From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 22 Nov 2021 12:23:43 +0000
To: William B. Karesh
Cc: Catherine Machalaba; Daniel Mira-Salama
Subject: Re: figure for World Bank report
Attachments: PastedGraphic-1.tiff

PS, you might be able to get Cell to let you use it for free, as it is for a good cause, a non profit entity, and is good advertising for Cell. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 07:21, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

Let me know. My best to Peter and the gang. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh (b)(6) wrote:

Dear David,

Hope this finds you well.

We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

Hope you have a great Thanksgiving, all the best,

Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

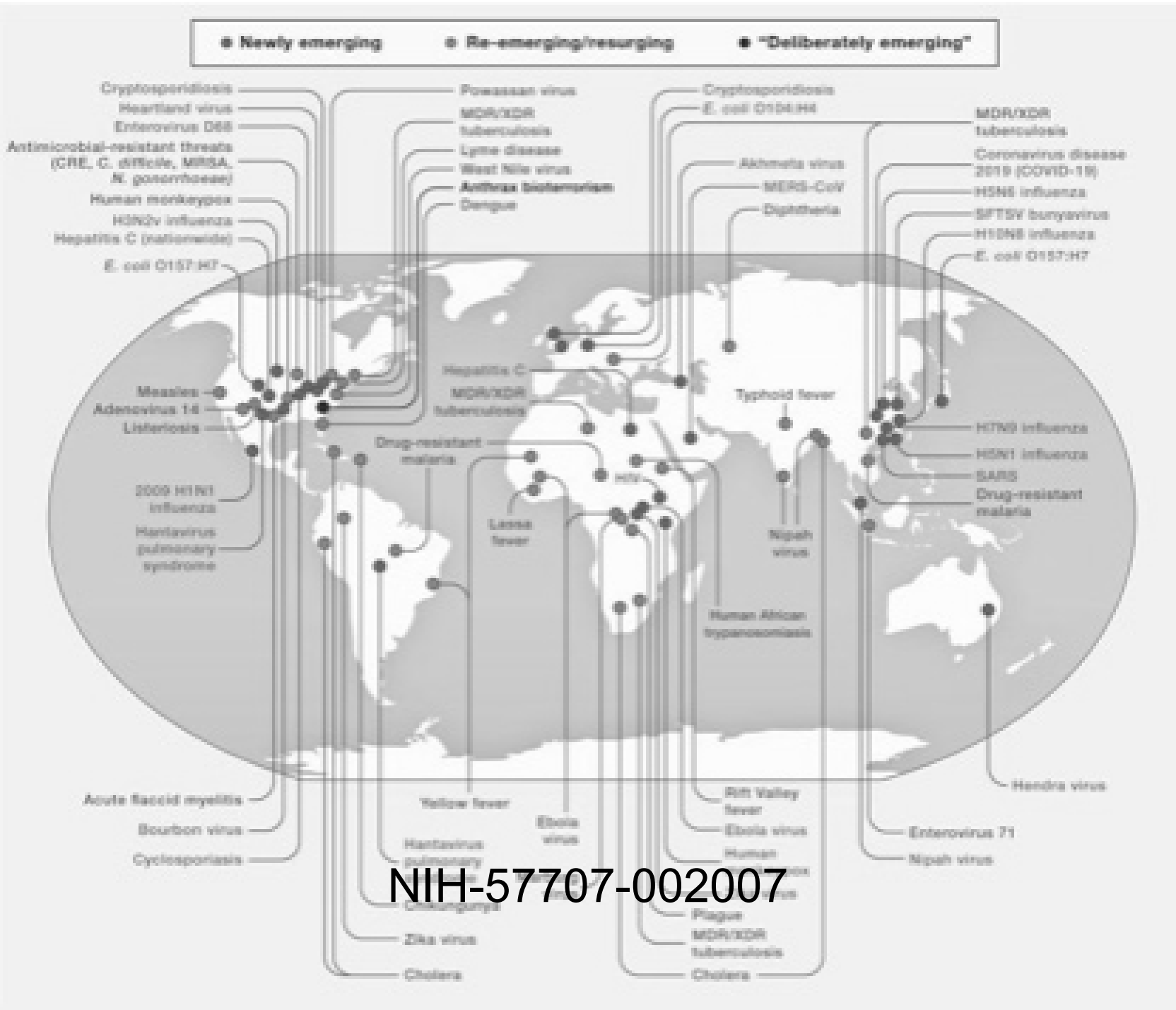
EcoHealth Alliance
520 Eighth Avenue, Suite 1200
New York, NY 10018 USA

(b)(6) (direct)
+1.212.380.4465 (fax)
www.ecohealthalliance.org

President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.



From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 2 Mar 2020 00:15:32 +0000
To: Gonsalves, Gregg
Cc: Art Reingold; Ko, Albert; Lee Riley; Eva Harris; Breman, Joel (NIH/FIC) [V]; (b)(6) Julie Jacobson; (b)(6) ; Jamie Lloyd-Smith; Vasiliou, Vasilis; Friedland, Gerald; Shapiro, Eugene; (b)(6) ; Akira Homma (b)(6) ; Alan Rothman (b)(6)); Aubree Lynn Gordon; Emu, Brinda; Panter-Brick, Catherine; Dela Cruz, Charles; Plowe, Christopher (NIH); (b)(6) Hamer, David (NIH); (b)(6) ; Derek Adam Cummings; Vlahov, David; Donald Burke; Eric J. M. D. M. S. C. Nilles (b)(6)); Velazquez, Eric; Krammer, Florian (b)(6)); Gary J. Weil M.D. (b)(6)); Koehler, Jane; Jason Andrews; Jason Corburn; Lim, Jean (b)(6)); Jeffrey Klausner (b)(6)); (b)(6) ; John David; (b)(6) ; Joseph Eisenberg; Fauver, Joseph; Juan Salazar (b)(6)); (b)(6) ; Mary Wilson; Milton L. Wainberg (b)(6));(b)(6) ; Peter Hotez; Peter F. Wright; (b)(6) ; Melby, Peter C.; Professor Christian Brechot (b)(6)); (b)(6) ; (b)(6) ; Richard Guerrant; (b)(6) ; Bucala, Richard; Dubrow, Robert; Hecht, Robert; Scott C. Weaver (b)(6)); W. Ian Lipkin; Yazdan Yazdanpanah (b)(6)); Yukari Manabe; Kozal, Michael
Subject: Re: HOW TO SIGN ON: Next Steps on COVID: Letter from Public Health and Legal Experts

David M Morens MD, Bethesda, Maryland USA

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Mar 1, 2020, at 19:06, Gonsalves, Gregg (b)(6) wrote:

Just email your name, title and affiliation to (b)(6) if you want to sign on. Feel free to send to colleagues as well. We can't make changes unfortunately at this late date as we're on such a tight deadline.

On 3/1/20, 6:50 PM, "Art Reingold" (b)(6) wrote:

happy to have my name added

> On Mar 1, 2020, at 2:51 PM, Ko, Albert (b)(6) wrote:

> Dear Friends and Colleagues
>
> I want to raise attention of a letter that a group at Yale, Temple and Northeastern have drafted on the next steps for the Covid19 response which is attached and at:
>
https://nam05.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1NVOSECOEp8deYnmJfO0uKtRHcNcbmNrk7dW752dzMeE%2Fedit%3Fusp%3Dsharing&data=02%7C01%7Cgregg.gonsalves%40yale.edu%7C3f6deee28cf743a07aaf08d7be3b5600%7Cdd8cbebb21394df8b4114e3e87abeb5c%7C0%7C0%7C637187034378579611&sdata=ETC5VnkM6N8WJRxpOE0wn09THVLOa5eNvkbkHNqjYOw%3D&reserved=0.
>
> Gregg Gonsalves has provided instructions below (as well as a list of signees as of early today). If you want to sign please email your name, title and affiliation to Gregg Gonsalves at (b)(6)
>
> Thank you for your consideration.
>
> Best albert
>
> Albert Icksang Ko, M.D.
> Professor of Epidemiology and Medicine
> Chair, Department of Epidemiology of Microbial Diseases
> Yale School of Public Health
> 60 College Street, LEPH Room 319B
> P.O. Box 208034
> New Haven, CT 06520-8034 USA
> Tel: (b)(6) Fax: +1 203 785 6193
> email: (b)(6)
>
>
>
> From: Gregg Gonsalves (b)(6)
> Date: Sunday, March 1, 2020 at 2:48 PM
> Subject: FW: Next Steps on COVID Letter from Public Health and Legal Experts
>
> Hi, all. A bunch of Yale, Temple, Northeastern public health and legal experts drafted this sign-on letter:
>
https://nam05.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1NVOSECOEp8deYnmJfO0uKtRHcNcbmNrk7dW752dzMeE%2Fedit%3Fusp%3Dsharing&data=02%7C01%7Cgregg.gonsalves%40yale.edu%7C3f6deee28cf743a07aaf08d7be3b5600%7Cdd8cbebb21394df8b4114e3e87abeb5c%7C0%7C0%7C637187034378579611&sdata=ETC5VnkM6N8WJRxpOE0wn09THVLOa5eNvkbkHNqjYOw%3D&reserved=0.
>
> Just email your name, title and affiliation to (b)(6) if you want to sign on. Feel free to send to colleagues as well. We can't make changes unfortunately at this late date as we're on such a tight deadline.

> If you do it today we can include on first blast out of letter, which we'll release via our collaborative comms people at law, public health and main communications offices on Monday. We will also send to White House and Congress then.

> Don't circulate on social media as we're embargoed until 2PM Monday.

> Gregg

>

> -----Original Message-----

> From: Gonsalves, Gregg

> Sent: Sunday, March 1, 2020 16:26

> To: Scott Burris; Jay Stanley

> Cc: Abdullah Hasan; Omer, Saad; Kapczynski, Amy; Greenwood, Michael; Chen, Xi; Ko, Albert; Esha Bhandari; Vermund, Sten; Wishnie, Michael; Omar Jadwat; Miller, Ali; Mary Petrone; Gilles, Marguerite; (b)(6) ; Steven Galinat; Madhuri Grewal; Kroszner, Debra; Peart, Karen; Mamoun, Fred; Conroy, Janet

> Subject: Sign-Ons at of Now (4:24PM Sunday)

>

> Link to letter with sign-ons: https://nam05.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdocs.google.com%2Fdocument%2Fd%2F1NVOSECOEp8deYnmJfO0uKtRHcNcbmNrk7dW752dzMeE%2Fedit%3Fusp%3Dsharing&data=02%7C01%7Cgregg.gonsalves%40yale.edu%7C3f6deee28cf743a07aaf08d7be3b5600%7Cdd8cbebb21394df8b4114e3e87abeb5c%7C0%7C0%7C637187034378579611&sdata=ETC5VnkM6N8WJRxpOE0wn09THVLOa5eNvkbkHNqjYOw%3D&reserved=0

>

> And sign-ons also below:

>

> Gregg S. Gonsalves, Assistant Professor, Department of Epidemiology of Microbial Diseases, Yale School of Public Health * Amy Kapczynski, Professor of Law, Yale Law School * Albert I. Ko, Professor and Chair, Department of Epidemiology of Microbial Diseases, Yale School of Public Health * Wendy E. Parmet, Professor of Law, Public Policy and Urban Affairs, Northeastern University * Scott Burris, Professor and Director, Center for Public Health Law Research, Policy Surveillance Program, Temple University Beasley School of Law * Xi Chen, Assistant Professor, Department of Health Policy and Management, Yale School of Public Health * Saad B. Omer, Director, Yale Institute for Global Health, Professor of Medicine (Infectious Diseases), Professor of Epidemiology of Microbial Diseases, Adjunct Professor (Nursing), Yale Medical School, Yale School of Public Health, Yale School of Nursing * Michael J. Wishnie, Clinical Professor of Law and Counselor to the Dean, Yale Law School * Kayoko Shioda, Ph.D. Candidate, Department of Epidemiology of Microbial Diseases, Yale School of Public Health * Mary Petrone, Ph.D. Candidate, Department of Epidemiology of Microbial Diseases, Yale School of Public Health * Hanna Ehrlich, Ph.D. Candidate, Department of Epidemiology of Microbial Diseases, Yale School of Public Health Rita Gilles, J.D. Candidate, Yale Law School * Ann Kurth, Dean and Professor, Yale School of Nursing Robert Heimer, Professor of Epidemiology and of Pharmacology, Yale School of Public Health Amy Bei, Department of Epidemiology of Microbial Diseases, Yale School of Public Health Glenn Cohen, Professor of Law and Director, Petrie-Flom Center for Health Law Policy, Biotechnology & Bioethics, Harvard Law School A. David Paltiel, Professor, Department of Health Policy and Management, Yale School of Public Health and Yale School of Management Forrest W. Crawford, Associate Professor, Department of Biostatistics, Yale School of Public Health Trace Kershaw, Professor and Chair, Department of Social and Behavioral Sciences, Yale School of Public Health Carlos del Rio, Professor of Medicine and Global Health, Emory University Lynn E. Taylor, Research Professor, University of Rhode Island, Director of HIV and Viral Hepatitis Services, CODAC Behavioral Health, Director, RI Defeats Hep C

Alexander Breskin, Senior Epidemiologist, NoviSci Lynn E. Fiellin, Associate Professor of Medicine and the Yale Child Study Center, Director, play2PREVENT Lab at the Yale Center for Health & Learning Games, Yale University School of Medicine Tracy L. Rabin, Assistant Professor of Medicine, Yale University School of Medicine Julia Marcus, Assistant Professor, Harvard Medical School Nathan D. Grubaugh, Assistant Professor, Department of Epidemiology of Microbial Diseases, Yale School of Public Health Lesley Meng, Assistant Professor of Operations Management, Yale School of Management Heather Edney, Director, Communications and Development, Homeless Health Care Los Angeles Nicolas Terry, Professor of Law, Indiana University Robert H. McKinney School of Law Richard Daynard, University Distinguished Professor of Law, Northeastern University, President, Public Health Advocacy Institute Peter D. Jacobson, Professor Emeritus of Health Law and Policy, Director, Center for Law, Ethics, and Health, University of Michigan School of Public Health Marcella Nunez-Smith, Associate Professor, Yale Schools of Medicine, Public Health, and Management Zhuo Chen, Associate Professor, University of Georgia, and Li Dak Sum Chair Professor in Health Economics, University of Nottingham Kasia J. Lipska, Assistant Professor of Medicine, Yale School of Medicine Ruochen Sun, Student, Yale School of Public Health Linda M. Niccolai, Professor, Epidemiology of Microbial Diseases, Yale School of Public Health, Director, Connecticut Emerging Infections Program at Yale Qi (Harry) Zhang, Associate Professor, School of Community and Environmental Health, Old Dominion University Huiwen Xu, Research Assistant Professor, University of Rochester.

> Gene W. Matthews, Retired Chief Legal Advisor to CDC Hongyun Fu, Associate Professor, Division of Community Health and Research, Pediatrics Department, Eastern Virginia Medical School Shutong Huo, Student,Yale School of Public Health Sheela Shenoi, Assistant Professor of Medicine, Yale School of Medicine Jing Ma, MD, PhD, Associate Professor of Population Medicine, Department of Population Medicine, Harvard Medical School Carmen Portillo, Executive Deputy Dean, Yale School of Nursing Joe Amon, Director of Global Health, Clinical Professor, Community Health and Prevention, Dornsife School of Public Health, Drexel University Lauren W. Kestner, Harm Reduction Program Manager, Prevention Specialist Alison Galvani, Director, Yale Center for Infectious Disease Modeling and Analysis (CIDMA), Burnett and Stender Families Professor of Epidemiology, Yale School of Public Health Harlan M. Krumholz, Harold H. Hines, Jr. Professor of Medicine, Department of Internal Medicine, Section of Cardiovascular Medicine, Director, Yale-New Haven Hospital Center for Outcomes Research and Evaluation Cary P. Gross, Director, National Clinician Scholars Program at Yale, Cancer Outcomes, Public Policy & Effectiveness Research Center, Yale School of Medicine Hanming Fang, Class of 1965 Term Professor of Economics, Department of Economics, University of Pennsylvania Reza Yaesoubi, Assistant Professor of Health Policy and Management, Yale Schools of Public Health David A. Fiellin, Professor of Medicine, Emergency Medicine and Public Health, Yale School of Medicine Kenneth A. Freedberg, Professor of Medicine, Massachusetts General Hospital, Harvard Medical School Miguel Hernan, Professor of Epidemiology, Harvard T.H. Chan School of Public Health Harold Pollack, Helen Ross Professor, School of Social Service Administration, University of Chicago Kathryn N. Shands, former Chief of the Toxic Shock Syndrome Task Force at CDC Alexandra L Phelan, Faculty, Georgetown University Center for Global Health Science & Security, Adjunct Professor, Georgetown University Law Center Ellen Isaacs, Retired Assistant Professor, New York Medical College Robin W. Simon, Professor of Sociology, Wake Forest University Jessica Athens, Policy and Research Officer, New York State Health Foundation Jean Grassman, Associate Professor, Environmental, Occupational and Geospatial Health Sciences, CUNY Graduate School of Public Health and Health Policy Jeffrey Bratberg, Clinical Professor of Pharmacy Practice, URI College of Pharmacy Carolyn Prouty, Faculty, Public Health and Health Sciences, The Evergreen State College, Olympia, WA Wendy B. Bostwick, Associate Professor, University of Illinois at Chicago, College of Nursing Kim M. Blankenship, Professor, Department of Sociology, Associate Dean of Research, College of Arts and Sciences, Co-Director, Social and Behavioral Sciences Core, DC CFAR, American University David R. Williams, Norman Professor of Public Health,Harvard T.H. Chan School of

Public Health John Steen, Immediate Past President, American Health Planning Association Amanda S. Birnbaum, Professor and Chair, Department of Public Health, Montclair State University T. Stephen Jones, Centers for Disease Control and Prevention (retired) Elizabeth A. Samuels, Assistant Professor of Emergency Medicine, Brown Emergency Medicine Leo Beletsky, Professor of Law and Health Sciences, Northeastern University, Adjunct Associate Professor, UC San Diego School of Medicine Mindy Fullilove, Professor of Urban policy and Health, The New School Ryan McNeil, Assistant Professor, Internal Medicine, Director of Harm Reduction Research, Program in Addiction Medicine, Yale School of Medicine Andrew Bäck, MPH Candidate, Department of Epidemiology and Biostatistics, University of Maryland School of Public Health Sunil Parikh, Associate Professor, Yale Schools of Public Health and Medicine Kaveh Khoshnood, Associate Professor, Yale School of Public Health Jennifer E. Miller, Assistant Professor, Yale Medical School, Founder, Bioethics International Jeanette M. Tetrault, Associate Professor of Medicine, Program Director, Addiction Medicine Fellowship, Associate Director for Education and Training, Program in Addiction Medicine, Yale School of Medicine J. Lucian Davis, Associate Professor, Department of Epidemiology of Microbial Diseases, Yale School of Public Health David Vlahov, Professor of Nursing, Professor of Epidemiology Microbial Diseases, Yale University Lindsay F. Wiley, Professor of Law and Director of the Health Law and Policy Program, American University Alice M. Miller, Co-Director, Global Health Justice Partnership of the Yale Law School and the School of Public Health, Yale University Judith Feinberg Professor of Medicine/Infectious Diseases, Professor of Behavioral Medicine & Psychiatry, West Virginia University School of Medicine Deborah Cotton, Professor of Medicine, Boston University School of Medicine, Professor of Epidemiology, Boston University School of Public Health Ross D. Silverman, Professor of Health Policy and Management, Indiana University Fairbanks School of Public Health, Professor of Public Health and Law, Indiana University McKinney School of Law Polly J. Price, Asa Griggs Candler Professor of Law and Professor of Global Health, Emory University Jonathan Kahn, Professor of Law and Biology, Northeastern University School of Law Xuerong Wen, Assistant Professor of Pharmacoepidemiology and Health Outcome, University of Rhode Island Paul D. Cleary, PhD, Anna M.R. Lauder Professor of Public Health, Yale School of Public Health Muneer I. Ahmad, Clinical Professor of Law and Deputy Dean for Experiential Education, Yale Law School Rev. Dr. Gary Gunderson, Vice President, FaithHealth, Professor, Division of Public Health Sciences, Wake Forest University Baptist Medical Center and Professor of Faith and the Health of the Public Mary Crossley, John E. Murray Faculty Scholar and Professor of Law, University of Pittsburgh School of Law Shelley Geballe, Assistant Clinical Professor of Public Health, Yale School of Public Health; Clinical Lecturer, Yale Law School Rev. Dr. Gary Gunderson, Vice President, FaithHealth, Professor, Division of Public Health Sciences, Wake Forest University Baptist Medical Center and Professor of Faith and the Health of the Public Allan M. Brandt, Amalie Moses Kass Professor of the History of Medicine, Professor of the History of Science, Department of the History of Science, Department of Global Health and Social Medicine, Harvard University Melissa M. Goldstein, Associate Professor, Milken Institute School of Public Health, George Washington University Kimford J. Meador, Professor, Department of Neurology & Neurological Sciences, Stanford University School of Medicine Megan Ranney, Attending Physician, Department of Emergency Medicine, Alpert Medical School, Brown University Aiden Shapiro, Resident Physician, NYU/Bellevue Department of Emergency Medicine Nancy Krieger, Professor of Social Epidemiology, American Cancer Society Clinical Research Professor, Department of Social and Behavioral Sciences, Harvard T.H. Chan School of Public Health Mary Anglin, Associate Professor of Anthropology, University of Kentucky

