it would be helpful for NIH "to know about all China-based participants in this work since the Type 1 grant started in 2014 - who they were and how much money they received."³⁴ Why did NIH request that Columbia University provide information about all of the China-based participants?
 - i. What is the pertinence of the timeframe starting in 2014 for the requested information?
 - ii. Did Columbia University provide the NIH with the requested information about all of the China-based participants from all grantees since 2014? If so, please provide the information. If not, why not?

Federal Funding Records

³² *Id.*

³³ *Id.*

³⁴ Meredith Wadman and Jon Cohen, *NIH's axing of bat coronavirus grant a 'horrible precedent' and might break rules, critics say*, SCIENCEMAG (Apr. 30, 2020), available at <https://www.sciencemag.org/news/2020/04/nih-s-axing-bat-coronavirus-grant-horrible-precedent-and-might-break-rules-critics-say>.

18. Please provide ledgers or any accounting for dispersion of all NIH federal funding awards that EcoHealth Alliance has sent to the WIV, including through contracts, grants, donations, cooperative agreements, staffing, or any other support or means. In addition, please provide the results and outcomes from the funding and support.³⁵
19. What is the total amount of NIH federal funding per year from 2017 through 2021 that has directly or indirectly supported the WIV scientists or research through grant recipients, including to EcoHealth Alliance; Wildlife Trust, Inc.; Columbia University Health Sciences; Trustees of Columbia University; University of North Carolina Chapel Hill; Vanderbilt University; University of Virginia; and Oregon Health and Science University?³⁶
20. According to a report in *The Washington Post* on April 14, 2020, the WIV issued a news release in English about the final visit from U.S. Embassy scientist diplomats in Beijing, which occurred on March 27, 2018.³⁷ Does the NIH have a copy of this news release? If so, please provide a copy.
21. For NIH award recipients that have provided support to the WIV since January 1, 2012, please provide annual reports, trip reports related to the WIV, documentation of any survey or field trips by the WIV, and interim data summaries from the WIV.
22. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 where foreign sites for all Type 1 and Type 2 awards have been documented as involving the WIV.
23. Please provide copies of all grantee annual reports, progress reports, projects, studies, and observations since 2014 for NIH domestic grantee awards with a foreign component involving the WIV.
24. Please provide the name(s) of the NIH program manager(s) or officer(s) responsible for overseeing the grants to EcoHealth Alliance and time period(s) of responsibility.
25. Please provide the name(s) of the NIH Scientific Review Officers responsible for reviewing and approving any NIH financial awards to EcoHealth Alliance and any other funding recipients that supported the WIV.

³⁵ Betsy McKay, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Aug. 19, 2020), available at <https://www.wsj.com/articles/nih-presses-u-s-nonprofit-for-information-on-wuhan-virology-lab-11597829400>.

³⁶ National Institutes of Health, Research Portfolio online Reporting Tools, NIH RePorter available at <https://report.nih.gov/> (last accessed March 6, 2020).

³⁷ Josh Rogin, *Opinion: State Department cables warned of safety issues at Wuhan lab studying bat coronaviruses*, THE WASHINGTON POST (Apr. 14, 2020), available at <https://www.washingtonpost.com/opinions/2020/04/14/state-department-cables-warned-safety-issues-wuhan-lab-studying-bat-coronaviruses/>.

26. According to an editorial in *The Wall Street Journal*, the WIV housed tens of thousands of bat samples and laboratory animals in 2019.³⁸ Please provide any information the NIH has on the number of bat samples and animals at the WIV.
- a. Did any NIH scientists who are fluent in Mandarin review the Chinese scientific literature on the WIV research related to coronaviruses that is dated before February 1, 2020?
27. Does the NIH have the unpublished sequences of bat coronaviruses that were maintained in the WIV database before December 30, 2019, or before the database was removed from the internet?³⁹ Does NIH have the full sequences of the eight viruses sampled in the Yunnan province on an EcoHealth Alliance bat-virus sampling trip in 2015?
- a. Please provide NIH's analysis if the sequences have been analyzed.
 - b. If NIH does not have the sequences, can NIH get this information from the EcoHealth Alliance or from other NIH-funded sources?
28. Please provide the original version of "Origin and cross-species transmission of bat coronaviruses in China" that was submitted to *Nature* by EcoHealth Alliance on October 6, 2019, published August 25, 2020, and funded in part by NIAID (award number R01AI110964).⁴⁰ If NIH does not have the October 6, 2019 report, can NIH obtain it from EcoHealth Alliance for this response? If so, please provide the report.
29. Have NIH, EcoHealth Alliance, or other NIH award recipient(s) been denied permission or access to results of any WIV research, which indirectly received financial support from NIH awards? If so, please provide the date(s), individuals involved, and circumstances of each denial.

We request that the NIH provide the requested documents and information in a coordinated response from all stakeholders and the appropriate divisions within NIH, including but not limited to subject matter experts from NIH's Division of Security and Emergency Response, the Office of Management Assessment, the Center for Scientific Review, the National Institute of Allergy and Infectious Diseases, and the Office of Extramural Research. After the requested information has been provided, we ask that the NIH provide a briefing to the Minority Committee staff to discuss the information that the NIH has related to the origins of SARS-CoV-2, including any potential links to the WIV. Finally, we request that you appoint an NIH working group representing an appropriate diversity of scientific disciplines to collect data and

³⁸ Mike Pompeo and Miles Yu, *NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab*, THE WALL STREET JOURNAL (Feb. 23, 2021), available at <https://www.wsj.com/articles/chinas-reckless-labs-put-the-world-at-risk-11614102828>.

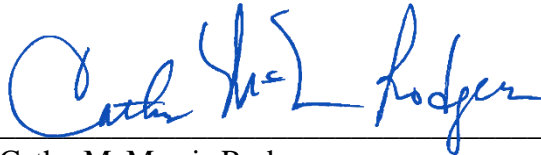
³⁹ Washington Post Editorial Board, *We're still missing the origin story of this pandemic. China is sitting on the answers*, THE WASHINGTON POST (Feb. 5, 2021), available at <https://www.washingtonpost.com/opinions/2021/02/05/coronavirus-origins-mystery-china/?arc404=true>.

⁴⁰ Latinne, A., Hu, B., Olival, K.J. et al., *Origin and cross-species transmission of bat coronaviruses in China*, *Nature* (Aug. 25, 2020), available at <https://www.nature.com/articles/s41467-020-17687-3#Ack1>.

information related to COVID-19 origins (including the WIV), and that the NIH working group coordinate and consult with foreign scientific agencies involved in similar work.

Your assistance with this request is greatly appreciated. If you have any questions, please contact Alan Slobodin or Diane Cutler of the Minority Committee staff.

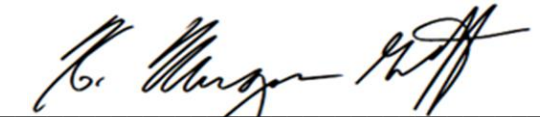
Sincerely,



Cathy McMorris Rodgers
Republican Leader
Committee on Energy and Commerce



Brett Guthrie
Republican Leader
Subcommittee on Health



H. Morgan Griffith
Republican Leader
Subcommittee on Oversight and Investigations

Attachment

Cc: The Honorable Frank Pallone, Chairman
The Honorable Diana DeGette, Chair, Subcommittee on Oversight and Investigations
The Honorable Anna Eshoo, Chair, Subcommittee on Health

2018 Cables from Embassy Beijing and Consulate General Wuhan to State Department
Headquarters in Washington, D.C.

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TAGS: SHLH, ETRD, ECON, PGOV, CN
Captions: SENSITIVE
Reference: 17 WUHAN 48
Subject: China Opens First Bio Safety Level 4 Laboratory

1. (SBU) **Summary and Comment:** The Chinese Academy of Sciences (CAS) has recently established what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. This state-of-the-art facility is designed for prevention and control research on diseases that require the highest level of biosafety and biosecurity containment. Ultimately, scientists hope the lab will contribute to the development of new antiviral drugs and vaccines, but its current productivity is limited by a shortage of the highly trained technicians and investigators required to safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policies and guidelines. (b)(5)

(b)(5)

(b)(5)

End Summary and Comment.

China Investing in Infectious Disease Control

2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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two years of effort, which is not unusual for such facilities, the WIV lab was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment. It occupies four floors and consists of over 32,000 square feet. WIV leadership now considers the lab operational and ready for research on class-four pathogens (P4), among which are the most virulent viruses that pose a high risk of aerosolized person-to-person transmission.

Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

(b)(6)

(b)(6) Thus, while the BSL-4 lab is ostensibly fully accredited, its utilization is limited by lack of access to specific organisms and by opaque government review and approval processes. As long as this situation continues, Beijing's commitment to prioritizing infectious disease control - on the regional and international level, especially in relation to highly pathogenic viruses, remains in doubt.

(b)(6)

(b)(6) noted that the new lab has a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory. University of Texas Medical Branch in Galveston (UTMB), which has one of several well-established BSL-4 labs in the United States (supported by the National Institute of Allergy and Infectious Diseases (NIAID of NIH)), has scientific collaborations with WIV, which may help alleviate this talent gap over time. Reportedly, researchers from GTMB are helping train technicians who work in the WIV BSL-4 lab. Despite this, (b)(6) they would welcome more help from U.S. and international organizations as they establish "gold standard" operating procedures and training courses for the first time in China. As China is building more BSL-4 labs, including one in Harbin Veterinary Research Institute subordinated to the Chinese Academy of Agricultural Sciences (CAAS) for veterinary research use (b)(6) the training for technicians and investigators working on dangerous pathogens will certainly be in demand.

Despite Limitations, WIV Researchers Produce SARS Discoveries

6. (SBU) The ability of WIV scientists to undertake productive research despite limitations on the use of the new BSL-4 facility is demonstrated by a recent publication on the origins of SARS. Over a five-year study, (b)(6) (and their research team) widely sampled bats in Yunnan province with funding support from NIAID/NIH, USAID, and several Chinese funding agencies. The study results were published in PLoS Pathogens online on Nov. 30, 2017 (1), and it demonstrated that a SARS-like coronavirus isolated from horseshoe bats in a single cave contain all the building blocks of the pandemic SARS-coronavirus genome that caused the human outbreak. These results strongly suggest that the highly pathogenic SARS-coronavirus originated in this bat population. Most importantly, the researchers also showed that various SARS-like coronaviruses can interact with ACE2, the human receptor identified for SARS-coronavirus. This finding strongly suggests that SARS-like coronaviruses from bats can be transmitted to humans to cause SARS-like disease. From a public health perspective, this makes the continued surveillance of SARS-like coronaviruses in bats and study of the animal-human interface critical to future emerging coronavirus outbreak prediction and prevention. (b)(5)

(b)(5) WIV scientists are allowed to study the SARS-like coronaviruses isolated from bats while they are precluded from studying human-disease causing SARS coronavirus in their new BSL-4 lab until permission for such work is granted by the NHFCP.

1. Hu B, Zeng L-P, Yang X-L, Ge X-Y, Zhang W, Li B, et al. (2017) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus. PLoS Pathog 13(11): e1006698. <https://doi.org/10.1371/journal.ppat.1006698>

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Reference: A) 18 BEIJING 138
B) 17 BEIJING 2458
C) 11 MUMBAI 630
D) 17 TOKYO 716
E) 13 SEOUL 790
Subject: China Virus Institute Welcomes More U.S. Cooperation on Global Health Security

1. (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). (b)(5)

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(b)(5)

End Summary with

Comment.

2. (U) Wuhan Institute of Virology researchers and staff gave an overview of the lab and current cooperation with the United States to visiting Environment, Science, Technology and Health Counsellor Rick Switzer and Consulate Wuhan Consul General Jamie Fouss in late March. In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation, and experts from the University of Texas Medical Branch in Galveston. The institute reports to the Chinese Academy of Sciences in Beijing.

P4 Lab is Open and Transparent, Officials Emphasize

3. (SBU) The Wuhan P4 lab, referring to labs with the highest level of safety precautions, became fully operational and began working with live viruses early this year. Institute officials said they believed it is the only operational P4 lab in Asia aside from a U.S. Centers for Disease

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Control (CDC)-supported facility in Pune, India (Ref C). China plans to stand up a second P4 lab in Harbin. Institute officials said Japan's biosafety labs are "old" and lack cutting-edge equipment, so they consider Japan's labs to be "P3 Plus" (Note: the Japanese government says it has one P4-level lab in the Tokyo suburbs, though its activities are limited, and Japan is building a new P4 lab in Nagasaki, see Ref D. Taiwan operates at least one P4 lab. South Korea was close to opening a P4 lab as of last year, see Ref E. *End Note.*) Wuhan's lab is located about 20 miles from the city center in Zhengdian district, and the institute plans to gradually consolidate its other training, classroom and lab facilities at that location.

4. (U) Officials described the lab as a "regional node" in the global biosafety system and said it would play an emergency response role in an epidemic or pandemic. The lab's English brochure highlighted a national security role, saying that it "is an effective measure to improve China's availability in safeguarding national bio-safety if [a] possible biological warfare or terrorist attack happens."

5. (SBU) Institute officials said there would be "limited availability" for international and domestic scientists who had gone through the necessary approval process to do research at the lab. They stressed that the lab aimed to be a "worldwide, open platform" for virology. They said they welcomed U.S. Centers for Disease Control (CDC) experts, noting that the Chinese Academy of Sciences was not strong on human disease expertise, having only focused on it in the last 15 years, after the SARS outbreak. A Wuhan-based French consulate official who works on science and technology cooperation with China also emphasized that the lab, which was initiated in 2004 as a France-China joint project, was meant to be "open and transparent" to the global scientific community. "The intent was to set up a lab to international standards, and open to international research," he said. French experts have provided guidance and biosafety training to the lab, which will continue, the French official said. Institute officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a "handover" ceremony in 2016.

6. (U) In addition to French assistance, experts from the NIH-supported P4 lab at the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, institute officials said. The Wuhan institute plans to invite scientists from the Galveston lab to do research in Wuhan's lab. One Wuhan Institute of Virology researcher trained for two years at the Galveston lab, and the institute also sent one scientist to U.S. CDC headquarters in Atlanta for six months' work on influenza.

NIH-Supported Research Revises SARS Origin Story

7. (U) NIH was a major funder, along with the Natural Science Foundation of China (NSFC), of SARS research by the Wuhan Institute of Virology's (b)(6) (b)(6)

(b)(6) (b)(6) This lends weight to the theory that SARS originated in bat populations before jumping first to civet cats (likely via bat feces) and then to humans. (b)(6)

(b)(6) (b)(6) (b)(6)

(b)(6)
 (b)(6) team has provided support in statistical modeling to assess the risk of more coronaviruses like SARS crossing over to human populations.

Ready to Help with the Global Virome Project

8. (U) Institute officials expressed strong interest in the Global Virome Project (GVP), and said Chinese funding for the project would likely come from Chinese Academy of Sciences funding already earmarked for One Belt, One Road-related initiatives. The GVP aims to launch this year as an international collaborative effort to identify within ten years virtually all of the planet's viruses that have pandemic or epidemic potential and the ability to jump to humans. "We hope China will be one of the leading countries to initiate the Global Virome Project," one Wuhan Institute of Virology official said. China attended a GVP unveiling meeting in January in Thailand and is waiting for more details on the initiative. The officials said that the Chinese government funds projects similar to GVP to investigate the background of viruses and bacteria. This essentially constituted China's own Virome Project, officials said, but they noted the program currently has no official name.

9. (SBU) The Wuhan Institute of Virology's (b)(6) is the (b)(6) (b)(6) which is designed to show "proof of concept" and be a forerunner to the Global Virome Project. (b)(6) with the EcoHealth Alliance (a New York City-based NGO that is working with the University of California, Davis to manage the (b)(6) recently planned to visit Wuhan to meet with (b)(6) (b)(6) noted that China has expressed interest in building the GVP database, which would put China in a leadership position. Other countries have confidence in China's ability to build such a database, but are skeptical on whether China could remain transparent as a "gatekeeper" for this information (b)(6) said (b)(6) expressed frustration with the slow progress so far in launching GVP, noting that the effort lacked funding sources, needed to hire a CEO, and would have to boost its profile at G7, G20 and other high-level international meetings.

U.S.-China Workshop Explores Research Partnerships

10. (U) The Institute also has ongoing collaboration with the U.S. National Science Foundation, including a just-concluded workshop in Shenzhen, involving about 40 scientists from the United States and China, on the topic of the "Ecology and Evolution of Infectious Diseases." Co-sponsored by the Natural Science Foundation of China (NSFC), (b)(6)

(b)(6)
 (b)(6) The workshop explored opportunities for U.S.-China research cooperation in areas like using "big data" to predict emerging infectious diseases, climate change's effect on vector-borne diseases, and pathogen transmission between wildlife, domestic animals and humans.

11. (SBU) Some workshop participants also expressed skepticism about the Global Virome Project's (GVP) approach, saying that gaining a predictive understanding of viruses with pandemic potential would require going beyond the GVP's strategy of sample collection, to take an "ecological" approach that considers the virome beyond vertebrate systems to identify

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mechanisms driving pathogen evolution. A follow-on workshop will be held in June at the University of Berkeley. NSF and NSFC hope to jointly announce a funding call for collaborative projects later this year.

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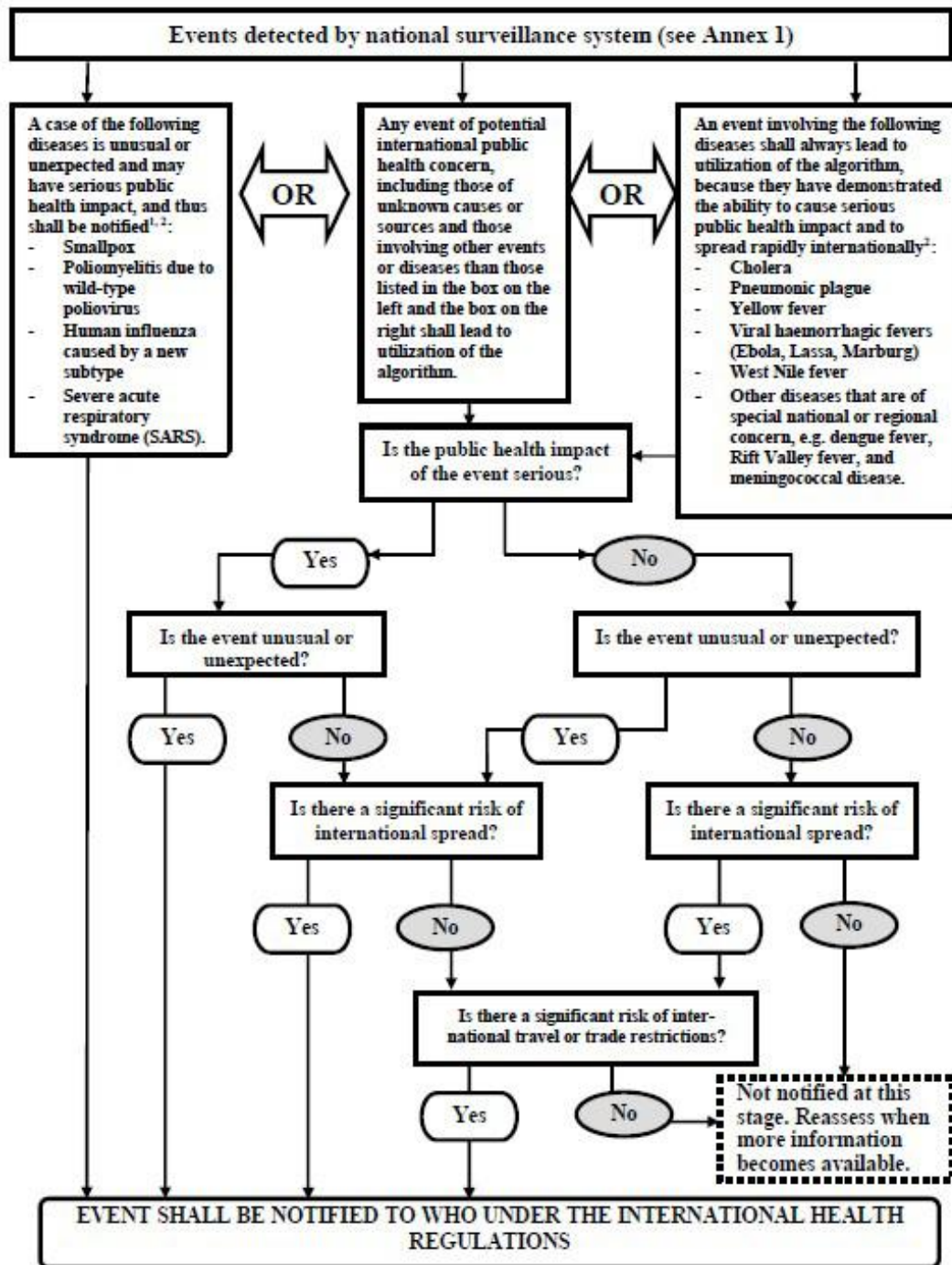
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Annex 2 of the 2005 International Health Regulations

ANNEX 2 DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN



¹ As per WHO case definitions.

² The disease list shall be used only for the purposes of these Regulations.

2018 Cables from Embassy Beijing and Consulate General Wuhan to State Department
Headquarters in Washington, D.C.

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MRN: 18 BEIJING 138
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1. (SBU) **Summary and Comment:** The Chinese Academy of Sciences (CAS) has recently established what is reportedly China's first Biosafety Level 4 (BSL-4) laboratory in Wuhan. This state-of-the-art facility is designed for prevention and control research on diseases that require the highest level of biosafety and biosecurity containment. Ultimately, scientists hope the lab will contribute to the development of new antiviral drugs and vaccines, but its current productivity is limited by a shortage of the highly trained technicians and investigators required to safely operate a BSL-4 laboratory and a lack of clarity in related Chinese government policies and guidelines. (b)(5)

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End Summary and Comment.

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2. (U) Between November 2002 and July 2003, China faced an outbreak of Severe Acute Respiratory Syndrome (SARS), which, according to the World Health Organization, resulting in 8,098 cases and leading to 774 deaths reported in 37 countries. A majority of cases occurred in China, where the fatality rate was 9.6%. This incident convinced China to prioritize international cooperation for infectious disease control. An aspect of this prioritization was China's work with the Jean Merieux BSL-4 Laboratory in Lyon, France, to build China's first high containment laboratory at Wuhan's Institute of Virology (WIV), an institute under the auspices of the Chinese Academy of Sciences (CAS). Construction took 11 years and \$44 million USD, and construction on the facility was completed on January 31, 2015. Following

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Unclear Guidelines on Virus Access and a Lack of Trained Talent Impede Research

3. (SBU) In addition to accreditation, the lab must also receive permission from the National Health and Family Planning Commission (NHFPC) to initiate research on specific highly contagious pathogens. According to some WIV scientists, it is unclear how NHFPC determines what viruses can or cannot be studied in the new laboratory. To date, WIV has obtained permission for research on three viruses: Ebola virus, Nipah virus, and Xinjiang hemorrhagic fever virus (a strain of Crimean Congo hemorrhagic fever found in China's Xinjiang Province). Despite this permission, however, the Chinese government has not allowed the WIV to import Ebola viruses for study in the BSL-4 lab. Therefore, WIV scientists are frustrated and have pointed out that they won't be able to conduct research project with Ebola viruses at the new BSL-4 lab despite of the permission.

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End Summary with

Comment.

2. (U) Wuhan Institute of Virology researchers and staff gave an overview of the lab and current cooperation with the United States to visiting Environment, Science, Technology and Health Counsellor Rick Switzer and Consulate Wuhan Consul General Jamie Fouss in late March. In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation, and experts from the University of Texas Medical Branch in Galveston. The institute reports to the Chinese Academy of Sciences in Beijing.

P4 Lab is Open and Transparent, Officials Emphasize

3. (SBU) The Wuhan P4 lab, referring to labs with the highest level of safety precautions, became fully operational and began working with live viruses early this year. Institute officials said they believed it is the only operational P4 lab in Asia aside from a U.S. Centers for Disease

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Page 1 of 4

Control (CDC)-supported facility in Pune, India (Ref C). China plans to stand up a second P4 lab in Harbin. Institute officials said Japan's biosafety labs are "old" and lack cutting-edge equipment, so they consider Japan's labs to be "P3 Plus" (Note: the Japanese government says it has one P4-level lab in the Tokyo suburbs, though its activities are limited, and Japan is building a new P4 lab in Nagasaki, see Ref D. Taiwan operates at least one P4 lab. South Korea was close to opening a P4 lab as of last year, see Ref E. End Note.) Wuhan's lab is located about 20 miles from the city center in Zhengdian district, and the institute plans to gradually consolidate its other training, classroom and lab facilities at that location.

4. (U) Officials described the lab as a "regional node" in the global biosafety system and said it would play an emergency response role in an epidemic or pandemic. The lab's English brochure highlighted a national security role, saying that it "is an effective measure to improve China's availability in safeguarding national bio-safety if [a] possible biological warfare or terrorist attack happens."

5. (SBU) Institute officials said there would be "limited availability" for international and domestic scientists who had gone through the necessary approval process to do research at the lab. They stressed that the lab aimed to be a "worldwide, open platform" for virology. They said they welcomed U.S. Centers for Disease Control (CDC) experts, noting that the Chinese Academy of Sciences was not strong on human disease expertise, having only focused on it in the last 15 years, after the SARS outbreak. A Wuhan-based French consulate official who works on science and technology cooperation with China also emphasized that the lab, which was initiated in 2004 as a France-China joint project, was meant to be "open and transparent" to the global scientific community. "The intent was to set up a lab to international standards, and open to international research," he said. French experts have provided guidance and biosafety training to the lab, which will continue, the French official said. Institute officials said that France provided the lab's design and much of its technology, but that it is entirely China-funded and has been completely China-run since a "handover" ceremony in 2016.

6. (U) In addition to French assistance, experts from the NIH-supported P4 lab at the University of Texas Medical Branch in Galveston have trained Wuhan lab technicians in lab management and maintenance, institute officials said. The Wuhan institute plans to invite scientists from the Galveston lab to do research in Wuhan's lab. One Wuhan Institute of Virology researcher trained for two years at the Galveston lab, and the institute also sent one scientist to U.S. CDC headquarters in Atlanta for six months' work on influenza.

NIH-Supported Research Revises SARS Origin Story

7. (U) NIH was a major funder, along with the Natural Science Foundation of China (NSFC), of SARS research by the Wuhan Institute of Virology's (b)(6) (b)(6)

(b)(6) (b)(6) This lends weight to the theory that SARS originated in bat populations before jumping first to civet cats (likely via bat feces) and then to humans. (b)(6)

(b)(6) (b)(6) (b)(6)

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 (b)(6) team has provided support in statistical modeling to assess the risk of more coronaviruses like SARS crossing over to human populations.

Ready to Help with the Global Virome Project

8. (U) Institute officials expressed strong interest in the Global Virome Project (GVP), and said Chinese funding for the project would likely come from Chinese Academy of Sciences funding already earmarked for One Belt, One Road-related initiatives. The GVP aims to launch this year as an international collaborative effort to identify within ten years virtually all of the planet's viruses that have pandemic or epidemic potential and the ability to jump to humans. "We hope China will be one of the leading countries to initiate the Global Virome Project," one Wuhan Institute of Virology official said. China attended a GVP unveiling meeting in January in Thailand and is waiting for more details on the initiative. The officials said that the Chinese government funds projects similar to GVP to investigate the background of viruses and bacteria. This essentially constituted China's own Virome Project, officials said, but they noted the program currently has no official name.