> Kata Chillag, Hamilton McKay Professor in Biosciences and Human Health, Davidson College Christina S. Ho, Professor of Law, Associate Dean of Faculty Research and Development and New Programs, Rutgers Law School, Newark Angela Jarman, Assistant Professor of Emergency Medicine, UC Davis Debra DeBruin, Interim Director, Associate Professor, Director of Graduate Studies, Center for Bioethics, University of Minnesota Sam Snodgrass, Board of Directors, Broken No More/GRASP Samuel

R. Friedman, Research Professor, Dept of Population Health, New York University School of Medicine Matthew M. Kavanagh, Faculty Affiliate, Department of International Health & Law Center, Georgetown University Marianne Sullivan, Professor, Public Health, William Paterson University of New Jersey Kim D. Jaffee, Associate Professor, School of Social Work, Wayne State University Alicia Ely Yamin, Senior Fellow at the Petrie-Flom Center for Health Law Policy, Biotechnology and Bioethics at Harvard Law School Lundy Braun, Professor of Medical Science, Professor of Africana Studies. Departments of Africana Studies and Pathology and Laboratory Medicine, Brown University Jacky Jennings, Associate Professor, Johns Hopkins School of Medicine & Bloomberg School of Public Health Don Mathis, Adjunct Faculty, Delaware Technical Community College Duana Fullwiley, Associate Professor of Anthropology, Stanford University Marian Moser Jones, Associate Professor & Graduate Director, Department of Family Science, University of Maryland School of Public Health Marc Lipsitch, Professor of Epidemiology, Department of Epidemiology, Department of Immunology and Infectious Diseases, Director of the Center for Communicable Disease Dynamics, Harvard T.H. Chan School of Public Health Nicole Blum, MD Candidate, University of Illinois College of Medicine Jing Li, Assistant Professor of Health Policy and Economics, Department of Population Health Sciences, Weill Cornell Medical College W. P. Hanage, Associate Professor, Center for Communicable Disease Dynamics, Department of Epidemiology, Harvard T. H. Chan School of Public Health Glorian Sorensen, Professor, Harvard T.H. Chan School of Public Health David Rosner, Ronald Lauterstein Professor of Public Health and History, Columbia University Kimberly Sue, Medical Director, Harm Reduction Coalition Valerie Horsley, Assoc. Professor of Molecular, Cellular & Developmental Biology, Yale University Jason A. Smith, Associate Professor of Health Sciences, California State University, East Bay James G Kahn, Professor in Residence, Department of Epidemiology and Biostatistics, School of Medicine, UCSF Simon Sang, Associate Professor in Animal and One Health, Department of Agricultural and Environmental Sciences, College of Agriculture, Environment and Human Science Robert Field, Professor of Law and Professor of Health Management and Policy, Drexel University Matthew Wynia, Professor of Medicine and Public Health, Director, Center for Bioethics and Humanities, University of Colorado Robin W. Simon, Professor of Sociology, Wake Forest University Catherine DeLorey, President, Women's Health Institute Erica Concors, Medical Student, Rutgers Robert Wood Johnson Medical School Atheendar S. Venkataramani, Assistant Professor of Health Policy and Medicine, Perelman School of Medicine, University of Pennsylvania Lillian Tom-Orme, AIANNH Caucus, APHA, Co-Chair, Native Research Network, INC Steven Seeche, Community Mediator, Cambridge Mass Katherine M. Keyes, Ph.D., Associate Professor of Epidemiology, Columbia University, Mailman School of Public Health Elana Silver, Principal Epidemiologist, Laurelton Research Carole S. Vance, Senior Fellow, Global Health Justice Partnership, Yale University Mary T Bassett, Professor of the Practice of Health and Human Rights, Director, François-Xavier Bagnoud Center for Health and Human Rights at Harvard University Donald K Milton, Professor, Environmental & Occupational Health, Institute for Applied Environmental Health, School of Public Health, University of Maryland Martha Livingston, Professor and Chair, Public Health, SUNY Old Westbury Gay Young, Professor & Chair, Department of Sociology, American University Suzanne M. Babich, Associate Dean of Global Health, Acting Chair, Dept of Global Health, Professor of Health Policy and Management, Indiana University Matthew Kohrman, Associate Professor of Anthropology, Stanford University & Faculty Fellow at Stanford Center for Innovation in Global Health Wendy K. Mariner, Edward R. Utley Professor of Health Law, Boston University School of Public Health, Professor of Law, Boston University School of Law, Professor of Medicine, Boston University School of Medicine Alan Goodman, Professor of Biological Anthropology, Hampshire College Steven B. Auerbach, CAPT (Retired) U.S. Public Health Service, Board of Directors & Executive Committee, PNHP-NY Metro, Active/Public Volunteer for the Elizabeth Warren for President Campaign T.M. Luhrmann, Medical Anthropologist, Howard H. and Jessie T. Watkins University Professor of Anthropology and Professor, by courtesy, of Psychology, Stanford University Jim Bloyd, PhD Student, University of Illinois at Chicago School of Public Health Michael Barthman, Resident

Physician, Brown Emergency Medicine Anna Reisman, Professor of Medicine, Yale School of Medicine Crissaris Sarnelli, Physician, Ryan Health Center Alison Buttenheim, Associate Professor of Nursing and Health Policy, University of Pennsylvania Lara Stemple, Assistant Dean; Director, Health and Human Rights Law Project, UCLA School of Law

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>
>
> Organizational Signatures
>
> Broken No More
> The Public Health Advocacy Institute
> Big Cities Health Coalition
>
> <Final COVID-19 Letter from Public Health and Legal Experts.docx>

From: Morens, David (NIH/NIAID) [E]
Sent: Wed, 26 Feb 2020 15:18:37 +0000
To: Ellen Carlin
Subject: RE: BMJ-2020-055182 Manuscript Decision Editorials

E, not sure what the "figures being editable" means, but my suspicion is that they, like some journals, want to tweak your figure so they can copyright it.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

From: Ellen Carlin (b)(6)
Sent: Wednesday, February 26, 2020 10:15 AM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Franck Berthe (b)(6); Kanya Long (b)(6); Catherine

Machalaba (b)(6); Billy Karesh (b)(6)
Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

David, that's great news! Thanks for that shout-out in your great article. Nice to see my name in NEJM:)

I don't know Health Affairs' reputation for fast turn-around but will see what I can find out online. I'm reading through their instructions and they require all figures to be editable, which is not going to work. Our figures were designed and baked over a year ago. I'm' not sure if I can get around that, let me keep researching their requirements. We may need a Plan B (or C, D, E…)

On Feb 26, 2020, at 9:46 AM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Ellen, FYI, we have just cited your original report in a paper coming out today (still embargoed), co-authored with Peter D, see the reference section (ref. 4) in the attached. Thus your work is now being cited as important for pandemic planning vis a vis the coronavirus epidemic. Good work for sure, Let's get it into print. Health Affairs is good, will they potentially publish quickly?

<image001.gif>

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

<image002.jpg>

From: Ellen Carlin (b)(6)
Sent: Wednesday, February 26, 2020 9:37 AM
To: Franck Berthe (b)(6)
Cc: Kanya Long (b)(6); Morens, David (NIH/NIAID) [E] (b)(6); Catherine Machalaba (b)(6); Billy Karesh

(b)(6)

Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

Hi everyone, thanks for weighing in and for all your encouragement! I agree we have a unique product here, and that makes it hard to nail the right platform. We are inherently swimming against the tide given that our study finding is that no one cares about our finding (prevention and recovery)!

I am leaning toward Health Affairs and, since you can have up to 2000 words for Data Watch, I will spend an hour or so today to add a little more meat on the bones, giving us a chance to present a little more detail about our findings. We will still have the 750 word piece to fall back on if we need to submit again elsewhere. If you would like to see the updated piece before I submit let me know; otherwise I will proceed as planned and try to submit by tomorrow.

Ellen

On Feb 26, 2020, at 5:10 AM, Franck Cesar Jean Berthe (b)(6) wrote:

Same on my side
I will support your decision
It is the time now
:-)

From: Kanya Long (b)(6)
Sent: Tuesday, February 25, 2020 5:33:42 PM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Ellen Carlin (b)(6); Catherine Machalaba (b)(6); Franck Cesar Jean Berthe (b)(6); Billy Karesh
Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

[External]
Ellen,

Supportive of whatever direction you think is best and can contribute if you choose to expand the piece.

I agree that the time is right.

Kanya

On Tue, Feb 25, 2020 at 2:26 PM Morens, David (NIH/NIAID) [E] (b)(6) wrote:
Just saw this and i think all options are viable. Whichever, this is/should be the perfect time (at the beginning of corona chaos) to think ahead. The whole world is focusing myopically on case and death counts. We need big picture voices and a perspective that sees the universe of things. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Feb 25, 2020, at 16:38, Ellen Carlin (b)(6) wrote:

Hi everyone,

This was nice of the editor to give us this kind of feedback. We took a chance on submitting our piece as an Editorial to BMJ because the Analysis is a longer piece at 1800-2000 words, and Original Research more involved still. Our paper is about 750 words. We did this as a short-form piece to begin with so it would be done quickly, alas…!

Let me propose a few options, in no particular order, and get your feedback:

1. **Expand the paper** into a longer form analysis, suitable for submitting to BMJ or another journal as a more involved research/analysis piece.

2. **Keep the paper as is**, and submit elsewhere. I would suggest Health Affairs as a good next option; their "DataWatch" article type is 2000 words or less, up to 6 exhibits; these are short papers that highlight data that "speak for themselves" relative to important policy issues or topics. They should shed light on some important question and be "worth knowing." They do not typically test hypotheses, rely on sophisticated statistical methods, or include lengthy policy discussions. We aim to present new data or new analyses of existing data that are reliable and credible and that promote understanding among nonexperts on important, policy-relevant topics. We encourage work based on underused or new data sources.

If you want to submit as it but not to Health Affairs, please suggest a journal and article type.

3. **Take BMJ's suggestion to redraft into a rapid response** to their coronavirus coverage.

All comments welcome.
Thank you,
Ellen

On Feb 24, 2020, at 10:48 AM, BMJ <onbehalfof@manuscriptcentral.com> wrote:

24-Feb-2020
BMJ-2020-055182 entitled "Global health security: targeting investments toward unmet needs"

Dear Dr. Carlin,

Thank you for sending us your editorial. We read it with interest but decided against publication and I'm

sorry to disappoint you.

The piece falls somewhere between research (you report methods) and Analysis (a long form article type that includes some data), but doesn't in its current form fit either. BMJ editorials don't report original findings.

Your bottom line message is clear however, and you might consider writing a rapid response to any recent content about covid - 19, discussing the lack of preventive initiatives globally. On line rapid responses are well read and a selection are published in full as letters. I'm sure you appreciate that I can't prejudge that selection

You'll find all our coverage of the covid - 19 outbreak here: https://www.bmj.com/coronavirus

Sorry once again that I can't offer you an editorial, and thank you for your interest in the BMJ.

Yours sincerely,

Alison Tonks
Clinical Editor, BMJ
atonks@bmj.com

If you elected during submission to send your article on to another journal the article will be transferred in 5 working days. If you intend to appeal against this decision please notify us before then.
The journal(s) (if any) you have selected at submission are: BMJ Global Health
If you want to speed up or stop this onward transmission please email the editorial office: papersadmin@bmj.com

<NEJM Pandora 02 26 2020.pdf>

From: Morens, David (NIH/NIAID) [E]
Sent: Tue, 25 Feb 2020 23:49:21 +0000
To: William B. Karesh
Bcc: Morens, David (NIH/NIAID) [E]
Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

OK, i need to go back and look at it. Not surprising because after all the truth is always the truth. Even in the Trump era. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Feb 25, 2020, at 18:44, William B. Karesh (b)(6) wrote:

That would be great. And congrats.

I looked at the Foreign Affairs website this afternoon and they have my article from 2005 posted under in Coronavirus section. It reads like it was written last week, not very much has changed.

Sent from my iPhone

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

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President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EPT Partners Liaison, USAID Emerging Pandemic Threats - PREDICT-2 Program

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

On Feb 25, 2020, at 6:32 PM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

And you probably know Peter and I and Jeff Taubenberger have a piece coming out tomorrow in the New England J Med

It might be a good tome for like minded colleagues to push harder, in concert, to wake up all those folks with their heads in the sands. Maybe the time has come? d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Feb 25, 2020, at 17:32, William B. Karesh (b)(6) wrote:

Along that "bigger picture" line David, stay tuned. Peter has on op-ed coming out in the next few day in the NYT International edition and Catherine has one coming out this week for Foreign Affairs

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

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Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EPT Partners Liaison, USAID Emerging Pandemic Threats - PREDICT-2 Program

On Feb 25, 2020, at 5:26 PM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Just saw this and i think all options are viable. Whichever, this is/should be the perfect time (at the beginning of corona chaos) to think ahead. The whole world is focusing myopically on case

and death counts. We need big picture voices and a perspective that sees the universe of things. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Feb 25, 2020, at 16:38, Ellen Carlin (b)(6) wrote:

Hi everyone,

This was nice of the editor to give us this kind of feedback. We took a chance on submitting our piece as an Editorial to BMJ because the Analysis is a longer piece at 1800-2000 words, and Original Research more involved still. Our paper is about 750 words. We did this as a short-form piece to begin with so it would be done quickly, alas…!

Let me propose a few options, in no particular order, and get your feedback:

1. **Expand the paper** into a longer form analysis, suitable for submitting to BMJ or another journal as a more involved research/analysis piece.

2. **Keep the paper as is**, and submit elsewhere. I would suggest Health Affairs as a good next option; their "DataWatch" article type is 2000 words or less, up to 6 exhibits; these are short papers that highlight data that "speak for themselves" relative to important policy issues or topics. They should shed light on some important question and be "worth knowing." They do not typically test hypotheses, rely on sophisticated statistical methods, or include lengthy policy discussions. We aim to present new data or new analyses of existing data that are reliable and credible and that promote understanding among nonexperts on important, policy-relevant topics. We encourage work based on underused or new data sources.

If you want to submit as it but not to Health Affairs, please suggest a journal and article type.

3. **Take BMJ's suggestion to redraft into a rapid response** to their coronavirus coverage.

All comments welcome.
Thank you,
Ellen

On Feb 24, 2020, at 10:48 AM, BMJ <onbehalfof@manuscriptcentral.com> wrote:

24-Feb-2020
BMJ-2020-055182 entitled "Global health security: targeting investments toward unmet needs"

Dear Dr. Carlin,

Thank you for sending us your editorial. We read it with interest but decided against publication and I'm sorry to disappoint you.

The piece falls somewhere between research (you report methods) and Analysis (a long form article type that includes some data), but doesn't in its current form fit either. BMJ editorials don't report original findings.

Your bottom line message is clear however, and you might consider writing a rapid response to any recent content about covid - 19, discussing the lack of preventive initiatives globally. On line rapid responses are well read and a selection are published in full as letters. I'm sure you appreciate that I can't prejudge that selection

You'll find all our coverage of the covid - 19 outbreak here: https://www.bmj.com/coronavirus

Sorry once again that I can't offer you an editorial, and thank you for your interest in the BMJ.

Yours sincerely,

Alison Tonks
Clinical Editor, BMJ
atonks@bmj.com

If you elected during submission to send your article on to another journal the article will be transferred in 5 working days. If you intend to appeal against this decision please notify us before then.
The journal(s) (if any) you have selected at submission are: BMJ Global Health
If you want to speed up or stop this onward transmission please email the editorial office: papersadmin@bmj.com

From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 8 Jun 2020 17:47:37 +0000
To: Sholts, Sabrina; Jon Epstein; Daniel Lucey; Daniel Lucey; Dennis Carroll; Larry Madoff; Larry Madoff; Murray, Suzan
Cc: Rivers, Meg
Subject: RE: Outbreak extension and COVID-19 updates

Sabrina, you guys are doing such a great job it's just hard to believe, and of course, the exhibit has become timely in a way that we all feared, which is exactly why it was so important in the first place, and should remain so.

I am sure you must be giving thought to how the exhibit and what it represents will continue on, in some form, after it formally ends. Eventually we will know enough about COVID-19 to fill a whole exhibit on that subject alone. So, I'm hoping you won't let the subject fade away; it's a big subject, an existential one, and we'll be facing it again and again in coming years.

Kudo's to y'all

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

From: Sholts, Sabrina (b)(6)
Sent: Friday, June 5, 2020 3:54 PM
To: Jon Epstein (b)(6); Daniel Lucey (b)(6); Daniel Lucey (b)(6); Dennis Carroll (b)(6); Larry Madoff (b)(6); Larry Madoff (b)(6); Morens, David (NIH/NIAID) [E] (b)(6); Murray, Suzan (b)(6)
Cc: Rivers, Meg (b)(6)
Subject: Outbreak extension and COVID-19 updates

Dear *Outbreak* friends,

I hope you're all doing well in these incredibly challenging times. The *Outbreak* team at NMNH wanted to share some good news about exhibit, as we slowly move towards reopening the museum (at a date to be determined).

During the temporary closure of Smithsonian museums since March 14, we've been hard at work on COVID-19 updates to the exhibit. Our goal is that when visitors return to NMNH, they will be able to see and understand COVID-19 through the lens of One Health. We are delighted to tell you that exhibit's run has been extended again (!) until **August 2022**, which will allow many more people to experience the updated show.

The COVID-19 updates will be physically integrated into the exhibit in at least two sections:

1. Section 3: In the "International Spread of Disease" section of the exhibit, we will install a graphic panel and reader rail between the SARS and MERS stories and a video in the style of the SARS timeline (AV-3) on the existing screen. The physical installation will replace the interactive wheel about the causal factors of infectious disease transmission that is currently mounted on the wall in this spot. The video may loop alternately with the SARS video, rather than replacing it.
    - The COVID-19 reader rail will be consistent with the format of the other rails and the theme of the section, focusing on the zoonotic origin of SARS-CoV-2, what was needed to stop its global community spread (with respect to coordination, communication, testing and tracing, and treatment), and its impacts on frontline health workers (with a personal perspective from an infectious disease doctor at Mount Sinai Brooklyn).
    - The COVID-19 video will be graphically consistent with the SARS video, visualizing the cumulative cases of COVID-19 in different countries over time (using data from JHU's

coronavirus resource center), with narration and soundbites that emphasize the importance of a global response in stopping the international spread of disease.

2. Section 9: In the "One Health mosaic" at the Constitution Ave exit of the exhibit, we will replace the existing graphics with large panels that reinforce what individuals can do to lower risks for the spread of infectious disease (hand washing, getting vaccinated, etc.). One of these action items will be "using Outbreak DIY", illustrated with a customized panel about COVID-19.

As these physical updates cannot be easily revised or expanded as COVID-19 continues into the unforeseen future, we will provide to most up-to-date information about COVID-19 outbreaks, scientific advances, and other developments through our volunteers, the ProMED/HealthMap kiosks (AV-9), and public programming.

It's impossible to express how much we appreciate your help and support in creating *Outbreak* and making it so successful. We realize that this journey is becoming longer than anyone anticipated at the start of it, and at this time you're all busier than ever before. Some of you have been involved directly with the development of these updates, and there's always more work to do. We thus hope that you're all willing to continue your involvement with *Outbreak* as possible, and your tremendous efforts in promoting *Outbreak* for public education and One Health. During the closure of NMNH, we've already offered two virtual *Outbreak* programs (https://naturalhistory.si.edu/education/after-hours/conversation-dennis-carroll-predicting-pandemics) and eight more are being planned for the summer. I've been delighted for these opportunities to stay connected while we're all apart, and I hope that we get to see you in one way or another soon. We'll always let you know about upcoming events via the regular stakeholder updates, and please feel free to keep us current on your activities as well!

Take care and stay well,
Sabrina (on behalf of the *Outbreak* team)

Sabrina Sholts, PhD
Curator of Biological Anthropology
Department of Anthropology
w (b)(6)
Twitter: @sabrinabsholts

SMITHSONIAN INSTITUTION
NATIONAL MUSEUM OF NATURAL HISTORY
Facebook | Twitter | Instagram

From: Jon Epstein
Sent: Mon, 8 Jun 2020 17:18:12 -0400
To: Sholts, Sabrina
Cc: Daniel Lucey; Daniel Lucey; Dennis Carroll; Larry Madoff; Larry Madoff; Morens, David (NIH/NIAID) [E]; Murray, Suzan; Rivers, Meg
Subject: Re: Outbreak extension and COVID-19 updates

Sabrina and team,
Congratulations! It's terrific news that you've been able to update the exhibit with COVID-19 material and extend through 2022! This is a huge win for the public who are looking for help understanding how this all happened. My not-so-secret belief is that this should become a permanent exhibit, given the extreme relevance it has now (!) and that it will continue to have long into the future. Failing that, I'm grateful for the extra year :)

Also, congrats to everyone there working hard to maximize the exhibit's reach through the DIY and virtual tours. Keep up the good work! I look forward to seeing the new additions and helping in any way you need.

Cheers,
Jon

On Fri, Jun 5, 2020 at 3:53 PM Sholts, Sabrina (b)(6) wrote:

Dear *Outbreak* friends,

I hope you're all doing well in these incredibly challenging times. The *Outbreak* team at NMNH wanted to share some good news about exhibit, as we slowly move towards reopening the museum (at a date to be determined).

During the temporary closure of Smithsonian museums since March 14, we've been hard at work on COVID-19 updates to the exhibit. Our goal is that when visitors return to NMNH, they will be able to see and understand COVID-19 through the lens of One Health. We are delighted to tell you that exhibit's run has been extended again (!) until **August 2022**, which will allow many more people to experience the updated show.

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replace the interactive wheel about the causal factors of infectious disease transmission that is currently mounted on the wall in this spot. The video may loop alternately with the SARS video, rather than replacing it.

- The COVID-19 reader rail will be consistent with the format of the other rails and the theme of the section, focusing on the zoonotic origin of SARS-CoV-2, what was needed to stop its global community spread (with respect to coordination, communication, testing and tracing, and treatment), and its impacts on frontline health workers (with a personal perspective from an infectious disease doctor at Mount Sinai Brooklyn).
- The COVID-19 video will be graphically consistent with the SARS video, visualizing the cumulative cases of COVID-19 in different countries over time (using data from JHU's coronavirus resource center), with narration and soundbites that emphasize the importance of a global response in stopping the international spread of disease.

2. Section 9: In the "One Health mosaic" at the Constitution Ave exit of the exhibit, we will replace the existing graphics with large panels that reinforce what individuals can do to lower risks for the spread of infectious disease (hand washing, getting vaccinated, etc.). One of these action items will be "using Outbreak DIY", illustrated with a customized panel about COVID-19.

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It's impossible to express how much we appreciate your help and support in creating *Outbreak* and making it so successful. We realize that this journey is becoming longer than anyone anticipated at the start of it, and at this time you're all busier than ever before. Some of you have been involved directly with the development of these updates, and there's always more work to do. We thus hope that you're all willing to continue your involvement with *Outbreak* as possible, and your tremendous efforts in promoting *Outbreak* for public education and One Health. During the closure of NMNH, we've already offered two virtual *Outbreak* programs (https://naturalhistory.si.edu/education/after-hours/conversation-dennis-carroll-predicting-pandemics) and eight more are being planned for the summer. I've been delighted for these opportunities to stay connected while we're all apart, and I hope that we get to see you in one way or another soon. We'll always let you know about upcoming events via the regular stakeholder updates, and please feel free to keep us current on your activities as well!

Take care and stay well,

Sabrina (on behalf of the *Outbreak* team)

Sabrina Sholts, PhD

Curator of Biological Anthropology

Department of Anthropology

w (b)(6)

Twitter: @sabrinabsholts

SMITHSONIAN INSTITUTION

NATIONAL MUSEUM OF NATURAL HISTORY

Facebook | Twitter | Instagram

--

Jonathan H. Epstein DVM, MPH, PhD

Vice President for Science and Outreach

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(mobile)

web: ecohealthalliance.org

Twitter: @epsteinjon

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E]
Sent: Thu, 19 Jan 2017 17:08:32 +0000
To: Love, Sally; 'Dennis Carroll'; 'Jonathan Epstein'; Murray, Suzan; Phillips, Anna J.; 'Larry Madoff'
Cc: 'Daniel Lucey ((b)(6))'; Roberts, Angela; Sholts, Sabrina; Rivers, Meg; (b)(6); Louie, Julia; Blond, Kara; Chinen, Junko
Subject: RE: Outbreak 65% package Advisory Review

Thanks, Sally. Lots to go over! But from a quick scan it looks really impressive.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kelley, Meaghan)
301 496 4409
(b)(6)

From: Love, Sally [mailto:(b)(6)]
Sent: Wednesday, January 18, 2017 4:14 PM
To: 'Dennis Carroll' (b)(6); 'Jonathan Epstein' (b)(6); Murray, (b)(6); Phillips, Anna J. (b)(6); Morens, David (NIH/NIAID) [E] (b)(6); 'Larry Madoff' (b)(6)
Cc: 'Daniel Lucey (b)(6)' (b)(6); Roberts, Angela (b)(6); Sholts, Sabrina (b)(6); Rivers, Meg (b)(6); (b)(6); Louie, Julia (b)(6); Blond, Kara (b)(6); Chinen, Junko (b)(6)
Subject: Outbreak 65% package Advisory Review

Good afternoon,

Attached for your consideration and review is the 65% draft script for the ***Outbreak!*** exhibit. The exhibit team has been working diligently to take the project from the 35% to the 65% stage.

Via Dropbox, you can access these files:

- The 65% Script:
  (b)(6)

The 65% Design (design and look of the exhibit) and Graphics (panel and rail layouts) packages:

- Exhibit Design:
  (b)(6)
- Graphics:
  (b)(6)

The 65% Education and Outreach Public Programming Plan:

- (b)(6)

How to Read the Script (from page 4)
As you read the script, you will see that the text is in both gray and black:
Black text is what visitors will read, i.e., the "text on the wall." **This text is to be reviewed for accuracy as well as voice and tone**. Each block of text has an associated word count. Suggested revisions should be in tracked changes or added as a comment.
Gray text in brackets indicates graphics, such as photos, graphs, and illustrations. If you have any suggestions for images, please add them as a comment.
Gray text without brackets indicates text rough text, notes about the content to be written, and general placeholders as the section is developed. Review this text for appropriateness for the exhibit and accuracy. Gray text is not concerned with voice, tone, grammar, or style.

This exhibit and related programming explores emerging diseases at the animal-human and environmental interface, examine the mysteries of how infectious disease pathogens grow and propagate, and explore the stories and science of zoonotic outbreaks. We are drawing upon the combined expertise of Smithsonian biologists and anthropologists, NZP veterinarians, physician Dr. Daniel Lucey, who has worked overseas

in Ebola, MERS, influenza, and SARS outbreaks, and from outside experts from various public health agencies. The exhibit will open to the public in May, 2018.

Please review the documents and send me your comments and questions by **COB February 2**. If this is a problem, let me know if you need more time.

Thank you, and happy reading!
Sally

Sally Love Connell
Exhibit Developer, Office of Exhibits

National Museum of Natural History
10th Street & Constitution Avenue NW Rm 79
Washington, DC 20560
Mail: MRC 101 PO Box 37012
Washington, DC 20013-7012
(b)(6)

Smithsonian
National Museum of Natural History

From: Morens, David (NIH/NIAID) [E]
Sent: Tue, 5 Jul 2016 20:27:29 +0000
To: Love, Sally; Dennis Carroll; Jonathan Epstein; Helgen, Kristofer M.; Murray, Suzan; Phillips, Anna J.; Larry Madoff
Cc: 'Daniel Lucey ((b)(6))'; Lawrence, Michael; Roberts, Angela; Sholts, Sabrina; Rivers, Meg; (b)(6); Louie, Julia
Subject: RE: Outbreak 35% package Advisory Review

Sally, thanks, this looks great from a quick scan of it. I am off to the airport in a few but will have chance to look it over while in (b)(6).

I had a bit of trouble printing out Appendix A b/c it didn't want to zoom in, but finally got it to work.

Pretty exciting, don't you think?

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kelley, Meaghan)
301 496 4409
(b)(6)

From: Love, Sally [mailto:(b)(6)]
Sent: Tuesday, July 05, 2016 4:15 PM
To: Dennis Carroll (b)(6); Jonathan Epstein (b)(6); Helgen, Kristofer M. (b)(6); Murray, Suzan (b)(6); Phillips, Anna J. (b)(6); Morens, David (NIH/NIAID) [E] (b)(6); Larry Madoff (b)(6)
Cc: 'Daniel Lucey (b)(6)' (b)(6); Lawrence, Michael (b)(6); Roberts, Angela (b)(6); Sholts, Sabrina (b)(6); Rivers, Meg (b)(6); Louie, Julia (b)(6)
Subject: Outbreak 35% package Advisory Review

Good afternoon,

Attached for your consideration and review is the 35% draft script for the ***Outbreak!*** exhibit. The exhibit team has been working diligently to take the project from the Statement of Purpose phase to this draft stage.

The draft design can be accessed via Dropbox at:
(b)(6) There are 2 versions in the folder: full resolution and reduced res. Also in the Dropbox folder is the **Education Outreach Programming** document.

As you read the script, you will see that the text is in both gray and black: black text is what visitors will read, i.e., the "text on the wall." This text is to be reviewed for accuracy as well as voice and tone. Gray text indicates ideas, concepts, graphics, and general placeholders. Review this text for appropriateness for the exhibit and accuracy. Gray text is not concerned with voice, tone, grammar, or style. Angela has provided a useful guide on how to review this script at the beginning.

This exhibit and related programming explores emerging diseases at the animal-human and environmental interface, examine the mysteries of how infectious disease pathogens grow and propagate, and explore the stories and science of zoonotic outbreaks. We are drawing upon the combined expertise of Smithsonian biologists and anthropologists, NZP veterinarians, physician Dr. Daniel Lucey, who has worked overseas in Ebola, MERS, influenza, and SARS outbreaks, and from outside experts from various public health agencies. The exhibit will open to the public in March, 2018.

Please review the documents and send me your comments and questions by COB July 19. If this is a problem, let me know if you need more time.

Thank you!

Sally

Sally Love Connell
Exhibit Developer, Office of Exhibits

National Museum of Natural History
10th Street & Constitution Avenue NW Rm 79
Washington, DC 20560
Mail: MRC 101 PO Box 37012
Washington, DC 20013-7012
(b)(6)

Smithsonian
National Museum of Natural History

From: Morens, David (NIH/NIAID) [E]
Sent: Thu, 8 Mar 2018 22:16:23 +0000
To: Ellen Carlin
Subject: RE: Global health gaps meeting at World Bank

Ellen, yes, schedule is open, looking forward to joining u

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
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☎(b)(6) (assistants: Meaghan Vance; Logan Salmon)
301 496 4409
(b)(6)

From: Ellen Carlin [mailto:(b)(6)
Sent: Thursday, March 08, 2018 4:23 PM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Subject: Re: Global health gaps meeting at World Bank

Hi David, I hope roughing it with cervezas in (b)(6) was good to you! I have not been to that part of the world and wouldn't mind a trip to Patagonia.

I wanted to let you know that our roundtable guest list has come together but there is still room for you! We now have two CDC reps coming (Hamid Jafari from Center for Global Health and Casey Barton-Behrevesh from NCZEID), as well as two DOD folks ((b)(6) (b)(6)). The rest are non-government. I think it will be a nice discussion.

Let us know if your schedule is still open, and hope to see you soon either way!

Ellen

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

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(mobile)
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www.ecohealthalliance.org

Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine

On Fri, Mar 2, 2018 at 11:47 AM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:
Yeah, i saw the nih shutdown alert, really bizarre. Here the weather is stunning as usual and the cerveza is perfect! one of these days I'll get back and go down to rough it in Patagonia! david

David M Morens MD
NIAID, NIH
Sent from my iPhone

On Mar 2, 2018, at 13:31, Ellen Carlin (b)(6) wrote:

Hi David, terrific! Understand you have to check on your schedule. Looking forward to hearing from you when you get back. We have a really nice group assembled.

Enjoy (b)(6) —you are missing the federal closures in DC today due to high winds!

Thank you so much,
Ellen

On Mar 2, 2018, at 11:28 AM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Hi Ellen, yes i think i can join you, thanks for thinking of me. I am in (b)(6) at the moment until next Tue and will need to verify that my office hasn't filled in my schedule, but it should be ok. I will let you know

david

David M Morens MD
NIAID, NIH
Sent from my iPhone

On Feb 28, 2018, at 21:02, Ellen Carlin (b)(6) wrote:

Dear David,

It was great to see you at the One Health Academy in December. Thank you for attending my talk! I hope to see you at another one in the near future.

As you may know, I work at EcoHealth Alliance with Billy Karesh, and we are developing a global health security gaps analysis. We would like to invite you to participate in a roundtable discussion next month in DC at the World Bank. Please see the attached invitation for more details.

Thanks very much for your consideration. I look forward to hopefully seeing you on March 19!

Best regards,
Ellen

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance
460 West 34th Street – 17th floor
New York, NY 10001

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www.ecohealthalliance.org

Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine

EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

<Roundtable Invitation_Morens.pdf>

From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 19 Mar 2018 11:22:55 +0000
To: Ellen Carlin
Subject: RE: Reminder: Global Health Security Roundtable, Monday, March 19

C U soon

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Meaghan Vance; Logan Salmon)
301 496 4409
(b)(6)

From: Ellen Carlin (b)(6)
Sent: Monday, March 19, 2018 7:16 AM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Subject: Re: Reminder: Global Health Security Roundtable, Monday, March 19

Great, thank you! See you in just a bit.
Ellen

On Mar 18, 2018, at 8:23 PM, Morens, David (NIH/NIAID) [E] <(b)(6) wrote:

Hi Ellen, look forward to tomorrow. Yes i have read it carefully and it provoked some thoughts. All good. Se you soon! david

David M Morens MD
NIAID, NIH
Sent from my iPhone

On Mar 18, 2018, at 18:53, Ellen Carlin (b)(6) wrote:

Dear Colleagues,

We look forward to seeing you Monday morning at the Roundtable on Core Capacities for Global Health Security **at the IFC (the World Bank 'F' building at 2121 Pennsylvania Avenue NW)**, Room F L-109. Please bring an ID to collect your building pass at the IFC.

Please find attached the final agenda and briefing materials. We greatly appreciate you taking 15 minutes to review these materials in advance as they will form the basis for the discussion. We will have hard copies available for everyone once they arrive.

Thank you again, and we look forward to seeing you tomorrow!

Kind regards,
Ellen and Catherine

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance
460 West 34th Street – 17th floor
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Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine

<Roundtable on Global Health Security Capacities - Briefing Materials 3.19.18.pdf>

From: Ellen Carlin
Sent: Wed, 28 Feb 2018 19:01:20 -0500
To: Morens, David (NIH/NIAID) [E]
Subject: Global health gaps meeting at World Bank
Attachments: Roundtable Invitation_Morens.pdf

Dear David,

It was great to see you at the One Health Academy in December. Thank you for attending my talk! I hope to see you at another one in the near future.

As you may know, I work at EcoHealth Alliance with Billy Karesh, and we are developing a global health security gaps analysis. We would like to invite you to participate in a roundtable discussion next month in DC at the World Bank. Please see the attached invitation for more details.

Thanks very much for your consideration. I look forward to hopefully seeing you on March 19!

Best regards,
Ellen

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

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EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

EcoHealth Alliance

February 28, 2018

Dr. David Morens
National Institute of Allergy and Infectious Diseases
National Institutes of Health

Dear Dr. Morens,

We invite you to participate in a closed-door, invitation-only roundtable discussion on global health implementation gaps on March 19, 2018 hosted at the World Bank headquarters in Washington, D.C. Please find attached a draft agenda.

EcoHealth Alliance and the World Bank are analyzing lingering gaps in global initiatives to improve health security capacity. We are examining not the country level but rather the global stage of actors and their initiatives to address the core capacities outlined in prominent global health security frameworks. We suspect that behind the many and productive policy and programmatic efforts, there remain capacities that are insufficiently addressed, or not addressed at all. We also suspect that the core capacity frameworks themselves might be drawn too narrowly to account for the full triad of outbreak sources – natural, intentional, or accidental – and the distinct but complementary capacities needed to address them.

To evaluate these areas, we are undertaking an end-to-end identification of the core capacities needed for effective prevention through recovery from pandemics regardless of origin, and an assessment of which of these capacities are receiving insufficient attention. The purpose of this closed-door, invitation-only roundtable is to hear from global health security experts on these two topics. In advance of the meeting, we will share brief materials outlining our preliminary findings on both questions. These will form the basis of the discussion.

Please let us know if you are able to attend by way of RSVP by March 1st to Ellen Carlin at (b)(6) or Catherine Machalaba at (b)(6).

Thank you very much in advance,

(b)(6)

Ellen P. Carlin, DVM
EcoHealth Alliance

William B. Karesh, DVM
EcoHealth Alliance

Catherine Machalaba, MPH
EcoHealth Alliance

From: Morens, David (NIH/NIAID) [E]
Sent: Wed, 26 Feb 2020 14:46:49 +0000
To: Ellen Carlin; Franck Berthe
Cc: Kanya Long; Catherine Machalaba; Billy Karesh
Subject: RE: BMJ-2020-055182 Manuscript Decision Editorials
Attachments: NEJM Pandora 02 26 2020.pdf

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CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
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Yours sincerely,

Alison Tonks
Clinical Editor, BMJ
atonks@bmj.com

If you elected during submission to send your article on to another journal the article will be transferred in 5 working days. If you intend to appeal against this decision please notify us before then.
The journal(s) (if any) you have selected at submission are: BMJ Global Health
If you want to speed up or stop this onward transmission please email the editorial office:
papersadmin@bmj.com

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Escaping Pandora's Box — Another Novel Coronavirus

David M. Morens, M.D., Peter Daszak, Ph.D., and Jeffery K. Taubenberger, M.D., Ph.D.

The 1918 influenza pandemic was the deadliest event in human history (50 million or more deaths, equivalent in proportion to 200 million in today's global population). For more than a century, it has stood as a benchmark against which all other pandemics and disease emergences have been measured. We should remember the 1918 pandemic as we deal with yet another infectious-disease emergency: the growing epidemic of novel coronavirus infectious disease (Covid-19), which is caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). This virus has been spreading throughout China for at least 2 months, has been exported to at least 36 other countries, and has been seeding more than two secondary cases for every primary case. The World Health Organization has declared the epidemic a Public Health Emergency of International Concern. If public health efforts cannot control viral spread, we will soon be witnessing the birth of a fatal global pandemic.

The Greek myth of Pandora's box (actually a *pithos*, or jar) comes to mind: the gods had given Pandora a locked jar she was never to open. Driven by human weaknesses, she nevertheless opened it, releasing the world's misfortunes and plagues.

Of course, scientists tell us that SARS-CoV-2 did not escape from a jar: RNA sequences closely resemble those of viruses that silently circulate in bats, and epidemiologic information implicates a bat-origin virus infecting unidentified animal species sold in China's live-animal markets. We have recently seen many such emerging zoonoses, including the 2003 bat-coronavirus–derived SARS (an earlier severe acute respiratory syndrome, caused by a closely related coronavirus), which came terrifyingly close to causing a deadly global pandemic that was prevented only by swift global public health actions and luck.[1] Now, 17 years later, we stand at a similar precipice. How did we get to this point, and what happens next?

We must realize that in our crowded world of 7.8 billion people, a combination of altered human behaviors, environmental changes, and inadequate global public health mechanisms now easily turn obscure animal viruses into existential human threats.[1-3] We have created a global, human-dominated ecosystem that serves as a playground for the emergence and host-switching of animal viruses, especially genetically error-prone RNA viruses, whose high mutation rates have, for millions of years, provided opportunities to switch to new hosts in new ecosystems. It took the genome of the human species 8 million

years to evolve by 1%. Many animal RNA viruses can evolve by more than 1% in a matter of days. It is not difficult to understand why we increasingly see the emergence of zoonotic viruses.

We have actually been watching such dramas play out in slow motion for more than a millennium in the case of pandemic influenza, which begins with viruses of wild waterfowl that host-switch to humans and then cause human-to-human transmission. A bird virus thereby becomes a human virus. Coronavirus emergence takes a different trajectory, but the principles are similar: SARS, the Middle Eastern respiratory syndrome (MERS), and Covid-19 all apparently have their origins in enzootic bat viruses. The parallels between the two SARS viruses are striking, including emergence from bats to infect animals sold in live-animal markets, allowing direct viral access to crowds of humans, which exponentially increases opportunities for host-switching. Such live markets have also led to avian epizootics with fatal human "spillover" cases caused by nonpandemic, poultry-adapted influenza viruses such as H5N1 and H7N9. One human cultural practice in one populous country has thus recently led to two coronavirus near-pandemics and thousands of severe and fatal international cases of "bird flu."