9. (SBU) The Wuhan Institute of Virology's (b)(6) is the (b)(6) (b)(6) which is designed to show "proof of concept" and be a forerunner to the Global Virome Project. (b)(6) with the EcoHealth Alliance (a New York City-based NGO that is working with the University of California, Davis to manage the (b)(6) recently planned to visit Wuhan to meet with (b)(6) (b)(6) noted that China has expressed interest in building the GVP database, which would put China in a leadership position. Other countries have confidence in China's ability to build such a database, but are skeptical on whether China could remain transparent as a "gatekeeper" for this information (b)(6) said (b)(6) expressed frustration with the slow progress so far in launching GVP, noting that the effort lacked funding sources, needed to hire a CEO, and would have to boost its profile at G7, G20 and other high-level international meetings.

U.S.-China Workshop Explores Research Partnerships

10. (U) The Institute also has ongoing collaboration with the U.S. National Science Foundation, including a just-concluded workshop in Shenzhen, involving about 40 scientists from the United States and China, on the topic of the "Ecology and Evolution of Infectious Diseases." Co-sponsored by the Natural Science Foundation of China (NSFC), (b)(6)

(b)(6)
 (b)(6) The workshop explored opportunities for U.S.-China research cooperation in areas like using "big data" to predict emerging infectious diseases, climate change's effect on vector-borne diseases, and pathogen transmission between wildlife, domestic animals and humans.

11. (SBU) Some workshop participants also expressed skepticism about the Global Virome Project's (GVP) approach, saying that gaining a predictive understanding of viruses with pandemic potential would require going beyond the GVP's strategy of sample collection, to take an "ecological" approach that considers the virome beyond vertebrate systems to identify

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mechanisms driving pathogen evolution. A follow-on workshop will be held in June at the University of Berkeley. NSF and NSFC hope to jointly announce a funding call for collaborative projects later this year.

Signature: FOUSS

Drafted By:

Cleared By:

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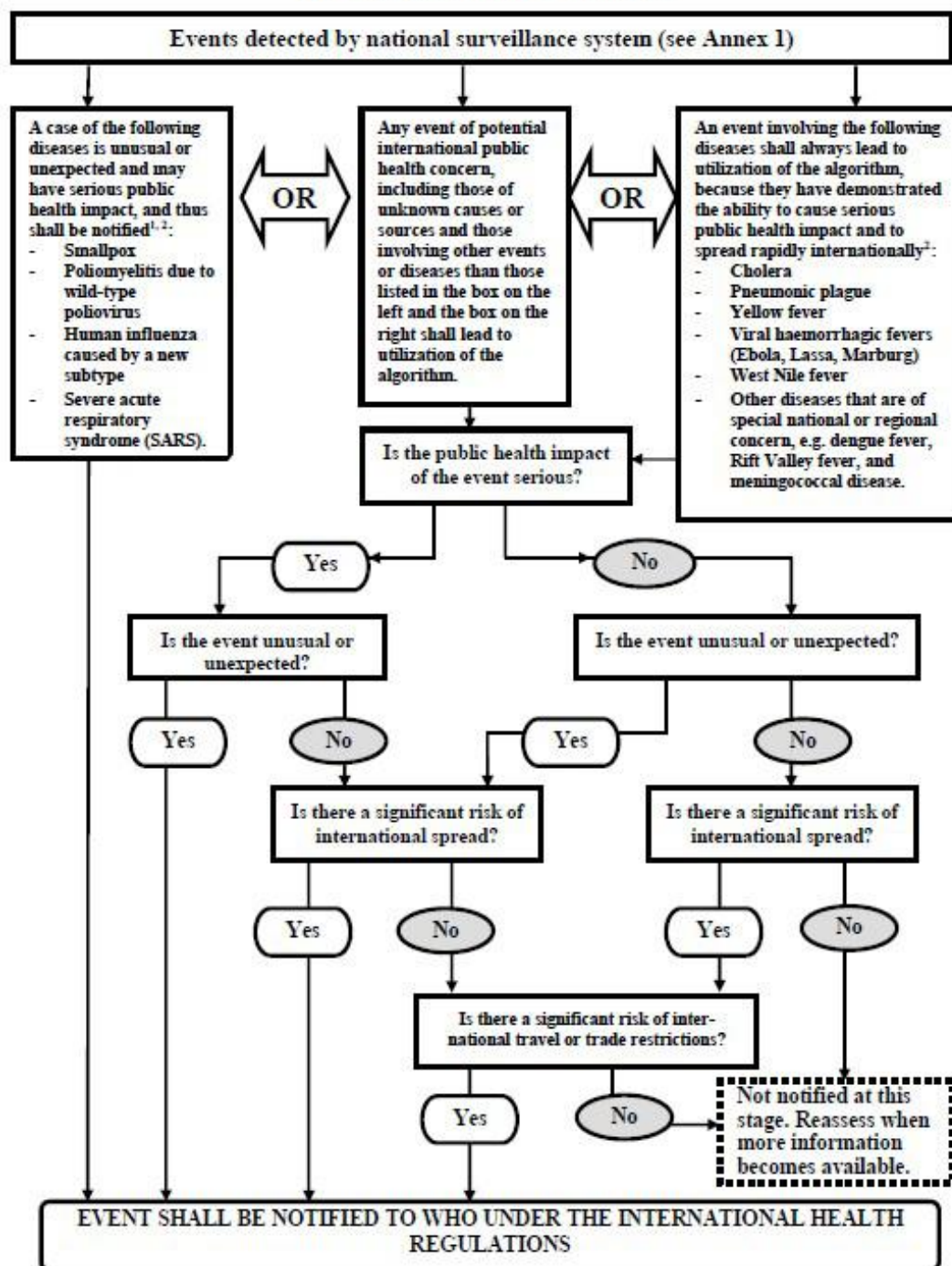
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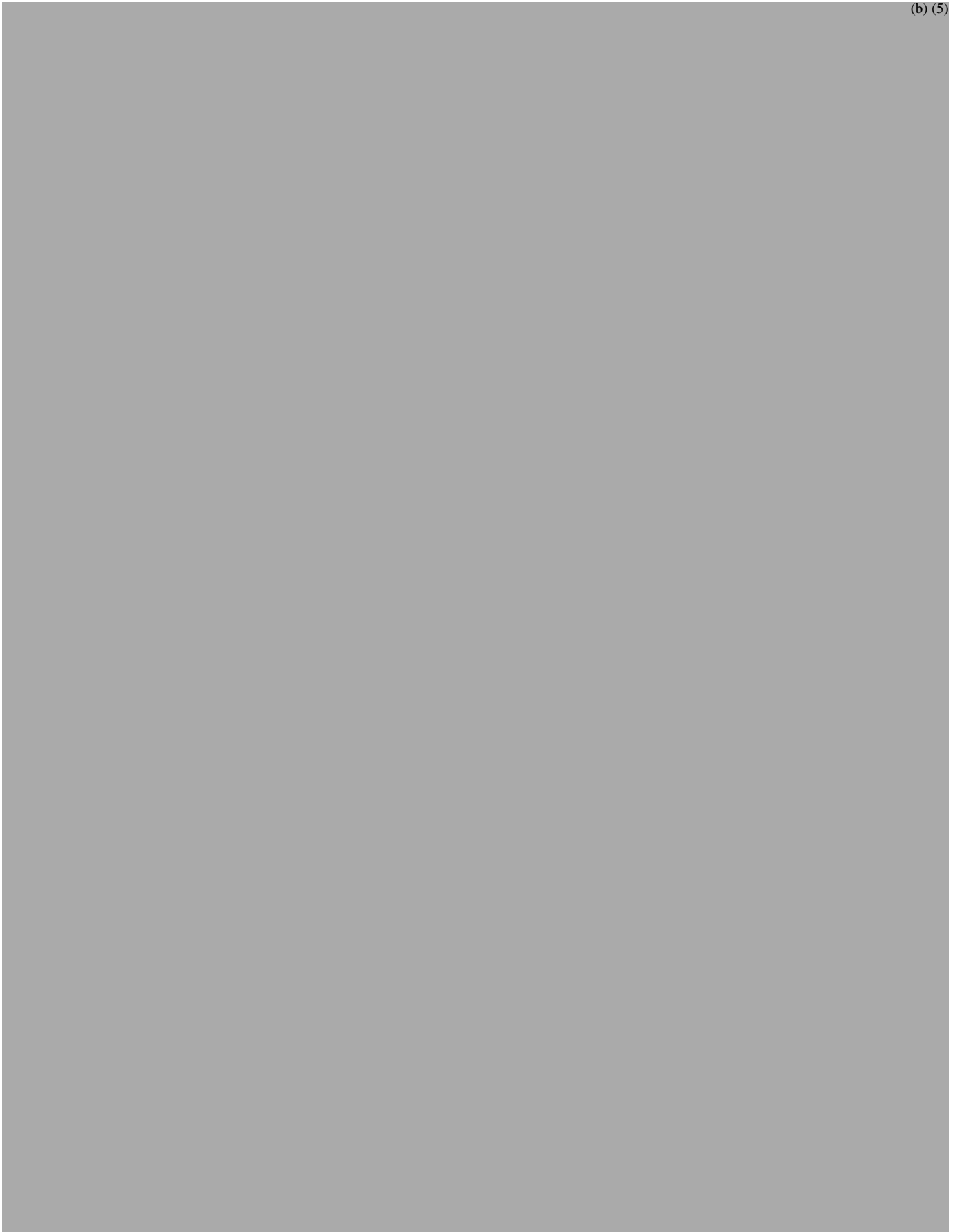
Annex 2 of the 2005 International Health Regulations

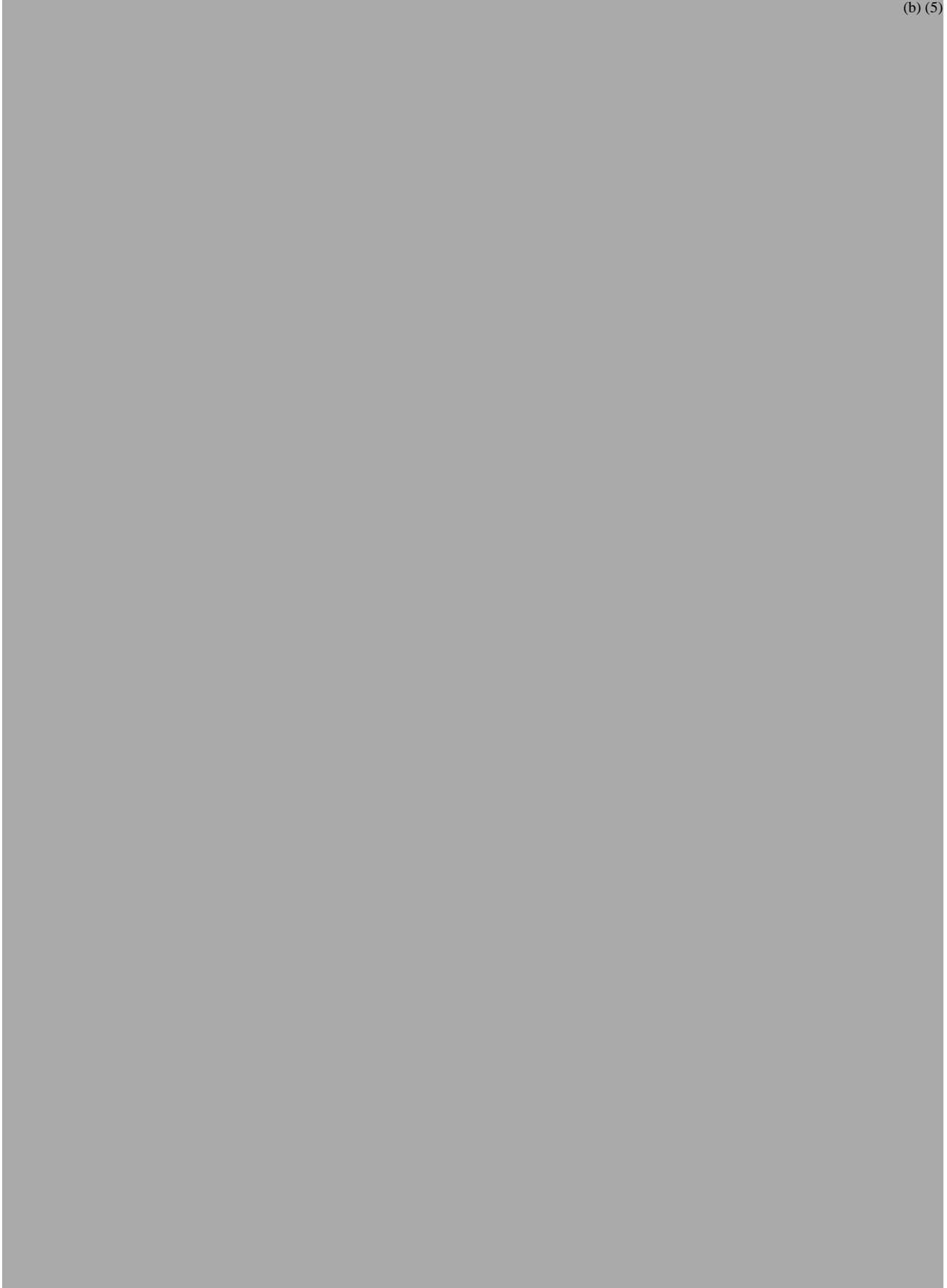
ANNEX 2 DECISION INSTRUMENT FOR THE ASSESSMENT AND NOTIFICATION OF EVENTS THAT MAY CONSTITUTE A PUBLIC HEALTH EMERGENCY OF INTERNATIONAL CONCERN

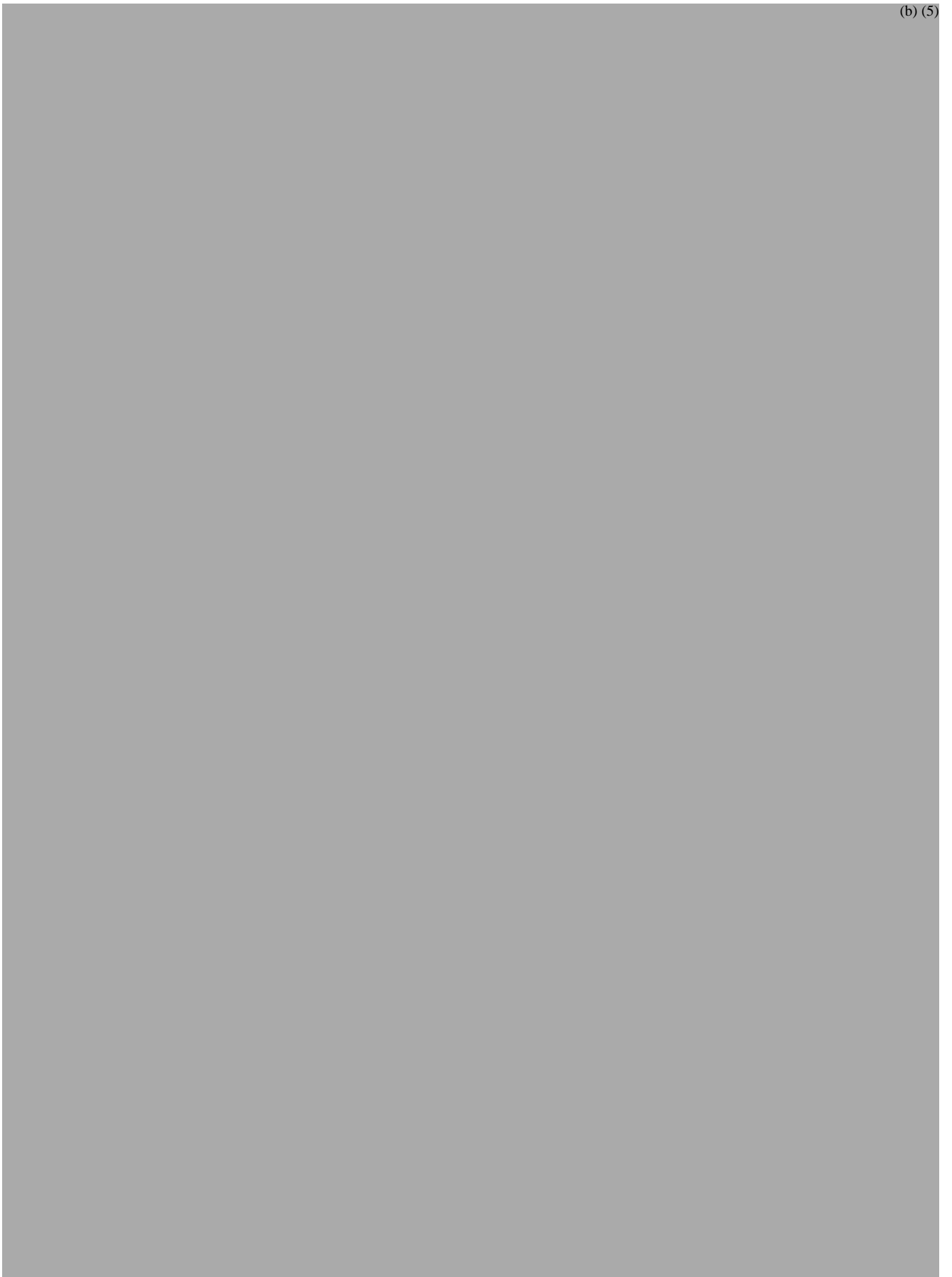


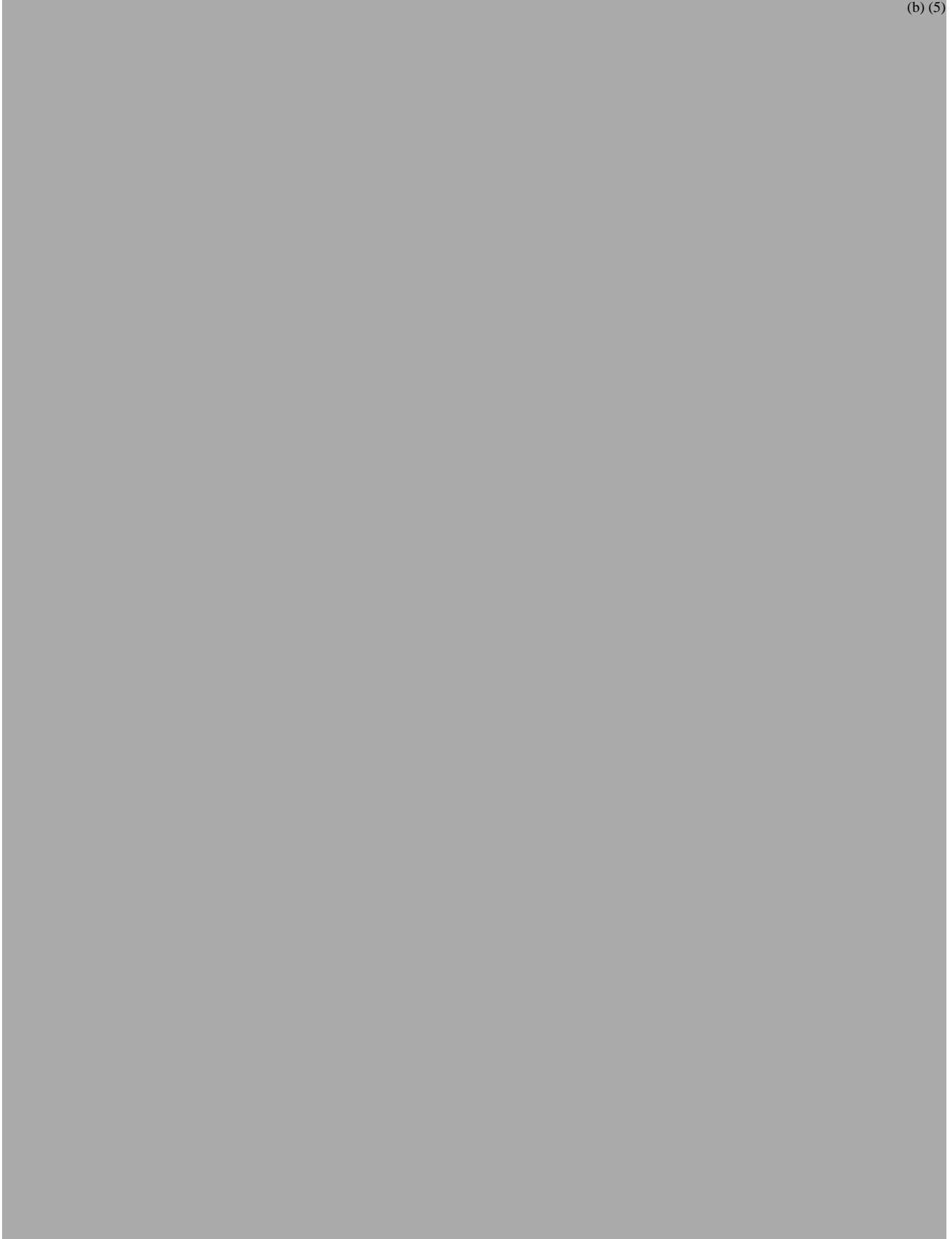
¹ As per WHO case definitions.

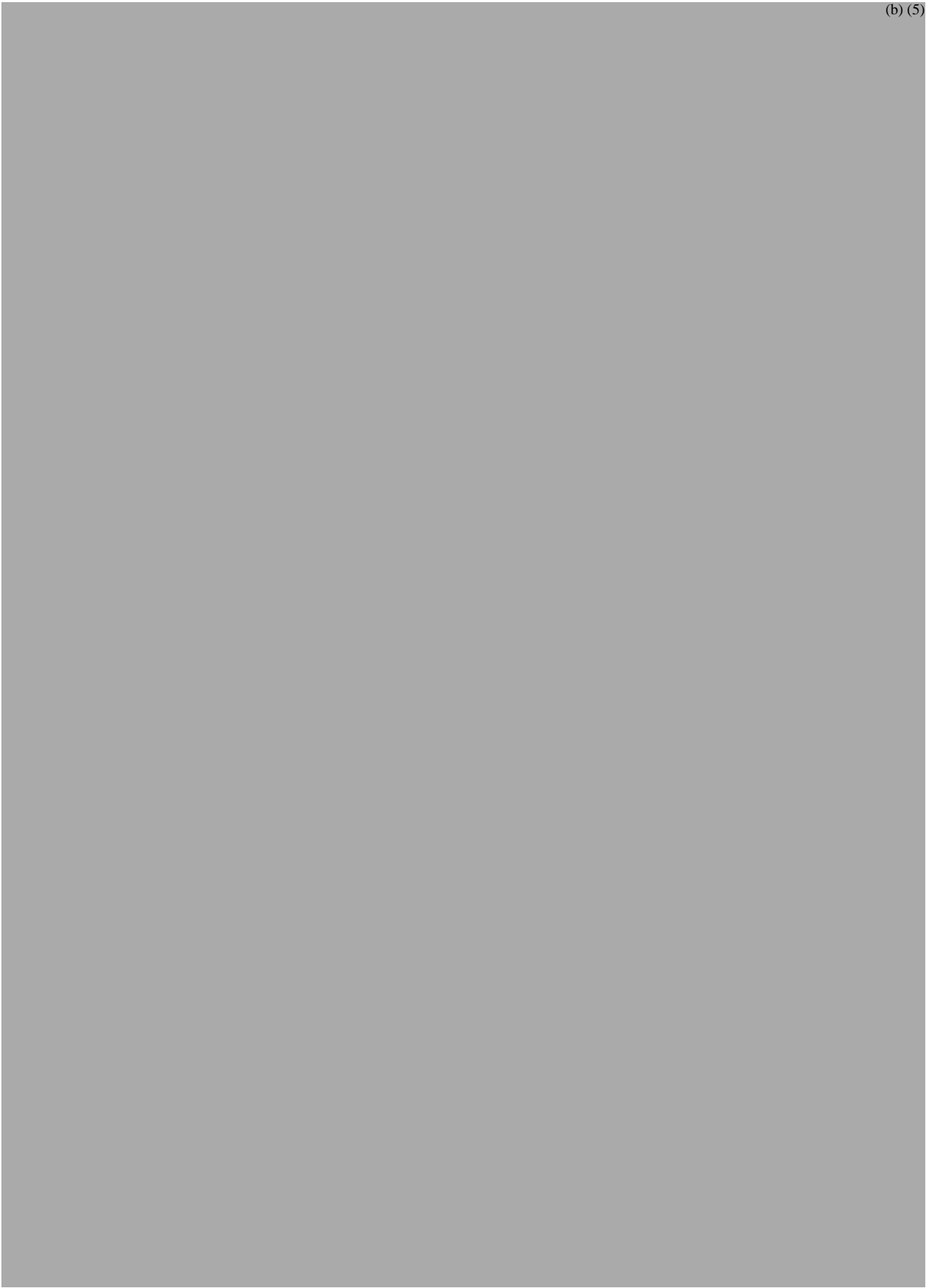
² The disease list shall be used only for the purposes of these Regulations.















National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

8 July 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

In follow-up to my previous letter of April 24, 2020, I am writing to notify you that the National Institute of Allergy and Infectious Diseases (NIAID), an Institute within the National Institutes of Health (NIH), under the Department of Health and Human Services (HHS), has withdrawn its termination of grant R01AI110964, which supports the project *Understanding the Risk of Bat Coronavirus Emergence*. Accordingly, the grant is reinstated.

However, as you are aware, the NIH has received reports that the Wuhan Institute of Virology (WIV), a subrecipient of EcoHealth Alliance under R01AI110964, has been conducting research at its facilities in China that pose serious bio-safety concerns and, as a result, create health and welfare threats to the public in China and other countries, including the United States. Grant award R01AI110964 is subject to biosafety requirements set forth in the NIH Grants Policy Statement (e.g., NIH GPS, Section 4.1.24 "Public Health Security") and the Notice of Award (e.g., requiring that "Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)]."). Moreover, NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients. 45 C.F.R. § 75.101.

As the grantee, EcoHealth Alliance was required to "monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . ." 45 C.F.R. § 75.352(d). We have concerns that WIV has not satisfied safety requirements under the award, and that EcoHealth Alliance has not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance.

Moreover, as we have informed you through prior Notices of Award, this award is subject to the Transparency Act subaward and executive compensation reporting requirement of 2 C.F.R. Part

170. To date you have not reported any subawards in the [Federal Subaward Reporting System](#).

Therefore, effective the date of this letter, July 8, 2020, NIH is suspending all activities related to R01AI110964, until such time as these concerns have been addressed to NIH's satisfaction. This suspension is taken in accordance with [45 C.F.R. § 75.371](#), Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, [Section 8.5.2](#), which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare. This action is not appealable in accordance with 42 C.F.R. § 50.404 and the NIH GPS [Section 8.7](#), Grant Appeals Procedures. However, EcoHealth Alliance has the opportunity to provide information and documentation demonstrating that WIV and EcoHealth Alliance have satisfied the above-mentioned requirements.

Specifically, to address the NIH's concerns, EcoHealth must provide the NIH with the following information and materials, which must be complete and accurate:

1. Provide an aliquot of the actual SARS-CoV-2 virus that WIV used to determine the viral sequence.
2. Explain the apparent disappearance of Huang Yanling, a scientist / technician who worked in the WIV lab but whose lab web presence has been deleted.
3. Provide the NIH with WIV's responses to the 2018 U.S. Department of State cables regarding safety concerns.
4. Disclose and explain out-of-ordinary restrictions on laboratory facilities, as suggested, for example, by diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019.
5. Explain why WIV failed to note that the RaTG13 virus, the bat-derived coronavirus in its collection with the greatest similarity to SARS-CoV-2, was actually isolated from an abandoned mine where three men died in 2012 with an illness remarkably similar to COVID-19, and explain why this was not followed up.
6. Additionally, EcoHealth Alliance must arrange for WIV to submit to an outside inspection team charged to review the lab facilities and lab records, with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019. The inspection team should be granted full access to review the processes and safety of procedures of all of the WIV field work (including but not limited to collection of animals and biospecimens in caves, abandoned man-made underground cavities, or outdoor sites). The inspection team could be organized by NIAID, or, if preferred, by the U.S. National Academy of Sciences.
7. Lastly, EcoHealth Alliance must ensure that all of its subawards are fully reported in the [Federal Subaward Reporting System](#)

During this period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess compliance by EcoHealth Alliance and WIV, including compliance with other terms and conditions of award that may be implicated. Additionally, during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the

recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. Once the original award is reinstated, NIH will take additional steps to restrict all funding in the HHS Payment Management System in the amount of \$369,819. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 CFR Part 75, including, but not limited to, terminating the grant award. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

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Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: [REDACTED] (b) (6)

cc: Dr. Erik Stemmy
Ms. Emily Linde



National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

24 April 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: Termination of NIH Grant R01 AI 110964

Dear Drs. Chmura and Daszak:

I am writing to notify you that the National Institute of Allergy and Infectious Diseases (NIAID), an Institute within the National Institutes of Health (NIH), under the Department of Health and Human Services (HHS) has elected to terminate the project *Understanding the Risk of Bat Coronavirus Emergence*, funded under grant R01 AI110964, for convenience. This grant project was issued under the authorization of Sections 301 and 405 of the Public Health Service Act as amended (42 USC 241 and 284). This grant was funded as a discretionary grant as outlined in the [NIH Grants Policy Statement](#), which states that the decision not to award a grant, or to award a grant at a particular funding level, is at the discretion of the agency, in accordance with NIH's dual review system.

At this time, NIH does not believe that the current project outcomes align with the program goals and agency priorities. NIAID has determined there are no animal and human ethical considerations, as this project is not a clinical trial, but rather an observational study.

As a result of this termination, a total of \$369,819.56 will be remitted to NIAID and additional drawdowns will not be supported. The remaining funds have been restricted in the HHS Payment Management System, effective immediately.

Please let me know if you have any questions concerning the information in this letter.

Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: (b) (6)

cc: Dr. Erik Stemmy
Ms. Emily Linde





National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

23 October 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

I am following up on Mr. Krinsky's August 13, 2020, letter on behalf of EcoHealth Alliance, Inc. ("EcoHealth") responding to NIH's suspension of grant R01AI110964, which funds the project *Understanding the Risk of Bat Coronavirus Emergence* (the "Project"). Per my letter of July 8, 2020, NIH reinstated the grant but suspended all award activities because we have concerns that the Wuhan Institute of Virology (WIV), which previously served as a subrecipient of the Project, had not satisfied safety requirements that applied to its subawards with EcoHealth, and that EcoHealth had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. EcoHealth objected to the suspension on the grounds that WIV has no *current* connection to the Project or EcoHealth's research, and EcoHealth had not issued any subawards in connection with the Grant *at the time of the suspension*.

The fact that EcoHealth does not currently have a subrecipient relationship with WIV and had not issued subawards to WIV at the time of suspension does not absolve EcoHealth of any past non-compliance with the terms and conditions of award for grant R01AI110964. While EcoHealth did not issue a subaward to WIV for year 6 of the grant, WIV served as a subrecipient for years 1 through 5. NIH awarded EcoHealth grant R01AI110964 in 2014, with a project period of June 1, 2014, through June 30, 2024, as renewed. In EcoHealth's grant application, EcoHealth listed Drs. Zheng Li Shi and Xing Yi Ge of WIV as co-investigators and senior/key personnel. It stated that "Drs. Shi, Zhang, and Daszak have collaborated together since 2002 and have been involved in running joint conferences, and shipping samples into and out of China." EcoHealth listed WIV as a Project/Performance Site Location. In describing WIV's facilities, EcoHealth described WIV as China's premier institute for virological research" and touted WIV's "fully equipped biosafety level 3 laboratory" and "a newly opened BLS-4 laboratory." In support of the application, Dr. Zheng Li Shi's personal statement indicated that "My lab will be responsible for diagnosis, genomics and isolation of coronavirus from wild and domestic animals in Southern China and for analyzing their receptor binding domains." The application stated that "Wuhan Institute of Virology and the Wuhan University Center for Animal Experiment BSL-3

lab have an Internal Biosafety Committee and are accredited BSL-2 and BSL 3 laboratories. All experimental work using infectious material will be conducted under appropriate biosafety standards. Disposal of hazardous materials will be conducted according to the institutional biosafety regulations.”

EcoHealth requested funding specifically for activities to be carried out by WIV. NIH awarded EcoHealth a total of \$749,976 for WIV’s work in the following annual amounts for years 1 through 5:

	-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Total Direct Costs	\$123,699	\$128,718	\$147,335	\$147,335	\$147,335
F&A Costs @ 8%	\$9,896	\$10,297	\$11,787	\$11,787	\$11,787
TOTAL COSTS	\$133,595	\$139,015	\$159,122	\$159,122	\$159,122

As stated in the Notices of Award for each budget period of the grant, the awards were subject to terms and conditions, which include the NIH Grants Policy Statement (GPS) and applicable HHS grant regulations. As I indicated in my letter of July 8, 2020, as a term and condition of award EcoHealth was required to “monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . .” 45 C.F.R. § 75.352(d). See also, 45 C.F.R. § 75.342(a) (“The non-Federal entity is responsible for oversight of the operations of the Federal award supported activities.”). Moreover, EcoHealth was required to “Establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award[.]” 45 C.F.R. § 75.303(a). The Notice of Award stated that as a term and condition of award, “Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)].” Moreover, the NIH GPS provides that NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients, so these terms applied to WIV. 45 C.F.R. § 75.101.

As I stated, NIH has concerns of non-compliance with terms and conditions of award—namely, that WIV had not satisfied safety requirements under the award and that EcoHealth Alliance had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. Accordingly, NIH suspended all activities related to R01AI110964, pursuant to 45 C.F.R. § 75.371, Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, Section 8.5.2, which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare.

In my letter of July 8, 2020, I provided EcoHealth with the opportunity to object and to provide information and documentation challenging the suspension. Specifically, I sought information and materials that speak to WIV’s lab safety and EcoHealth’s oversight of its subrecipient, and an inspection of WIV’s laboratory records and facilities. I indicated that as a specific condition of award, during the period of suspension, EcoHealth Alliance may not allow research under this

project to be conducted and that no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients.

EcoHealth objected to the requests on the grounds that “NIAID is not authorized under 45 CFR §§ 75.371, 75.205, and 75.207, entitled *Specific Award Conditions*, to impose, *inter alia*, conditions that consist of demands for information regarding entities that are neither subrecipients of grant funds nor project affiliates.”

These provisions are irrelevant to NIH’s requests. NIH is required to permit the opportunity for recipients to object and provide information and documentation challenging a suspension, 45 C.F.R. § 75.374, so we specifically gave EcoHealth the opportunity to provide information that speaks to NIH’s concerns. Moreover, as a granting agency, NIH is required to “manage and administer the Federal award in a manner so as to ensure that Federal funding is expended and associated programs are implemented in full accordance with U.S. statutory and public policy requirements: Including, but not limited to, those protecting public welfare [and] the environment[.]” 45 C.F.R. § 75.300(a). In addition to seeking information that speaks to compliance with terms and conditions of award, NIH is entitled to “make site visits as warranted by program needs.” 45 C.F.R. § 75.342. As a term and condition of award, NIH “must have the right of access to any documents, papers, or other records of the non-Federal entity which are pertinent to the Federal award, in order to make audits, examinations, excerpts, and transcripts” (45 C.F.R. § 75.364); and must have “timely and reasonable access to the non-Federal entity’s personnel for the purpose of interview and discussion related to such documents” (*id.*). These requirements flow down to subawards to subrecipients. 45 C.F.R. § 75.101. “Non-Federal entities must comply with requirements in [45 C.F.R. Part 75] regardless of whether the non-Federal entity is a recipient or subrecipient of a Federal award.” 45 C.F.R. 75.101. As the grantee, EcoHealth was required to have in place, “A requirement that the subrecipient permit the pass-through entity and auditors to have access to the subrecipient’s records and financial statements as necessary for the pass-through entity to meet the requirements of this part.” 45 C.F.R. § 75.352(a)(5). For each of these reasons, NIH is justified in seeking the materials, information, and a site visit specified in my letter of July 8, 2020.

In addition to objecting to NIH’s authority to seek the materials, information, and a site visit, EcoHealth has responded that it lacks knowledge or information regarding the requests; that it is not in possession, custody, or control of the specified items; and that it has no authority to grant NIAID and the U.S. National Academy of Sciences access to WIV’s facility to conduct an inspection. EcoHealth’s responses have not satisfied NIH’s concerns that EcoHealth had failed to adequately monitor the compliance of its subrecipient, and that the subrecipient, WIV, had failed to comply with safety requirements.

Notwithstanding this, NIH is providing an additional opportunity for EcoHealth to provide information and documentation challenging these concerns of non-compliance. Accordingly, in addition to reiterating our prior requests (1) through (6) per our letter of July 8, 2020, NIH requests the following information and materials, which must be complete and accurate:

1. Provide copies of all EcoHealth Alliance – WIV subrecipient agreements as well as any other documents and information describing how EcoHealth Alliance monitored WIV's compliance with the terms and conditions of award, including with respect to biosafety.
2. Describe EcoHealth's efforts to evaluate WIV's risk of noncompliance with Federal statutes, regulations, and the terms and conditions of the subaward.
3. Provide copies of all WIV biosafety reports from June 1, 2014 through May 31, 2019.

During the ongoing period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess whether EcoHealth Alliance and WIV complied with the terms and conditions of award, including compliance with other terms and conditions of award that may be implicated. We remind you that during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the continued suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 C.F.R. Part 75, including, but not limited to, terminating the grant award or disallowing costs. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: [REDACTED] (b) (6)

cc: Dr. Erik Stemmy (NIAID)
Ms. Emily Linde (NIAID)

Theory That COVID Came From A Chinese Lab Takes On New Life In Wake Of WHO Report

[John Ruwitch](#)



Members of the World Health Organization team investigating the origins of the coronavirus leave the Wuhan Institute of Virology in Wuhan, China, on Feb. 3.

Hector Retamal/AFP via Getty Images

Before COVID-19, few scientists would have pegged the city of Wuhan, in temperate central China, as a likely starting point for a global coronavirus pandemic. Its climate and fauna don't fit the bill.

But the city of 11 million straddling the Yangtze River is home to some of China's most advanced biological research laboratories. And one of the secretive, state-run institutions, the Wuhan Institute of Virology, is known to

conduct experiments on the kind of virus that has killed nearly 3 million people worldwide so far since late 2019.

"I think there were a lot of people who did put together the fact that you had an outbreak in Wuhan and you have these laboratories in Wuhan fairly immediately," said David Feith, who was an Asia adviser in the Trump administration's State Department when the coronavirus emerged.

"The question was: What does the evidence tell us?" said Feith, who is [currently](#) at the Center for a New American Security, a Washington, D.C., think tank.

At the time, not much.

Former President Donald Trump and some in his administration latched onto the theory. But scientists focused on stopping the pandemic, and China dragged its feet on an international investigation.

Article continues after sponsor message

Now, though, the lab leak hypothesis seems to have found new life.

On Tuesday, the World Health Organization released a joint report with Beijing on the origins of the pandemic following a four-week investigation in China. It [concluded](#), among other things, that the lab leak hypothesis was "extremely unlikely."

But WHO Director-General Tedros Adhanom Ghebreyesus said he does not believe the team's assessment of the lab leak possibility was extensive enough.

"Although the team has concluded that a laboratory leak is the least likely hypothesis, this requires further investigation, potentially with additional

missions involving specialist experts, which I am ready to deploy," he told WHO members, according to a [written statement](#).

Jamie Metzl, a senior fellow at the Atlantic Council, has been an outspoken proponent of such an investigation.

"I'm not saying that I am certain that COVID-19 stems from an accidental lab leak, but it would be absolutely irresponsible and could only be politically motivated to say that it's not even worth having a full investigation," he said.

A State Department [fact sheet](#) from mid-January highlights reports of sick lab researchers at the Wuhan Institute of Virology in the fall of 2019, notes the dangerous type of coronavirus research the lab was conducting and said there was also secret military activity at the lab.

China has refuted the claims. Critics of the WHO report, such as Metzl, said the expert team that visited the lab took their Chinese interlocutors at their word and didn't dig. Metzl said that's insufficient.

"If in the middle of the worst pandemic in a century, China wants to tell the rest of the world, 'Screw you, it's not even worth investigating,' that's on them. But we shouldn't give them a free pass," he said.

While Metzl and others, like Feith, believe there is more circumstantial evidence that SARS-CoV-2, the virus that causes COVID-19, came from a lab than naturally, many scientists say the opposite. Based on the available evidence, they believe, like the WHO team, that the coronavirus appears far more likely to have emerged naturally.

Alina Chan, a postdoctoral scientist working on genetics at the Broad Institute in Boston, said this is a critical juncture.

"This time it's China that's in the hot spot. ... But next time, maybe it's not China. So, if we decide that we cannot investigate, we just give up this time, then other countries might feel that there isn't an accountability mechanism in place," she said.

That could potentially lead to less stringent, and more dangerous, lab conditions, she said.

Politics at play

Meanwhile, not far beneath the surface of the debate are geopolitical tensions between China and the United States — relations between the two countries soured in the last year under Trump and show no signs of improving under the Biden administration.

Trump sought to place maximum blame for COVID-19 on China — and pushed the lab leak theory — in what some of his critics saw as an effort to deflect criticism of his own handling of the pandemic.

But Scott Kennedy at the Center for Strategic and International Studies said China's [foot-dragging](#) on an investigation, [counter-accusations](#) and secrecy haven't helped its case.

"The West prides itself on its openness and transparency relative to authoritarian places like China, so in the competition for soft power and legitimacy this is a useful topic to continue to push," he said.

For its part, the Biden administration joined 13 other governments to criticize the WHO report and call for more openness from China on Tuesday. In a [joint statement](#), they did not mention the lab leak theory, but the Biden administration hasn't ruled it out.

"I think the administration has made it pretty clear that given the lack of

Chinese transparency, it is not comfortable eliminating the lab escape theory," said Elizabeth Economy, a senior fellow at Stanford University's Hoover Institution.

"The fact that WHO head Tedros, who has previously championed China's transparency, stated that more extensive research was needed before eliminating the possibility that the virus escaped from the lab signals that continued skepticism is merited," Economy said.

Impact on U.S.-China relations

Still, some worry that a hard-charging focus on hypothetical lab accidents might further bog down U.S.-China relations, which are at their rockiest in decades.

Deborah Seligsohn, an assistant professor at Pennsylvania's Villanova University, was in charge of science and health issues at the U.S. Embassy in Beijing during the SARS epidemic in the early 2000s. She said there's been a lot of cooperation between China and the United States in the field of science and public health, including on this pandemic, and it's not best served by piling pressure on Beijing.

"I think that leads to a lot of accusations and eventually someone decides to diffuse it by coming up with some sort of face-saving agreement, but I don't think it actually leads to science," she said.

And, for better or worse, pushing hard might make it tougher to get answers about the origins of the pandemic — which will be difficult to do under any circumstances.

"I think the genetics will tell you about the virus. I think it would be very difficult to tell you where it got into the human population and how it spread

and whether it came from a lab or it didn't come from the lab. I think that's going to be very hard," said [Barry Bloom](#), an immunologist and infectious disease expert at Harvard T.H. Chan School of Public Health.

"And no matter how good the rational explanations of another WHO committee, there's a subset of people in both countries that will not believe the most likely answers."

The Lab-Leak Hypothesis

[Nicholson Baker](#) Jan. 4, 2021

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

By

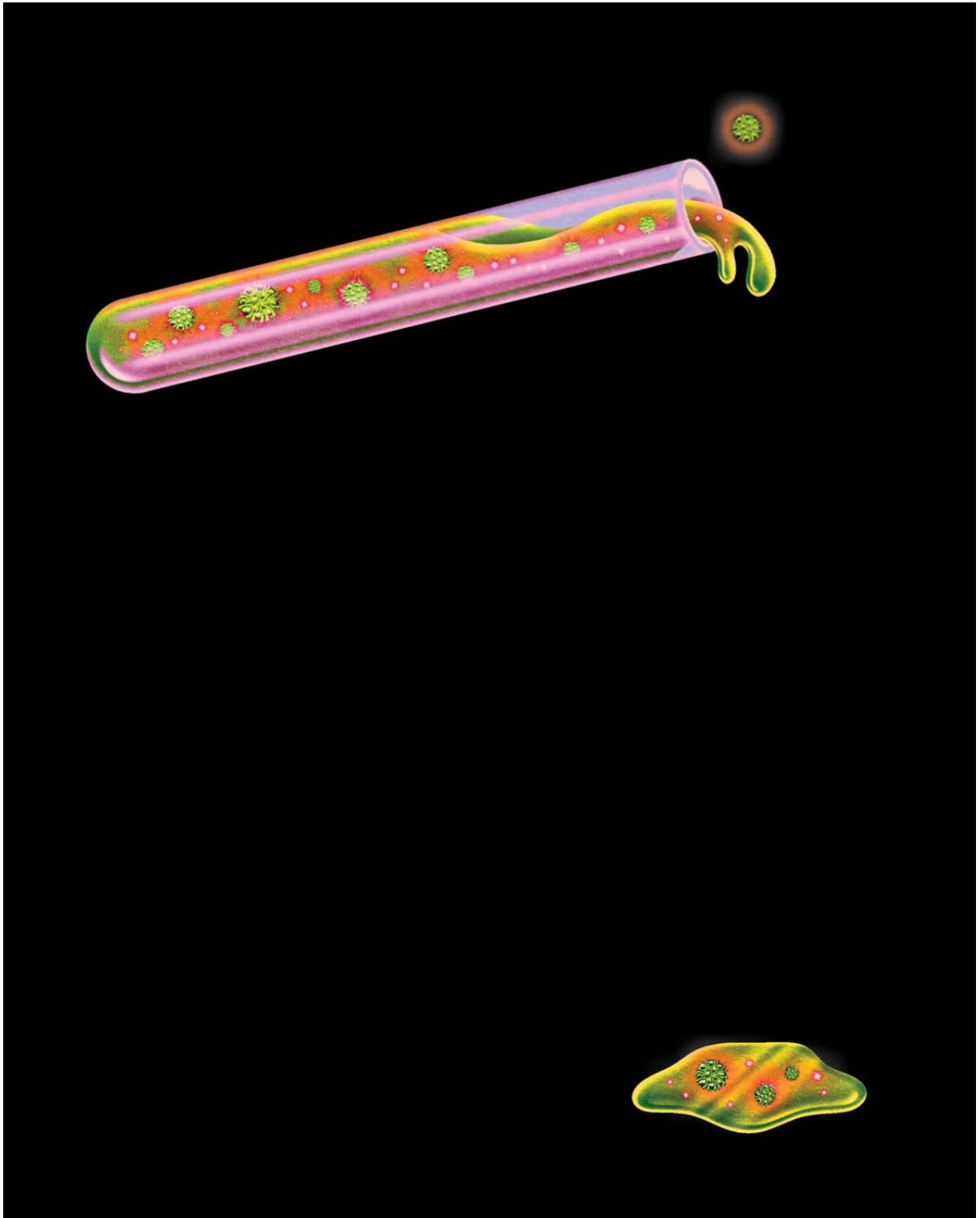


Illustration: Illustration by Robert Beatty for New York Magazine

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I.

Flask Monsters

What happened was fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, [80 million people](#)

[have been infected](#), and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” [wrote](#) infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in [Bulletin of the Atomic Scientists](#), Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

II.

“A Reasonable Chance”



Seeking Ebola strains in Sierra Leone's wild-animal population for USAID's Predict project in 2018.
Photo: Simon Townsley

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who'd suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published [a paper](#) saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in

Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, [*Baseless*](#), that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964,

veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic fever. "I watched him die through a little window to his quarantine room at the Detrick infirmary," she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease [leaked from a faulty drainpipe](#) at the Institute for Animal Health in Surrey. In the U.S., "more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012," reported *USA Today* in [an exposé](#) published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had [mistakenly sent close to 200 shipments of live anthrax](#) to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where "defensive" research involves the creation of potential pathogens to defend against — [were shut down](#) for several months by the Centers for Disease Control and Prevention for "breaches of containment." They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don't always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. "There is a reasonable chance that what we are dealing with is the result of a lab accident," Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. "I don't know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time."

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the

work being done there to create “chimeric” (i.e., hybrid) SARS-related bat coronaviruses “with enhanced human infectivity.” Ebright said, “In this context, the news of a novel coronavirus in Wuhan ***screamed*** lab release.”

III.

“No Credible Evidence”

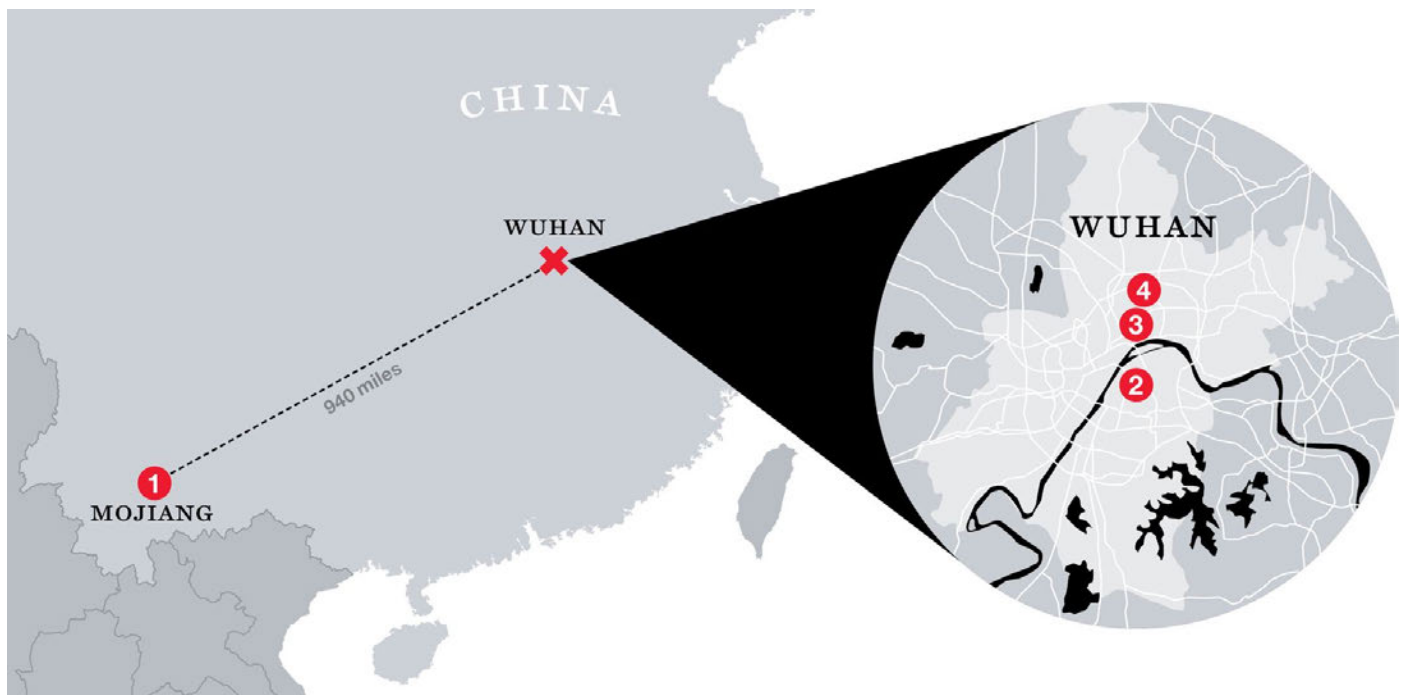
The new disease, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others [bullied and harassed Asian Americans](#). Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”

In *The Lancet*, in February, a powerful [counterstatement](#) appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude

that this coronavirus originated in wildlife, as have so many other emerging pathogens."

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called [EcoHealth Alliance](#) — a group that (as veteran science journalist Fred Guttenberg explained later in [Newsweek](#)) has channeled money from the National Institutes of Health to Shi Zhengli's laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. "We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye," Daszak said in February in [Science](#) magazine.



How Did It Get Out? 1. The Tongguan Mine Shaft in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARS-CoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli's team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called [This Week in Virology](#), said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s. “Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the Raleigh [News & Observer](#), “The conspiracy theory is ridiculous.”

The [most influential natural-origin paper](#), “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. “We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the

features came about through some kind of natural mutation or recombination. "What we think," explained one of the authors, Robert F. Garry of Tulane University, [on YouTube](#), "is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin." Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. "The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else," said the *Washington Post's* "Fact Checker" column. "Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus," said [CBS News](#), posting a video interview of Anthony Fauci by *National Geographic*. "If you look at the evolution of the virus in bats, and what's out there now," Fauci said, "it's very, very strongly leaning toward 'This could not have been artificially or deliberately manipulated' — the way the mutations have naturally evolved."

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don't-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. "The administration's claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened," wrote science journalist Mara Hvistendahl in [the Intercept](#).

IV.

"Is It a Complete Coincidence?"

Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.

One person was Sam Hussein, an independent journalist. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC's representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

"Obviously the main concern is how to stop the virus," Hussein said; nonetheless, he wanted to know more about its source. "Is it the CDC's contention," he asked, "that there's absolutely no relation to the BSL-4 lab in Wuhan? It's my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents." (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. "I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?"

Schuchat thanked Hussein for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a

sequence of amino acids that formed what Etienne Decroly and colleagues called a “peculiar furin-like cleavage site” — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell’s outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it’s a roar: “R-R-A-R.” The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the “pathogenicity” — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted [a short paper](#) on a preprint server titled “The Possible Origins of 2019-nCoV Coronavirus.” Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. “The killer coronavirus probably originated from a laboratory in Wuhan,” Xiao believed. He urged the relocation of “biohazardous laboratories” away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chi-

taï, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was “unlikely to have four amino acids added all at once,” Fang said — natural mutations were smaller and more haphazard, he argued. “From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans.” When the *Taiwan News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”

V.

“A Serious Shortage of Appropriately Trained Technicians”

In the spring, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn’t start killing humans, though, until 2003 — that’s when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually [traced to horseshoe bats](#).

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China’s National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization’s safety

investigators [wrote](#), in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” [wrote](#) Washington *Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

I’m just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?