But these are not the only examples of deadly viral emergences associated with human behaviors.[2] HIV emerged from primates and was spread across Africa by truck routes and sexual practices. The origin of Ebola remains uncertain, but in 2014–2016 the virus spread explosively in West Africa in association with fear and secrecy, inadequate infrastructure and information systems, and unsafe nursing and burial practices. Emergences of arenaviruses causing Argentine and Bolivian hemorrhagic fever are associated with agricultural practices, and Bolivian hemorrhagic fever was spread across Bolivia by road building that fostered migration of reservoir rodents. In Southeast Asia, Nipah virus emerged from bats because of the intensification of pig farming in a bat-rich biodiversity hot spot. Human monkeypox emerged in the United States because of a booming international wildlife trade. In the 1980s, *Aedes albopictus* mosquitoes were being spread globally by humans; in 2014 and 2015, we had pandemics of aedes-borne chikungunya and Zika viruses.

Major epidemics associated with human crowding, movement, and sanitary inadequacy once occurred without spreading globally — for example, interregional plague pandemics of the 6th, 14th, and later centuries; influenza pandemics beginning in the 9th century; and cholera pandemics in the late 18th and early 19th centuries. When truly global pandemics did become common — for instance, influenza in 1889, 1918, and 1957 — they were spread internationally by rail and ship. Then, in 1968, influenza became the first pandemic spread by air travel, and it was soon followed by the emergence of acute enteroviral hemorrhagic conjunctivitis spread between international airports. These events ushered in our modern epidemic era, in which any disease occurring anywhere in the world can appear the next day in our neighbor's backyard. We have reached this point because of continuing increases in the human population, crowding, human movement, environmental alteration, and ecosystemic complexity related to human activities and creations. Cartoonist Walt Kelly had it right decades ago: "We have met the enemy, and he is us."

Preventing and controlling future pandemic occurrences remains a global priority.[4] With Covid-19, are we seeing a replay of 1918? Although we did not "witness" the beginning of the 1918 pandemic, evidence suggests that wherever it began, it silently spread around the world, causing mostly mild cases but also mortality of 0.5 to 1% or higher — a rate that was initially too low to be detected against a high background rate of death from unrelated respiratory illnesses. Then it suddenly exploded in urban centers almost everywhere at once, making a dramatic entrance after a long, stealthy approach. We are now recognizing early stages of Covid-19 emergence in the form of growing and geographically expanding case totals, and there are alarming similarities between the two respiratory disease emergences. Like pandemic influenza in 1918, Covid-19 is associated with respiratory spread, an undetermined percentage of infected people with presymptomatic or asymptomatic cases transmitting infection to others, and a high fatality rate.[5]

We are taking swift public health actions to prevent an emergence from becoming a pandemic, including isolation of patients and contacts to prevent secondary spread. But will these actions be adequate? Most experts agree that such measures could not have prevented the 1918 influenza pandemic. In fact, in the past century we have never been able to com-

pletely prevent influenza spread at the community level, even with vaccination and antiviral drugs. The problem is that most influenza cases are either asymptomatic, subsymptomatic, undiagnosed, or transmitted before the onset of symptoms. Can we do better with SARS-CoV-2, a virus with a presumably longer incubation period and serial generation time, but with an as-yet-undetermined ratio of inapparent cases to apparent cases and an unknown rate of asymptomatic spread? The answer to this question is critical, because without the ability to prevent such spread, we will cross a threshold where pandemic prevention becomes impossible. And we won't know that we have arrived there until it is too late.

With luck, public health control measures may be able to put the demons back in the jar. If they do not, we face a daunting challenge equal to or perhaps greater than that posed by the influenza pandemic of a century ago. As the late Nobel laureate Joshua Lederberg famously lamented about emerging infectious diseases, "It's our wits versus their genes." Right now, their genes are outwitting us by adapting to infectivity in humans and to sometimes silent spread, without — so far — revealing all their secrets. But we are catching up. As we push ahead, we should take heart in the Hesiod version of the Pandora myth, in which Pandora managed to prevent a single escape: "Only Hope was left . . ., she remained under the lip of the jar, and did not fly away."

Disclosure forms provided by the authors are available at NEJM.org.

From the Office of the Director (D.M.M.) and the Viral Pathogenesis and Evolution Section, Laboratory of Infectious Diseases (J.K.T.), National Institute of Allergy and Infectious Diseases, Bethesda, MD; and EcoHealth Alliance, New York, New York (P.D.).

This article was published on February 26, 2020, at NEJM.org.

1. Allen T, Murray KA, Zambrana-Torrelio C, et al. Global hotspots and correlates of emerging zoonotic diseases. Nat Commun 2017;8:1124.
2. Morens DM, Folkers GK, Fauci AS. The challenge of emerging and re-emerging infectious diseases. Nature 2004;430:242-9.
3. Parrish CR, Holmes EC, Morens DM, et al. Cross-species virus transmission and the emergence of new epidemic diseases. Microbiol Mol Biol Rev 2008;72:457-70.
4. Carlin EP, Machalaba C, Berthe FCJ, Long KC, Karesh WB. Building resilience to biothreats: an assessment of unmet core global health security needs. New York: Ecohealth Alliance, 2019.
5. Morens DM, Taubenberger JK. Influenza cataclysm, 1918. N Engl J Med 2018;379:2285-7.

DOI: 10.1056/NEJMp2002106

From: Ellen Carlin
Sent: Wed, 26 Feb 2020 10:27:55 -0500
To: Morens, David (NIH/NIAID) [E]
Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

Hmm. Yes that could be.

"All exhibits must be editable; that is, they must not be simply graphic renditions of your exhibits."

Circular language indeed! But I do think that they want to restyle your figures so they have a certain look. What I might do is go ahead and create a longer-form piece with more of our data and analysis (I already got it going). We can then pull the trigger on Health Affairs, or decide to go elsewhere.

I'm excited for your NEJM piece, well done!

On Feb 26, 2020, at 10:18 AM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

E, not sure what the "figures being editable" means, but my suspicion is that they, like some journals, want to tweak your figure so they can copyright it.

<image001.gif>

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
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<image002.jpg>

From: Ellen Carlin (b)(6)
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To: Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Franck Berthe (b)(6); Kanya Long (b)(6); Catherine Machalaba (b)(6); Billy Karesh (b)(6)
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David, that's great news! Thanks for that shout-out in your great article. Nice to see my name in NEJM:)

I don't know Health Affairs' reputation for fast turn-around but will see what I can find out online. I'm reading through their instructions and they require all figures to be editable, which is not going to work. Our figures were designed and baked over a year ago. I'm' not sure if I can get around that, let me keep researching their requirements. We may need a Plan B (or C, D, E…)

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Ellen, my input is don't be discouraged, this is how things often go. It is absolutely a good piece and WILL be published, but it's just that many journals develop lanes and cross-cutting broad pieces like this never fit perfectly. I won't guess your next steps on this but am happy to help think it through WHEN/IF this corona craziness backs off. Actually, this paper is really timely in that regard. Not suggesting you do so, but a thought is to slightly reorient to emphasize that at the very beginning, we need to think down the long road if pandemic response, not just the short one. david

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Feb 25, 2020, at 16:47, William B. Karesh (b)(6) wrote:

Hi Ellen,

Totally up to you on how much time you have to re-write something quickly to capture the news hook, but if not, I would completely support sending it to Health Affairs as is, maybe with a short but strong cover letter referring to the timeliness of this work.

BK

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

EcoHealth Alliance
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President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EPT Partners Liaison, USAID Emerging Pandemic Threats - PREDICT-2 Program

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Clinical Editor, BMJ
atonks@bmj.com

If you elected during submission to send your article on to another journal the article will be transferred in 5 working days. If you intend to appeal against this decision please notify us before then.
The journal(s) (if any) you have selected at submission are: BMJ Global Health
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From: Ellen Carlin
Sent: Tue, 25 Feb 2020 16:27:24 -0500
To: (b)(6)
Cc: Catherine Machalaba; (b)(6); Franck Berthe; Morens, David (NIH/NIAID) [E]; Billy Karesh
Subject: Re: BMJ-2020-055182 Manuscript Decision Editorials

Dr. Tonks,

Thank you so much for your prompt and very helpful reply. We realized that our piece wasn't a perfect fit for any of your categories, and we appreciate your feedback on that point.

I will speak with my co-authors about redirecting our work into a rapid response that would be appropriate for COVID-19. Thanks very much for that suggestion.

Sincerely,
Ellen

Ellen P. Carlin, DVM
Research Fellow

EcoHealth Alliance
(b)(6) (mobile)
www.ecoheathalliance.org
(b)(6)

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

On Feb 24, 2020, at 10:48 AM, BMJ <onbehalfof@manuscriptcentral.com> wrote:

24-Feb-2020
BMJ-2020-055182 entitled "Global health security: targeting investments toward unmet needs"

Dear Dr. Carlin,

Thank you for sending us your editorial. We read it with interest but decided against publication and I'm sorry to disappoint you.

The piece falls somewhere between research (you report methods) and Analysis (a long form article type that includes some data), but doesn't in its current form fit either. BMJ editorials don't report original findings.

Your bottom line message is clear however, and you might consider writing a rapid response to any recent content about covid - 19, discussing the lack of preventive initiatives globally. On line rapid responses are well read and a selection are published in full as letters. I'm sure you appreciate that I can't prejudge that selection

You'll find all our coverage of the covid - 19 outbreak here: https://www.bmj.com/coronavirus

Sorry once again that I can't offer you an editorial, and thank you for your interest in the BMJ.

Yours sincerely,

Alison Tonks
Clinical Editor, BMJ
atonks@bmj.com

If you elected during submission to send your article on to another journal the article will be transferred in 5 working days. If you intend to appeal against this decision please notify us before then.
The journal(s) (if any) you have selected at submission are: BMJ Global Health
If you want to speed up or stop this onward transmission please email the editorial office: papersadmin@bmj.com

From: Morens, David (NIH/NIAID) [E]
Sent: Fri, 31 Jan 2020 21:36:14 +0000
To: Ellen Carlin
Subject: FW:
Attachments: [Untitled].pdf

Ellen, it wouldn't sign electronically, so I signed the old way, scanned and send as an attachment. Hope this works

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
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(b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

From: HP 3E05B-LJM775 Scanner <HP3E05B-LJM775-Sanner@nih.gov>
Sent: Friday, January 31, 2020 4:05 PM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Subject:

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Author statements

Please insert the relevant text under the subheadings below. A completed form must be signed by all authors. Please note that we will accept hand-signed and electronic (typewritten) signatures. Please complete multiple forms if necessary, and upload the signed copy with your submission, scan and email to: globalhealth@lancet.com, or fax to: **+44 1865 853021.**

Manuscript title:

Corresponding author:

Article type:

I irrevocably authorise and grant my full consent to the corresponding author of the manuscript to: (1) enter into an exclusive publishing agreement with Elsevier on my behalf, in the relevant form set out at www.elsevier.com/copyright; and (2) unless I am a US government employee, to grant an exclusive license of rights to Elsevier as part of that publishing agreement, effective on acceptance of the article for publication. If the article is a work made for hire, I am authorized to confirm this on behalf of my employer. I agree that the copyright status selected by the corresponding author for the article shall apply and that this agreement is subject to the governing law of England and Wales.

Does your manuscript have a reference number? No ☐ Yes ☐ If yes, enter number here:

Does your manuscript have a handling editor? No ☐ Yes ☐ If yes, enter name here:

Authors' contributions

Please insert here the contribution each author made to the manuscript—eg, literature search, figures, study design, data collection, data analysis, data interpretation, writing etc. If all authors contributed equally, please state this. The information provided here must match the contributors' statement in the manuscript.

All authors contributed equally to this text.

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Role of the funding source

Please disclose any funding sources and their role, if any, in the writing of the manuscript or the decision to submit it for publication. Examples of involvement include: data collection, analysis, or interpretation; trial design; patient recruitment; or any aspect pertinent to the study. Please also comment whether you have been paid to write this article by a pharmaceutical company or other agency. If you are the corresponding author, please indicate if you had full access to all the data in the study and had final responsibility for the decision to submit for publication. The information provided here must match the role of the funding source statement in the manuscript.

The Smith Richardson Foundation funded the study on which this Comment is based (SRF Grant #2017-1534). The Foundation was not involved in the execution of the study nor in the drafting of this manuscript. Neither the Foundation nor any other agency has paid the authors to write this piece.

I (Ellen P. Carlin) am the corresponding author and had full access to all data in the study and final responsibility to submit this manuscript for publication.

Conflicts of interest

Please complete the ICMJE conflict of interest form, which is available at http://download.thelancet.com/flatcontentassets/authors/icjme-coi-form.pdf. Please ensure that a conflict of interest statement is included at the end of the manuscript, which matches what is declared on the ICMJE conflict of interest form.

Patient consent (if applicable) - completion of this section is mandatory for Case Reports, Clinical Pictures, and Adverse Drug Reactions.

Please sign below to confirm that all necessary consents required by applicable law from any relevant patient, research participant, and/or other individual whose information is included in the article have been obtained in writing. **The signed consent form(s) should be retained by the corresponding author and NOT sent to *The Lancet Global Health*.**

I agree with: the plan to submit to *The Lancet Global Health;* the contents of the manuscript; to being listed as an author; and to the conflicts of interest statement as summarised. I have had access to all the data in the study (for original research articles) and accept responsibility for its validity.

Title and name: Ellen P. Carlin	Highest degree: DVM	Signature: (b)(6)	Date: 1/31/20
Title and name: Catherine Machalaba	Highest degree: MPH	Signature:	Date:
Title and name: Kanya C. Long	Highest degree: PhD	Signature:	Date:
Title and name: Franck C. J. Berthe	Highest degree: DVM	Signature:	Date:
Title and name: David Morens	Highest degree: MD	Signature: (b)(6)	Date: 1/31/2020
Title and name: William B. Karesh	Highest degree: DVM	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:

Corresponding author declaration

I [Signature], the corresponding author of this manuscript, certify that the contributors' and conflicts of interest statements included in this paper are correct and have been approved by all co-authors.

From: Ellen Carlin
Sent: Tue, 4 Feb 2020 13:17:27 -0500
To: Morens, David (NIH/NIAID) [E]
Subject: Re: Action required: global health security manuscript

Yeah, it was kind of big news for me, too! We can catch up when I see you next. I'm actually quite happy with the way things are shaking out, though. Despite some drawbacks, there are benefits to being self-employed! (b)(6)
(b)(6)

I had NO idea about (b)(6). Thats terrifying! (b)(6) and I have been playing phone tag. I do know she's coming in February and plan to see her when she's here. I think between (b)(6)
(b)(6), she will be back pretty regularly.

On Jan 31, 2020, at 4:26 PM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Ellen, WOW, that's shocking news. All the best in this new venture. No, I didn't know that. Keep in touch as things go forward. Assume you will (b)(6)
(b)(6)?

You may have heard that Sarah's (b)(6)
(b)(6). Hope we can all get together. (b)(6)
(b)(6)

Also, I didn't find any form to sign as an attachment.

<image001.gif>

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

From: Ellen Carlin (b)(6)
Sent: Friday, January 31, 2020 3:44 PM
To: Billy Karesh (b)(6); Catherine Machalaba (b)(6); Kanya Long (b)(6); Franck Berthe (b)(6); Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Amanda Andre (b)(6)
Subject: Action required: global health security manuscript

Dear Team,

I hope your 2020 is off to a great start!

I'm writing to give an update on our global health security paper. (b)(6) which delayed things a bit, but we are ready to submit now. Attached is the version of the manuscript we will submit. Billy and I have updated the lead to reflect current events.

We're going to give *The Lancet Global Health* a try. **Please find attached an author contribution form that Kenya, Franck, and David need to sign electronically. Amanda is helping get signatures from Billy and Catherine. If you can please turn this around by Monday Feb 3, I can submit that day.** I have indicated that all authors contributed equally; if you prefer to word your contribution differently, please do so.

Some of you may not be aware that December 31 was my last day at EcoHealth Alliance. I am running my own consulting gig now and have a lot of exciting projects in store that I look forward to sharing with you as they develop. I am still affiliated with EHA as a Research Fellow.

Thanks again for all of your efforts!

Best wishes,
Ellen

From: Morens, David (NIH/NIAID) [E]
Sent: Tue, 4 Feb 2020 17:30:23 +0000
To: Ellen Carlin; Billy Karesh; Catherine Machalaba; Kanya Long; Franck Berthe
Cc: Amanda Andre
Subject: RE: Action required: global health security manuscript

Super-exciting Ellen, fingers are tightly crossed!

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

From: Ellen Carlin (b)(6)
Sent: Tuesday, February 4, 2020 11:19 AM
To: Billy Karesh (b)(6); Catherine Machalaba (b)(6); Kanya Long (b)(6); Franck Berthe (b)(6); Morens, David (NIH/NIAID) [E] (b)(6)

Cc: Amanda Andre (b)(6)
Subject: Re: Action required: global health security manuscript

Hi everyone, you should by now have received an email confirming your co-authorship in the article just submitted to Lancet Global Health by Billy (as corresponding author). Please think good thoughts! We should know their decision fairly quickly, and will take next steps from there.

Thanks for everyone for getting signatures to me so quickly and For being such enthusiastic co-authors.

Elle

Sent from my iPhone

On Jan 31, 2020, at 3:44 PM, Ellen Carlin (b)(6) wrote:

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Thanks again for all of your efforts!

Best wishes,
Ellen

<Carlin et al Building resilience Draft 1.31.19 v2.docx>

From: Ellen Carlin
Sent: Fri, 31 Jan 2020 16:23:31 -0500
To: Billy Karesh; Catherine Machalaba; Kanya Long; Franck Berthe; Morens, David (NIH/NIAID) [E]
Cc: Amanda Andre
Subject: Re: Action required: global health security manuscript
Attachments: Lancet GH author signatures.pdf

Sorry everyone—the form is attached now. It's a funny form so you may need to try opening in a Preview if you use a Mac. Let me know if any trouble.

Ellen

On Jan 31, 2020, at 3:44 PM, Ellen Carlin (b)(6) wrote:

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<Carlin et al Building resilience Draft 1.31.19 v2.docx>

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Please insert the relevant text under the subheadings below. A completed form must be signed by all authors. Please note that we will accept hand-signed and electronic (typewritten) signatures. Please complete multiple forms if necessary, and upload the signed copy with your submission, scan and email to: globalhealth@lancet.com, or fax to: **+44 1865 853021.**

Manuscript title:

Corresponding author:

Article type:

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Does your manuscript have a reference number? No ○ Yes ○ If yes, enter number here:

Does your manuscript have a handling editor? No ○ Yes ○ If yes, enter name here:

Authors' contributions

Please insert here the contribution each author made to the manuscript—eg, literature search, figures, study design, data collection, data analysis, data interpretation, writing etc. If all authors contributed equally, please state this. The information provided here must match the contributors' statement in the manuscript.

All authors contributed equally to this text.

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Role of the funding source

Please disclose any funding sources and their role, if any, in the writing of the manuscript or the decision to submit it for publication. Examples of involvement include: data collection, analysis, or interpretation; trial design; patient recruitment; or any aspect pertinent to the study. Please also comment whether you have been paid to write this article by a pharmaceutical company or other agency. If you are the corresponding author, please indicate if you had full access to all the data in the study and had final responsibility for the decision to submit for publication. The information provided here must match the role of the funding source statement in the manuscript.

The Smith Richardson Foundation funded the study on which this Comment is based (SRF Grant #2017-1534). The Foundation was not involved in the execution of the study nor in the drafting of this manuscript. Neither the Foundation nor any other agency has paid the authors to write this piece.

I (Ellen P. Carlin) am the corresponding author and had full access to all data in the study and final responsibility to submit this manuscript for publication.

Conflicts of interest

Please complete the ICMJE conflict of interest form, which is available at http://download.thelancet.com/flatcontentassets/authors/icjme-coi-form.pdf. Please ensure that a conflict of interest statement is included at the end of the manuscript, which matches what is declared on the ICMJE conflict of interest form.

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Please sign below to confirm that all necessary consents required by applicable law from any relevant patient, research participant, and/or other individual whose information is included in the article have been obtained in writing. **The signed consent form(s) should be retained by the corresponding author and NOT sent to *The Lancet Global Health*.**

I agree with: the plan to submit to *The Lancet Global Health;* the contents of the manuscript; to being listed as an author; and to the conflicts of interest statement as summarised. I have had access to all the data in the study (for original research articles) and accept responsibility for its validity.

Title and name: Ellen P. Carlin	Highest degree: DVM	Signature: (b)(6)	Date: 1/31/20
Title and name: Catherine Machalaba	Highest degree: MPH	Signature:	Date:
Title and name: Kanya C. Long	Highest degree: PhD	Signature:	Date:
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Title and name: David Morens	Highest degree: MD	Signature:	Date:
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Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:
Title and name:	Highest degree:	Signature:	Date:

Corresponding author declaration

I _____[Signature]_____ , the corresponding author of this manuscript, certify that the contributors' and conflicts of interest statements included in this paper are correct and have been approved by all co-authors.

From: Ellen Carlin
Sent: Fri, 31 Jan 2020 17:50:12 -0500
To: Morens, David (NIH/NIAID) [E]
Subject: Re:

Many thanks, David! It's a quirky form. This should be fine. Will let you know if I need anything else.