MERS arose in 2012, [possibly spread by camels](#) that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the Washington *Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

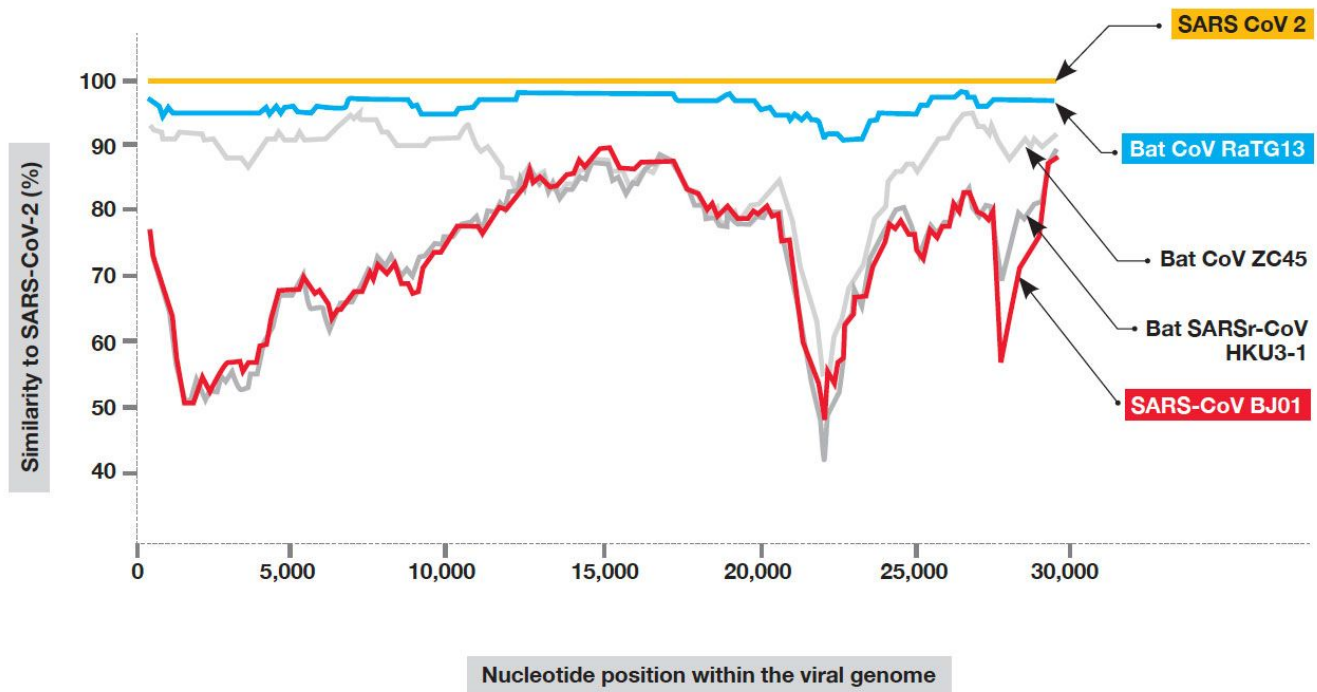
VI.

Emergence

Now let’s take a step back. AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote [a horrific account](#) of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s [The Coming Plague: Newly Emerging Diseases in a World Out of Balance](#) appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn’t arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a

few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



Where Did It Come From? This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus,

while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn't do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: "It is clear that MHV can rapidly alter its species specificity and infect rats and primates," Baric said. "The resulting virus variants are associated with demyelinating diseases in these alternative species." (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of "interspecies transfer" experimentation, Baric's scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They'd found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their "infectious construct" replicated itself just like the real thing, [they wrote](#).

Not only that, but they'd figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the "no-see'm method," and he asserted that it had "broad and largely unappreciated molecular biology applications." The method was named, he wrote, after a "very small biting insect that is occasionally found on North Carolina beaches."

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as "the Wild Wild West." In 2007, Baric said that we had entered "the golden age of coronavirus genetics."

"I would be afraid to look in their freezers," one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

VII.

"I Had Not Slept a Wink"



Virologist Shi Zhengli at the Wuhan Institute of Virology in 2017. Photo: Feature China / Barcroft Studios / Future Publishing / Getty Images

Early in the pandemic, *Scientific American* [profiled](#) Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction

Agency of the Department of Defense via Peter Daszak's EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: "I had never expected this kind of thing to happen in Wuhan, in central China." The bat hiding places that she'd been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. "That really took a load off my mind," she said. "I had not slept a wink for days."

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn't happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. "The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits," she wrote. "I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory." She advised those who believed rumors, and gave credence to unreliable scientific papers, to "shut their stinking mouths."

VIII.

" 'Bug to Drug' in 24 Hours"

It wasn't only AIDS that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late '90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, "U.S. Germ Warfare Research Pushes Treaty Limits," appeared in the New York [Times](#) on September 4, 2001, one week before 9/11. "Pentagon Says Projects Are Defense, Is Pressing Ahead," was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [sic] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci

said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. “We are making this the highest priority,” Fauci said. “We are really marshaling all available resources.”

I would be afraid to look in their freezers.

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than [750 scientists sent a protest letter](#) to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’ ”

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultra-lethal germs on the government's select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government's own researchers. [Bruce Ivins](#), an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman's fascinating biography of Ivins, *Mirage Man*.) Fauci's staff at NIH funded Ivins's vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH's \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

"The whole incident amounted to a snake eating its own tail," wrote Wendy Orent in [an August 2008 piece](#) titled "Our Own Worst Bioenemy" in the *Los Angeles Times*. "No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did." What confirmed Ivins's guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

IX.

"Weapons of Mass Disruption"

After SARS appeared in 2003, Ralph Baric's laboratory moved up the NIH funding ladder. SARS was a "dual use" organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote [a long, fairly creepy](#)

[paper](#) on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “ ‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric’s safety record is good — although there was a minor mouse-bite incident in 2016, [uncovered by ProPublica](#) — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike

proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. "By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission," Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent "numerous adaptive mutations" before settling down. Perhaps viral nature hit a bull's-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric's

work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

“Risky Areas for Spillover”

Project Bioshield began to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of [GenBank](#), the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli's bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet [announced](#) that Shi Zhengli's virus hunters, with Predict's support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or "angiotensin-converting enzyme 2," receptor, which Baric's laboratory had determined to be the sine qua non of human infectivity. "This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people," Mazet [said](#).

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel's painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended "through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh," Daszak [wrote](#). "Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?"

XI.

"Lab-Made?"

There are, in fact, some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when

pressed, that a lab origin can't be conclusively ruled out and a natural origin can't be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rhinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2's crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait — but no: Snakes don't typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, [reported](#) that they had created a "computational pipeline" to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque,

and the bonobo. All these primates were “permissive” to the SARS-2 coronavirus and should undergo “further experimental investigation,” the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There’s also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn’t find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote [a massive, lucid paper](#) on Medium, “Lab-Made?,” which illumined the mysteries of the spike protein. Jonathan

Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a [close look at the small outbreak](#) of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in [Boston](#) magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a [paper](#) with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose [paper](#), "Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?," co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2's most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and "might be the result of lab manipulation techniques such as site directed mutagenesis." Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2's origins, in the [Times](#) of London, in July: "Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus," the *Times* authors write. "But did their courageous detective work lead inadvertently to a global disaster?"

XII.

"A New, Non-Natural Risk"

In 2011, a tall, confident Dutch scientist, Ron Fouchier, using grant money from Fauci's group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could "force" (his word) this potentially fatal disease to infect mammals, including humans, "via aerosols or respiratory droplets." Fouchier said his findings indicated that these avian influenza viruses, thus forced, "pose a risk of becoming pandemic in humans."

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching [editorial](#), "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."

These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking." "Important information and insights can come from generating a potentially dangerous virus in the laboratory," they wrote; the work can "help delineate the principles of virus transmission between species." The

work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. "Nature is the worst bioterrorist," Fauci told a reporter. "We know that through history."

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told [NPR](#). Baric and a former colleague from Vanderbilt University wrote a [long letter](#) to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF.

In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. "Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident," they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, "We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs." David Relman of Stanford Medical School said, "It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process." Richard Ebright wrote that creating and evaluating new threats very seldom increases security: "Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive." Lynn Klotz wrote, "Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak." Marc Lipsitch argued that gain-of-function experiments can mislead, "resulting in worse not better decisions," and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and "distinctly unwelcoming of public participation."

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: "Similar to nuclear or chemical weapons there is no going back once we get a thing in

our hands."

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published [a collaboration paper](#) with Shi Zhengli titled "A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence." Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: "hunching, ruffled fur." They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a "robust infection."

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations "may pose a future threat." Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, "move this virus from a candidate emerging pathogen to a clear and present danger."

Richard Ebright was trenchantly unenthusiastic. "The only impact of this work," [he said](#), "is the creation, in a lab, of a new, non-natural risk."

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. "The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,"

[reported](#) the UNC's website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially "poised to emerge in human populations." It was "an ongoing threat," Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 "poised for human emergence" paper was supported by eight different NIH grants. In 2015, Baric's lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. "The National Institutes of Health will again fund research that makes viruses more dangerous," said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH's office of science policy defended the decision. "These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health," she told [The Lancet](#). The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. "If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country."

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments "have done almost nothing to improve our preparedness for pandemics," he said, "yet they risked creating an accidental pandemic."

XIII.

"Proximity Is a Problem"

In April, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. "You are instructed to cease providing any funds to Wuhan Institute of Virology," it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the "nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future." Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan's scientists a sample of whatever they'd used to sequence the SARS-2 virus. Daszak was outraged ("I am not trained as a private detective"), and again he fought back. He was reluctant to give up his own secrets, too. "Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH," he told [Nature](#). "We don't think it's fair that we should have to reveal everything we do."

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. ("We're still close enough to the origin to really find out more details about where it has come from," Daszak told [Nature](#).)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak's EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand.

Baric is one of Daszak's partners in CREID. The virus hunting and collecting, which Richard Ebright likens to "looking for a gas leak with a lighted match," will continue and widen with U.S. funding. "We're going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start," Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the New York *Times* has [reported](#), the

WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published [a paper](#) in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. "If SARS-CoV-2 escaped from a lab to cause the pandemic," he wrote, "it will become critical to understand the chain of events and prevent this from happening again." Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. "A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet."

"The world is sitting on a precedent-setting decision right now," wrote Alina Chan on December 8. "It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS."

Just before this issue of *New York* went to press, I reached Ralph Baric by

phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn't respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan "and the pandemic took off." Then he said, "Can you rule out a laboratory escape? The answer in this case is probably not."

XIV.

Transmission

So how did we actually get this disease?

Here's what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out,

they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the

unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an

experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

**This article appears in the January 4, 2021, issue of New York Magazine.*

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One Great Story: A Nightly Newsletter for the Best of *New York*

The one story you shouldn't miss today, selected by *New York's* editors.

To: Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Cc: Lauer, Michael (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6)
From: Lauer, Michael (NIH/OD) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=90FE9CAE30C64CFBB67ABD568E882796-LAUERM]
Sent: Tue 2/2/2021 9:20:32 AM (UTC-06:00)
Subject: Re: Ecohealth Alliance award question/For awareness - have not seen bill text or additional info yet
FW: Meeting about ECCO health

Hi Michelle – very interesting!

Francis has asked for a meeting this Friday – for Larry, Carrie, and me. Attached are materials I sent.

(b) (5)

Does this make sense?

Many thanks, Mike

From: "Bulls, Michelle G. (NIH/OD) [E]" (b) (6)
Date: Tuesday, February 2, 2021 at 9:27 AM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Bulls, Michelle G. (NIH/OD) [E]" (b) (6)
Subject: FW: Ecohealth Alliance award question/For awareness - have not seen bill text or additional info yet

Hi there, Mike!

(b) (5)

Let me know if something changes so that I can assist Emily. Thanks!!

From: Linde, Emily (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 29, 2021 4:42 PM
To: Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Cc: Genovese, Alissa (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6)
Subject: Ecohealth Alliance award question/For awareness - have not seen bill text or additional info yet

Hi Michelle,

We were notified of potential legislative activity impacting (if passed) awards to ECO Health and I wanted to be sure you were aware in case it is passed. I also include one question in **bold** below (b) (5)

There are several pending application to that organization, but I have only identified these awards as active:

PI: Dazak 2R01AI110964-06, which is currently reinstated with all activities suspended, and another award, (b) (5)

PI: Dazak U01AI151797-01, which was issued later in FY20 and for which we, in consultation with OPERA, added the same terms requiring copies of subaward agreements and proof of timely FFATA subaward reporting as a precautionary measure

PI: Epstein 1 U01 AI 153420 – 01, which was issued later in FY20 and included the FFATA subaward reporting term

Thank you,

Emily

From: Haskins, Melinda (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 29, 2021 12:52 PM
To: Billet, Courtney (NIH/NIAID) [E] (b) (6); Harper, Jill (NIH/NIAID) [E] (b) (6); Fenton, Matthew

(NIH/NIAID) [E] (b) (6); Erbelding, Emily (NIH/NIAID) [E] (b) (6)
Cc: NIAID OCGR Leg (b) (6); NIAID BUGS (b) (6); Linde, Emily (NIH/NIAID) [E]
(b) (6); Stover, Kathy (NIH/NIAID) [E] (b) (6)
Subject: For awareness - have not seen bill text or additional info yet

FYI

From: Crawford, Chase (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 29, 2021 12:48 PM
To: NIAID OCGR Leg (b) (6)
Subject: for awareness - have not seen bill text or additional info yet

HR 591

Sponsor:

[Reschenthaler](#) (R-Pa.)

Official Title:

A bill to prohibit Federal funding to [EcoHealth Alliance, Inc.](#), and for other purposes.

Introduced:

January 28, 2021

Committees:

House Oversight and Reform

Cosponsors:

No reported cosponsors

Bill Actions

Sort actions by date: [Sort](#)

Jan. 28, 2021 — [Reschenthaler, R-Pa.](#), Submits a constitutional authority statement on the legislation. Congressional Record p. H252

Jan. 28, 2021 — Read twice and referred to: House Oversight and Reform. Congressional Record p. H246

From: [Lauer, Michael \(NIH/OD\) \[E\]](#)
To: [Tabak, Lawrence \(NIH/OD\) \[E\]](#)
Cc: [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: FW: Meeting about ECCO health
Date: Sunday, January 31, 2021 3:00:21 PM
Attachments: [NIH Response to EcoHealth Response to Suspension 10_23_20.pdf](#)
[Daszak 7 8 20.pdf](#)
[Did the Coronavirus Escape From a Lab.pdf](#)
[The World Needs a Real Investigation Into the Origins of Covid-19 - WSJ.pdf](#)
[29246.full-2.pdf](#)

Hi Larry – materials that might be helpful.

Thanks, Mike

From: "Tabak, Lawrence (NIH/OD) [E]" (b) (6)
Date: Sunday, January 31, 2021 at 2:35 PM
To: "McManus, Ayanna (NIH/OD) [E]" (b) (6), "Wood, Gretchen (NIH/OD) [E]" (b) (6)
Cc: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Wolinetz, Carrie (NIH/OD) [E]" (b) (6)
Subject: Meeting about ECCO health

Francis would like a meeting with Mike, Carrie, and me about ECCO health, this week or next.

30 min should suffice.

Thanks

Larry



National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

23 October 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

I am following up on Mr. Krinsky's August 13, 2020, letter on behalf of EcoHealth Alliance, Inc. ("EcoHealth") responding to NIH's suspension of grant R01AI110964, which funds the project *Understanding the Risk of Bat Coronavirus Emergence* (the "Project"). Per my letter of July 8, 2020, NIH reinstated the grant but suspended all award activities because we have concerns that the Wuhan Institute of Virology (WIV), which previously served as a subrecipient of the Project, had not satisfied safety requirements that applied to its subawards with EcoHealth, and that EcoHealth had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. EcoHealth objected to the suspension on the grounds that WIV has no *current* connection to the Project or EcoHealth's research, and EcoHealth had not issued any subawards in connection with the Grant *at the time of the suspension*.

The fact that EcoHealth does not currently have a subrecipient relationship with WIV and had not issued subawards to WIV at the time of suspension does not absolve EcoHealth of any past non-compliance with the terms and conditions of award for grant R01AI110964. While EcoHealth did not issue a subaward to WIV for year 6 of the grant, WIV served as a subrecipient for years 1 through 5. NIH awarded EcoHealth grant R01AI110964 in 2014, with a project period of June 1, 2014, through June 30, 2024, as renewed. In EcoHealth's grant application, EcoHealth listed Drs. Zheng Li Shi and Xing Yi Ge of WIV as co-investigators and senior/key personnel. It stated that "Drs. Shi, Zhang, and Daszak have collaborated together since 2002 and have been involved in running joint conferences, and shipping samples into and out of China." EcoHealth listed WIV as a Project/Performance Site Location. In describing WIV's facilities, EcoHealth described WIV as China's premier institute for virological research" and touted WIV's "fully equipped biosafety level 3 laboratory" and "a newly opened BLS-4 laboratory." In support of the application, Dr. Zheng Li Shi's personal statement indicated that "My lab will be responsible for diagnosis, genomics and isolation of coronavirus from wild and domestic animals in Southern China and for analyzing their receptor binding domains." The application stated that "Wuhan Institute of Virology and the Wuhan University Center for Animal Experiment BSL-3

lab have an Internal Biosafety Committee and are accredited BSL-2 and BSL 3 laboratories. All experimental work using infectious material will be conducted under appropriate biosafety standards. Disposal of hazardous materials will be conducted according to the institutional biosafety regulations.”

EcoHealth requested funding specifically for activities to be carried out by WIV. NIH awarded EcoHealth a total of \$749,976 for WIV’s work in the following annual amounts for years 1 through 5:

	-Yr 1	-Yr 2	-Yr 3	-Yr 4	-Yr 5
Total Direct Costs	\$123,699	\$128,718	\$147,335	\$147,335	\$147,335
F&A Costs @ 8%	\$9,896	\$10,297	\$11,787	\$11,787	\$11,787
TOTAL COSTS	\$133,595	\$139,015	\$159,122	\$159,122	\$159,122

As stated in the Notices of Award for each budget period of the grant, the awards were subject to terms and conditions, which include the NIH Grants Policy Statement (GPS) and applicable HHS grant regulations. As I indicated in my letter of July 8, 2020, as a term and condition of award EcoHealth was required to “monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . .” 45 C.F.R. § 75.352(d). See also, 45 C.F.R. § 75.342(a) (“The non-Federal entity is responsible for oversight of the operations of the Federal award supported activities.”). Moreover, EcoHealth was required to “Establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award[.]” 45 C.F.R. § 75.303(a). The Notice of Award stated that as a term and condition of award, “Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)].” Moreover, the NIH GPS provides that NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients, so these terms applied to WIV. 45 C.F.R. § 75.101.

As I stated, NIH has concerns of non-compliance with terms and conditions of award—namely, that WIV had not satisfied safety requirements under the award and that EcoHealth Alliance had not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance. Accordingly, NIH suspended all activities related to R01AI110964, pursuant to 45 C.F.R. § 75.371, Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, Section 8.5.2, which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare.

In my letter of July 8, 2020, I provided EcoHealth with the opportunity to object and to provide information and documentation challenging the suspension. Specifically, I sought information and materials that speak to WIV’s lab safety and EcoHealth’s oversight of its subrecipient, and an inspection of WIV’s laboratory records and facilities. I indicated that as a specific condition of award, during the period of suspension, EcoHealth Alliance may not allow research under this

project to be conducted and that no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients.

EcoHealth objected to the requests on the grounds that “NIAID is not authorized under 45 CFR §§ 75.371, 75.205, and 75.207, entitled *Specific Award Conditions*, to impose, *inter alia*, conditions that consist of demands for information regarding entities that are neither subrecipients of grant funds nor project affiliates.”

These provisions are irrelevant to NIH’s requests. NIH is required to permit the opportunity for recipients to object and provide information and documentation challenging a suspension, 45 C.F.R. § 75.374, so we specifically gave EcoHealth the opportunity to provide information that speaks to NIH’s concerns. Moreover, as a granting agency, NIH is required to “manage and administer the Federal award in a manner so as to ensure that Federal funding is expended and associated programs are implemented in full accordance with U.S. statutory and public policy requirements: Including, but not limited to, those protecting public welfare [and] the environment[.]” 45 C.F.R. § 75.300(a). In addition to seeking information that speaks to compliance with terms and conditions of award, NIH is entitled to “make site visits as warranted by program needs.” 45 C.F.R. § 75.342. As a term and condition of award, NIH “must have the right of access to any documents, papers, or other records of the non-Federal entity which are pertinent to the Federal award, in order to make audits, examinations, excerpts, and transcripts” (45 C.F.R. § 75.364); and must have “timely and reasonable access to the non-Federal entity’s personnel for the purpose of interview and discussion related to such documents” (*id.*). These requirements flow down to subawards to subrecipients. 45 C.F.R. § 75.101. “Non-Federal entities must comply with requirements in [45 C.F.R. Part 75] regardless of whether the non-Federal entity is a recipient or subrecipient of a Federal award.” 45 C.F.R. 75.101. As the grantee, EcoHealth was required to have in place, “A requirement that the subrecipient permit the pass-through entity and auditors to have access to the subrecipient’s records and financial statements as necessary for the pass-through entity to meet the requirements of this part.” 45 C.F.R. § 75.352(a)(5). For each of these reasons, NIH is justified in seeking the materials, information, and a site visit specified in my letter of July 8, 2020.

In addition to objecting to NIH’s authority to seek the materials, information, and a site visit, EcoHealth has responded that it lacks knowledge or information regarding the requests; that it is not in possession, custody, or control of the specified items; and that it has no authority to grant NIAID and the U.S. National Academy of Sciences access to WIV’s facility to conduct an inspection. EcoHealth’s responses have not satisfied NIH’s concerns that EcoHealth had failed to adequately monitor the compliance of its subrecipient, and that the subrecipient, WIV, had failed to comply with safety requirements.

Notwithstanding this, NIH is providing an additional opportunity for EcoHealth to provide information and documentation challenging these concerns of non-compliance. Accordingly, in addition to reiterating our prior requests (1) through (6) per our letter of July 8, 2020, NIH requests the following information and materials, which must be complete and accurate:

1. Provide copies of all EcoHealth Alliance – WIV subrecipient agreements as well as any other documents and information describing how EcoHealth Alliance monitored WIV's compliance with the terms and conditions of award, including with respect to biosafety.
2. Describe EcoHealth's efforts to evaluate WIV's risk of noncompliance with Federal statutes, regulations, and the terms and conditions of the subaward.
3. Provide copies of all WIV biosafety reports from June 1, 2014 through May 31, 2019.

During the ongoing period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess whether EcoHealth Alliance and WIV complied with the terms and conditions of award, including compliance with other terms and conditions of award that may be implicated. We remind you that during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the continued suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 C.F.R. Part 75, including, but not limited to, terminating the grant award or disallowing costs. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: (b) (6)

cc: Dr. Erik Stemmy (NIAID)
Ms. Emily Linde (NIAID)



National Institutes of Health
National Institute of Allergy
and Infectious Diseases
Bethesda, Maryland 20892

8 July 2020

Drs. Aleksei Chmura and Peter Daszak
EcoHealth Alliance, Inc.
460 W 34th St
Suite 1701
New York, NY 10001

Re: NIH Grant R01AI110964

Dear Drs. Chmura and Daszak:

In follow-up to my previous letter of April 24, 2020, I am writing to notify you that the National Institute of Allergy and Infectious Diseases (NIAID), an Institute within the National Institutes of Health (NIH), under the Department of Health and Human Services (HHS), has withdrawn its termination of grant R01AI110964, which supports the project *Understanding the Risk of Bat Coronavirus Emergence*. Accordingly, the grant is reinstated.

However, as you are aware, the NIH has received reports that the Wuhan Institute of Virology (WIV), a subrecipient of EcoHealth Alliance under R01AI110964, has been conducting research at its facilities in China that pose serious bio-safety concerns and, as a result, create health and welfare threats to the public in China and other countries, including the United States. Grant award R01AI110964 is subject to biosafety requirements set forth in the NIH Grants Policy Statement (e.g., NIH GPS, Section 4.1.24 "Public Health Security") and the Notice of Award (e.g., requiring that "Research funded under this grant must adhere to the [CDC/NIH Biosafety in Microbiological and Biomedical Laboratories (BMBL)]."). Moreover, NIH grant recipients are expected to provide safe working conditions for their employees and foster work environments conducive to high-quality research. NIH GPS, Section 4. The terms and conditions of the grant award flow down to subawards to subrecipients. 45 C.F.R. § 75.101.

As the grantee, EcoHealth Alliance was required to "monitor the activities of the subrecipient as necessary to ensure that the subaward is used for authorized purposes, in compliance with Federal statutes, regulations, and the terms and conditions of the subaward . . ." 45 C.F.R. § 75.352(d). We have concerns that WIV has not satisfied safety requirements under the award, and that EcoHealth Alliance has not satisfied its obligations to monitor the activities of its subrecipient to ensure compliance.

Moreover, as we have informed you through prior Notices of Award, this award is subject to the Transparency Act subaward and executive compensation reporting requirement of 2 C.F.R. Part

170. To date you have not reported any subawards in the [Federal Subaward Reporting System](#).

Therefore, effective the date of this letter, July 8, 2020, NIH is suspending all activities related to R01AI110964, until such time as these concerns have been addressed to NIH's satisfaction. This suspension is taken in accordance with [45 C.F.R. § 75.371](#), Remedies for Noncompliance, which permits suspension of award activities in cases of non-compliance, and the NIH GPS, [Section 8.5.2](#), which permits NIH to take immediate action to suspend a grant when necessary to protect the public health and welfare. This action is not appealable in accordance with 42 C.F.R. § 50.404 and the NIH GPS [Section 8.7](#), Grant Appeals Procedures. However, EcoHealth Alliance has the opportunity to provide information and documentation demonstrating that WIV and EcoHealth Alliance have satisfied the above-mentioned requirements.

Specifically, to address the NIH's concerns, EcoHealth must provide the NIH with the following information and materials, which must be complete and accurate:

1. Provide an aliquot of the actual SARS-CoV-2 virus that WIV used to determine the viral sequence.
2. Explain the apparent disappearance of Huang Yanling, a scientist / technician who worked in the WIV lab but whose lab web presence has been deleted.
3. Provide the NIH with WIV's responses to the 2018 U.S. Department of State cables regarding safety concerns.
4. Disclose and explain out-of-ordinary restrictions on laboratory facilities, as suggested, for example, by diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019.
5. Explain why WIV failed to note that the RaTG13 virus, the bat-derived coronavirus in its collection with the greatest similarity to SARS-CoV-2, was actually isolated from an abandoned mine where three men died in 2012 with an illness remarkably similar to COVID-19, and explain why this was not followed up.
6. Additionally, EcoHealth Alliance must arrange for WIV to submit to an outside inspection team charged to review the lab facilities and lab records, with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019. The inspection team should be granted full access to review the processes and safety of procedures of all of the WIV field work (including but not limited to collection of animals and biospecimens in caves, abandoned man-made underground cavities, or outdoor sites). The inspection team could be organized by NIAID, or, if preferred, by the U.S. National Academy of Sciences.
7. Lastly, EcoHealth Alliance must ensure that all of its subawards are fully reported in the [Federal Subaward Reporting System](#)

During this period of suspension, NIH will continue to review the activities under this award, taking into consideration information provided by EcoHealth Alliance, to further assess compliance by EcoHealth Alliance and WIV, including compliance with other terms and conditions of award that may be implicated. Additionally, during the period of suspension, EcoHealth Alliance may not allow research under this project to be conducted. Further, no funds from grant R01AI110964 may be provided to or expended by EcoHealth Alliance or any subrecipients; all such charges are unallowable. It is EcoHealth Alliance's responsibility as the

recipient of this grant award to ensure that the terms of this suspension are communicated to and understood by all subrecipients. EcoHealth Alliance must provide adequate oversight to ensure compliance with the terms of the suspension. Any noncompliance of the terms of this suspension must be immediately reported to NIH. Once the original award is reinstated, NIH will take additional steps to restrict all funding in the HHS Payment Management System in the amount of \$369,819. EcoHealth Alliance will receive a revised Notice of Award from NIAID indicating the suspension of these research activities and funding restrictions as a specific condition of award.

Please note that this action does not preclude NIH from taking additional corrective or enforcement actions pursuant to 45 CFR Part 75, including, but not limited to, terminating the grant award. NIH may also take other remedies that may be legally available if NIH discovers other violations of terms and conditions of award on the part of EcoHealth Alliance or WIV.

.

Sincerely,

Michael S Lauer, MD
NIH Deputy Director for Extramural Research
Email: [REDACTED] (b) (6)

cc: Dr. Erik Stemmy
Ms. Emily Linde

The Lab-Leak Hypothesis

[Nicholson Baker](#) Jan. 4, 2021

For decades, scientists have been hot-wiring viruses in hopes of preventing a pandemic, not causing one. But what if ...?

By

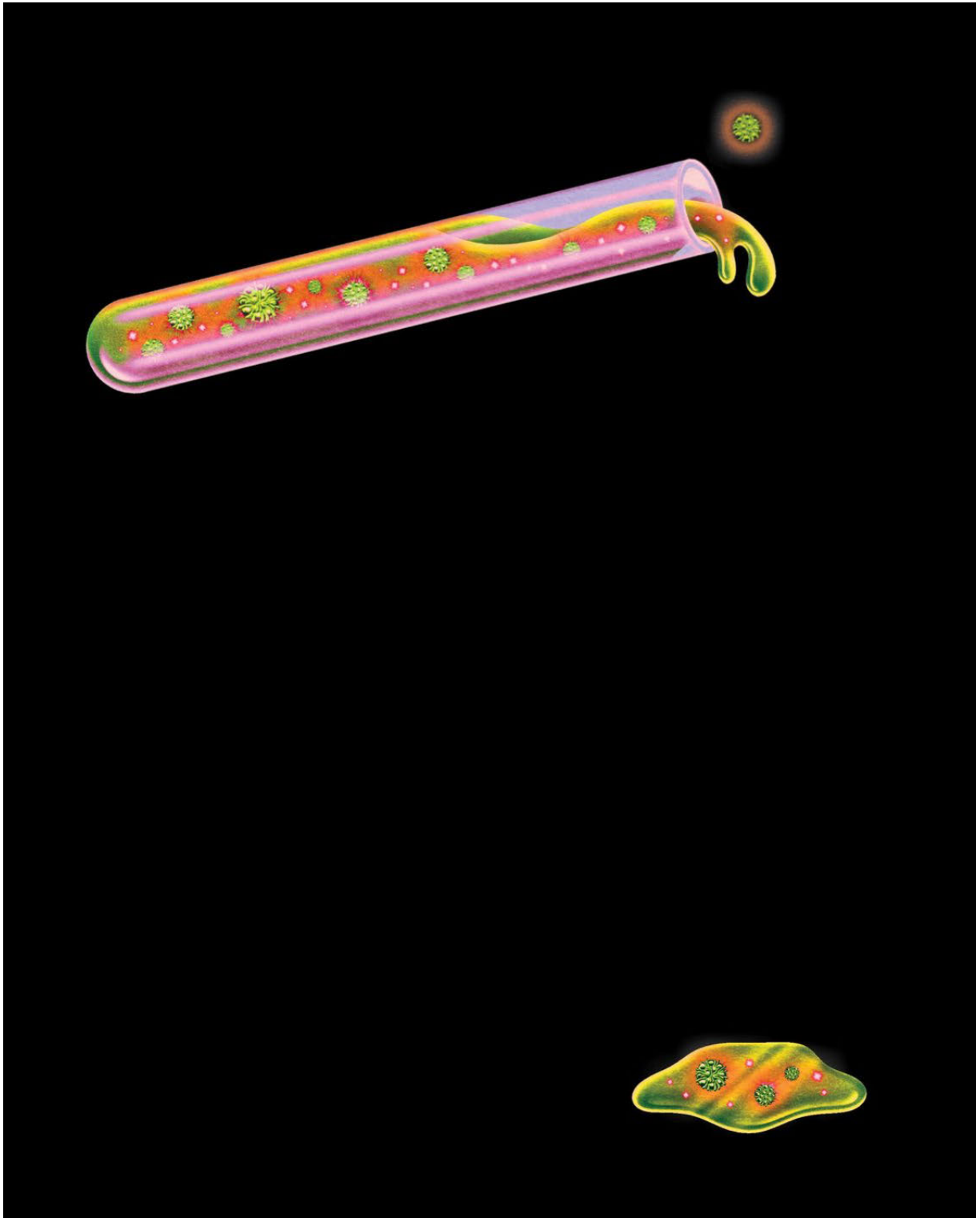


Illustration: Illustration by Robert Beatty for New York Magazine

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I.

Flask Monsters

What happened was fairly simple, I've come to believe. It was an accident. A virus spent some time in a laboratory, and eventually it got out. SARS-CoV-2, the virus that causes COVID-19, began its existence inside a bat, then it learned how to infect people in a claustrophobic mine shaft, and then it was made more infectious in one or more laboratories, perhaps as part of a scientist's well-intentioned but risky effort to create a broad-spectrum vaccine. SARS-2 was not designed as a biological weapon. But it was, I think, designed. Many thoughtful people dismiss this notion, and they may be right. They sincerely believe that the coronavirus arose naturally, "zoonotically," from animals, without having been previously studied, or hybridized, or sluiced through cell cultures, or otherwise worked on by trained professionals. They hold that a bat, carrying a coronavirus, infected some other creature, perhaps a pangolin, and that the pangolin may have already been sick with a different coronavirus disease, and out of the conjunction and commingling of those two diseases within the pangolin, a new disease, highly infectious to humans, evolved. Or they hypothesize that two coronaviruses recombined in a bat, and this new virus spread to other bats, and then the bats infected a person directly — in a rural setting, perhaps — and that this person caused a simmering undetected outbreak of respiratory disease, which over a period of months or years evolved to become virulent and highly transmissible but was not noticed until it appeared in Wuhan.

There is no direct evidence for these zoonotic possibilities, just as there is no direct evidence for an experimental mishap — no written confession, no incriminating notebook, no official accident report. Certainty craves detail, and detail requires an investigation. It has been a full year, [80 million people](#)

[have been infected](#), and, surprisingly, no public investigation has taken place. We still know very little about the origins of this disease.

Nevertheless, I think it's worth offering some historical context for our yearlong medical nightmare. We need to hear from the people who for years have contended that certain types of virus experimentation might lead to a disastrous pandemic like this one. And we need to stop hunting for new exotic diseases in the wild, shipping them back to laboratories, and hot-wiring their genomes to prove how dangerous to human life they might become.

Over the past few decades, scientists have developed ingenious methods of evolutionary acceleration and recombination, and they've learned how to trick viruses, coronaviruses in particular, those spiky hairballs of protein we now know so well, into moving quickly from one species of animal to another or from one type of cell culture to another. They've made machines that mix and mingle the viral code for bat diseases with the code for human diseases — diseases like SARS, severe acute respiratory syndrome, for example, which arose in China in 2003, and MERS, Middle East respiratory syndrome, which broke out a decade later and has to do with bats and camels. Some of the experiments — “gain of function” experiments — aimed to create new, more virulent, or more infectious strains of diseases in an effort to predict and therefore defend against threats that might conceivably arise in nature. The term *gain of function* is itself a euphemism; the Obama White House more accurately described this work as “experiments that may be reasonably anticipated to confer attributes to influenza, MERS, or SARS viruses such that the virus would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route.” The virologists who carried out these experiments have accomplished amazing feats of genetic transmutation, no question, and there have been very few publicized accidents over the years. But there have been some.

And we were warned, repeatedly. The intentional creation of new microbes that combine virulence with heightened transmissibility “poses extraordinary risks to the public,” [wrote](#) infectious-disease experts Marc Lipsitch and Thomas Inglesby in 2014. “A rigorous and transparent risk-assessment process for this work has not yet been established.” That’s still true today. In 2012, in [Bulletin of the Atomic Scientists](#), Lynn Klotz warned that there was an 80 percent chance, given how many laboratories were then handling virulent viro-varietals, that a leak of a potential pandemic pathogen would occur sometime in the next 12 years.

A lab accident — a dropped flask, a needle prick, a mouse bite, an illegibly labeled bottle — is apolitical. Proposing that something unfortunate happened during a scientific experiment in Wuhan — where COVID-19 was first diagnosed and where there are three high-security virology labs, one of which held in its freezers the most comprehensive inventory of sampled bat viruses in the world — isn’t a conspiracy theory. It’s just a theory. It merits attention, I believe, alongside other reasoned attempts to explain the source of our current catastrophe.

II.

“A Reasonable Chance”



Seeking Ebola strains in Sierra Leone's wild-animal population for USAID's Predict project in 2018.
Photo: Simon Townsley

From early 2020, the world was brooding over the origins of COVID-19. People were reading research papers, talking about what kinds of live animals were or were not sold at the Wuhan seafood market — wondering where the new virus had come from.

Meanwhile, things got strange all over the world. The Chinese government shut down transportation and built hospitals at high speed. There were video clips of people who'd suddenly dropped unconscious in the street. A doctor on YouTube told us how we were supposed to scrub down our produce when we got back from the supermarket. A scientist named Shi Zhengli of the Wuhan Institute of Virology published [a paper](#) saying that the novel coronavirus was 96 percent identical to a bat virus, RaTG13, found in

Yunnan province in southern China. On March 13, I wrote in my journal that there seemed to be something oddly artificial about the disease: "It's too airborne — too catching — it's something that has been selected for infectivity. That's what I suspect. No way to know so no reason to waste time thinking about it."

This was just a note to self — at the time, I hadn't interviewed scientists about SARS-2 or read their research papers. But I did know something about pathogens and laboratory accidents; I published a book last year, [*Baseless*](#), that talks about some of them. The book is named after a Pentagon program, Project Baseless, whose goal, as of 1951, was to achieve "an Air Force-wide combat capability in biological and chemical warfare at the earliest possible date."

A vast treasure was spent by the U.S. on the amplification and aerial delivery of diseases — some well known, others obscure and stealthy. America's biological-weapons program in the '50s had A1-priority status, as high as nuclear weapons. In preparation for a total war with a numerically superior communist foe, scientists bred germs to be resistant to antibiotics and other drug therapies, and they infected lab animals with them, using a technique called "serial passaging," in order to make the germs more virulent and more catching.

And along the way, there were laboratory accidents. By 1960, hundreds of American scientists and technicians had been hospitalized, victims of the diseases they were trying to weaponize. Charles Armstrong, of the National Institutes of Health, one of the consulting founders of the American germ-warfare program, investigated Q fever three times, and all three times, scientists and staffers got sick. In the anthrax pilot plant at Camp Detrick, Maryland, in 1951, a microbiologist, attempting to perfect the "foaming process" of high-volume production, developed a fever and died. In 1964,

veterinary worker Albert Nickel fell ill after being bitten by a lab animal. His wife wasn't told that he had Machupo virus, or Bolivian hemorrhagic fever. "I watched him die through a little window to his quarantine room at the Detrick infirmary," she said.

In 1977, a worldwide epidemic of influenza A began in Russia and China; it was eventually traced to a sample of an American strain of flu preserved in a laboratory freezer since 1950. In 1978, a hybrid strain of smallpox killed a medical photographer at a lab in Birmingham, England; in 2007, live foot-and-mouth disease [leaked from a faulty drainpipe](#) at the Institute for Animal Health in Surrey. In the U.S., "more than 1,100 laboratory incidents involving bacteria, viruses and toxins that pose significant or bioterror risks to people and agriculture were reported to federal regulators during 2008 through 2012," reported *USA Today* in [an exposé](#) published in 2014.

In 2015, the Department of Defense discovered that workers at a germ-warfare testing center in Utah had [mistakenly sent close to 200 shipments of live anthrax](#) to laboratories throughout the United States and also to Australia, Germany, Japan, South Korea, and several other countries over the past 12 years. In 2019, laboratories at Fort Detrick — where "defensive" research involves the creation of potential pathogens to defend against — [were shut down](#) for several months by the Centers for Disease Control and Prevention for "breaches of containment." They reopened in December 2019.

High-containment laboratories have a whispered history of near misses. Scientists are people, and people have clumsy moments and poke themselves and get bitten by the enraged animals they are trying to nasally inoculate. Machines can create invisible aerosols, and cell solutions can become contaminated. Waste systems don't always work properly. Things can go wrong in a hundred different ways.

Hold that human fallibility in your mind. And then consider the cautious words of Alina Chan, a scientist who works at the Broad Institute of MIT and Harvard. "There is a reasonable chance that what we are dealing with is the result of a lab accident," Chan told me in July of last year. There was also, she added, a reasonable chance that the disease had evolved naturally — both were scientific possibilities. "I don't know if we will ever find a smoking gun, especially if it was a lab accident. The stakes are so high now. It would be terrifying to be blamed for millions of cases of COVID-19 and possibly up to a million deaths by year end, if the pandemic continues to grow out of control. The Chinese government has also restricted their own scholars and scientists from looking into the origins of SARS-CoV-2. At this rate, the origin of SARS-CoV-2 may just be buried by the passage of time."

I asked Jonathan A. King, a molecular biologist and biosafety advocate from MIT, whether he'd thought *lab accident* when he first heard about the epidemic. "Absolutely, absolutely," King answered. Other scientists he knew were concerned as well. But scientists, he said, in general were cautious about speaking out. There were "very intense, very subtle pressures" on them not to push on issues of laboratory biohazards. Collecting lots of bat viruses, and passaging those viruses repeatedly through cell cultures, and making bat-human viral hybrids, King believes, "generates new threats and desperately needs to be reined in."

"All possibilities should be on the table, including a lab leak," a scientist from the NIH, Philip Murphy — chief of the Laboratory of Molecular Immunology — wrote me recently. Nikolai Petrovsky, a professor of endocrinology at Flinders University College of Medicine in Adelaide, Australia, said in an email, "There are indeed many unexplained features of this virus that are hard if not impossible to explain based on a completely natural origin." Richard Ebright, a molecular biologist at Rutgers University, wrote that he'd been concerned for some years about the Wuhan laboratory and about the

work being done there to create “chimeric” (i.e., hybrid) SARS-related bat coronaviruses “with enhanced human infectivity.” Ebright said, “In this context, the news of a novel coronavirus in Wuhan ***screamed*** lab release.”

III.

“No Credible Evidence”

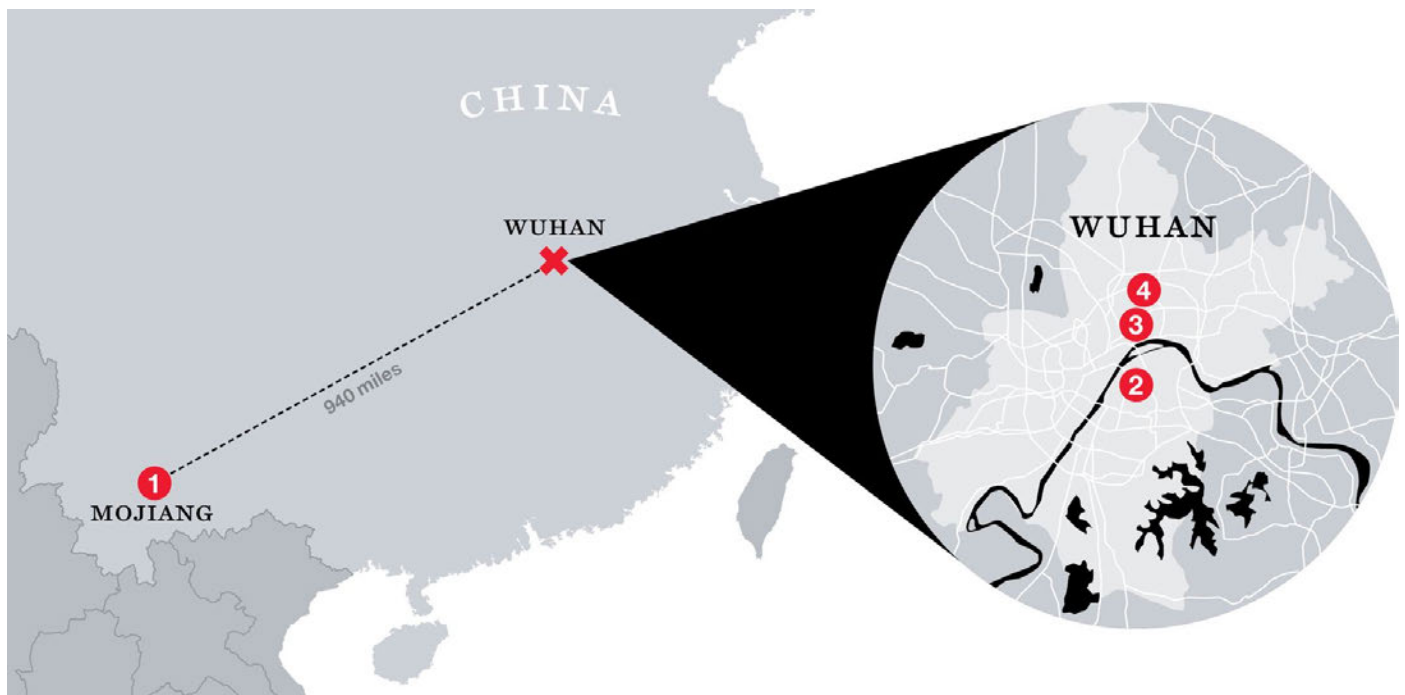
The new disease, as soon as it appeared, was intercepted — stolen and politicized by people with ulterior motives. The basic and extremely interesting scientific question of what happened was sucked up into an ideological sharknado.

Some Americans boycotted Chinese restaurants; others [bullied and harassed Asian Americans](#). Steve Bannon, broadcasting from his living room, in a YouTube series called *War Room*, said that the Chinese Communist Party had made a biological weapon and intentionally released it. He called it the “CCP virus.” And his billionaire friend and backer, Miles Guo, a devoted Trump supporter, told a right-wing website that the communists’ goal was to “use the virus to infect selective people in Hong Kong, so that the Chinese Communist Party could use it as an excuse to impose martial law there and ultimately crush the Hong Kong pro-democracy movement. But it backfired terribly.”

In *The Lancet*, in February, a powerful [counterstatement](#) appeared, signed by 27 scientists. “We stand together to strongly condemn conspiracy theories suggesting that COVID-19 does not have a natural origin,” the statement said. “Scientists from multiple countries have published and analyzed genomes of the causative agent, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), and they overwhelmingly conclude

that this coronavirus originated in wildlife, as have so many other emerging pathogens."

The behind-the-scenes organizer of this *Lancet* statement, Peter Daszak, is a zoologist and bat-virus sample collector and the head of a New York nonprofit called [EcoHealth Alliance](#) — a group that (as veteran science journalist Fred Gutler explained later in [Newsweek](#)) has channeled money from the National Institutes of Health to Shi Zhengli's laboratory in Wuhan, allowing the lab to carry on recombinant research into diseases of bats and humans. "We have a choice whether to stand up and support colleagues who are being attacked and threatened daily by conspiracy theorists or to just turn a blind eye," Daszak said in February in [Science](#) magazine.



How Did It Get Out? 1. The Tongguan Mine Shaft in Mojiang, Yunnan, where, in 2013, fragments of RaTG13, the closest known relative of SARS-CoV-2, were recovered and transported to the Wuhan Institute of Virology; **2. The Wuhan Institute of Virology**, where Shi Zhengli's team brought the RaTG13 sample, sequenced its genome, then took it out of the freezer several times in recent years; **3. The Wuhan Center for Disease Control and Prevention**, which first reported signs of the novel coronavirus in hospital patients; **4. The Huanan Seafood Wholesale Market**, an early suspected origin of the pandemic, where the first major outbreak occurred. Illustration: Map by Jason Lee

Vincent Racaniello, a professor at Columbia and a co-host of a podcast called [This Week in Virology](#), said on February 9 that the idea of an accident in Wuhan was “complete bunk.” The coronavirus was 96 percent similar to a bat virus found in 2013, Racaniello said. “It’s not a man-made virus. It wasn’t released from a lab.”

Racaniello’s dismissal was seconded by a group of scientists from Ohio State, the University of Pennsylvania, and the University of North Carolina, who put out a paper in *Emerging Microbes and Infections* to quiet the “speculations, rumors, and conspiracy theories that SARS-CoV-2 is of laboratory origin.” There was “currently no credible evidence” that SARS-2 leaked from a lab, these scientists said, using a somewhat different argument from Racaniello’s. “Some people have alleged that the human SARS-CoV-2 was leaked directly from a laboratory in Wuhan where a bat CoV (RaTG13) was recently reported,” they said. But RaTG13 could not be the source because it differed from the human SARS-2 virus by more than a thousand nucleotides. One of the paper’s authors, Susan Weiss, told the Raleigh [News & Observer](#), “The conspiracy theory is ridiculous.”

The [most influential natural-origin paper](#), “The Proximal Origin of SARS-CoV-2,” by a group of biologists that included Kristian Andersen of Scripps Research, appeared online in a preliminary version in mid-February. “We do not believe any type of laboratory-based scenario is plausible,” the scientists said. Why? Because molecular-modeling software predicted that if you wanted to optimize an existing bat virus so that it would replicate well in human cells, you would arrange things a different way than how the SARS-2 virus actually does it — even though the SARS-2 virus does an extraordinarily good job of replicating in human cells. The laboratory-based scenario was implausible, the paper said, because, although it was true that the virus could conceivably have developed its unusual genetic features in a laboratory, a stronger and “more parsimonious” explanation was that the

features came about through some kind of natural mutation or recombination. "What we think," explained one of the authors, Robert F. Garry of Tulane University, [on YouTube](#), "is that this virus is a recombinant. It probably came from a bat virus, plus perhaps one of these viruses from the pangolin." Journalists, for the most part, echoed the authoritative pronouncements of Daszak, Racaniello, Weiss, Andersen, and other prominent natural-originists. "The balance of the scientific evidence strongly supports the conclusion that the new coronavirus emerged from nature — be it the Wuhan market or somewhere else," said the *Washington Post's* "Fact Checker" column. "Dr. Fauci Again Dismisses Wuhan Lab As Source of Coronavirus," said [CBS News](#), posting a video interview of Anthony Fauci by *National Geographic*. "If you look at the evolution of the virus in bats, and what's out there now," Fauci said, "it's very, very strongly leaning toward 'This could not have been artificially or deliberately manipulated' — the way the mutations have naturally evolved."

Everyone took sides; everyone thought of the new disease as one more episode in an ongoing partisan struggle. Think of Mike Pompeo, that landmass of Cold War truculence; think of Donald Trump himself. They stood at their microphones saying, in a winking, I-know-something-you-don't-know sort of way, that this disease escaped from a Chinese laboratory. Whatever they were saying must be wrong. It became impermissible, almost taboo, to admit that, of course, SARS-2 could have come from a lab accident. "The administration's claim that the virus spread from a Wuhan lab has made the notion politically toxic, even among scientists who say it could have happened," wrote science journalist Mara Hvistendahl in [the Intercept](#).

IV.

"Is It a Complete Coincidence?"

Even so, in January and February of 2020, there were thoughtful people who were speaking up, formulating their perplexities.

One person was Sam Hussein, an independent journalist. He went to a CDC press conference at the National Press Club on February 11, 2020. By then, 42,000 people had gotten sick in China and more than a thousand had died. But there were only 13 confirmed cases in the U.S. Halfway through the Q&A period, Hussein went to the microphone and asked the CDC's representative, Anne Schuchat, where the virus had come from. His head was spinning, he told me later.

"Obviously the main concern is how to stop the virus," Hussein said; nonetheless, he wanted to know more about its source. "Is it the CDC's contention," he asked, "that there's absolutely no relation to the BSL-4 lab in Wuhan? It's my understanding that this is the only place in China with a BSL-4 lab. We in the United States have, I think, two dozen or so, and there have been problems and incidents." (A BSL-4 laboratory is a maximum-security biosafety-level-four facility, used to house research on the most dangerous known pathogens. *New York* has confirmed there are at least 11 BSL-4 facilities currently operating in the U.S.) Hussein hastened to say that he wasn't implying that what happened in Wuhan was in any way intentional. "I'm just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?"

Schuchat thanked Hussein for his questions and comments. Everything she'd seen was quite consistent with a natural, zoonotic origin for the disease, she said.

That same month, a group of French scientists from Aix-Marseille University posted a paper describing their investigation of a small insertion in the genome of the new SARS-2 virus. The virus's spike protein contained a

sequence of amino acids that formed what Etienne Decroly and colleagues called a “peculiar furin-like cleavage site” — a chemically sensitive region on the lobster claw of the spike protein that would react in the presence of an enzyme called furin, which is a type of protein found everywhere within the human body, but especially in the lungs. When the spike senses human furin, it shudders, chemically speaking, and the enzyme opens the protein, commencing the tiny morbid ballet whereby the virus burns a hole in a host cell’s outer membrane and finds its way inside.

The code for this particular molecular feature — not found in SARS or any SARS-like bat viruses, but present in a slightly different form in the more lethal MERS virus — is easy to remember because it’s a roar: “R-R-A-R.” The letter code stands for amino acids: arginine, arginine, alanine, and arginine. Its presence, so Decroly and his colleagues observed, may heighten the “pathogenicity” — that is, the god-awfulness — of a disease.

Botao Xiao, a professor at the South China University of Technology, posted [a short paper](#) on a preprint server titled “The Possible Origins of 2019-nCoV Coronavirus.” Two laboratories, the Wuhan Center for Disease Control and Prevention (WHCDC) and the Wuhan Institute of Virology, were not far from the seafood market, which was where the disease was said to have originated, Xiao wrote — in fact, the WHCDC was only a few hundred yards away from the market — whereas the horseshoe bats that hosted the disease were hundreds of miles to the south. (No bats were sold in the market, he pointed out.) It was unlikely, he wrote, that a bat would have flown to a densely populated metropolitan area of 15 million people. “The killer coronavirus probably originated from a laboratory in Wuhan,” Xiao believed. He urged the relocation of “biohazardous laboratories” away from densely populated places. His article disappeared from the server.

And late in the month, a professor at National Taiwan University, Fang Chi-

taï, gave a lecture on the coronavirus in which he described the anomalous R-R-A-R furin cleavage site. The virus was “unlikely to have four amino acids added all at once,” Fang said — natural mutations were smaller and more haphazard, he argued. “From an academic point of view, it is indeed possible that the amino acids were added to COVID-19 in the lab by humans.” When the *Taiwan News* published an article about Fang’s talk, Fang disavowed his own comments, and the video copy of the talk disappeared from the website of the Taiwan Public Health Association. “It has been taken down for a certain reason,” the association explained. “Thank you for your understanding.”

V.

“A Serious Shortage of Appropriately Trained Technicians”

In the spring, I did some reading on coronavirus history. Beginning in the 1970s, dogs, cows, and pigs were diagnosed with coronavirus infections; dog shows were canceled in 1978 after 25 collies died in Louisville, Kentucky. New varieties of coronaviruses didn’t start killing humans, though, until 2003 — that’s when restaurant chefs, food handlers, and people who lived near a live-animal market got sick in Guangzhou, in southern China, where the shredded meat of a short-legged raccoonlike creature, the palm civet, was served in a regional dish called “dragon-tiger-phoenix soup.” The new disease, SARS, spread alarmingly in hospitals, and it reached 30 countries and territories. More than 800 people died; the civet-borne virus was eventually [traced to horseshoe bats](#).