On Jan 31, 2020, at 4:36 PM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Ellen, it wouldn't sign electronically, so I signed the old way, scanned and send as an attachment. Hope this works

<image001.gif>

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
(b)(6)

<image002.jpg>

From: HP 3E05B-LJM775 Scanner (b)(6)
Sent: Friday, January 31, 2020 4:05 PM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Subject:

<[Untitled].pdf>

From: Ellen Carlin
Sent: Fri, 31 Jan 2020 15:44:18 -0500
To: Billy Karesh; Catherine Machalaba; Kanya Long; Franck Berthe; Morens, David (NIH/NIAID) [E]
Cc: Amanda Andre
Subject: Action required: global health security manuscript
Attachments: Carlin et al Building resilience Draft 1.31.19 v2.docx

Dear Team,

I hope your 2020 is off to a great start!

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Thanks again for all of your efforts!

Best wishes,
Ellen

Title
Global health security: targeting investments toward unmet needs

Authors
Ellen P. Carlin, DVM
EcoHealth Alliance, 460 West 34th Street, New York, NY 10001

Catherine Machalaba, MPH
EcoHealth Alliance, 460 West 34th Street, New York, NY 10001

Kanya C. Long, PhD
University of California San Diego, 6304 Atkinson Hall, La Jolla, CA 92093
Dr. Long was a fellow at the World Bank at the time of the study.

Franck C. J. Berthe, DVM
World Bank, 1818 H Street, NW, Washington, DC 20433

David Morens, MD
National Institutes of Allergy and Infectious Diseases, 5601 Fishers Lane, Bethesda, MD 20892

William B. Karesh, DVM
EcoHealth Alliance, 460 West 34th Street, New York, NY 10001
(b)(6)

As another novel coronavirus has predictably emerged in humans and spread quickly into a pandemic and the second largest Ebola outbreak in history continues to simmer in the Democratic Republic of the Congo, a global reckoning is due. Understanding why especially dangerous pathogens are emerging with increasing frequency continues to take a back seat to response and response preparedness. This crisis-centered approach is bound to keep us trapped in a perpetual cycle of panic and neglect.[1]

To document this dynamic and reveal its extent, we collated the functions needed for effective defenses against major biological incidents and assessed which areas are receiving insufficient attention.[2] Our organizing construct included four "pillars"—prevent, detect, respond, and recover. Through extensive review of the scientific and gray literature, and with expert input via roundtable discussions, interviews, and peer review, we identified 60 functions that undergird these four pillars and to which countries must have sufficient access to optimize their health security. We also identified 22 major initiatives global in architecture or oversight and designed to support the development of local, country, or regional capacities. We then mapped the initiatives to the pillars to reveal areas of global neglect (Figure 1).

[Insert Figure 1 here]

Activities directed at prevention are minimal in number. We defined prevention as a multi-dimensional concept that captures prevention of 1) epidemics at pre-initiation (*before* pathogens emerge into people); 2) bioweapons development and deployment; and 3) accidental releases of pathogens, such as from laboratories. The majority of funded efforts do not address prevention at all, and even fewer deal with the underlying risk factors that lead to epidemic emergence. Most programs view epidemic prevention narrowly (i.e., preventing small outbreaks from growing) rather than addressing what drives outbreaks to occur in the first place. The latter entails politically challenging decisions about societal priorities ranging from land use and agricultural practices to urbanization and climate change.

Few efforts address recovery, and the very inclusion of recovery as a core pillar in our construct is novel among frameworks. (A recent World Bank publication designed to strengthen human, animal, and environmental public health systems at their interface is one of the only examples, and has not yet been adopted into global efforts.[3]) Since strong recovery from one epidemic event can pre-empt future outbreaks, systematic and sustained attention to this pillar is badly needed.

We also found two strategic points of concern. One is that, by current design, global health security implementation efforts and their attached financing tackle particular objectives—vaccine development, regional surveillance, training—while no governance effort or strategic inter-institutional guiding framework aligns them toward a commonly defined set of goals. The other is that there seems to be a tendency to view biothreats in terms of the single end consequence that worries people the most: our own health. The problem with this approach is that it drives reverse engineering of structures and decisions to deal with only human health consequences, and forward engineering of response activity tailored to human health needs. Defense, environment, and animal health are often treated as needs outside of human health security frameworks, even though their full inclusion would restore the breadth of the health

security concept. Ebola in DRC exists at this nexus: viral circulation in an ecological environment that supports spillover and a fragile, violent, and conflict-ridden setting that hampers both prevention and response.

The international community's approaches diverge from what may be fundamentally needed to grapple with the new epidemic threat reality and ultimately stave off its worst consequences. Some of the functions we identified require less investment than others to achieve great benefit—addressing drivers of epidemics is a case in point. The World Bank estimates that an annual expenditure of ~$3·4 billion to prevent one in every eight severe pandemics will save $30 billion.[4] Assessing cost-benefits and returns on investment of particular activities is precisely what a unifying strategic framework could do. The release of the 2019 Global Health Security Index, which finds among 195 countries assessed an average preparedness score of 40·2 out of a possible 100, may provide new impetus to act.[5] A substantial but feasible rethinking of the orientation of global and national investment is achievable within the major guiding frameworks and efforts that are already underway. As the Global Health Security Agenda embarks on its second five years, this is a timely opportunity to strengthen neglected lines of effort and support a holistic approach to dealing with the global health challenge of epidemic disease.

Acknowledgements
This work was funded by the Smith Richardson Foundation.

Author Contributions
All authors contributed equally to this text.

References

1. World Bank. *From panic and neglect to investing in health security: Financing pandemic preparedness at a national level.* Washington, DC: World Bank;2017.
2. Carlin EP, Machalaba C, Berthe FCJ, Long KC, Karesh WB. *Building resilience to biothreats: An assessment of unmet core global health security needs.* New York, NY: EcoHealth Alliance;2019.
3. World Bank. *Operational framework for strengthening human, animal and environmental public health systems at their interface.* Washington, DC: World Bank Group;2018.
4. World Bank. *People, pathogens, and our planet: The economics of one health, volume 2.* Washington, DC: World Bank;June 2012.
5. Nuclear Threat Initiative. *Global health security index: Building collective action and accountability.* Washington, DC: Nuclear Threat Initiative;2019.

Figure 1: Mapping of global health security initiatives to core needs

Initiative	[redacted]
Australia Group	
CEPI*	
CP3	
Gavi†	
GLASS	
GLEWS‡	
Global Financing Facility	
Global Fund	
GHSA§	
GHSI	
Global Partnership	
International Reagent Resource	
OIE WAHIS	
Proliferation Security Initiative	
World Bank PEF‖	
World Bank Pandemic Preparedness Plan	
WEF Epidemics Readiness Accelerator	
WHO CFE	
WHO Global Influenza Programme	
WHO GOARN	
WHO Health Emergencies Program	
WHO R&D Blueprint	

Major global health security initiatives were mapped to four pillars of global health security activity: prevent, detect, respond, and recover, revealing a predominance of focus on detection and response. Figure reprinted from Carlin EP, Machalaba C, Berthe FCJ, et al. *Building Resilience to Biothreats: An assessment of unmet core global health security needs*. EcoHealth Alliance. 2019.

*Committed to funding through Phase 2 investigational stockpiles; not funded for Phase 3 or linked to a system for procurement, distribution, or dispensing. †To the extent that Gavi covers Prevent it is for the specific prevention of yellow fever spillover through vaccination in high-risk areas; does not address drivers. ‡Predominantly focused on risk monitoring and information alerts for Rift Valley fever in livestock. §Addresses prevention in the sense of containing outbreaks; attention to and capacity for spillover risk management is extremely limited. ‖Disbursement of funds only applies to select viruses.

From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 23 Dec 2019 19:48:56 +0000
To: Ellen Carlin
Subject: Re: Journal contact?

Thanks, sounds good! Yes i am in (b)(6) scaling down too. It's almost spring weather here, thank you global warming. I will be checking emails periodically

Please do feel free to remind (b)(6) to send contact info, if you do connect with her. She may have the same email but i haven't tried yet.

d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Dec 23, 2019, at 13:27, Ellen Carlin (b)(6) wrote:

Thanks so much, David…. Not ignoring you, I'm just scaling down activity now for the holidays. I think we will go ahead and try submitting to Lancet as you suggest—I'll pull together a cover letter after the new year and make sure I've got everything formatted correctly. We will see where that gets us.

I actually don't have (b)(6) new address either! I'll mention it to her that we both would like it!!

Have a great holiday in the meantime… have a wonderful time in (b)(6)

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance
(b)(6) (direct)
(mobile)
(b)(6)
www.ecohealthalliance.org

Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine

---

From: "Morens, David (NIH/NIAID) [E]" (b)(6)
Date: Wednesday, December 18, 2019 at 12:15 PM

To: Ellen Carlin (b)(6)
Subject: RE: Journal contact?

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David

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CAPT, United States Public Health Service
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Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance

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Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine
EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

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Courtesy Lecturer, Cornell University College of Veterinary Medicine
EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

Case Follow-up

Rather than follow Mr. P.'s suggestion to increase his medication doses and emphasize how poorly he was doing, his psychiatrist highlighted the ways in which his psychiatric illness interfered with his ability to seek and sustain competitive employment. He wrote a letter for Mr. P. to submit with his next SSI application. Mr. P.'s case manager worked with him on his reapplication and accompanied him to his interview, and Mr. P. ultimately received SSI.

An audio interview with Dr. Kalofonos is available at NEJM.org

The editors of the Case Studies in Social Medicine are Scott D. Stonington, M.D., Ph.D., Seth M. Holmes, Ph.D., M.D., Michelle Morse, M.D., M.P.H., Angela Jenks, Ph.D., Helena Hansen, M.D., Ph.D., Jeremy A. Greene, M.D., Ph.D., Keith A. Wailoo, Ph.D., Debra Malina, Ph.D., Stephen Morrissey, Ph.D., Paul E. Farmer, M.D., Ph.D., and Michael G. Marmot, M.B., B.S., Ph.D.

Disclosure forms provided by the author are available at NEJM.org.

From the Center for Social Medicine, Department of Psychiatry, and the International Institute, University of California, Los Angeles, and the Greater Los Angeles Veterans Affairs Medical Center — all in Los Angeles.

1. Petryna A. Life exposed: biological citizens after Chernobyl. Rev. ed. Princeton, NJ: Princeton University Press, 2013.
2. Hansen H, Bourgois P, Drucker E. Pathologizing poverty: new forms of diagnosis, disability, and structural stigma under welfare reform. Soc Sci Med 2014;103:76-83.
3. Nguyen V-K. The republic of therapy: triage and sovereignty in West Africa's time of AIDS. Durham, NC: Duke University Press, 2010.
4. Braslow JT. The manufacture of recovery. Annu Rev Clin Psychol 2013;9:781-809.
5. Ferguson J. Give a man a fish: reflections on the new politics of distribution. Durham, NC: Duke University Press, 2015.

DOI: 10.1056/NEJMp1811661

Eastern Equine Encephalitis Virus — Another Emergent Arbovirus in the United States

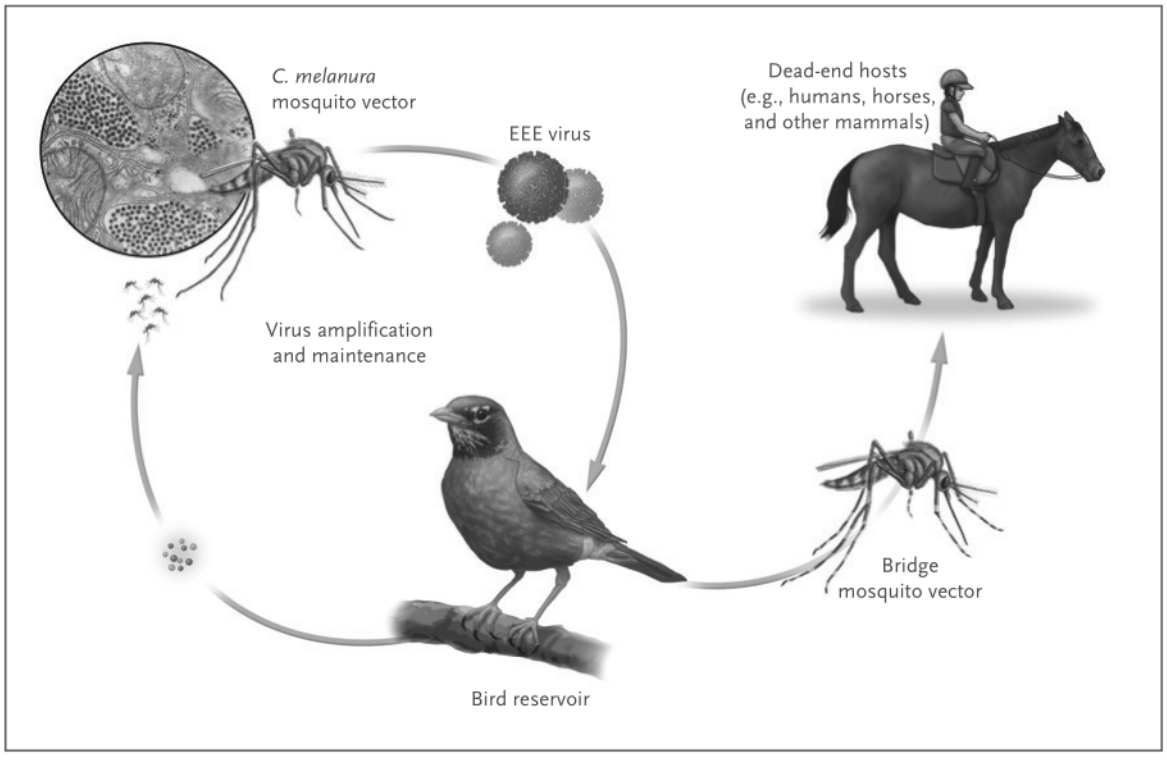
David M. Morens, M.D., Gregory K. Folkers, M.S., M.P.H., and Anthony S. Fauci, M.D.

Humans have always lived in intimate association with arthropods that transmit pathogens between humans or from animals to humans. About 700,000 deaths due to vectorborne diseases occur globally each year, according to World Health Organization estimates. In the summer and fall of 2019, nine U.S. states have reported 36 human cases (14 of them fatal) of one of the deadliest of these diseases: eastern equine encephalitis (EEE), an arthropod-borne viral (arboviral) disease transmitted by mosquitoes. In recent years, the Americas have witnessed a steady stream of other emerging or reemerging arboviruses, such as dengue, West Nile, chikungunya, Zika, and Powassan, as well as increasing numbers of travel-related cases of various other arboviral infections. This year's EEE outbreaks may thus be a harbinger of a new era of arboviral emergences.

EEE has probably prevailed for centuries, and 12 U.S. EEE epidemics or epizootics were documented between 1831 and 1959. Most known arboviruses that can infect humans, such as EEE virus (EEEV), circulate generally unnoticed in enzootic reservoirs of arthropods and vertebrate hosts such as birds and mammals.[1] EEEV spreads between *Culiseta melanura* mosquitoes and various passerine (tree-perching) birds found in forested wetlands (see figure). Small mammals, reptiles, or amphibians may also be involved in its environmental circulation.

The virus occasionally spills over from its usual reservoirs to infect dead-end hosts such as humans, equids, swine, pheasants, various game and exotic birds, and gallinaceous poultry. These spillovers occur at unpredictable intervals and are usually mediated by "bridging vectors" (nonenzootic mosquitoes that feed on both birds and mammals) (see figure). EEEV is not transmitted between dead-end hosts such as horses and humans. Determinants of spillover most likely include complex interactions among human behaviors, weather, environmental perturbation, movement of birds, and other variables. EEEV is also a potential bioweapon, since it is transmissible by aerosol. Although it has been found in most of the eastern United States, major persistent enzootic sites are relatively few and geographically focal; they can, however, be the source of seeding of additional EEEV foci.

Many other mosquito-borne or tickborne diseases of mammals and humans occur throughout the United States and globally.



Transmission Cycle of Eastern Equine Encephalitis Virus (EEEV).

Multiple bird and mosquito species and environmental variables are associated with human EEEV infection. There are numerous other arboviruses in the continental United States, including the mosquito-borne alphavirus disease western equine encephalitis, the California group bunyavirus diseases such as La Crosse encephalitis, and the flavivirus diseases St. Louis encephalitis and West Nile, the latter two prevailing over most of the continental United States. Tickborne encephalitis viruses include Powassan (a flavivirus) and Colorado tick fever (an orbivirus). These six viruses also extend northward into Canada, and some are found in Central and South America. In addition, the four *Aedes aegypti*–borne viruses (yellow fever, dengue, chikungunya, and Zika) circulate globally and present ongoing threats, from endemic circulation or importation, to the continental United States and especially to U.S. tropical jurisdictions. Adapted from the U.S. Centers for Disease Control and Prevention.

The types of arthropods and other vectors vary geographically, and complex interactions between humans and the environment may be unique in each situation and location. Variables influencing disease emergence in one Massachusetts EEE focus exemplify the ecologic complexity of arboviruses.[2] After Atlantic white cedar trees were harvested for use in houses and carpentry products and the resulting swamps were drained in the early 1800s, wetland forests were reestablished over the next century; these forests included red maple trees, whose roots — lying just below bird-roosting sites — provide excellent oviposition (egg-laying) sites for *C. melanura* mosquitoes. As passerine birds such as American robins foraged from these trees in burgeoning suburbs, growth and movement of the human population facilitated spillovers of EEEV to humans, leading to cases of encephalitis.

More than 130 human and 50 animal arboviral diseases occur around the world. Most are transmitted by mosquitoes or ticks. Symptomatic human arboviral disease falls into three distinct syndromes: febrile systemic illness (e.g., uncomplicated dengue), hemorrhagic fever (e.g., dengue hemorrhagic fever and yellow fever), and encephalitis (e.g., EEE, Venezuelan equine encephalitis, Japanese encephalitis, and La Crosse encephalitis). Each of these syndromes may be caused by multiple arboviruses from multiple unrelated taxonomic groups. Four of the human-infecting arboviruses — the flaviviruses dengue, yellow fever, and Zika, and the alphavirus chikungunya — have evolved to infect a mosquito that is uniquely anthropophilic (feeding almost exclusively on humans): *Aedes aegypti*. Humans serve not only as the

reservoir for these four viruses, but also as an amplification host that up-regulates viral cycling. Any virus that can efficiently infect *A. aegypti* also has potential access to billions of humans, which explains why the four viruses that have done so have spread pandemically. We cannot discount the possibility that other arboviruses will adapt to *A. aegypti* in the future — a sobering thought, given the high case-fatality rate of diseases such as EEE.

After inoculation of virus-infected mosquito saliva into perivascular dermal tissue, EEEV infects Langerhans and dendritic cells, which migrate to regional lymphoid tissue, where virus replication leads to systemic viremic seeding. After an incubation period of approximately a week (range, 3 to 10 days), EEEV infection presents nonspecifically with fever, malaise, intense headache, muscle aches, and nausea and vomiting — a sign and symptom complex not easily distinguishable from those of most other arboviral infections or from influenza and a host of other diseases.

At the onset of symptoms, specific diagnostic tests may be unrevealing: viral isolation and polymerase-chain-reaction analysis from blood and spinal fluid, as well as testing for EEEV-specific IgM, may be negative. Neurologic signs appearing soon (0 to 5 days) after onset are initially nonspecific and are indistinguishable from those associated with enteroviral meningoencephalitis, which is also prevalent in late summer. However, rapid clinical progression ensues. By the time definitive serologic diagnosis is possible, within a week after infection, neurologic damage may already have occurred. Neuroimaging typically shows involvement of the basal ganglia and thalami.

An estimated 96% of people infected with EEEV remain asymptomatic; however, of those who have symptoms, 33% or more die and most of the rest sustain permanent, often severe, neurologic damage.

Point-of-care differential diagnostics for the many arboviral and nonarboviral causes of encephalitis are currently lacking and would be of limited value without effective treatments. Although antiviral drug screening efforts have been undertaken in vitro and in vivo, no antiviral drug has thus far been demonstrated to have efficacy against EEEV. An important requirement of such a drug, were it available, would be the ability to cross the blood–brain barrier. EEE-specific monoclonal antibodies have been effective in an experimental animal model only when given before infection, and data from experiments with Venezuelan equine encephalitis virus (a related alphavirus) suggest that immunopathogenic mechanisms could be involved. Supportive care, often including admission to an intensive care unit with ventilatory support, is the mainstay of treatment. Patients need not be isolated, since they are not infectious. Given the seriousness of the disease, social support and counseling of the patient and family are critically important.

Several EEEV vaccines are in development; however, there may not be strong incentives to proceed to advanced development and licensure because of the nature of the disease: outbreaks are rare, brief, and focal, and they occur sporadically in unpredictable locations, making it difficult to identify an appropriate target population for vaccination. Such vaccines, however, might have utility for persons at high occupational risk — laboratory workers, for instance — as is the case for an early-generation experimental EEEV vaccine now available under a U.S. Army Investigational New Drug program. Efforts to develop mosquito saliva vaccines that would be effective against multiple mosquito-borne diseases are in early stages.[3] A theoretical advantage of such vaccines is the inclusion of various salivary proteins from selected mosquitoes that transmit multiple arboviruses that infect humans.