Later, smaller outbreaks of SARS in Taiwan, Singapore, and China’s National Institute of Virology in Beijing were all caused by laboratory accidents. Of the Beijing Virology Institute, the World Health Organization’s safety

investigators [wrote](#), in May 2004, that they had “serious concerns about biosafety procedures.” By one account, a SARS storage room in the Beijing lab was so crowded that the refrigerator holding live virus was moved out to the hallway. “Scientists still do not fully understand exactly where or how SARS emerged 18 months ago,” [wrote](#) Washington *Post* reporter David Brown in June 2004. “But it is clear now that the most threatening source of the deadly virus today may be places they know intimately — their own laboratories.”

I’m just asking, Is it a complete coincidence that this outbreak happened in the one city in China with a BSL-4 lab?

MERS arose in 2012, [possibly spread by camels](#) that had contracted the disease from bats or bat guano, then passed it to human drinkers of raw camel milk and butchers of camel meat. It was an acute sickness, with a high fatality rate, mostly confined to Saudi Arabia. Like SARS, MERS ebbed quickly — it all but disappeared outside the Middle East, except for an outbreak in 2015 at the Samsung Medical Center in South Korea, where a single case of MERS led to more than 180 infections, many involving hospital workers.

In January 2015, the brand-new BSL-4 lab in Wuhan, built by a French contractor, celebrated its opening, but full safety certification came slowly. According to State Department cables from 2018 leaked to the Washington *Post*, the new BSL-4 lab had some start-up problems, including “a serious shortage of appropriately trained technicians and investigators needed to safely operate this high-containment laboratory.” The staff had gotten some training at a BSL-4 lab in Galveston, Texas, but they were doing potentially dangerous work with SARS-like viruses, the memo said, and they needed more help from the U.S.

In November or December of 2019, the novel coronavirus began to spread. Chinese scientists initially named it “Wuhan seafood market pneumonia virus,” but soon that idea went away. The market, closed and decontaminated by Chinese officials on January 1, 2020, was an amplifying hub, not the source of the outbreak, according to several studies by Chinese scientists. Forty-five percent of the earliest SARS-2 patients had no link with the market.

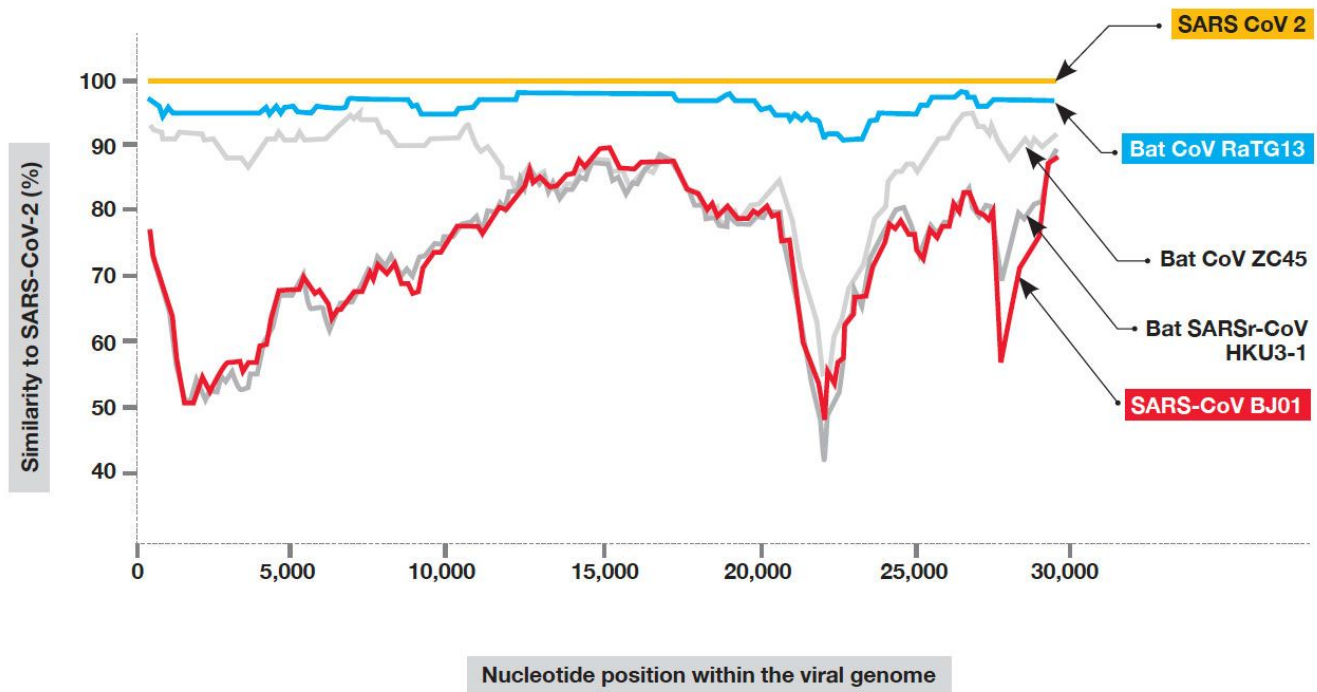
VI.

Emergence

Now let’s take a step back. AIDS, fatal and terrifying and politically charged, brought on a new era in government-guided vaccine research, under the guidance of Anthony Fauci. A virologist at Rockefeller University, Stephen S. Morse, began giving talks on “emerging viruses” — other plagues that might be in the process of coming out of nature’s woodwork. In 1992, Richard Preston wrote [a horrific account](#) of one emergent virus, Ebola, in *The New Yorker*, which became a best-selling book in 1994; Laurie Garrett’s [The Coming Plague: Newly Emerging Diseases in a World Out of Balance](#) appeared that same year and was also a best seller. The idea seemed to be everywhere: We were on the verge of a wave of zoonotic, emergent plagues.

This new, useful term, *emerging*, began to glow in the research papers of some coronavirologists, who were out of the spotlight, working on common colds and livestock diseases. The term was useful because it was fluid. An emerging disease could be real and terrifying, as AIDS was — something that had just arrived on the medical scene and was confounding our efforts to combat it — or it could be a disease that hadn’t arrived, and might never arrive, but could be shown in a laboratory to be waiting in the wings, just a

few mutations away from a human epidemic. It was real and unreal at the same time — a quality that was helpful when applying for research grants.



Where Did It Come From? This chart measures the genetic similarity of known viruses to the novel coronavirus (which appears in yellow). By far the closest is the bat virus RaTG13, which appears in blue, and which was recovered in 2013 and brought to the Wuhan Institute of Virology. The first SARS, marked in red, is a much more distant relative. Graphic: Zhou, P., Yang, XL., Wang, XG. et al. A pneumonia outbreak associated with a new coronavirus of probable bat origin. *Nature* 579, 270–273 (2020)

Take, for instance, [this paper](#) from 1995: “High Recombination and Mutation Rates in Mouse Hepatitis Viruses Suggest That Coronaviruses May Be Potentially Important Emerging Viruses.” It was written by Dr. Ralph Baric and his bench scientist, Boyd Yount, at the University of North Carolina. Baric, a gravelly voiced former swim champion, described in this early paper how his lab was able to train a coronavirus, MHV, which causes hepatitis in mice, to jump species, so that it could reliably infect BHK (baby-hamster kidney) cell cultures. They did it using serial passaging: repeatedly dosing a mixed solution of mouse cells and hamster cells with mouse-hepatitis virus,

while each time decreasing the number of mouse cells and upping the concentration of hamster cells. At first, predictably, the mouse-hepatitis virus couldn't do much with the hamster cells, which were left almost free of infection, floating in their world of fetal-calf serum. But by the end of the experiment, after dozens of passages through cell cultures, the virus had mutated: It had mastered the trick of parasitizing an unfamiliar rodent. A scourge of mice was transformed into a scourge of hamsters. And there was more: "It is clear that MHV can rapidly alter its species specificity and infect rats and primates," Baric said. "The resulting virus variants are associated with demyelinating diseases in these alternative species." (A demyelinating disease is a disease that damages nerve sheaths.) With steady prodding from laboratory science, along with some rhetorical exaggeration, a lowly mouse ailment was morphed into an emergent threat that might potentially cause nerve damage in primates. That is, nerve damage in us.

A few years later, in a further round of "interspecies transfer" experimentation, Baric's scientists introduced their mouse coronavirus into flasks that held a suspension of African-green-monkey cells, human cells, and pig-testicle cells. Then, in 2002, they announced something even more impressive: They'd found a way to create a full-length infectious clone of the entire mouse-hepatitis genome. Their "infectious construct" replicated itself just like the real thing, [they wrote](#).

Not only that, but they'd figured out how to perform their assembly seamlessly, without any signs of human handiwork. Nobody would know if the virus had been fabricated in a laboratory or grown in nature. Baric called this the "no-see'm method," and he asserted that it had "broad and largely unappreciated molecular biology applications." The method was named, he wrote, after a "very small biting insect that is occasionally found on North Carolina beaches."

In 2006, Baric, Yount, and two other scientists were granted a patent for their invisible method of fabricating a full-length infectious clone using the seamless, no-see'm method. But this time, it wasn't a clone of the mouse-hepatitis virus — it was a clone of the entire deadly human SARS virus, the one that had emerged from Chinese bats, via civets, in 2002. The Baric Lab came to be known by some scientists as "the Wild Wild West." In 2007, Baric said that we had entered "the golden age of coronavirus genetics."

"I would be afraid to look in their freezers," one virologist told me.

Baric and Shi Zhengli of the Wuhan Institute of Virology, the two top experts on the genetic interplay between bat and human coronaviruses, began collaborating in 2015.

VII.

"I Had Not Slept a Wink"



Virologist Shi Zhengli at the Wuhan Institute of Virology in 2017. Photo: Feature China / Barcroft Studios / Future Publishing / Getty Images

Early in the pandemic, *Scientific American* [profiled](#) Shi Zhengli, known in China as the “bat woman.” Shi trapped hundreds of bats in nets at the mouths of caves in southern China, sampled their saliva and their blood, swabbed their anuses, and gathered up their fecal pellets. Several times, she visited and sampled bats in a mine in Mojiang, in southern China, where, in 2012, six men set to work shoveling bat guano were sickened by a severe lung disease, three of them fatally. Shi’s team took the samples back to Wuhan and analyzed whatever fragments of bat virus she could find. In some cases, when she found a sequence that seemed particularly significant, she experimented with it in order to understand how it might potentially infect humans. Some of her work was funded by the National Institutes of Health and some of it by the U.S. Defense Threat Reduction

Agency of the Department of Defense via Peter Daszak's EcoHealth Alliance.

As Shi explained to *Scientific American*, late in December 2019, she heard from the director of the Wuhan Institute that there was an outbreak of a new disease in the city. Medical samples taken from hospital patients arrived at her lab for analysis. Shi determined that the new virus was related to SARS but even more closely related to a bat disease that her own team had found on a virus-hunting trip: the now-famous RaTG13. Shi was surprised that the outbreak was local, she said: "I had never expected this kind of thing to happen in Wuhan, in central China." The bat hiding places that she'd been visiting were, after all, as far away as Orlando, Florida, is from New York City. Could this new virus, she wondered, have come from her own laboratory? She checked her records and found no exact matches. "That really took a load off my mind," she said. "I had not slept a wink for days."

If one of the first thoughts that goes through the head of a lab director at the Wuhan Institute of Virology is that the new coronavirus could have come from her lab, then we are obliged to entertain the scientific possibility that it could indeed have come from her lab. Right then, there should have been a comprehensive, pockets-inside-out, fully public investigation of the Virology Institute, along with the other important virus labs in Wuhan, including the one close by the seafood market, headquarters of the Wuhan CDC. There should have been interviews with scientists, interviews with biosafety teams, close parsings of laboratory notebooks, freezer and plumbing and decontamination systems checks — everything. It didn't happen. The Wuhan Institute of Virology closed down its databases of viral genomes, and the Chinese Ministry of Education sent out a directive: "Any paper that traces the origin of the virus must be strictly and tightly managed."

Shi made some WeChat posts early in 2020. "The novel 2019 coronavirus is nature punishing the human race for keeping uncivilized living habits," she wrote. "I, Shi Zhengli, swear on my life that it has nothing to do with our laboratory." She advised those who believed rumors, and gave credence to unreliable scientific papers, to "shut their stinking mouths."

VIII.

" 'Bug to Drug' in 24 Hours"

It wasn't only AIDS that changed the way the NIH funded research. The War on Terror also influenced which diseases got the most attention. In the late '90s, under Bill Clinton and then George W. Bush, biodefense specialists became interested — again — in anthrax. The Defense Threat Reduction Agency built a small anthrax factory in Nevada, using simulants, to demonstrate how easy it would be for a terrorist to build a small anthrax factory. And in the first year of the Bush presidency, the Defense Intelligence Agency wrote up plans to create a vaccine-resistant form of anthrax using state-of-the-art gene-splicery. A front-page article describing these initiatives, "U.S. Germ Warfare Research Pushes Treaty Limits," appeared in the New York [Times](#) on September 4, 2001, one week before 9/11. "Pentagon Says Projects Are Defense, Is Pressing Ahead," was the subtitle.

After the 9/11 attacks, and the mysterious anthrax mailings that began a week later (which said, "TAKE PENACILIN [sic] NOW / DEATH TO AMERICA / DEATH TO ISRAEL / ALLAH IS GREAT"), the desire for biopreparedness became all consuming. Now there were emerging biothreats from humans as well as from the evolving natural world. Fauci's anti-terror budget went from \$53 million in 2001 to \$1.7 billion in 2003. Setting aside his work toward an AIDS vaccine, which was taking longer than he'd foreseen, Fauci

said he would be going all out to defend against a suite of known Cold War agents, all of which had been bred and perfected in American weapons programs many years before — brucellosis, anthrax, tularemia, and plague, for instance. “We are making this the highest priority,” Fauci said. “We are really marshaling all available resources.”

I would be afraid to look in their freezers.

Vaccine development had to progress much faster, Fauci believed; he wanted to set up “vaccine systems” and “vaccine platforms,” which could be quickly tailored to defend against a particular emergent strain some terrorist with an advanced biochemistry degree might have thrown together in a laboratory. “Our goal within the next 20 years is ‘bug to drug’ in 24 hours,” Fauci said. “This would specifically meet the challenge of genetically engineered bioagents.” The first Project BioShield contract Fauci awarded was to VaxGen, a California pharmaceutical company, for \$878 million worth of shots of anthrax vaccine.

By 2005, so much money was going toward biothreat reduction and preparedness that more than [750 scientists sent a protest letter](#) to the NIH. Their claim was that grants to study canonical biowar diseases — anthrax, plague, brucellosis, and tularemia, all exceptionally rare in the U.S. — had increased by a factor of 15 since 2001, whereas funds for the study of widespread “normal” diseases, of high public-health importance, had decreased.

Fauci was firm in his reply: “The United States through its leaders made the decision that this money was going to be spent on biodefense,” he said. “We disagree with the notion that biodefense concerns are of ‘low public-health significance.’ ”

In 2010, by one count, there were 249 BSL-3 laboratories and seven BSL-4 laboratories in the U.S., and more than 11,000 scientists and staffers were authorized to handle the ultra-lethal germs on the government's select pathogen list. And yet the sole bioterrorist in living memory who actually killed American citizens, according to the FBI — the man who sent the anthrax letters — turned out to be one of the government's own researchers. [Bruce Ivins](#), an eccentric, suicidal laboratory scientist from Ohio who worked in vaccine development at Fort Detrick, allegedly wanted to boost the fear level so as to persuade the government to buy more of the patented, genetically engineered anthrax VaxGen vaccine, of which he was a co-inventor. (See David Willman's fascinating biography of Ivins, *Mirage Man*.) Fauci's staff at NIH funded Ivins's vaccine laboratory and gave \$100 million to VaxGen to accelerate vaccine production. (The NIH's \$878 million contract with VaxGen, however, was quietly canceled in 2006; Ivins, who was never charged, killed himself in 2008.)

"The whole incident amounted to a snake eating its own tail," wrote Wendy Orent in [an August 2008 piece](#) titled "Our Own Worst Bioenemy" in the *Los Angeles Times*. "No ingenious biowarrior from Al Qaeda sent the lethal envelopes through the U.S. postal system. An American scientist did." What confirmed Ivins's guilt, according to the FBI, was that there was a genetic match between the anthrax used in the killings and the strain held at Fort Detrick.

IX.

"Weapons of Mass Disruption"

After SARS appeared in 2003, Ralph Baric's laboratory moved up the NIH funding ladder. SARS was a "dual use" organism — a security threat and a zoonotic threat at the same time. In 2006, Baric wrote [a long, fairly creepy](#)

[paper](#) on the threat of “weaponizable” viruses. Synthetic biology had made possible new kinds of viral “weapons of mass disruption,” he wrote, involving, for example, “rapid production of numerous candidate bioweapons that can be simultaneously released,” a scattershot terror tactic Baric called the “ ‘survival of the fittest’ approach.”

Baric hoped to find a SARS vaccine, but he couldn’t; he kept looking for it, year after year, supported by the NIH, long after the disease itself had been contained. It wasn’t really gone, Baric believed. Like other epidemics that pop up and then disappear, as he told a university audience some years later, “they don’t go extinct. They are waiting to return.” What do you do if you run a well-funded laboratory, an NIH “center of excellence,” and your emergent virus is no longer actually making people sick? You start squeezing it and twisting it into different shapes. Making it stand on its hind legs and quack like a duck, or a bat. Or breathe like a person.

Baric’s safety record is good — although there was a minor mouse-bite incident in 2016, [uncovered by ProPublica](#) — and his motives are beyond reproach: “Safe, universal, vaccine platforms are needed that can be tailored to new pathogens as they emerge, quickly tested for safety, and then strategically used to control new disease outbreaks in human populations,” he wrote in a paper on public health. But the pioneering work he did over the past 15 years — generating tiny eager single-stranded flask monsters and pitting them against human cells, or bat cells, or gene-spliced somewhat-human cells, or monkey cells, or humanized mice — was not without risk, and it may have led others astray.

In 2006, for instance, Baric and his colleagues, hoping to come up with a “vaccine strategy” for SARS, produced noninfectious virus replicon particles (or VRPs) using the Venezuelan-equine-encephalitis virus (another American germ-warfare agent), which they fitted with various SARS spike

proteins. Then, wearing Tyvek suits and two pairs of gloves each, and working in a biological safety cabinet in a BSL-3-certified laboratory, they cloned and grew recombinant versions of the original SARS virus in an incubator in a medium that held African-green-monkey cells. When they had grown enough virus, the scientists swapped out one kind of spike protein for a carefully chosen mutant, and they challenged their prototype vaccine with it in mice.

The scientists also tried their infectious SARS clones in something called an air-liquid interface, using a relatively new type of cell culture developed by Raymond Pickles of the University of North Carolina's Cystic Fibrosis Center. Pickles had perfected a method of emulating the traits of human airway tissue by cultivating cells taken from lung-disease patients — nurturing the culture over four to six weeks in such a way that the cells differentiated and developed a crop of tiny moving hairs, or cilia, on top and goblet cells within that produced real human mucus. In fact, before infecting these HAE (human airway epithelial) cells with a virus, the lab worker must sometimes rinse off some of the accumulated mucus, as if helping the lab-grown tissue to clear its throat. So Baric was exposing and adapting his engineered viruses to an extraordinarily true-to-life environment — the juicy, sticky, hairy inner surface of our breathing apparatus.

SARS-2 seems almost perfectly calibrated to grab and ransack our breathing cells and choke the life out of them. "By the time SARS-CoV-2 was first detected in late 2019, it was already pre-adapted to human transmission," Alina Chan and her co-authors have written, whereas SARS, when it first appeared in 2003, underwent "numerous adaptive mutations" before settling down. Perhaps viral nature hit a bull's-eye of airborne infectivity, with almost no mutational drift, no period of accommodation and adjustment, or perhaps some lab worker somewhere, inspired by Baric's

work with human airway tissue, took a spike protein that was specially groomed to colonize and thrive deep in the ciliated, mucosal tunnels of our inner core and cloned it onto some existing viral bat backbone. It could have happened in Wuhan, but — because anyone can now “print out” a fully infectious clone of any sequenced disease — it could also have happened at Fort Detrick, or in Texas, or in Italy, or in Rotterdam, or in Wisconsin, or in some other citadel of coronaviral inquiry. No conspiracy — just scientific ambition, and the urge to take exciting risks and make new things, and the fear of terrorism, and the fear of getting sick. Plus a whole lot of government money.

X.

“Risky Areas for Spillover”

Project Bioshield began to fade by the end of the Bush administration, although the expensive high-containment laboratories, controversial preservers and incubators of past and future epidemics, remain. By 2010, some BioShield projects had dissolved into Obama’s Predict program, which paid for laboratories and staff in 60 “risky areas for spillover” around the world. Jonna Mazet, a veterinary scientist from the University of California, Davis, was in charge of Predict, which was a component of USAID’s “Emerging Pandemic Threats” program. Her far-flung teams collected samples from 164,000 animals and humans and claimed to have found “almost 1,200 potentially zoonotic viruses, among them 160 novel coronaviruses, including multiple SARS- and MERS-like coronaviruses.” The fruits of Predict’s exotic harvest were studied and circulated in laboratories worldwide, and their genetic sequences became part of [GenBank](#), the NIH’s genome database, where any curious RNA wrangler anywhere could quickly synthesize snippets of code and test out a new disease on human cells.

Baric, Jonna Mazet, and Peter Daszak of EcoHealth worked together for years — and Daszak also routed Predict money to Shi Zhengli's bat-surveillance team in Wuhan through his nonprofit, mingling it with NIH money and money from the U.S. Defense Threat Reduction Agency. In 2013, Mazet [announced](#) that Shi Zhengli's virus hunters, with Predict's support, had, for the first time, isolated and cultured a live SARS-like virus from bats and demonstrated that this virus could bind to the human ACE2, or "angiotensin-converting enzyme 2," receptor, which Baric's laboratory had determined to be the sine qua non of human infectivity. "This work shows that these viruses can directly infect humans and validates our assumption that we should be searching for viruses of pandemic potential before they spill over to people," Mazet [said](#).

Daszak, for his part, seems to have viewed his bat quests as part of an epic, quasi-religious death match. In a paper from 2008, Daszak and a co-author described Bruegel's painting *The Fall of the Rebel Angels* and compared it to the contemporary human biological condition. The fallen angels could be seen as pathogenic organisms that had descended "through an evolutionary (not spiritual) pathway that takes them to a netherworld where they can feed only on our genes, our cells, our flesh," Daszak [wrote](#). "Will we succumb to the multitudinous horde? Are we to be cast downward into chthonic chaos represented here by the heaped up gibbering phantasmagory against which we rail and struggle?"

XI.

"Lab-Made?"

There are, in fact, some helpful points of agreement between zoonoticists — those who believe in a natural origin of the SARS-2 virus — and those who believe that it probably came from a laboratory. Both sides agree, when

pressed, that a lab origin can't be conclusively ruled out and a natural origin can't be ruled out either — because nature, after all, is capable of improbable, teleological-seeming achievements. Both sides also agree, for the most part, that the spillover event that began the human outbreak probably happened only once, or a few times, quite recently, and not many times over a longer period. They agree that bat virus RaTG13 (named for the *Rhinolophus affinis* bat, from Tongguan, in 2013) is the closest match to the human virus that has yet been found, and that although the two viruses are very similar, the spike protein of the bat virus lacks the features the human spike protein possesses that enable it to work efficiently with human tissue.

Zoonoticists hold that SARS-2's crucial features — the furin cleavage site and the ACE2 receptor — are the result of a recombinant event involving a bat coronavirus (perhaps RaTG13 or a virus closely related to it) and another, unknown virus. Early on, researchers proposed that it could be a snake sold at the seafood market — a Chinese cobra or a banded krait — but no: Snakes don't typically carry coronaviruses. Then there was a thought that the disease came from sick smuggled pangolins, because there existed a certain pangolin coronavirus that was, inexplicably, almost identical in its spike protein to the human coronavirus — but then, no: There turned out to be questions about the reliability of the genetic information in that diseased-pangolin data set, on top of which there were no pangolins for sale at the Wuhan market. Then a group from China's government veterinary laboratory at Harbin tried infecting beagles, pigs, chickens, ducks, ferrets, and cats with SARS-2 to see if they could be carriers. (Cats and ferrets got sick; pigs, ducks, and most dogs did not.)

In September, some scientists at the University of Michigan, led by Yang Zhang, [reported](#) that they had created a "computational pipeline" to screen nearly a hundred possible intermediate hosts, including the Sumatran orangutan, the Western gorilla, the Olive baboon, the crab-eating macaque,

and the bonobo. All these primates were “permissive” to the SARS-2 coronavirus and should undergo “further experimental investigation,” the scientists proposed.

Despite this wide-ranging effort, there is at the moment no animal host that zoonoticists can point to as the missing link. There’s also no single, agreed-upon hypothesis to explain how the disease may have traveled from the bat reservoirs of Yunnan all the way to Wuhan, seven hours by train, without leaving any sick people behind and without infecting anyone along the way.

The zoonoticists say that we shouldn’t find it troubling that virologists have been inserting and deleting furin cleavage sites and ACE2-receptor-binding domains in experimental viral spike proteins for years: The fact that virologists have been doing these things in laboratories, in advance of the pandemic, is to be taken as a sign of their prescience, not of their folly. But I keep returning to the basic, puzzling fact: This patchwork pathogen, which allegedly has evolved without human meddling, first came to notice in the only city in the world with a laboratory that was paid for years by the U.S. government to perform experiments on certain obscure and heretofore unpublicized strains of bat viruses — which bat viruses then turned out to be, out of all the organisms on the planet, the ones that are most closely related to the disease. What are the odds?

In July, I discovered a number of volunteer analysts who were doing a new kind of forensic, samizdat science, hunched over the letter code of the SARS-2 genome like scholars deciphering the cuneiform impressions in Linear B tablets. There were the anonymous authors of Project Evidence, on GitHub, who “disavow all racism and violent attacks, including those which are aimed at Asian or Chinese people,” and there was Yuri Deigin, a biotech entrepreneur from Canada, who wrote [a massive, lucid paper](#) on Medium, “Lab-Made?,” which illumined the mysteries of the spike protein. Jonathan

Latham of the Bioscience Resource Project, with his co-author Allison Wilson, wrote two important papers: one a calm, unsparing overview of laboratory accidents and rash research and the other a [close look at the small outbreak](#) of an unexplained viral pneumonia in a bat-infested copper mine in 2012. I corresponded with Alina Chan (now the subject of a nicely turned piece in [Boston](#) magazine by Rowan Jacobsen) and with the pseudonymous Billy Bostickson, a tireless researcher whose Twitter photo is a cartoon of an injured experimental monkey, and Monali Rahalkar, of the Agharkar Research Institute in Pune, India, who wrote a [paper](#) with her husband, Rahul Bahulikar, that also sheds light on the story of the bat-guano-shoveling men whose virus was remarkably like SARS-2, except that it was not nearly as catching. I talked to Rossana Segreto, a molecular biologist at the University of Innsbruck, whose [paper](#), "Is Considering a Genetic-Manipulation Origin for SARS-CoV-2 a Conspiracy Theory That Must Be Censored?," co-authored with Yuri Deigin, was finally published in November under a milder title; it argued that SARS-2's most notable features, the furin site and the human ACE2-binding domain, were unlikely to have arisen simultaneously and "might be the result of lab manipulation techniques such as site directed mutagenesis." Segreto is also the person who first established that a bat-virus fragment named BtCoV/4991, identified in 2013, was 100 percent identical to the closest known cousin to SARS-CoV-2, the bat virus RaTG13, thereby proving that the virus closest to the SARS-2-pandemic virus was linked back not to a bat cave but to a mine shaft, and that this same virus had been stored and worked on in the Wuhan Institute for years. This made possible the first big investigative piece on SARS-2's origins, in the [Times](#) of London, in July: "Nobody can deny the bravery of scientists who risked their lives harvesting the highly infectious virus," the *Times* authors write. "But did their courageous detective work lead inadvertently to a global disaster?"

XII.

"A New, Non-Natural Risk"

In 2011, a tall, confident Dutch scientist, Ron Fouchier, using grant money from Fauci's group at NIH, created a mutant form of highly pathogenic avian influenza, H5N1, and passaged it ten times through ferrets in order to prove that he could "force" (his word) this potentially fatal disease to infect mammals, including humans, "via aerosols or respiratory droplets." Fouchier said his findings indicated that these avian influenza viruses, thus forced, "pose a risk of becoming pandemic in humans."

This experiment was too much for some scientists: Why, out of a desire to prove that something extremely infectious could happen, would you make it happen? And why would the U.S. government feel compelled to pay for it to happen? Late in 2011, Marc Lipsitch of the Harvard School of Public Health got together with several other dismayed onlookers to ring the gong for caution. On January 8, 2012, the *New York Times* published a scorching [editorial](#), "An Engineered Doomsday." "We cannot say there would be no benefits at all from studying the virus," the *Times* said. "But the consequences, should the virus escape, are too devastating to risk."

These gain-of-function experiments were an important part of the NIH's approach to vaccine development, and Anthony Fauci was reluctant to stop funding them. He and Francis Collins, director of the National Institutes of Health, along with Gary Nabel, NIAID director of vaccine research, published an opinion piece in the *Washington Post* in which they contended that the ferret flu experiments, and others like them, were "a risk worth taking." "Important information and insights can come from generating a potentially dangerous virus in the laboratory," they wrote; the work can "help delineate the principles of virus transmission between species." The

work was safe because the viruses were stored in a high-security lab, they believed, and the work was necessary because nature was always coming up with new threats. "Nature is the worst bioterrorist," Fauci told a reporter. "We know that through history."

Soon afterward, there followed some distressing screwups in secure federal laboratories involving live anthrax, live smallpox, and live avian influenza. These got attention in the science press. Then Lipsitch's activists (calling themselves the Cambridge Working Group) sent around a strong statement on the perils of research with "Potential Pandemic Pathogens," signed by more than a hundred scientists. The work might "trigger outbreaks that would be difficult or impossible to control," the signers said. Fauci reconsidered, and the White House in 2014 announced that there would be a "pause" in the funding of new influenza, SARS, and MERS gain-of-function research.

Baric, in North Carolina, was not happy. He had a number of gain-of-function experiments with pathogenic viruses in progress. "It took me ten seconds to realize that most of them were going to be affected," he told [NPR](#). Baric and a former colleague from Vanderbilt University wrote a [long letter](#) to an NIH review board expressing their "profound concerns." "This decision will significantly inhibit our capacity to respond quickly and effectively to future outbreaks of SARS-like or MERS-like coronaviruses, which continue to circulate in bat populations and camels," they wrote. The funding ban was itself dangerous, they argued. "Emerging coronaviruses in nature do not observe a mandated pause."

Hoping to smooth over controversy by showing due diligence, the National Science Advisory Board for Biosecurity, founded in the BioShield era under President Bush, paid a consulting firm, Gryphon Scientific, to write a report on gain-of-function research, which by now was simply referred to as GoF.

In chapter six of this thousand-page dissertation, published in April 2016, the consultants take up the question of coronaviruses. "Increasing the transmissibility of the coronaviruses could significantly increase the chance of a global pandemic due to a laboratory accident," they wrote.

The Cambridge Working Group continued to write letters of protest and plead for restraint and sanity. Steven Salzberg, a professor of biomedical engineering at Johns Hopkins, said, "We have enough problems simply keeping up with the current flu outbreaks — and now with Ebola — without scientists creating incredibly deadly new viruses that might accidentally escape their labs." David Relman of Stanford Medical School said, "It is unethical to place so many members of the public at risk and then consult only scientists — or, even worse, just a small subset of scientists — and exclude others from the decision-making and oversight process." Richard Ebright wrote that creating and evaluating new threats very seldom increases security: "Doing so in biology — where the number of potential threats is nearly infinite, and where the asymmetry between the ease of creating threats and the difficulty of addressing threats is nearly absolute — is especially counterproductive." Lynn Klotz wrote, "Awful as a pandemic brought on by the escape of a variant H5N1 virus might be, it is SARS that now presents the greatest risk. The worry is less about recurrence of a natural SARS outbreak than of yet another escape from a laboratory researching it to help protect against a natural outbreak." Marc Lipsitch argued that gain-of-function experiments can mislead, "resulting in worse not better decisions," and that the entire gain-of-function debate as overseen by the NIH was heavily weighted in favor of scientific insiders and "distinctly unwelcoming of public participation."

Nariyoshi Shinomiya, a professor of physiology and nano-medicine at the National Defense Medical College in Japan, offered this warning: "Similar to nuclear or chemical weapons there is no going back once we get a thing in

our hands."

But in the end, Baric was allowed to proceed with his experiments, and the research papers that resulted, showered with money, became a sort of *Anarchist's Cookbook* for the rest of the scientific world. In November 2015, Baric and colleagues published [a collaboration paper](#) with Shi Zhengli titled "A SARS-like Cluster of Circulating Bat Coronaviruses Shows Potential for Human Emergence." Into a human SARS virus that they had adapted so that it would work in mice, Baric and Shi et al. inserted the spike protein of a bat virus, SHC014, discovered by Shi in southern China. They dabbed the mice nasally with virus and waited, looking for signs of sickness: "hunching, ruffled fur." They also infected human airway cells with the mouse-adapted bat-spike-in-a-human-virus backbone. In both mice and human airway cells, the chimeric virus caused a "robust infection."

This proved, Baric and Shi believed, that you did not need civets or other intermediate hosts in order for bats to cause an epidemic in humans and that therefore all the SARS-like viruses circulating in bat populations "may pose a future threat." Peter Daszak, who had used Predict funds to pay Shi for her work on the paper, was impressed by this conclusion; the findings, he said, "move this virus from a candidate emerging pathogen to a clear and present danger."

Richard Ebright was trenchantly unenthusiastic. "The only impact of this work," [he said](#), "is the creation, in a lab, of a new, non-natural risk."

Early in 2016, Baric and Shi again collaborated. Shi sent Baric a fresh bat virus spike protein, and Baric inserted it into the backbone of a human SARS virus and then used that infectious clone to attack human airway cells. "The virus readily and efficiently replicated in cultured human airway tissues, suggesting an ability to potentially jump directly to humans,"

[reported](#) the UNC's website. This time, they also used the bat-human hybrid virus to infect transgenic humanized mice that grew human ACE2 protein. The mice, young and old, lost weight and died, proving, again, that this particular bat virus was potentially "poised to emerge in human populations." It was "an ongoing threat," Baric wrote. But was it? Civets and camels that are exposed to a lot of bat-guano dust may be an ongoing threat and a manageable one. But the bats themselves just want to hang in their caves and not be bothered by frowning sightseers in spacesuits who want to poke Q-tips in their bottoms. This 2016 "poised for human emergence" paper was supported by eight different NIH grants. In 2015, Baric's lab received \$8.3 million from the NIH; in 2016, it received \$10.5 million.

Gain-of-function research came roaring back under Trump and Fauci. "The National Institutes of Health will again fund research that makes viruses more dangerous," said an article in *Nature* in December 2017. Carrie Wolinetz of the NIH's office of science policy defended the decision. "These experiments will help us get ahead of viruses that are already out there and pose a real and present danger to human health," she told [The Lancet](#). The NIH, Wolinetz said, was committed to a leadership role with gain-of-function research internationally. "If we are pursuing this research in an active way, we will be much better positioned to develop protection and countermeasures should something bad happen in another country."

A reporter asked Marc Lipsitch what he thought of the resumption of NIH funding. Gain-of-function experiments "have done almost nothing to improve our preparedness for pandemics," he said, "yet they risked creating an accidental pandemic."

XIII.

"Proximity Is a Problem"

In April, four months into the coronavirus emergency, a deputy director at the NIH wrote an email to EcoHealth Alliance. "You are instructed to cease providing any funds to Wuhan Institute of Virology," it said. In response, Daszak and the chief scientific officer of New England Biolabs (a company that sells seamless gene-splicing products to laboratories, among other things) got 77 Nobel Prize winners to sign a statement saying that the cancellation deprived the "nation and the world of highly regarded science that could help control one of the greatest health crises in modern history and those that may arise in the future." Later, as a condition of further funding, the NIH wrote to say it wanted Daszak to arrange an outside inspection of the Wuhan lab and to procure from Wuhan's scientists a sample of whatever they'd used to sequence the SARS-2 virus. Daszak was outraged ("I am not trained as a private detective"), and again he fought back. He was reluctant to give up his own secrets, too. "Conspiracy-theory outlets and politically motivated organizations have made Freedom of Information Act requests on our grants and all of our letters and emails to the NIH," he told [Nature](#). "We don't think it's fair that we should have to reveal everything we do."

But Daszak has survived — even prospered. Recently, *The Lancet* made him the lead investigator in its inquiry into the origins of the pandemic, and the World Health Organization named him to its ten-person origins investigation. ("We're still close enough to the origin to really find out more details about where it has come from," Daszak told [Nature](#).)

The NIH has also set up an ambitious new international program, called CREID, which stands for Centers for Research in Emerging Infectious Diseases, and it has put Daszak's EcoHealth in charge of trapping animals and looking for obscure bat viruses in Singapore, Malaysia, and Thailand.

Baric is one of Daszak's partners in CREID. The virus hunting and collecting, which Richard Ebright likens to "looking for a gas leak with a lighted match," will continue and widen with U.S. funding. "We're going to work in remote parts of Malaysia and Thailand to get to the front line of where the next pandemic is going to start," Daszak told NPR.

In May, an interviewer from the People's Pharmacy website asked Baric if he had any thoughts on whether the coronavirus began with a natural bat-to-human transfer. "Or was there something a little bit more, perhaps, insidious involved?"

"Well, of course the answers to those questions are in China," Baric replied. "Exactly how they work in that facility is something that would be very difficult for a Westerner to know," he said. "The main problems that the Institute of Virology has is that the outbreak occurred in close proximity to that Institute. That Institute has in essence the best collection of virologists in the world that have gone out and sought out, and isolated, and sampled bat species throughout Southeast Asia. So they have a very large collection of viruses in their laboratory. And so it's — you know — proximity is a problem. It's a problem."

Over the course of the fall, and especially after the election muffled Donald Trump's influence over the country's public-health apparatus, that proximity problem — and the uncomfortable questions of origins it raised — began to grow somewhat more discussable. The BBC, *Le Monde*, and Italy's RAI have all recently taken seriously the scientific possibility of a lab leak. In late October, the World Health Organization convened the first meeting of its second inquiry into the origins of the disease. The WHO's effort is perhaps the world's best chance to satisfy its curiosity about goings-on at the Wuhan Institute of Virology and at the Wuhan CDC's virus lab near the Wuhan seafood market. But, as the New York *Times* has [reported](#), the

WHO's information gathering has been hindered by Chinese secretiveness since February, when an initial investigative team sent to Beijing was told its members' access to scientists would be restricted and that it couldn't visit the seafood market, then considered a hub of the pandemic.

When a BBC video team tried to inspect the Yunnan mine shaft, they found the road to the mine blocked by a strategically parked truck that had "broken down" shortly before they arrived. Reporter John Sudworth asked Daszak, one of the ten members of the second WHO investigative team, whether he would push for access to the Wuhan Institute of Virology. "That's not my job to do that," Daszak replied.

In November, David Relman, the Stanford microbiologist, one of the most thoughtful of the voices warning against gain-of-function research, published [a paper](#) in *Proceedings of the National Academy of Sciences* on the urgent need to unravel the origins of COVID-19. "If SARS-CoV-2 escaped from a lab to cause the pandemic," he wrote, "it will become critical to understand the chain of events and prevent this from happening again." Conflicts of interest by researchers and administrators will need to be addressed, Relman wrote; to reach the truth, the investigation must be transparent, international, and, as much as possible, unpolitical. "A more complete understanding of the origins of COVID-19 clearly serves the interests of every person in every country on this planet."

"The world is sitting on a precedent-setting decision right now," wrote Alina Chan on December 8. "It is unclear if SARS2 is 100 percent natural or emerged due to lab/research activities. If we walk away from this, demonstrating that we cannot effectively investigate its origins, it will pave the way for future COVIDS."

Just before this issue of *New York* went to press, I reached Ralph Baric by

phone and asked him where he now believed SARS-2 came from. (Anthony Fauci, Shi Zhengli, and Peter Daszak didn't respond to emails, and Kristian Andersen said he was busy with other things.) Baric said he still thought the virus came from bats in southern China, perhaps directly, or possibly via an intermediate host, although the smuggled pangolins, in his view, were a red herring. The disease evolved in humans over time without being noticed, he suspected, becoming gradually more infectious, and eventually a person carried it to Wuhan "and the pandemic took off." Then he said, "Can you rule out a laboratory escape? The answer in this case is probably not."

XIV.

Transmission

So how did we actually get this disease?

Here's what I think happened. In April 2012, in a copper mine in Mojiang, China, three men were given an awful job — they were told to shovel bat guano out of a mine shaft. They went to work and shoveled guano for seven hours a day in the confined, insufficiently ventilated space of the mine shaft, and by the end of the week, they were sick with a viral pneumonia of unknown etiology. Three more, younger shovelers were hired to replace the ones who were out sick.

The viral load in their lungs was so huge, because of all the guano dust, that their lungs became a kind of accelerated laboratory passaging experiment, as Jonathan Latham and Allison Wilson have written, forcing the virus to switch its allegiance from bats to humans. SARS experts were consulted, and the disease was judged to be SARS-like but not SARS. It was something new. (Shi Zhengli told *Scientific American* that the guano shovelers had died of a fungal disease, but, as Monali Rahalkar pointed out,

they were treated with antivirals, and their symptoms were consistent with viral pneumonia with attendant secondary fungal infections.)

Although it was a severe disease, and in the end three of the shovelers died, there was no resultant epidemic. It was actually a case of industrial overexposure to an infectious substance — what we might call a massive OSHA violation. The bat disease that the men encountered wasn't necessarily all that dangerous except in an environment of immunosuppressive overload.

Peter Daszak and Shi Zhengli were interested, of course, because this unidentified coronavirus disease involved bats and people. Of the fragmentary bits of virus Shi retrieved from the mine shaft, one was SARS-like, and Shi sequenced it and called it BtCoV/4991 and published a paper about it. Several times — in 2016 and 2018 and 2019 — this most interesting sample, a portion of what we now know as RaTG13, was taken out of the freezers in Shi's lab and worked on in undisclosed ways. (Peter Daszak claims that these samples have disintegrated and can't be validated or studied.) Samples of the nameless human disease also traveled back to the Wuhan Institute of Virology — few specifics about these valuable specimens have been released by Chinese sources, however.

This is the period in the story that demands a very close investigation, when chimeric assemblages may have been created and serially passaged, using BtCoV/4991, a.k.a. RaTG13, and other bat viruses, perhaps along with forms of the human virus. It's when Shi and Baric both published papers that were about what happened when you hot-swapped mutant spike proteins between bat viruses and human viruses.

The link, via the renamed sample BtCoV/4991, to the copper mine is of exceptional importance because of the one huge difference between the

unnamed guano shovelers' virus and the SARS-2 virus that is now ravaging, for example, California: transmissibility. Airborne human-to-human transmissibility — the kind of thing that gain-of-functioneers like Ron Fouchier and Ralph Baric were aiming at, in order to demonstrate what Baric called "lurking threats" — is COVID-19's crucial distinguishing feature. If six men had gotten extremely sick with COVID-19 back in 2012 in southern China, doctors and nurses in the hospital where they lay dying would likely have gotten sick as well. There might have been hundreds or thousands of cases. Instead, only the shovelers themselves, who had breathed a heavy concentration of guano dust for days, got it.

The existence of bat virus RaTG13 is therefore not necessarily evidence of a natural bat origin. In fact, it seems to me to imply the opposite: New functional components may have been overlaid onto or inserted into the RaTG13 genome, new Tinkertoy intermolecular manipulations, especially to its spike protein, which have the effect of making it unprecedentedly infectious in human airways.

This is where the uniquely peculiar furin insert and/or the human-tuned ACE2-receptor-binding domain may come in — although it's also possible that either of these elements could have evolved as part of some multistep zoonotic process. But in the climate of gonzo laboratory experimentation, at a time when all sorts of tweaked variants and amped-up substitutions were being tested on cell cultures and in the lungs of humanized mice and other experimental animals, isn't it possible that somebody in Wuhan took the virus that had been isolated from human samples, or the RaTG13 bat virus sequence, or both (or other viruses from that same mine shaft that Shi Zhengli has recently mentioned in passing), and used them to create a challenge disease for vaccine research — a chopped-and-channeled version of RaTG13 or the miners' virus that included elements that would make it thrive and even rampage in people? And then what if, during an

experiment one afternoon, this new, virulent, human-infecting, furin-ready virus got out?

For more than 15 years, coronavirologists strove to prove that the threat of SARS was ever present and must be defended against, and they proved it by showing how they could doctor the viruses they stored in order to force them to jump species and go directly from bats to humans. More and more bat viruses came in from the field teams, and they were sequenced and synthesized and "rewired," to use a term that Baric likes. In this international potluck supper of genetic cookery, hundreds of new variant diseases were invented and stored. And then one day, perhaps, somebody messed up. It's at least a reasonable, "parsimonious" explanation of what might have happened.

This may be the great scientific meta-experiment of the 21st century. Could a world full of scientists do all kinds of reckless recombinant things with viral diseases for many years and successfully avoid a serious outbreak? The hypothesis was that, yes, it was doable. The risk was worth taking. There would be no pandemic.

I hope the vaccine works.

**This article appears in the January 4, 2021, issue of New York Magazine.*

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<https://www.wsj.com/articles/the-world-needs-a-real-investigation-into-the-origins-of-covid-19-11610728316>

LIFE & ARTS | IDEAS | ESSAY

The World Needs a Real Investigation Into the Origins of Covid-19

A team of WHO researchers has arrived in China but won't investigate the possibility that the coronavirus originated in a lab.



Dr. Shi Zhenli, whose lab at the Wuhan Institute of Virology has been a suspected source of the coronavirus, in 2017.

PHOTO: JOHANNES EISELE/AFP/GETTY IMAGES

By Alina Chan and Matt Ridley

Jan. 15, 2021 11:31 am ET



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In the first week of January, scientists representing the World Health Organization (WHO) were due to arrive in China to trace the origins of Covid-19. The team membership and terms of reference were preapproved by the Chinese government, yet at the last minute Beijing denied entry to the investigators. This prompted WHO to take the rare step of criticizing China, which relented and allowed the group to enter the country this week.

The brief standoff highlights a more serious problem: the inadequacy of WHO's current investigative framework for exploring all plausible origins of Covid-19. The world needs an inquiry that considers not just natural origins but the possibility that SARS-CoV-2, the virus that causes Covid-19, escaped from a laboratory. The WHO team, however, plans to build on reports by Chinese scientists rather than mount an independent investigation. Given that Chinese authorities have been slow to release information, penalized scientists and doctors who shared clinical and genomic details of the novel coronavirus, and have since demonstrated a keen interest in controlling the narrative of how the virus emerged, this is not a promising foundation for WHO's investigation.

The WHO team includes experts who traced the origins of Ebola and MERS outbreaks, but critics are concerned that it doesn't have the expertise for an investigation that would examine possible lab origins. Dr. David Relman of Stanford University, who raised the possibility early on that the virus might have leaked from a lab, told us: "Based on the scant information that has been shared publicly about the WHO investigation, it doesn't appear that WHO has adequately represented the range of views and perspectives of key stakeholders or incorporated all needed forms of expertise." Responding to whether the

Critics are concerned that the WHO team doesn't have the expertise for an investigation that would examine possible lab origins of the coronavirus.

WHO team will investigate lab origins, Dr. Peter Ben Embarek, the leader of the team, told us, "If our studies point to a possible lab accident, then other international mechanisms would be involved to document such an event. It would take time and additional types of expertise."



Tedros Adhanom Ghebreyesus, director-general of the World Health Organization, at a press conference in March 2020.

PHOTO: SALVATORE DI NOLFI/ASSOCIATED PRESS

Could the virus have escaped from a laboratory? Then-deputy U.S. national security adviser Matthew Pottinger told international leaders late last year that the latest intelligence points to SARS-CoV-2 having originated from the Wuhan Institute of Virology (WIV). This intelligence has not been made public, and China has denied that the virus came from a lab. Dr. Shi Zhengli, whose lab at WIV has been a suspected source of the virus, told Scientific American last March that "none of the [early SARS-CoV-2] sequences matched those of the viruses her team had sampled from bat caves."

The hypothesis that SARS-CoV-2 originated in a lab remains controversial. Last March, in the journal *Nature Medicine*, Dr. Kristian Andersen of the Scripps Research Institute and colleagues asserted that "SARS-CoV-2 is not a laboratory construct or a purposefully manipulated virus." They said there was no evidence to support lab-based origins and that the available data was consistent with natural evolution. Dr. David Robertson of the University of Glasgow told us that "SARS-CoV-2 is just too different to the [viruses] we were aware of prior to its emergence."

The ability to build coronavirus genomes without leaving traces of manipulation has existed for years.

In November, however, in the journal *PNAS*, Dr. Relman wrote that Dr. Andersen's argument didn't acknowledge that unpublished viruses closely related to SARS-CoV-2 could have been studied in a laboratory. For more than a decade, Dr. Shi has been publishing experiments on "chimera" coronaviruses, built by inserting parts of newly found viruses into better known viruses to understand how novel viruses could

infect human cells. These were used to assess the risk that such viruses could spill over

into humans.

The ability to build coronavirus genomes without leaving traces of manipulation has existed for years. Dr. Ralph Baric of the University of North Carolina at Chapel Hill, a world-leading coronavirus expert and collaborator of Dr. Shi, told an Italian television documentary last June, “In sequence databases there were sequences for a large number of bat coronaviruses that were SARS-like, reported out of China.” He added that “whether the virus existed beforehand, it would only be within the records of the Institute of Virology in Wuhan.”

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For some scientists, the location of the first detected outbreak is enough to raise suspicions. In the words of Dr. Richard Ebright of Rutgers University, “the outbreak occurred on the doorstep of laboratories that conduct the world’s largest research project on horseshoe-bat viruses, that have the world’s largest collection of horseshoe-bat viruses, and that possessed and worked with the world’s closest sequenced relative of the outbreak virus. The laboratories actively searched for new horseshoe-bat viruses in horseshoe-bat colonies

in caves in remote rural areas in Yunnan province, brought those new horseshoe-bat viruses to Wuhan, and then mass-produced and studied those new horseshoe-bat viruses, year-round, inside Wuhan.”

Such concerns have gained prominence over the past year and were recently explored in a [much-discussed article](#) in New York magazine, “The Lab-Leak Hypothesis” by Nicholson Baker.



In January 2020, a police officer stands guard outside the seafood market in Wuhan, China, where the coronavirus was first detected.

PHOTO: HECTOR RETAMAL/AFP/GETTY IMAGES

SARS viruses are known to have escaped previously from laboratories in Singapore, Taiwan and twice in Beijing. Dr. Maciej Boni of Pennsylvania State University told us that if the virus escaped from the Wuhan lab (though he thinks this is unlikely), he would expect that “some of the early December cases should be traceable to WIV employees, family members of WIV employees or frequent social contacts of WIV employees. If this evidence is presented, it will be the first ‘positive evidence’ that SARS-CoV-2 may have a lab origin.”

What would it take to properly investigate possible lab origins? Dr. Relman said that “it will be critical to obtain independently verified, time-stamped records of sample

inventories, data, lab notebooks and records, internal and external communications, personnel health records and serum samples, and access to personnel so that they can be interviewed in private without fear of repercussions.” Yet the path to such a credible investigation seems nearly impossible in the current geopolitical climate.

Several scientists also told us they were troubled by the presence on the WHO team of Dr. Peter Daszak of the New York-based EcoHealth Alliance. Dr. Daszak has been a longtime collaborator of Dr. Shi since they worked together to trace SARS viruses to bats after the 2003 epidemic. His organization has administered more than \$100 million in U.S. federal grants to fund overseas fieldwork and laboratory experiments, including those performed by WIV, to find and characterize new viruses in order to predict the next pandemic, according to the EcoHealth Alliance.

Last February, Dr. Peter Daszak organized a statement in The Lancet, a prominent medical journal, to ‘condemn conspiracy theories suggesting that Covid-19 doesn’t have a natural origin.’

Last February, Dr. Daszak organized [a statement](#) in The Lancet, a prominent medical journal, to “condemn conspiracy theories suggesting that Covid-19 doesn’t have a natural origin.” The statement was drafted when little was yet known about the virus. Dr. Daszak declined to comment for this piece, but a spokesman for Dr. Daszak told us: “The Lancet letter was written during a time in which Chinese scientists were receiving death threats and the letter was intended as a showing of support for them as they were caught between important work trying to stop an outbreak and the crush of online harassment.” Yet, in June, Dr. Daszak

wrote an opinion piece for the Guardian headlined, “Ignore the conspiracy theories: scientists know Covid-19 wasn’t created in a lab.”

The spokesman for Dr. Daszak told us that any questions about his potential conflict of interest should be referred to WHO. Dr. Ben Embarek said that he sees no problem in having Dr. Daszak on his investigative team: “Of course the WHO team will have discussion with the scientists and researchers in Wuhan. And therefore it is good to have on the team someone who knows the area well.”

Miles Pomper, a co-author of [an expert guide](#) to investigating outbreak origins published in October by the Middlebury Institute of International Studies at Monterey, said that “The independence of the WHO investigation may be seriously compromised by the process used to choose investigators.... In particular, the choice of Dr. Daszak, who has a personal stake in ensuring current Chinese practices continue and who is a longtime collaborator of a scientist at the center of the investigation, is likely to taint its results.”

Another co-author of the guide, Dr. Filippa Lentzos, said, “We also need to take a hard look in the mirror. It is our own virologists, funders and publishers who are driving and endorsing the practice of actively hunting for viruses and the high-risk research of deliberately making viruses more dangerous to humans. We need to be more open about the heavily vested interests of some of the scientists given prominent platforms to make claims about the pandemic’s origins.”

As a scientist and a science writer, we believe that both natural and lab-based scenarios of Covid-19’s origins must be rigorously investigated, not only to avert future pandemics but for the sake of science’s reputation. The formal investigation launched by WHO is only

taking steps to look into natural origins. That needs to change.

—Dr. Chan is a researcher at the Broad Institute of MIT and Harvard. Mr. Ridley is a member of the House of Lords and the author, most recently, of “How Innovation Works: And Why It Flourishes in Freedom.”

Appeared in the January 16, 2021, print edition.

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To stop the next pandemic, we need to unravel the origins of COVID-19

David A. Relman^{a,b,c,d,1}

We find ourselves ten months into one of the most catastrophic global health events of our lifetime and, disturbingly, we still do not know how it began. What's even more troubling is that despite the critical importance of this question, efforts to investigate the origins of the severe acute respiratory syndrome coronavirus 2 (SARS CoV 2) virus and of the associated disease, coronavirus disease 2019 (COVID 19), have become mired in politics, poorly supported assumptions and assertions, and incomplete information.