In the absence of vaccines or specific treatments, state and local health departments can provide early warning of imminent human infections by surveilling equids, birds, and mosquitoes; however, even these blunt prevention tools are continuously threatened by underfunding of public health efforts. Sadly, the United States' ability to control arboviral diseases is little better in 2019 than it was more than a century ago, when William Crawford Gorgas eliminated *A. aegypti* from Havana and the Panama Canal Zone. Recently, several American public health experts have called for a national defense strategy for arboviruses and other vectorborne diseases,[4] an idea also supported by international experts.[5] We strongly agree. Arbovirus threats are not easily thwarted by piecemeal efforts. Multiple potentially deadly viruses are constantly present in virologically occult enzootic foci throughout the United States and globally. Effects of climate and weather, such as changes in heat and

rainfall and their impact on variables associated with viruses, vectors, and vertebrates, are cause for additional concern, since they may affect the life cycles and geographic distribution of arthropod vectors and viral transmission patterns. Given the near certainty of future emergences, arboviruses constitute a real and present danger. Although EEE is not yet a disease of major national importance, this year's spike in cases exposed our inadequate preparation for emergent disease threats. Though the best way to respond to these threats is not entirely clear, to ignore them completely and do nothing would be irresponsible.

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From the Office of the Director, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Bethesda, MD.

1. Weaver SC, Winegar R, Manger ID, Forrester NL. Alphaviruses: population genetics and determinants of emergence. Antiviral Res 2012;94:242-57.
2. Komar N, Spielman A. Emergence of eastern encephalitis in Massachusetts. Ann N Y Acad Sci 1994;740:157-68.
3. Manning JE, Morens DM, Kamhawi S, Valenzuela JG, Memoli M. Mosquito saliva: the hope for a universal arbovirus vaccine? J Infect Dis 2018;218:7-15.
4. Petersen LR, Beard CB, Visser SN. Combatting the increasing threat of vector-borne disease in the United States with a national vector-borne disease prevention and control system. Am J Trop Med Hyg 2019;100:242-5.
5. Espinal MA, Andrus JK, Jauregui B, et al. Emerging and re-emerging *Aedes*-transmitted arbovirus infections in the region of the Americas: implications for health policy. Am J Public Health 2019;109:387-92.

DOI: 10.1056/NEJMp1914328

The Den

Sauarbh Jha, M.B., B.S.

When I recall my house job (internship), I remember fatigue and camaraderie. I also remember the hospital pub. Nestled in the hospital complex, a stone's throw from the main entrance, the pub was unassuming, unmarked, and innominate. I called it "the den."

On first approach, the den could have been mistaken for the ICU, with white coats hung at its entrance as if they were prohibited from entering. Indistinguishable from one another, the coats all held a folded stethoscope in one pocket and the yellow *Oxford Handbook of Clinical Medicine* in the other. If you took someone else's coat by mistake, it scarcely mattered; we were all cut from the same cloth. In a sense, the den *was* an ICU — a site of intensive care for the hospital staff, a place to unload after another intense day of work. It was also a place where ranks were temporarily forgotten and gradients were abolished — it was egalitarianism in practice. We knew each other by name and by our preferred drinks. Mine was vodka and Red Bull.

The den was empty at 5 p.m., but by 7, it was buzzing with doctors, nurses, pharmacists, porters, administrative assistants, technologists, and even hospital managers. In the small, stuffy, utterly undecorated room, clusters of people formed for no particular reason. The den wasn't divided into doctors and nurses or residents and attendings or surgeons and internists. Everyone spoke with everyone. When you joined a group, it was good manners to buy everyone a round of drinks, though this etiquette was waived for radiologists, who, as the most important people in the hospital, never bought drinks.

By all objective indicators, I should have been unhappy in those grueling months I spent as a medical house officer. The town was dreary, even by British standards, and had a limited range of restaurants. I was distant from my friends in London, where I went to medical school, and I found myself suddenly laden with responsibility, working hours I'd never imagined I was capable of working. Like most junior doctors, I lived on the hospital campus in free housing that pushed minimalism to its limits. One of our many hardships was the difficulty of maintaining a comfortable room temperature during the winter nights. The rooms were warmed by centrally controlled radiators that emitted far too much heat; I had to keep my room window open precisely 6 inches — at 8 inches I'd shiver, at 4 I'd sweat.

The den was an escape, a redoubt where we reflected and planned and spoke about our patients — what else, after all, was there to talk about? Education was delivered informally over banter and beer. I learned more medicine in the den than in all the grand rounds I've ever attended.

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Ellen, I forgot to mention that around the time they were moving I DID email (b)(6) but said no need to reply now, I know this is a chaotic time, but when you have time later on let me know your contact info. No word so far, so I won't bug her. Will be in (b)(6) next week to see (b)(6) !, also (b)(6) and (b)(6), and then off to (b)(6) to be with (b)(6)

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Ellen, i have contacts at nejm, jid, and several other journals but not lancet. (b)(6) left and although i knew (b)(6) slightly, i don't think i can do any good there.

I agree: go big. Sometimes you hit a bulls eye, other times not

But your work is good, and it will be published, read, and considered. I mean, after all, this is important stuff

david
Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Dec 11, 2019, at 15:03, Ellen Carlin (b)(6) wrote:

Hi David! I hope all is well.

I wanted to ask if you know any editors at The Lancet who might be receptive to an email from you about our paper (attached)? Billy tried an editor he knows there but has received no response. We thought a pre-submission inquiry would be better than a cold submission.

I also thought if The Lancet is a no-go, perhaps you might have a contact at NEJM or another high-impact journal? NEJM has a Commentary article type. I figure we should go big if we can!

Thanks!!
Ellen

Ellen P. Carlin, DVM
Senior Health and Policy Specialist

EcoHealth Alliance
(b)(6) (direct)
(mobile)
(b)(6)
www.ecohealthalliance.org

Research Associate, Smithsonian Conservation Biology Institute
Adjunct Research Scientist, Columbia University National Center for Disaster Preparedness
Courtesy Lecturer, Cornell University College of Veterinary Medicine
EcoHealth Alliance leads cutting-edge scientific research into the critical connections between human and wildlife health and delicate ecosystems. With this science, we develop solutions that prevent pandemics and promote conservation.

From: Morens, David (NIH/NIAID) [E]
Sent: Thu, 5 Aug 2021 23:03:18 +0000
To: Peter Daszak
Cc: Roberts, Rich; Edward Holmes; Keusch, Jerry; Robert Kessler
Subject: Re: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

Don't hold your effing breath!!!!!!!! d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Aug 5, 2021, at 19:02, Peter Daszak (b)(6) wrote:

Once the intel agencies have used their "elite institution's supercomputers" to crank out a phylogeny, perhaps they'd like to publish it in a journal. As Editor-in-Chief of the Springer journal "EcoHealth", we'd be interesting in looking at a manuscript…

Cheers,

Peter

Peter Daszak
President

EcoHealth Alliance
520 Eighth Avenue, Suite 1200
New York, NY 10018-6507
USA

Tel.: (b)(6)
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

---

From: Roberts, Rich (b)(6)
Sent: Thursday, August 5, 2021 6:28 PM
To: Morens, David (NIH/NIAID) [E] (b)(6) ; Edward Holmes

(b)(6)
Cc: Peter Daszak ((b)(6)) (b)(6); Keusch, Jerry ((b)(6)) (b)(6); Kessler, Robert ((b)(6))
(b)(6)
Subject: RE: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

Me too, but until we get rid of the politicians that may not happen.

Rich

Richard J. Roberts
New England Biolabs
240 County Road
Ipswich, MA 01938-2723
USA
Tel: (b)(6)
Fax: (978) 412 9910
email: (b)(6)

From: Morens, David (NIH/NIAID) [E] (b)(6)
Sent: Thursday, August 5, 2021 5:42 PM
To: Edward Holmes (b)(6)
Cc: Peter Daszak ((b)(6)) (b)(6); Keusch, Jerry ((b)(6)) (b)(6); Kessler, Robert ((b)(6))
(b)(6); Roberts, Rich (b)(6)
Subject: Re: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

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Professor Edward C. Holmes FAA FRS
The University of Sydney

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David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ (b)(6) (assistant: Whitney Robinson)
301 496 4409
(b)(6)

From: Folkers, Greg (NIH/NIAID) [E] (b)(6)
Sent: Thursday, August 5, 2021 4:18 PM
Subject: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt
https://cnn.it/3fzBbsp

Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt

By Katie Bo Williams, Zachary Cohen and Natasha Bertrand, CNN
Updated 9:02 AM ET, Thu August 5, 2021

*Washington (CNN)*US intelligence agencies are digging through a treasure trove of genetic data that could be key to uncovering the origins of the coronavirus -- as soon as they can decipher it.

This giant catalog of information contains genetic blueprints drawn from virus samples studied at the lab in Wuhan, China which some officials believe may have been the source of the Covid-19 outbreak, multiple people familiar with the matter tell CNN.

It's unclear exactly how or when US intelligence agencies gained access to the information, but the machines involved in creating and processing this kind of genetic data from viruses are typically connected to external cloud-based servers -- leaving open the possibility they were hacked, sources said.

Still, translating this mountain of raw data into usable information -- which is only one part of the intelligence community's 90-day push to uncover the pandemic's origins -- presents a range of challenges, including harnessing enough computing power to process it all. To do that, intelligence agencies are relying on supercomputers at the Department of Energy's National Labs, a collection of 17 elite government research institutions.

There's also a manpower issue. Not only do intelligence agencies need government scientists skilled enough to interpret complex genetic sequencing data and who have the proper security clearance, they also need to speak Mandarin, since the information is written in Chinese with a specialized vocabulary.

"Obviously there are scientists who are (security) cleared," one source familiar with the intelligence told CNN. "But Mandarin-speaking ones who are cleared? That's a very small pool. And not just any scientists, but ones who specialize in bio? So you can see how this quickly becomes difficult."

Officials conducting the 90-day review hope this information will help answer the question of how the virus jumped from animals to humans. Unlocking that mystery is essential to ultimately determining whether Covid-19 leaked from the lab or was transmitted to humans from animals in the wild, multiple sources told CNN.

Investigators both inside and outside the government have long sought genetic data from 22,000 virus samples that were being studied at the Wuhan Institute of Virology. That data was removed from the internet by Chinese officials in September 2019, and China has since refused to turn over this and other raw data on early coronavirus cases to the World Health Organization and the US.

The question for investigators is whether the WIV or other labs in China possessed virus samples or other contextual information that could help them trace the coronavirus' evolutionary history.

Two scientists who study coronaviruses told CNN they are skeptical that there is any genetic data either in the tranche of 22,000 samples or any other database from the WIV that scientists don't already know about.

"Basically in [a 2020 research paper published in Nature], the WIV talked about all the sequences they had up until a certain point in time -- it's what most scientists virologists believe, that's pretty much what they had," said Dr. Robert Garry, a virologist at the Tulane University School of Medicine.

A source familiar with the US investigation would neither confirm nor deny that any of the data pertaining to those 22,000 samples is among what US intelligence agencies are currently analyzing.

No 'smoking gun'

Sources familiar with the effort say filling in that missing genetic link won't be enough to definitively prove whether the virus originated in the lab at Wuhan or first emerged naturally. Officials will still need to piece together other contextual clues to determine the true origins of the pandemic.

But it is a critical puzzle piece that the Biden administration has been prioritizing.
"The most prized technical data in this context are genetic sequences, database entries and contextual information about the provenance of the samples and the time and context in which they were acquired -- information people would use to place them in a narrative of the origins of SARS, Covid," one source familiar with the investigation told CNN.

For now, senior intelligence officials still say that they are genuinely split between the two prevailing theories on the pandemic's origins, or some combination of both scenarios. CNN reported last month that senior Biden administration officials overseeing the 90-day review now believe the theory that the virus accidentally escaped from a lab in Wuhan is at least as credible as the possibility that it emerged naturally in the wild -- a dramatic shift from a year ago, when Democrats publicly downplayed the so-called lab leak theory.

Multiple sources told CNN that absent an unexpected windfall of new information, officials don't expect to uncover a "smoking gun" -- like intercepted communications, for example -- that would offer definitive proof for either theory. The Biden administration's 90-day push is predicated on the expectation that science, not intelligence will be the key.

Intelligence officials are tasked with addressing several "scientific knowledge gaps" about the virus' evolution, according to the collection guidance governing the 90-day push, distributed to more than a dozen agencies on June 11 by the Office of the Director of National Intelligence and obtained by CNN.

The memo instructs the intelligence community to "expand its collection" and consider data already in its possession to identify both the initial host of the coronavirus and any species that it may have passed through as it adapted to humans -- or to find as "any progenitor virus and/or virus that could serve as backbone for genetic engineering purposes."

But former Director of National Intelligence John Ratcliffe told CNN that the US intelligence community already had sufficient collection on the topic of Covid origins.

"Obviously the more, the better. But we've had extraordinary insight into this topic for many months, much more than has been declassified. Pretending we didn't is political theater and a classic example of a politician trying to buy time by using the IC as a scapegoat," he told CNN in a statement.

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That's where the genomic data from the Wuhan lab could come in.

The genetic code of a given virus is the signature that allows scientists to tell the difference between the Delta and Beta variants of the coronavirus, for example. It can also offer clues as to how the virus has adapted or mutated over time, including whether it shows signs of human manipulation -- a kind of genetic history.

Many scientists continue to believe that the most likely scenario is that the virus jumped from animals to humans naturally. But despite testing thousands of animals, researchers still haven't identified the intermediate host through which the virus passed as it adapted to humans.

But some researchers, intelligence officials and Republican lawmakers believe that researchers at the WIV might have genetically altered a virus in the lab, using a controversial kind of research known as "gain of function" that could have infected researchers who then spread it in their community.

It's also plausible that the initial infection took place naturally outside of the lab, perhaps while a scientist was collecting a sample from an animal in the wild, and that scientist then spread the virus unknowingly when he returned to the lab with the samples, multiple sources familiar with the intelligence explained.

"If it was the latter, it was likely brought into a lab to study because someone got sick ... which means there were an unknowable number of other people who were already sick," the source familiar with the probe said.
Understanding exactly which viruses researchers at the WIV were working on could provide important evidence for any one of these theories. It's one of the reasons that investigators on Capitol Hill and elsewhere have been keenly focused on the database that was taken offline in 2019.

But it might not prove anything definitively, sources familiar with the intelligence say. Even if scientists in the intelligence community are able to use the data from the lab to stitch together a complete genetic history that shows how the virus mutated, they might not have enough information about how it was handled by the Chinese lab to determine with a high level of confidence that it leaked.

"Despite having that complete history of variants, [officials might] lack the contextual information to make sense of it in a narrative way," the source familiar with the investigation explained.
"Even a complete sequence history is difficult to obtain. And doesn't really tell us anything about the origins of the pandemic itself without the context," this person added.

Some Republicans on Capitol Hill have jumped into the uncertainty with their own report claiming that "the preponderance of evidence suggests" the coronavirus was "accidentally" released from a lab in Wuhan in 2019 -- an assertion that goes far beyond the intelligence community's current view of the matter.

90 days -- and then what?

It's possible that at the end of Biden's 90-day push, the intelligence community won't have reached what's known as a "high-confidence" assessment as to the pandemic's origins. Administration officials have previously suggested to CNN that it's possible a second review could be ordered at the end of the 90 days.

A bipartisan group of lawmakers on the Senate Intelligence and Foreign Relations Committees earlier this week sent a letter urging the administration to continue to prioritize the hunt until such a judgment can be made in order to prevent future pandemics.

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Sent: Thu, 5 Aug 2021 22:39:21 +0000
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Cc: Edward Holmes; Peter Daszak ((b)(6)); Keusch, Jerry ((b)(6)); Kessler, Robert ((b)(6))
Subject: Re: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

I think Shakespeare needs to be updated. "Killed all the lawyers" should perhaps be changed to "Kill all the politicians". But i repeat myself….. d

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Richard J. Roberts
New England Biolabs
240 County Road
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From: Morens, David (NIH/NIAID) [E]
Sent: Mon, 22 Nov 2021 16:22:15 +0000
To: William B. Karesh
Cc: Catherine Machalaba; Daniel Mira-Salama
Subject: RE: figure for World Bank report
Attachments: Figure 1 8-11-2020.tif

Billy, this is the first of two images, the second of which will come in a minute. This is the image we gave Cell in summer, 2020.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
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Bethesda, MD 20892-2520
☎ (b)(6) (assistant: Whitney Robinson)
301 496 4409
(b)(6)

From: William B. Karesh (b)(6)
Sent: Monday, November 22, 2021 7:27 AM
To: Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Catherine Machalaba (b)(6); Daniel Mira-Salama (b)(6)
Subject: Re: figure for World Bank report

Thanks David !!!

If you could share the original with the three of us, Daniel can check to see if it will serve the purpose.

Thanks again,

Billy

On Nov 22, 2021, at 7:21 AM, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

Let me know. My best to Peter and the gang. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh (b)(6) wrote:

Dear David,

Hope this finds you well.

We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

Hope you have a great Thanksgiving, all the best,

Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

EcoHealth Alliance
520 Eighth Avenue, Suite 1200
New York, NY 10018 USA

(b)(6) (direct)
+1.212.380.4465 (fax)
www.ecohealthalliance.org

President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

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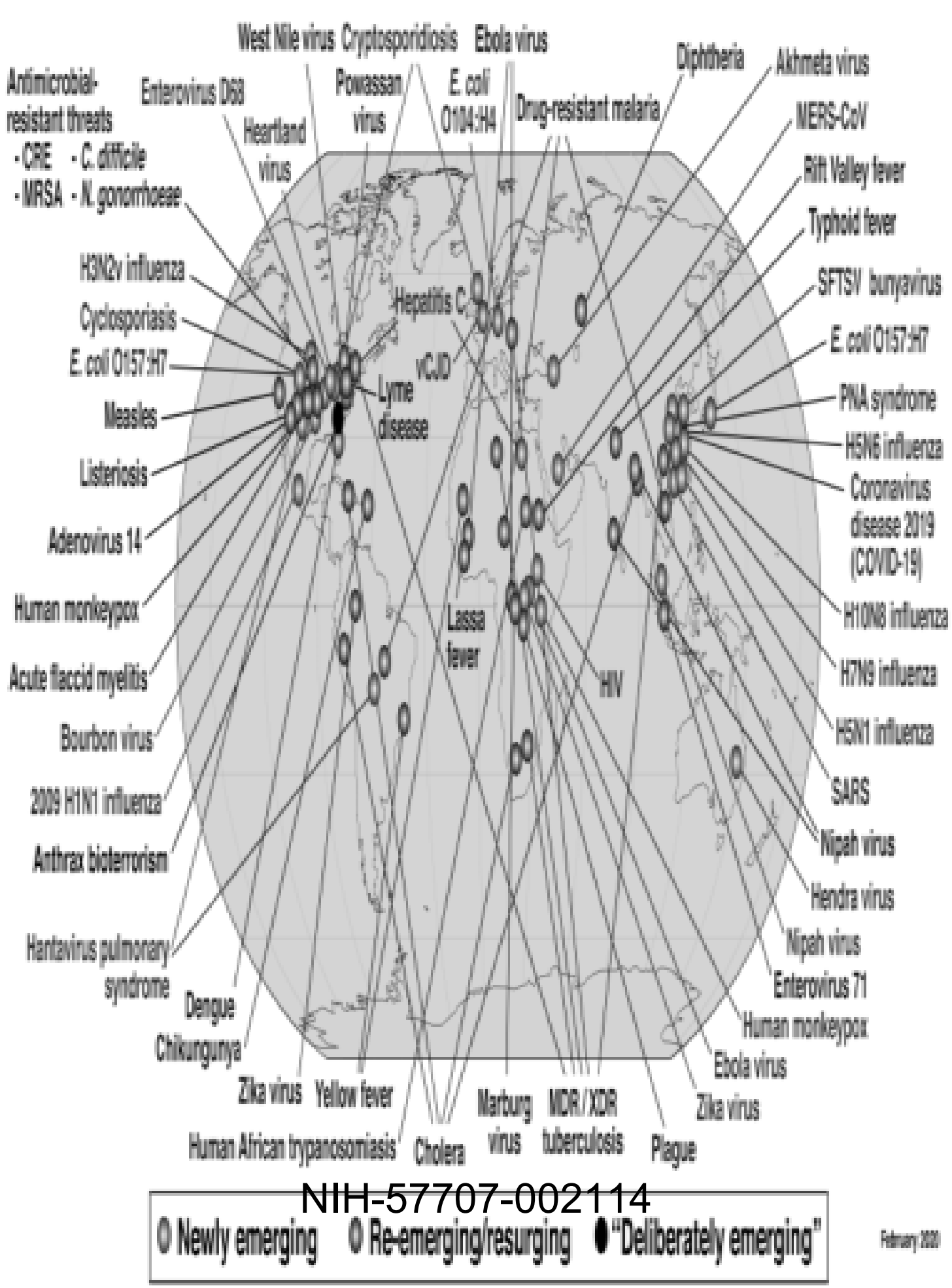
Disclaimer


West Nile virus
Cryptosporidiosis
Ebola virus
Diphtheria
Akhmeta virus
Antimicrobial-resistant threats
• CRE • C. difficile
• MRSA • N. gonorrhoeae
Enterovirus D68
Powassan virus
E. coli O104:H4
Drug-resistant malaria
MERS-CoV
Heartland virus
Rift Valley fever
Typhoid fever
H3N2v influenza
Hepatitis C
SFTSV bunyavirus
Cyclosporiasis
vCJD
E. coli O157:H7
E. coli O157:H7
Lyme disease
PNA syndrome
Measles
H5N6 influenza
Listeriosis
Coronavirus disease 2019 (COVID-19)
Adenovirus 14
Human monkeypox
Lassa fever
H10N8 influenza
Acute flaccid myelitis
HIV
H7N9 influenza
Bourbon virus
H5N1 influenza
2009 H1N1 influenza
SARS
Anthrax bioterrorism
Nipah virus
Hendra virus
Hantavirus pulmonary syndrome
Nipah virus
Dengue
Enterovirus 71
Chikungunya
Human monkeypox
Ebola virus
Zika virus
Yellow fever
Marburg virus
MDR/XDR tuberculosis
Zika virus
Human African trypanosomiasis
Cholera
Plague
NIH-57707-002114
Newly emerging
Re-emerging/resurging
"Deliberately emerging"
February 2020

From: (b)(6)
Sent: Thu, 5 Aug 2021 17:42:11 -0400
To: Edward Holmes
Cc: Peter Daszak ((b)(6)); Keusch, Jerry ((b)(6)); Kessler, Robert ((b)(6)); Rich Roberts ((b)(6))
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Attachments: image002.jpg, image001.gif

I take some pleasure in knowing that in the end they will all kick themselves for having wasted their time.

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Aug 5, 2021, at 17:29, Edward Holmes (b)(6) wrote:

Yes, I hope that means we can put that particular issue to bed.

Professor Edward C. Holmes FAA FRS
The University of Sydney

On 6 Aug 2021, at 7:26 am, Morens, David (NIH/NIAID) [E] (b)(6) wrote:

<image001.gif>

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

(b)(6) (assistant: Whitney Robinson)
301 496 4409
(b)(6)

From: Folkers, Greg (NIH/NIAID) [E](b)(6)
Sent: Thursday, August 5, 2021 4:18 PM
Subject: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt
https://cnn.it/3fzBbsp

Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt

By Katie Bo Williams, Zachary Cohen and Natasha Bertrand, CNN
Updated 9:02 AM ET, Thu August 5, 2021

*Washington (CNN)*US intelligence agencies are digging through a treasure trove of genetic data that could be key to uncovering the origins of the coronavirus -- as soon as they can decipher it.

This giant catalog of information contains genetic blueprints drawn from virus samples studied at the lab in Wuhan, China which some officials believe may have been the source of the Covid-19 outbreak, multiple people familiar with the matter tell CNN.

It's unclear exactly how or when US intelligence agencies gained access to the information, but the machines involved in creating and processing this kind of genetic data from viruses are typically connected to external cloud-based servers -- leaving open the possibility they were hacked, sources said.

Still, translating this mountain of raw data into usable information -- which is only one part of the intelligence community's 90-day push to uncover the pandemic's origins -- presents a range of challenges, including harnessing enough computing power to process it all. To do that, intelligence agencies are relying on supercomputers at the Department of Energy's National Labs, a collection of 17 elite government research institutions.

There's also a manpower issue. Not only do intelligence agencies need government scientists skilled enough to interpret complex genetic sequencing data and who have the proper security clearance, they also need to speak Mandarin, since the information is written in Chinese with a specialized vocabulary.

"Obviously there are scientists who are (security) cleared," one source familiar with the intelligence told CNN. "But Mandarin-speaking ones who are cleared? That's a very small pool. And not just any scientists, but ones who specialize in bio? So you can see how this quickly becomes difficult."

Officials conducting the 90-day review hope this information will help answer the question of how the virus jumped from animals to humans. Unlocking that mystery is essential to ultimately determining whether Covid-19 leaked from the lab or was transmitted to humans from animals in the wild, multiple sources told CNN.

Investigators both inside and outside the government have long sought genetic data from 22,000 virus samples that were being studied at the Wuhan Institute of Virology. That data was removed from the internet by Chinese officials in September 2019, and China has since refused to turn over this and other raw data on early coronavirus cases to the World Health Organization and the US.

The question for investigators is whether the WIV or other labs in China possessed virus samples or other contextual information that could help them trace the coronavirus' evolutionary history.

Two scientists who study coronaviruses told CNN they are skeptical that there is any genetic data either in the tranche of 22,000 samples or any other database from the WIV that scientists don't already know about.

"Basically in [a 2020 research paper published in Nature], the WIV talked about all the sequences they had up until a certain point in time -- it's what most scientists virologists believe, that's pretty much what they had," said Dr. Robert Garry, a virologist at the Tulane University School of Medicine.

A source familiar with the US investigation would neither confirm nor deny that any of the data pertaining to those 22,000 samples is among what US intelligence agencies are currently analyzing.

No 'smoking gun'

Sources familiar with the effort say filling in that missing genetic link won't be enough to definitively prove whether the virus originated in the lab at Wuhan or first emerged naturally. Officials will still need to piece together other contextual clues to determine the true origins of the pandemic.

But it is a critical puzzle piece that the Biden administration has been prioritizing.
"The most prized technical data in this context are genetic sequences, database entries and contextual information about the provenance of the samples and the time and context in which they were acquired -- information people would use to place them in a narrative of the origins of SARS, Covid," one source familiar with the investigation told CNN.

For now, senior intelligence officials still say that they are genuinely split between the two prevailing theories on the pandemic's origins, or some combination of both scenarios. CNN reported last month that senior Biden administration officials overseeing the 90-day review now believe the theory that the virus accidentally escaped from a lab in Wuhan is at least as credible as the possibility that it emerged naturally in the wild -- a dramatic shift from a year ago, when Democrats publicly downplayed the so-called lab leak theory.

Multiple sources told CNN that absent an unexpected windfall of new information, officials don't expect to uncover a "smoking gun" -- like intercepted communications, for example -- that would offer

definitive proof for either theory. The Biden administration's 90-day push is predicated on the expectation that science, not intelligence will be the key.

Intelligence officials are tasked with addressing several "scientific knowledge gaps" about the virus' evolution, according to the collection guidance governing the 90-day push, distributed to more than a dozen agencies on June 11 by the Office of the Director of National Intelligence and obtained by CNN.

The memo instructs the intelligence community to "expand its collection" and consider data already in its possession to identify both the initial host of the coronavirus and any species that it may have passed through as it adapted to humans -- or to find as "any progenitor virus and/or virus that could serve as backbone for genetic engineering purposes."

But former Director of National Intelligence John Ratcliffe told CNN that the US intelligence community already had sufficient collection on the topic of Covid origins.

"Obviously the more, the better. But we've had extraordinary insight into this topic for many months, much more than has been declassified. Pretending we didn't is political theater and a classic example of a politician trying to buy time by using the IC as a scapegoat," he told CNN in a statement.

Digging into the science

That's where the genomic data from the Wuhan lab could come in.

The genetic code of a given virus is the signature that allows scientists to tell the difference between the Delta and Beta variants of the coronavirus, for example. It can also offer clues as to how the virus has adapted or mutated over time, including whether it shows signs of human manipulation -- a kind of genetic history.

Many scientists continue to believe that the most likely scenario is that the virus jumped from animals to humans naturally. But despite testing thousands of animals, researchers still haven't identified the intermediate host through which the virus passed as it adapted to humans.

But some researchers, intelligence officials and Republican lawmakers believe that researchers at the WIV might have genetically altered a virus in the lab, using a controversial kind of research known as "gain of function" that could have infected researchers who then spread it in their community.

It's also plausible that the initial infection took place naturally outside of the lab, perhaps while a scientist was collecting a sample from an animal in the wild, and that scientist then spread the virus unknowingly when he returned to the lab with the samples, multiple sources familiar with the intelligence explained.

"If it was the latter, it was likely brought into a lab to study because someone got sick ... which means there were an unknowable number of other people who were already sick," the source familiar with the probe said.

Understanding exactly which viruses researchers at the WIV were working on could provide important evidence for any one of these theories. It's one of the reasons that investigators on Capitol Hill and elsewhere have been keenly focused on the database that was taken offline in 2019.

But it might not prove anything definitively, sources familiar with the intelligence say. Even if scientists in the intelligence community are able to use the data from the lab to stitch together a complete genetic

history that shows how the virus mutated, they might not have enough information about how it was handled by the Chinese lab to determine with a high level of confidence that it leaked.

"Despite having that complete history of variants, [officials might] lack the contextual information to make sense of it in a narrative way," the source familiar with the investigation explained.
"Even a complete sequence history is difficult to obtain. And doesn't really tell us anything about the origins of the pandemic itself without the context," this person added.

Some Republicans on Capitol Hill have jumped into the uncertainty with their own report claiming that "the preponderance of evidence suggests" the coronavirus was "accidentally" released from a lab in Wuhan in 2019 -- an assertion that goes far beyond the intelligence community's current view of the matter.

90 days -- and then what?

It's possible that at the end of Biden's 90-day push, the intelligence community won't have reached what's known as a "high-confidence" assessment as to the pandemic's origins. Administration officials have previously suggested to CNN that it's possible a second review could be ordered at the end of the 90 days.

A bipartisan group of lawmakers on the Senate Intelligence and Foreign Relations Committees earlier this week sent a letter urging the administration to continue to prioritize the hunt until such a judgment can be made in order to prevent future pandemics.

But the lawmakers also zeroed in on a related focus for intelligence officials probing the pandemic's origins: China's "efforts to conceal the severity and scope of the outbreak of the SARS-CoV-2 virus that caused the COVID-19 pandemic."
"We also believe that the investigation should address PRC efforts to prevent international inquiries into the origins of SARS-CoV-2, and other actions PRC authorities have taken to obscure the nature of the virus and its transmission," the lawmakers said.

Republican lawmakers in the House, meanwhile, have latched onto the theory that the virus escaped from a lab. GOP lawmakers in a report released Monday by Rep. Michael McCaul of Texas have claimed that "the preponderance of evidence suggests" the coronavirus was "accidentally" released from a lab in Wuhan in 2019.

Intelligence officials say it's still far too soon to say.

David

From: Morens, David (NIH/NIAID) [E]
Sent: Thu, 12 Aug 2021 20:14:14 +0000
To: Keusch, Gerald T; Edward Holmes
Cc: Peter Daszak ((b)(6)); Kessler, Robert ((b)(6)); Rich Roberts ((b)(6))
Subject: RE: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

Here are a few, some of which have some issues with them but together look at the problem from different angles

These should all be quickly findable but if not I should have pdfs on all

Lytras pre-print 15 July 2021
Hassanin Nature Sci Rep 12 July 2021
Otto Current Biol 2021
Zhou Cell 2021;184:1-12
Kumar Molec Biol Evol 2021, 4 May
MacLean PLoS Biol 2021, 12 March
Wacharapluesdee Nature Comm 2021, 9 Feb
Boni Nature Microbiol 2020 29 July
Li X, Sci Adv 2020, I July
Zhang & Holmes Cell 2020 16 April
Anderson Nature Med 2020 April

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
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31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

(b)(6) (assistant: Whitney Robinson)
301 496 4409
(b)(6)

From: Keusch, Gerald T (b)(6)
Sent: Thursday, August 12, 2021 3:30 PM
To: Edward Holmes (b)(6); Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Peter Daszak (b)(6) (b)(6); Kessler, Robert (b)(6) (b)(6); Rich Roberts (b)(6)
Subject: RE: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

I just found the in press Cell paper via PubMed, so I have that reference. However, I would be grateful if you have any suggestion for another high quality peer-reviewed paper in a reputable journal that strengthens the case for the evolution of the virus in nature or in particular addressing how it reached humans.

Jerry Keusch

From: Keusch, Gerald T
Sent: Thursday, August 12, 2021 12:25 PM
To: Edward Holmes (b)(6); Morens, David (NIH/NIAID) [E] (b)(6)
Cc: Peter Daszak (b)(6) (b)(6); Kessler, Robert

([redacted]) [redacted]; Rich Roberts ([redacted]) [redacted]
Subject: RE: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

Dear Eddie,

I am currently drafting a potential reply to the letter in Lancet that Peter, I and 22 others published in Lancet last month (attached for your convenience). We have been invited to respond to a letter from a group of French scientists stating that "There is no scientifically validated evidence that directly supports a natural origin". While we don't want to engage in an endless series of back and forth arguments in the Lancet we are considering a brief response to focus on the real evidence there is. To that we would cite just one reference, your recent review (the French included 15 references, not including yours, as they clearly submitted before your paper appeared as a preprint. I would obviously like to have a peer-reviewed citation even if just in press, so I would greatly appreciate it if you could update me on the status of your paper and whether or not there is a new citation for your exceptional review.

Thanks in advance, Jerry Keusch

From: Edward Holmes [redacted]
Sent: Thursday, August 5, 2021 5:29 PM
To: Morens, David (NIH/NIAID) [E] [redacted]
Cc: Peter Daszak ([redacted]) [redacted]; Keusch, Gerald T [redacted]; Kessler, Robert ([redacted]) [redacted]; Rich Roberts ([redacted]) [redacted]
Subject: Re: CNN: Exclusive: Intel agencies scour reams of genetic data from Wuhan lab in Covid origins hunt https://protect-au.mimecast.com/s/xCyoCvl1rKi7NAywGIQWvWo?domain=cnn.it

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Still, translating this mountain of raw data into usable information -- which is only one part of the intelligence community's 90-day push to uncover the pandemic's origins -- presents a range of challenges, including harnessing enough computing power to process it all. To do that, intelligence agencies are relying on supercomputers at the Department of Energy's National Labs, a collection of 17 elite government research institutions.

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90 days -- and then what?

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Intelligence officials say it's still far too soon to say.

From: William B. Karesh [b6]
Sent: 11/22/2021 11:46:45 AM
To: Morens, David (NIH/NIAID) [E] [b6] ([b6])
CC: Catherine Machalaba [b6]; Daniel Mira-Salama [b6]
Subject: figure for World Bank report
Attachments: PastedGraphic-1.tiff

Dear David,

Hope this finds you well.

We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

Hope you have a great Thanksgiving, all the best,

Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

EcoHealth Alliance
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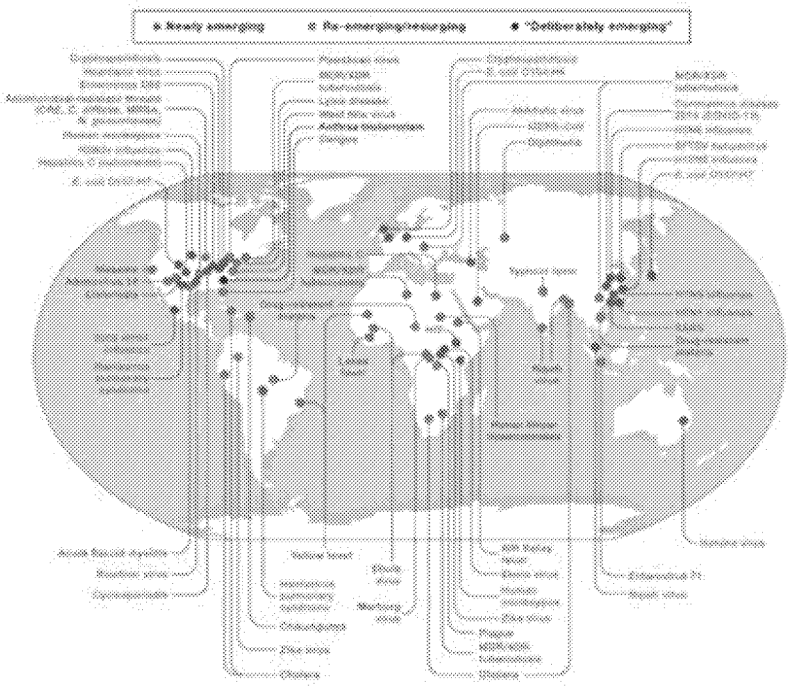
New York, NY 10018 USA

b6 (direct)
+1.212.380.4465 (fax)
www.ecohealthalliance.org

President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.



Disclaimer

From: Morens, David (NIH/NIAID) [E] [b6 b6]
Sent: 11/22/2021 12:21:24 PM
To: William B. Karesh [b6]
CC: Catherine Machalaba [b6]; Daniel Mira-Salama [b6]
Subject: Re: figure for World Bank report
Attachments: PastedGraphic-1.tiff

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

Let me know. My best to Peter and the gang. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh [b6] wrote:

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We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

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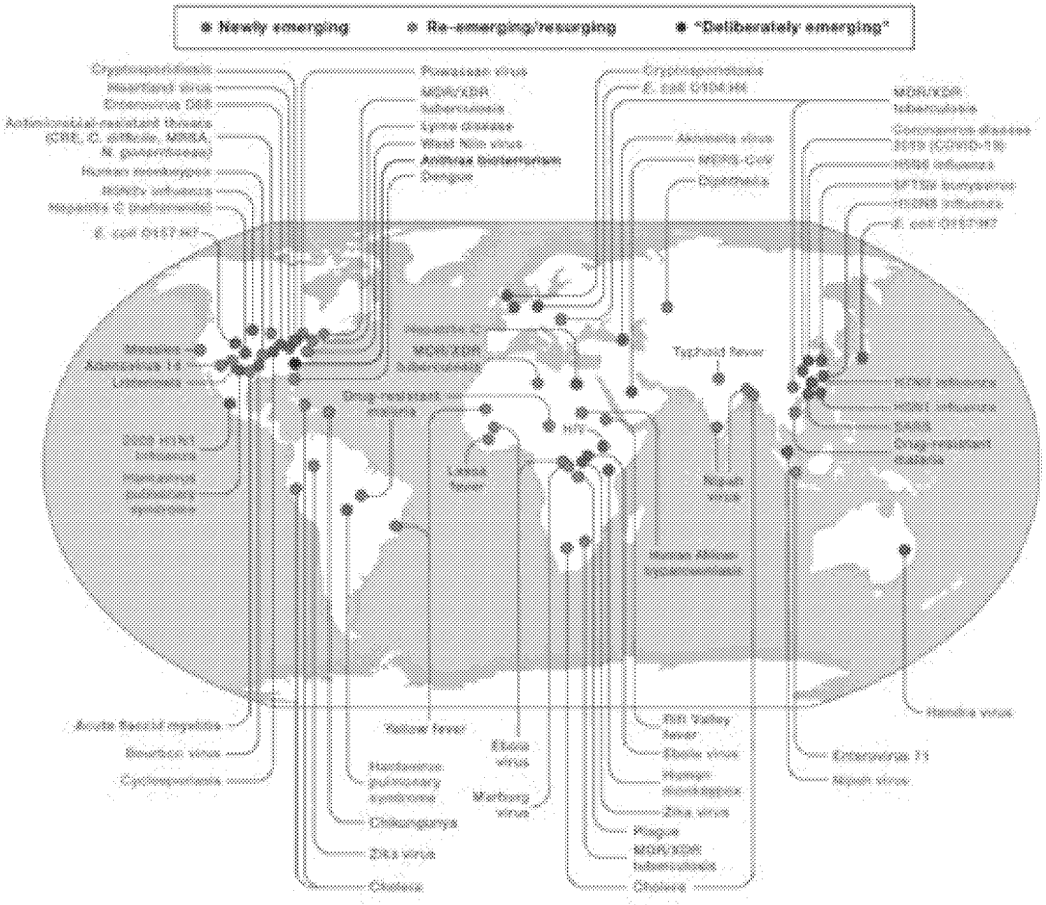

From: Morens, David (NIH/NIAID) [E] [b6]
Sent: 9/17/2018 7:26:42 PM
To: 'Ellen Carlin' [b6]
Subject: RE: Invitation to keynote at NMNH, Oct 23

OK, sounds good, I will put a few things together…. Have fun at the WH today!

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ b6 (assistants: Meaghan Vance; Logan Salmon)
301 496 4409
b6

From: Ellen Carlin b6
Sent: Monday, September 17, 2018 8:31 AM
To: Morens, David (NIH/NIAID) [E] b6
Subject: Re: Invitation to keynote at NMNH, Oct 23

Hi David! Always good to hear from you. I will be anxious to hear about DRC if NIH gets involved.

Thank you as always for your generosity of time! We are excited to have you join us for this workshop. I can answer all your questions either by email or hop on a call.