SARS CoV 2 is a betacoronavirus whose apparent closest relatives, RaTG13 and RmYN02, are reported

to have been collected from bats in 2013 and 2019, respectively, in Yunnan Province, China (1). COVID 19 was first reported in December 2019 more than 1,000 miles away in Wuhan City, Hubei Province, China. Beyond these facts, the "origin story" is missing many key details, including a plausible and suitably detailed recent evolutionary history of the virus, the identity and provenance of its most recent ancestors, and surprisingly, the place, time, and mechanism of transmission of the first human infection. Even though a definitive answer may not be forthcoming, and even though an objective analysis requires addressing



To avoid or mitigate the dire consequences of this and future pandemics (here, people in PPE bury a victim in Delhi, India in June), unraveling the origins of SARS-CoV-2 and COVID-19 will be essential—even though a definitive answer may be elusive, and an objective analysis means broaching some uncomfortable possibilities. Image credit: Shutterstock/PradeepGaur.

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The author declares no competing interest.

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First published November 3, 2020.

some uncomfortable possibilities, it is crucial that we pursue this question. Preventing the next pandemic depends on understanding the origins of this one.

There are several potential origin scenarios. First, SARS CoV 2 may have evolved in bats, which are known reservoirs of immense coronavirus diversity (2), and then spread directly, or indirectly via an intermediate host, to humans through natural mechanisms. The degree of anticipated but undiscovered natural diversity clearly lends support to this scenario, as well as support to other scenarios. Second, SARS CoV 2 or a recent ancestor virus may have been collected by humans from a bat or other animal and then brought to a laboratory where it was stored knowingly or unknowingly, propagated and perhaps manipulated genetically to understand its biological properties, and then released accidentally.

Some have argued that a deliberate engineering scenario is unlikely because one would not have had the insight *a priori* to design the current pandemic virus (3). This argument fails to acknowledge the possibility that two or more as yet undisclosed ancestors (i.e., more proximal ancestors than RaTG13 and RmYN02) had already been discovered and were being studied in a laboratory—for example, one with the SARS CoV 2 backbone and spike protein receptor binding domain, and the other with the SARS CoV 2 polybasic furin cleavage site. It would have been a logical next step to wonder about the properties of a recombinant virus and then create it in the laboratory. Alternatively, the complete SARS CoV 2 sequence could have been recovered from a bat sample and viable virus resurrected from a synthetic genome to study it, before that virus accidentally escaped from the laboratory. The third scenario, seemingly much less likely, involves laboratory manipulation or release, with the clear intention of causing harm.

Even though strong opinions abound, none of these scenarios can be confidently ruled in or ruled out with currently available facts. Just because there are no public reports of more immediate, proximal ancestors in natural hosts, doesn't mean that these ancestors don't exist in natural hosts or that COVID 19 didn't begin as a spillover event. Nor does it mean that they have not been recovered and studied, or deliberately recombined in a laboratory.

Why do these distinctions matter? If we find more concrete evidence of a "spill over" event with SARS CoV 2 passing directly from bat to human, then efforts to understand and manage the bat-human interface need to be significantly strengthened. But if SARS CoV 2 escaped from a lab to cause the pandemic, it will become critical to understand the chain of events and prevent this from happening again. Rather than resorting to hunches or finger pointing, each scenario must be systematically and objectively analyzed using the best available science-based approaches. There is a path to greater clarity. It requires scientific rigor, forensic approaches, deliberate methods, transparency, and cooperation.

In an effort to reveal the origins of the pandemic, researchers so far have focused on the SARS CoV 2

genome sequence. However, the sequence of the pandemic virus tells us only so much. First, the closest known relatives, RaTG13 and RmYN02, are not that close (4). Second, there is probably more than one recent ancestral lineage that contributes to SARS CoV 2 because its genome shows evidence of recombination between different parental viruses. In nature, recombination is common among coronaviruses. But it's also common in some research laboratories where recombinant engineering is used to study those viruses. The bottom line is simple: We need to identify the immediate parent(s) of SARS CoV 2, and they're missing.

To find its parents and understand its recent history, we need 1) additional genome sequences of coronaviruses from relevant bats and other suspect

A deliberative process for investigating the origins of this pandemic must be representative of all relevant disciplines, expertise, and stakeholders; must achieve political neutrality, scientific balance, and access to all relevant information and samples; and must operate with transparency and independent oversight. Without these features, it will not be credible, trustworthy, or effective.

hosts—some of these likely exist already in laboratories, given the efforts so far undertaken to survey bats in particular (2, 5); 2) measurements of SARS CoV 2 evolution under a variety of defined conditions so that differences between viral genomes can be understood better as differences in time on an evolutionary clock; and 3) data from antibody surveys of humans at high risk of coronavirus exposure and from past cases of similar disease, so that previously unrecognized encounters can be revealed. In addition, we need to address whether there is information about host or environmental samples that contain recent ancestors of SARS CoV 2, data perhaps not yet publicly available. More generally, are there relevant scientific data, including from coronavirus engineering work in laboratories, that have not been shared widely? Who knew what about relevant viruses and cases of disease before December 2019, and when? This information will go a long way toward clarifying the origins of this pandemic, even if certainty continues to elude us.

The means are just as important as the goals. An investigative process should be transparent, collaborative, international, and, to the extent possible, devoid of political interest. Recent, productive scientific collaborations between the United States and China, for example, provide hope that such a process can be achieved. But the kind of effort required will need to expand far beyond what's taken place so far, and nations other than the United States and China will need to be involved. Conflicts of interest by researchers, administrators, and policymakers on all sides must be revealed and addressed, and all relevant global

constituencies must be included. Both the World Health Organization and *The Lancet* COVID 19 Commission (6) have hinted that they have taken some first steps, but their efforts so far have been cloaked in secrecy (7, 8). A deliberative process for investigating the origins of this pandemic must be representative of all relevant disciplines, expertise, and stakeholders; must achieve political neutrality, scientific balance, and access to all relevant information and samples; and must operate with transparency and independent oversight. Without these features, it will not be credible, trustworthy, or effective.

A more complete understanding of the origins of COVID 19 clearly serves the interests of every person in every country on this planet. It will limit further re-criminations and diminish the likelihood of conflict; it will lead to more effective responses to this pandemic, as well as efforts to anticipate and prevent the next one. It will also advance our discussions about risky science. And it will do something else: Delineating COVID 19's origin story will help elucidate the nature of our very precarious coexistence within the biosphere.

-
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 - 2 A. Latinne et al., Origin and cross-species transmission of bat coronaviruses in China. *Nat. Commun.* **11**, 4235 (2020).
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From: [Bulls, Michelle G. \(NIH/OD\) \[E\]](#)
To: [Kosub, David \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#); [Bulls, Michelle G. \(NIH/OD\) \[E\]](#)
Subject: FW: House Appropriations staff inquiry - WIV grant
Date: Tuesday, February 23, 2021 4:59:52 PM
Attachments: [image001.png](#)
[WIV Questions from OLPA OPERA.docx](#)

Thanks for starting the responses for us David. Please let us know if you have any questions.

From: Lauer, Michael (NIH/OD) [E] (b) (6)
Sent: Tuesday, February 23, 2021 1:59 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6) >
Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – (b) (5)

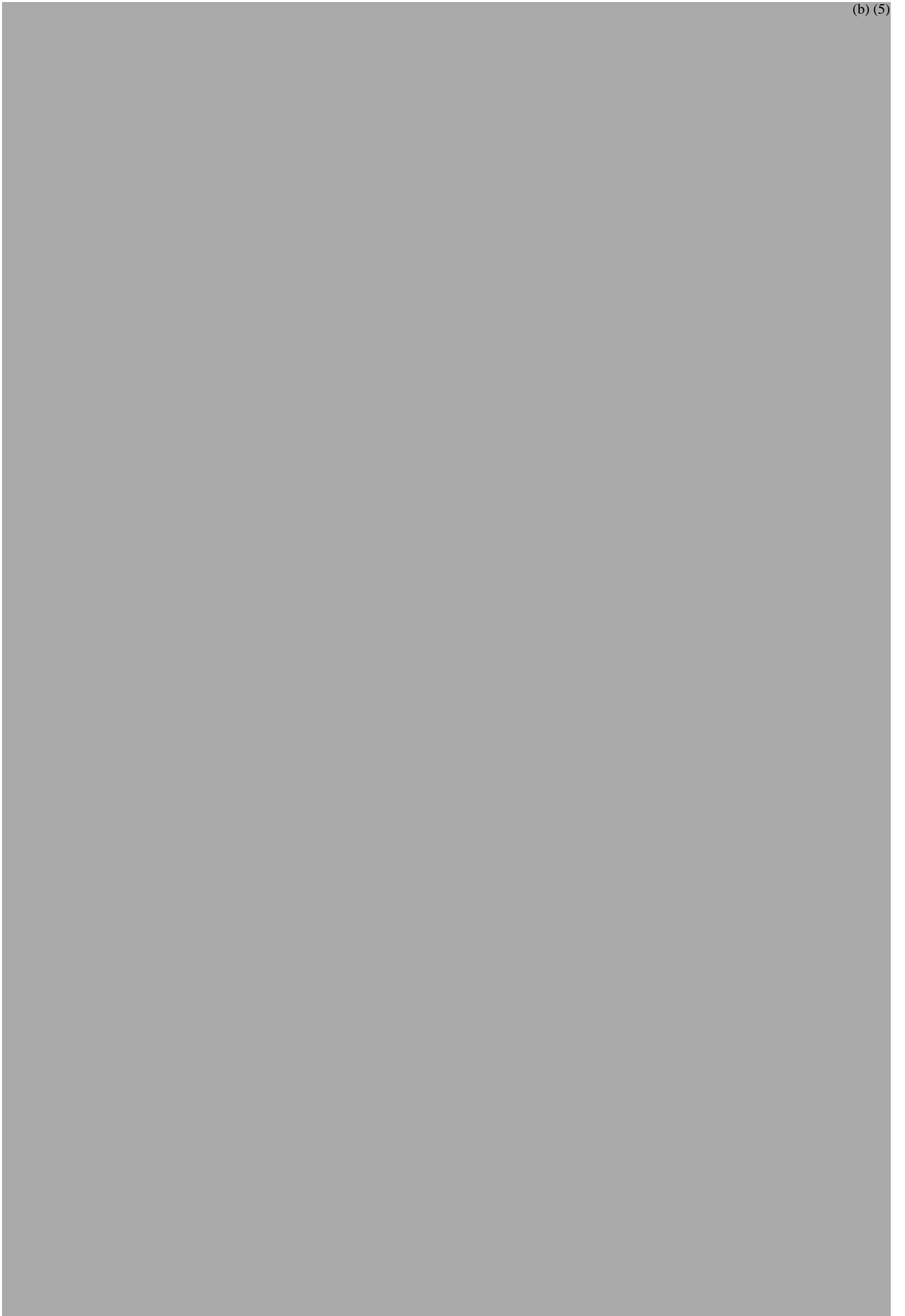
I'm looping in Michelle and Kristin.

Many thanks, Mike

From: "Kosub, David (NIH/OD) [E]" (b) (6)
Date: Tuesday, February 23, 2021 at 1:05 PM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Columbus, Megan (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)
Subject: FW: House Appropriations staff inquiry - WIV grant

Good day Mike,
OLPA shared a few questions from Rep. Cole's office related to the EcoHealth Alliance grant and WIV sub-award (in the forwarded email below). Below are some proposed answers using the latest versions of vetted language that OCPL has for this issue. Note, the funding table was pulled from the response provided to Sen. McSally last summer. Greatly appreciate your review and feedback.

(b) (5)



From: LaMontagne, Karen (NIH/OD) [E] (b) (6)
Sent: Monday, February 22, 2021 5:32 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Rabin, Elise (NIH/OD) [E] <(b) (6)>
Subject: House Appropriations staff inquiry - WIV grant

Hi, David,

Kathryn Salmon from Congressman Tom Cole's appropriations staff reached out with questions related to the Wuhan Institute of Virology grant. I shared the general status of the grant (that it has been reinstated with funds suspended until EcoHealth responds to our requests for information), but Kathryn asked several specific questions that we need help answering. I've listed them below with some of my own comments – many apologies for any duplication, as I feel that we've answered some of these before and I just can't find the information:

- What was the amount of this grant (both amount that has been obligated and amount that has been spent)?
- What was the duration of this grant?
- Why type of monitoring occurred in response to this grant ?
- Does NIH have any ongoing investigations in response to the award of this grant?

Additionally, do we know the status of the lawsuit that was filed by EcoHealth?

OLPA would like to have a response to send to Kathryn by Thursday COB if possible. Let me know if that timeline can't be met.

Thanks, and let me know if you have any questions.

Karen

Karen LaMontagne
Office of Legislative Policy & Analysis
National Institutes of Health

(b) (6)



Good day Mike,
OLPA shared a few questions from Rep. Cole's office related to the EcoHealth Alliance grant and WIV sub-award (in the forwarded email below). Below are some proposed answers using the latest versions of vetted language that OCPL has for this issue. Note, the funding table was pulled from the response provided to Sen. McSally last summer. Greatly appreciate your review and feedback.

(b) (5)



|

From: [Ta, Kristin \(NIH/OD\) \[E\]](#)
To: [Bulls, Michelle G. \(NIH/OD\) \[E\]](#); [Kosub, David \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#)
Subject: RE: House Appropriations staff inquiry - WIV grant
Date: Tuesday, March 9, 2021 7:35:21 AM
Attachments: [EcoHealth NIAID Grant_years1-6_disbursed.xlsx](#)
[image001.png](#)

Hi David,

I have added a column with the total amount disbursed in each year. These are the funds that the recipient has reported as being drawn down on their quarterly disbursement report. Note that that the disbursement is for the overall award – we're not able to break out any WIV portion from that amount in PMS.

Please let us know if you have any other questions.

Kristin

From: Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Sent: Friday, March 5, 2021 3:50 PM
To: Kosub, David (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

Hi,

We will pull the amount that was disbursed from the PMS which is the system of record for drawdowns. I will look now.

Michelle

From: Kosub, David (NIH/OD) [E] (b) (6)
Sent: Friday, March 5, 2021 12:53 PM
To: Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

Hello,

For clarification, regarding the dollar amounts provided for both the prime and sub-recipient, were these the amounts that were expended or the total amount awarded (if there is a difference). If there is, would it be possible to pull the amount expended from that awarded? This request comes from one of the Appropriations staff.

Thank you
David

From: Ta, Kristin (NIH/OD) [E] (b) (6)

Sent: Tuesday, March 2, 2021 11:11 AM

To: Lauer, Michael (NIH/OD) [E] (b) (6); Kosub, David (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6)

Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6)

Subject: RE: House Appropriations staff inquiry - WIV grant

Hi David,

We agree – thanks.

Kristin

From: Lauer, Michael (NIH/OD) [E] (b) (6)

Sent: Tuesday, March 2, 2021 11:06 AM

To: Kosub, David (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6)

Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)

Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – This seems reasonable, if OK with OPERA.

Mike

From: "Kosub, David (NIH/OD) [E]" (b) (6)

Date: Tuesday, March 2, 2021 at 11:01 AM

To: "Lauer, Michael (NIH/OD) [E]" (b) (6), "Bulls, Michelle G. (NIH/OD) [E]" (b) (6), "Ta, Kristin (NIH/OD) [E]" (b) (6)

Cc: "Columbus, Megan (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)

Subject: RE: House Appropriations staff inquiry - WIV grant

Hello again, we received another follow up question related to this issue from Appropriations staff: "is EcoHealth Alliance able to compete for new grants?"

(b) (5)

Thank you
David

From: Ta, Kristin (NIH/OD) [E] (b) (6)
Sent: Monday, March 1, 2021 12:45 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

The total amount authorized is the total awarded to Ecohealth (directs and indirects). The WIV portion is the total of the subaward to WIV (directs and indirects).

Kristin

From: Kosub, David (NIH/OD) [E] (b) (6)
Sent: Monday, March 1, 2021 10:48 AM
To: Ta, Kristin (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

Good day, quick follow up question regarding the FY dollar amounts in the Excel sheet listed as "total amount authorized" and the "WIV portion." (b) (5)

Thank you
David

David

From: Ta, Kristin (NIH/OD) [E] (b) (6)
Sent: Wednesday, February 24, 2021 3:36 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

Hi David,

Here are the details on the amounts for each year for the full award and WIV portion so that you can plug them into the response.

Kristin

From: Bulls, Michelle G. (NIH/OD) [E] (b) (6)

Sent: Wednesday, February 24, 2021 9:03 AM

To: Kosub, David (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E]

(b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E]
(b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Bulls, Michelle G.
(NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

Hi,

See below, thanks!

From: Kosub, David (NIH/OD) [E] (b) (6)

Sent: Wednesday, February 24, 2021 8:39 AM

To: Bulls, Michelle G. (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E]
(b) (6)

Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E]
(b) (6); Ta, Kristin (NIH/OD) [E] (b) (6)

Subject: RE: House Appropriations staff inquiry - WIV grant

Thanks for your assistance with this Michelle et al. Couple clarification questions and a comment after reading the response:

(b) (5)



Thank you
David

From: Bulls, Michelle G. (NIH/OD) [E] (b) (6)
 Sent: Tuesday, February 23, 2021 4:59 PM
 To: Kosub, David (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
 Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6)
 Subject: FW: House Appropriations staff inquiry - WIV grant

Thanks for starting the responses for us David. Please let us know if you have any questions.

From: Lauer, Michael (NIH/OD) [E] (b) (6)
 Sent: Tuesday, February 23, 2021 1:59 PM
 To: Kosub, David (NIH/OD) [E] (b) (6)
 Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
 Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – (b) (5)

I'm looping in Michelle and Kristin.

Many thanks, Mike

From: "Kosub, David (NIH/OD) [E]" (b) (6)
 Date: Tuesday, February 23, 2021 at 1:05 PM
 To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
 Cc: "Columbus, Megan (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)
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Good day Mike,
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From: LaMontagne, Karen (NIH/OD) [E] [REDACTED] (b) (6)
Sent: Monday, February 22, 2021 5:32 PM
To: Kosub, David (NIH/OD) [E] [REDACTED] (b) (6)
Cc: Rabin, Elise (NIH/OD) [E] [REDACTED] (b) (6)
Subject: House Appropriations staff inquiry - WIV grant

Hi, David,

Kathryn Salmon from Congressman Tom Cole's appropriations staff reached out with questions related to the Wuhan Institute of Virology grant. I shared the general status of the grant (that it has been reinstated with funds suspended until EcoHealth responds to our requests for information), but Kathryn asked several specific questions that we need help answering. I've listed them below with some of my own comments – many apologies for any duplication, as I feel that we've answered some of these before and I just can't find the information:

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- What was the duration of this grant?
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Additionally, do we know the status of the lawsuit that was filed by EcoHealth?

OLPA would like to have a response to send to Kathryn by Thursday COB if possible. Let me know if that timeline can't be met.

Thanks, and let me know if you have any questions.

Karen

Karen LaMontagne
Office of Legislative Policy & Analysis
National Institutes of Health

(b) (6)







[Go to DATA worksheet for downloaded results.](#)

(b) (5)



From: [Kosub, David \(NIH/OD\) \[E\]](#)
To: [Bulls, Michelle G. \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#)
Subject: RE: House Appropriations staff inquiry - WIV grant
Date: Wednesday, February 24, 2021 8:40:10 AM
Attachments: [WF390335 Draft Response McSally Gaetz.docx](#)
[image001.png](#)

Thanks for your assistance with this Michelle et al. Couple clarification questions and a comment after reading the response:



Thank you
David

From: Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Sent: Tuesday, February 23, 2021 4:59 PM
To: Kosub, David (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6);
Ta, Kristin (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6)
Subject: FW: House Appropriations staff inquiry - WIV grant

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Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer,
Michael (NIH/OD) [E] (b) (6)
Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – (b) (5)

(b) (5)

I'm looping in Michelle and Kristin.

Many thanks, Mike

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Date: Tuesday, February 23, 2021 at 1:05 PM
To: "Lauer, Michael (NIH/OD) [E]" (b) (6)
Cc: "Columbus, Megan (NIH/OD) [E]" (b) (6), "Rabin, Elise (NIH/OD) [E]" (b) (6)
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Karen

Karen LaMontagne
Office of Legislative Policy & Analysis
National Institutes of Health

(b) (6)



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Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Bulls, Michelle G. \(NIH/OD\) \[E\]](#); [Lauer, Michael \(NIH/OD\) \[E\]](#)
Subject: RE: House Appropriations staff inquiry - WIV grant
Date: Monday, March 1, 2021 10:48:09 AM
Attachments: [image001.png](#)
[EcoHealth NIAID Grant_years1-6.xlsx](#)

Good day, quick follow up question regarding the FY dollar amounts in the Excel sheet listed as "total amount authorized" and the "WIV portion." (b) (5)

Thank you
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Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: RE: House Appropriations staff inquiry - WIV grant

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See below, thanks!

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(b) (5)

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Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer,

Michael (NIH/OD) [E] [REDACTED] (b) (6)

Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – [REDACTED] (b) (5)

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Date: Tuesday, February 23, 2021 at 1:05 PM

To: "Lauer, Michael (NIH/OD) [E]" [REDACTED] (b) (6)

Cc: "Columbus, Megan (NIH/OD) [E]" [REDACTED] (b) (6), "Rabin, Elise (NIH/OD) [E]"
<rabine@od.nih.gov>

Subject: FW: House Appropriations staff inquiry - WIV grant

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[REDACTED] (b) (5)

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Sent: Monday, February 22, 2021 5:32 PM

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Cc: Rabin, Elise (NIH/OD) [E] (b) (6)
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Karen

Karen LaMontagne
Office of Legislative Policy & Analysis
National Institutes of Health

(b) (6)







[Go to DATA worksheet for downloaded results.](#)

(b) (5)



From: [Bulls, Michelle G. \(NIH/OD\) \[E\]](#)
To: [Lauer, Michael \(NIH/OD\) \[E\]](#); [Kosub, David \(NIH/OD\) \[E\]](#)
Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#)
Subject: RE: House Appropriations staff inquiry - WIV grant
Date: Tuesday, February 23, 2021 2:12:32 PM
Attachments: [image001.png](#)

Will revise a bit... (b) (5) looking now.

From: Lauer, Michael (NIH/OD) [E] (b) (6)
Sent: Tuesday, February 23, 2021 1:59 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – (b) (5)

I'm looping in Michelle and Kristin.

Many thanks, Mike

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National Institutes of Health

(b) (6)



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Cc: [Columbus, Megan \(NIH/OD\) \[E\]](#); [Rabin, Elise \(NIH/OD\) \[E\]](#); [Bulls, Michelle G. \(NIH/OD\) \[E\]](#); [Ta, Kristin \(NIH/OD\) \[E\]](#)
Subject: RE: House Appropriations staff inquiry - WIV grant
Date: Tuesday, February 23, 2021 2:03:52 PM
Attachments: [image001.png](#)

Thanks Mike. Sorry, (b) (5), but may have been mistaken. OPERA, appreciate your thoughts too.
David

From: Lauer, Michael (NIH/OD) [E] (b) (6)
Sent: Tuesday, February 23, 2021 1:59 PM
To: Kosub, David (NIH/OD) [E] (b) (6)
Cc: Columbus, Megan (NIH/OD) [E] (b) (6); Rabin, Elise (NIH/OD) [E] (b) (6); Bulls, Michelle G. (NIH/OD) [E] (b) (6); Ta, Kristin (NIH/OD) [E] (b) (6); Lauer, Michael (NIH/OD) [E] (b) (6)
Subject: Re: House Appropriations staff inquiry - WIV grant

Thanks David – (b) (5)
(b) (5)

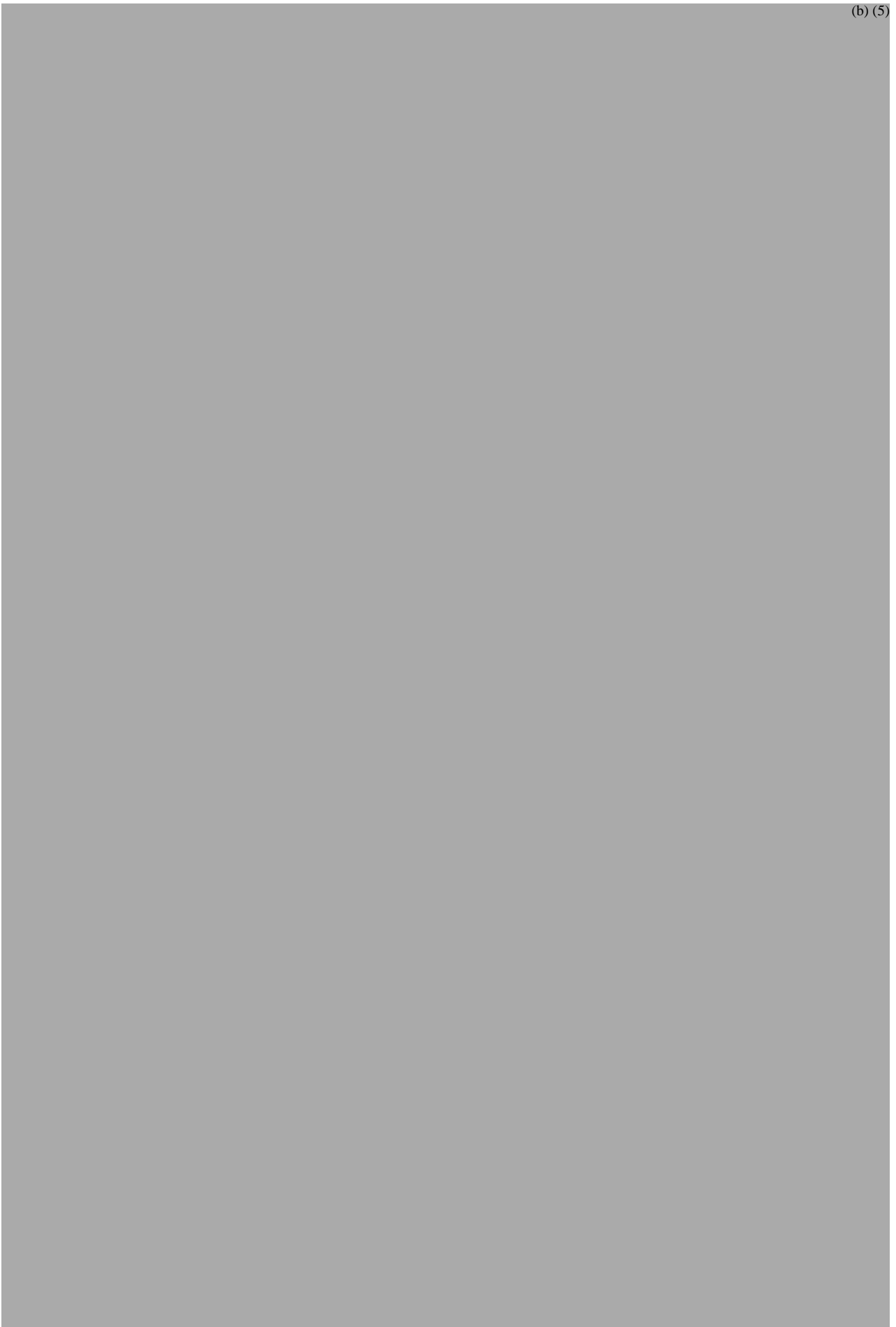
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(b) (6)