Timing: I think the 12:15-1:30 is a typo/holdover from an old draft. The talk can be as short or as long as you like. What if we planned 30 minutes followed by 15 minutes of questions?

Topic: Totally understand if you can't make the prior sessions. What I always appreciated from you is that you bring field experience to your work in science and science policy. I think that's the perspective that would be most valuable here. So your suggestion to look to past epidemics and focus on challenges is exactly right. Tell us a story. We will have a lot of technical talks on modeling and human behavior—we'd love to hear about your own experience working with humans in pandemics, and maybe some things you learned from their behavior and how the diseases spread.

I am headed to the White House this afternoon for a preview of the National Biodefense Strategy, set for release tomorrow. You may have already seen it or worked on it. I am anxious to see it myself.

Thanks again so much, and speak with you soon,
Ellen

On Sep 14, 2018, at 3:31 PM, Morens, David (NIH/NIAID) [E] **b6** wrote:

Hi Ellen,

I should be in town then, although just for a few days between meetings in Texas and New Orleans.

I can probably do something but have a few questions about topic, placem,ent, length and so on.

You have me doing the closing keynote with the title "where do we go from here", but that title implies summing up what all the previous speakers have already said,which I may not be the best person to do. But we can discuss.

One think that comes to mind I might be able to to is look and older and recent past pandemics and outbreaks and comment on the challenges posed by behavioral things, e.g., during the Ebola epidmics running away from their homes to hide in other villages, thereby spreading the disease.

Also the time length (1h 15 m) suggests not a long talk but rather a shorter one, with discussion.

No I am not off chasing Ebola this time. Yet. NIH is just beginning to get into it, but there are some turf sensitivities, so we are kinda lying low.

David M. Morens, M.D.
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<image002.jpg>

From: Ellen Carlin b6
Sent: Thursday, September 13, 2018 9:20 AM
To: Morens, David (NIH/NIAID) [E] b6
Subject: Invitation to keynote at NMNH, Oct 23

Hi David,

I hope this note finds you well! Are you in DRC these days?

If you will be stateside at the end of October, I would like to invite you to provide the closing keynote at a workshop on behavioral risk modeling to be held October 22-23, 2018 at the National Museum of Natural History in Washington, DC. The draft agenda is attached. The workshop has been developed by the U.S. Pandemic Prediction and Forecasting Science and Technology (PPFST) working group, and with my Smithsonian hat I have been helping to get it off the ground.

As the keynote, you would have broad leeway in your remarks. The workshop, *Behavioral Risk Modeling for Pandemic Prevention and Response*, will explore the human behavioral element of disease transmission models and how they can be improved to better inform preparedness and response. The working group seeks to understand the degree to which models for high-consequence infectious diseases account for behavioral factors; technical and policy challenges that are limiting the development of such models; and the extent to which modeling programs supported by Federal Departments and Agencies incorporate or plan to incorporate behavioral dynamics. The workshop will draw on expert input from a variety of disciplines needed to develop and implement useful models of behavioral risk. Findings will inform recommendations to the National Science and Technology Council.

As you may know, the PPFST was established in 2013 as an advisory group under the NSTC, the Cabinet-level Council established by Executive Order in 1993 that is the principal means within the Executive Branch to coordinate science and technology policy across the federal research and development enterprise. Its purpose is to coordinate priorities and activities to accelerate the development of infectious disease outbreak prediction and forecasting capabilities. The working group will host this workshop in partnership with other interagency and external groups, including the Department of Anthropology of the National Museum of Natural History.

Thank you very much for your consideration!

Sincerely,

Ellen

From: Ellen Carlin [b6]
Sent: 9/13/2018 1:20:25 PM
To: Morens, David (NIH/NIAID) [E] [b6]
[b6]
Subject: Invitation to keynote at NMNH, Oct 23
Attachments: PPFST workshop agenda draft 9.12.18.docx

Hi David,

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Ellen

Workshop: Behavioral Risk Modeling for Pandemic Prevention and Response

Hosted by the National Science and Technology Council and the Pandemic Prediction and Forecasting Science and Technology Working Group

October 22-23, 2018

National Museum of Natural History
Q?rius Auditorium, First Floor
Washington, DC 20013

Draft Agenda

DAY 1

8:15-8:45	**Arrivals, coffee and light breakfast**
8:45-9:00	**Introductions** *Invited: Representative from Office of Science and Technology Policy (or National Security Council), Executive Office of the President*
9:00-9:45	**Human Behavior and Pandemics: What Don't We Know?** *James Holland Jones, Stanford University*

SESSION I: HUMAN BEHAVIOR AND PANDEMICS

9:45-10:15	**How the Spread of Behavior Influences the Spread of Diseases** *Damon Centola, Associate Professor of Communication, University of Pennsylvania*
10:15-10:45	**Land Use Change as a Human Behavioral Risk Factor** *Invited: Peter Leimgruber, Director of the Conservation Ecology Center, Smithsonian Institution*
10:45-11:00	**Coffee break**
11:00-11:30	**Using Social Media to Inform USG Disaster Preparedness and Response** *Latasha Allen, Office of the Assistant Secretary for Preparedness and Response, U.S. Department of Health and Human Services*
11:30-12:30	**Lunch**

SESSION II: BEHAVIORAL RISK MODELING FOR IMPROVING PANDEMIC PREVENTION AND RESPONSE

12:30-1:00 **How the USG Currently Applies Behavioral Dynamics and Disease Modeling to Pandemics**
Invited: TBD, Centers for Disease Control and Prevention

1:00-1:30 **Predictive Modeling of Human Behavioral Pandemic Risk: Challenges and Opportunities**
Invited: Yasha Feferholtz, Senior Research Scientist, EcoHealth Alliance

1:30-2:00 **Behavioral Intervention Modeling to Mitigate Pandemic Risk**
Ben Althouse, Institute for Disease Modeling

2:00-2:30 **Applied Modeling for Pandemic Preparedness and Decision-Making**
TBD

2:30-3:00 **Coffee and refreshments break**

SESSION III: BREAKOUTS

3:00-4:00 **Group Breakouts**

- **Group A**: Define three major gaps in the knowledge base for effective models
- **Group B**: Develop three recommendations for improving predictive models
- **Group C**: Develop three recommendations for improving intervention models

4:00-4:15 **Closing Remarks for Day 1**
JP Chretien, PPFST working group

DAY 2

8:15-8:45 **Arrivals, coffee and light breakfast**

8:45-9:00 **Introductions and Recap of Day 1**
JP Chretien, PPFST working group

SESSION IV: INTERVENTIONS

9:00-9:45 **Nine Years of PREDICT: Lessons for Behavioral Modeling Interventions**
Invited: Dennis Carroll, U.S. Agency for International Development

9:45-10:30 **Behavioral Risk Surveillance: Entry Points for Interventions**
Leilani Francisco, Senior Research Scientist, EcoHealth Alliance and Global Director for Behavioral Risk Surveillance, PREDICT

SESSION V: GROUP FINDINGS AND RECOMMENDATIONS

10:30-11:30 **Panel discussion**
Representative from each of Group A, B, and C
Invited: Moderated by Dylan George, In-Q-Tel

11:30-12:15 **Lunch**

12:15-1:30 **Closing Keynote: Where Do We Need to Go?**
TBD

1:30-1:45 **Conclusions and Next Steps**
JP Chretien (or other representative), Office of Science and Technology Policy, Executive Office of the President

Coffee, continental breakfast, and lunch will be served

From: Ellen Carlin [b6]
Sent: 3/19/2020 12:52:56 AM
To: Mascola, John (NIH/VRC) [E] [b6] [b6]
CC: Morens, David (NIH/NIAID) [E] [b6] [b6]; Phyllis A. Arthur [b6]; Gregory Frank [b6]; Austin, Sarah (NIH/NIAID) [E] [b6] Administrative Group [b6]; Suhana, Tina (NIH/VRC) [E] [b6] [b6]; Graham, Barney (NIH/VRC) [E] [b6] [b6]; Ledgerwood, Julie (NIH/NIAID) [E] [b6] [b6]
Subject: Re: March 24 - Invitation for 5-minute plenary update

Dear John,

Many thanks for the confirmation. We know this is an extraordinary time, and we very much appreciate you be willing to participate in this important event.

We will follow up in the near term with dial-in logistics and a final agenda. Please don't hesitate to be in touch in the meantime if you have any questions for us.

Sincerely,
Ellen

On Mar 18, 2020, at 7:57 PM, Mascola, John (NIH/VRC) [E] [b6] wrote:

Dear Ellen,

It is certainly a busy time and we are all adjusting.

I can contribute to the virtual meeting and provide brief remarks.

Best regards,
John

From: Ellen Carlin [b6]
Sent: Wednesday, March 18, 2020 10:25 AM
To: Morens, David (NIH/NIAID) [E] [b6]
Cc: Phyllis A. Arthur [b6]; Gregory Frank [b6]; Mascola, John (NIH/VRC) [E] [b6]
Subject: March 24 - Invitation for 5-minute plenary update

Dear David,

I hope this email finds you well during these trying times. Does it feel like the world is a different place entirely since I saw you a month ago??

By now you will have received an invitation to BIO's multi-stakeholder COVID-19 Collaboration Virtual Summit that will take place March 24-25, 2020 (agenda attached). I am working with BIO in their efforts to ensure that the government is

connected to the companies and researchers who are working on products and technologies that could counter the COVID outbreak, and to identify any challenges that could delay progress.

We are writing to ask if you would provide **five minutes of remarks during the opening plenary on "U.S. Government and NGO Response, Current Development Partnerships, and R&D Gaps" on Tuesday March 24 from 11:00-11:40 pm**. We had asked Dr. Fauci but he is quite understandably otherwise engaged. My next thought was you and I recognize that you are probably just as busy. But we are very much hoping for NIH representation; BARDA, DOD JPEO, and CEPI speakers are confirmed for that session. The meeting will be held via GoToMeeting and you can join from your home or office.

Thank you for considering lending your expertise to ensure robust discussion and actionable outcomes from the meeting. We look forward to your RSVP, and really appreciate your consideration during this very busy time.

Many thanks,

Ellen
<BCCI Virtual Summit AGENDA 17Mar2020 - Public v5.docx>

From: Ellen Carlin [b6]
Sent: 3/18/2020 2:24:56 PM
To: Morens, David (NIH/NIAID) [E] [b6] ([b6])/[b6]]
CC: Phyllis A. Arthur [[b6]]; Gregory Frank [[b6]]; Mascola, John (NIH/VRC) [E] [[b6]] ([b6])[b6]]
Subject: March 24 - Invitation for 5-minute plenary update
Attachments: BCCI Virtual Summit AGENDA 17Mar2020 - Public v5.docx

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Many thanks,

Ellen

Biotechnology Innovation Organization

BIO Coronavirus Collaboration Initiative Summit
March 24-25, 2020
Virtual Meeting

Summit Goals

1. Inform industry of the latest data on COVID-19, the current status of projects already underway, and the knowledge gaps and technical and policy challenges that are important to the development of medical countermeasures.
2. Discuss the best approaches to the development of therapeutics, vaccines, diagnostics and other tools to respond to the COVID-19 global outbreak.
3. Promote future industry collaboration as well as partnerships with governmental and non-governmental partners.

Schedule at a Glance

Tuesday, March 24th

- 10:00 a.m. – 11:45 a.m.: Plenary Session
- 12:30 p.m. – 3:00 p.m.: Breakout Session - *Treatment*

Wednesday, March 25th

- 10:00 a.m. – 12:30 p.m.: Breakout Session - *Prevention*
- 1:00 p.m. – 3:30 p.m.: Breakout Session – *Diagnostics*

****** Instructions for joining the webinars will be emailed to participants prior to the Summit******

Plenary Session

Tuesday, March 24th

10:00 a.m. – 10:10 a.m.	Opening Remarks & Welcome • *Jim Greenwood, CEO, BIO* • *Dr. George Scangos, CEO, Vir Biotechnology*
10:10 a.m. – 10:30 a.m.	Opening Remarks • *Ambassador Deborah Birx, MD [invited]* • *Robert Kadlec, MD, HHS Assistant Secretary for Preparedness and Response (ASPR) [invited]*
10:30 a.m. – 11:00 a.m.	Panel 1: Coronavirus Virology, Epidemiology, and Clinical Presentation • *Dr. Ralph Baric, UNC Gillings School of Global Public Health [invited]* • *Centers for Disease Control and Prevention (CDC) [invited]*
11:00 a.m. – 11:40 a.m.	Panel 2: U.S. Government and NGO Response, Current Development Partnerships, and R&D Gaps • *National Institutes of Health (NIH) [invited]* • *Dr. Rick Bright, Director, Biomedical Advanced Research & Development Authority (BARDA), HHS [confirmed]* • *Mr. Doug Bryce, Joint Program Executive Officer, Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO-CBRND), Department of Defense (DOD) [confirmed]* • *TBD, Coalition for Epidemic Preparedness Innovations (CEPI) [confirmed]* • *Bill & Melinda Gates Foundation [invited]*
11:40 a.m. – 11:45 a.m.	Charge to Breakout Groups • *Dr. George Scangos, CEO, Vir Biotechnology*

Breakout Session Schedule

Tuesday, March 24th

12:30 p.m. – 3:00 p.m.	Treatment • Moderators: *Dr. Gerald Parker, Associate Dean for Global One Health, Texas A&M College of Veterinary Medicine and Biomedical Sciences*

Wednesday, March 25th

10:00 a.m. – 12:30 p.m.	Prevention • Moderators:
1:00 p.m. – 3:30 p.m.	Diagnostics • Moderators: *Dr. Luciana Borio, Vice President, Technical Staff, In-Q-Tel*

From: Morens, David (NIH/NIAID) [E] [b6] ([b6])
Sent: 5/5/2020 5:25:10 PM
To: Babcock Sarah [b6] ([b6]) [b6]; Ellen Carlin [b6]
Subject: FW: Bloomberg: A Vet Detective Squad Is Preparing For the Next Pandemic

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ b6 (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
b6

From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Tuesday, May 5, 2020 11:40 AM
Subject: Bloomberg: A Vet Detective Squad Is Preparing For the Next Pandemic

A Vet Detective Squad Is Preparing For the Next Pandemic

May 5, 2020, 10:01 AM

- Most infectious diseases in humans come from animals
- Australia to fund training for over 200 vets in Asia Pacific

As the coronavirus death toll surpasses 250,000 and the world scrambles to find a vaccine, a new scientific taskforce is headed to the wilderness to try and stop the next pandemic.

After decades of patchy global investment into researching the linkages between animal and human health, more than 40 scientists will embark on an Australian government-funded program that will teach veterinarians in southeast Asia and the Pacific how to detect infectious diseases - before they make the leap into the human population.

"The majority of infectious diseases are zoonotic, which means they are transmittable from animals to humans," said Navneet Dhand, associate professor of veterinary biostatistics and epidemiology at the University of Sydney.

Detecting diseases early in the animal population would help prevent future outbreaks among humans, said Dhand, who helms the effort. To that end, the Australian government has pledged A$4.3 million ($2.8 million) to the three-year project that covers 11 countries across the region. It's part of an existing A$300 million Indo-Pacific program that pushes for a more proactive approach to fighting pandemics and strengthening health security.

There is broad scientific consensus that the new coronavirus came from animals, although it's still unknown how and when it made the leap to humans. While researchers are calling for earlier mitigation in the spread of disease as the best defense against future outbreaks, government investment into such strategies hasn't been nearly consistent enough.

READ MORE: Deadly Virus Finds a Breeding Ground in China's Food Markets

Not enough

Famous for its unique wildlife and A$48 billion agricultural industry that drives much of the economy, Australian scientists say they're in a position to pass on unique knowledge to less-developed regions.

Dhand's team will train more than 200 veterinarian and para-veterinarians in Southeast Asia to collect and track data from sick animals, both on nature's front line and on farms.

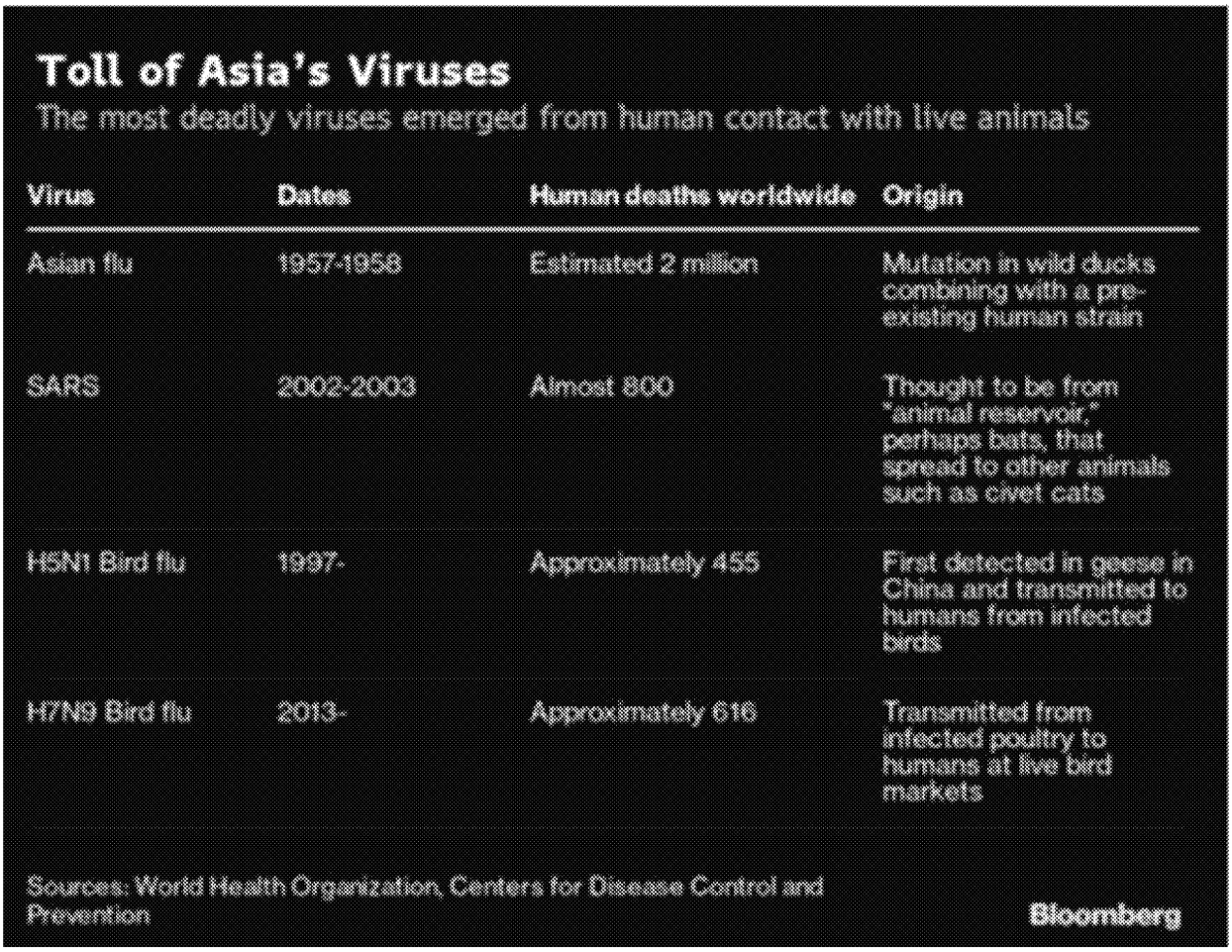
Participants will be taught skills like how to examine a sick animal for more than just the prevailing illness apparent when they're called to farms or animal sites, as well as check for signs of spread among other animals they've been in contact with.

They will also learn how to collect animal samples to build out a database that, over time, can pick up on particular ecological trends and animal behavior patterns. These could show where outbreaks are more likely to occur and how they might spread, thus giving scientists clues on how the disease is transmitted.

In the long run, these efforts can help stop a disease's spread before it reaches the stage of being able to jump to humans.

READ MORE: To Stop the Next Pandemic, Start Protecting Wildlife Habitats

Opportunities for animal diseases to transmit to humans have increased with accelerated urbanization and population growth. People now live in closer proximity to, and have more frequent contact with, wildlife, said Dhand.



There have been at least six large-scale zoonotic disease outbreaks in four decades, including the H1N1 flu, SARS and HIV, collectively resulting in the deaths of millions and impacting the world economy.

But after those outbreaks faded, there's been relatively little effort to prevent the next one.

"We've suffered from a siloed approach, historically, and had a big emphasis on responding to health in emergencies but less of an emphasis on preventing those emergencies," Mark Schipp, president of the World Organization for Animal Health said. "Diseases in animals spill over into humans on a regular occurrence."

True Economic Impact

Zoonotic pathogens that infect humans are only part of the threat. Even if the disease never transfers to a human host, outbreaks of sickness among animal populations impacts food security and international trade.

The 2018 African swine disease outbreak decimated pork supplies, affecting the diets of millions in China, where it is the major source of protein. It also dealt a major economic blow to a myriad of agricultural sectors, including pig farmers.

"The impact of not controlling non-zoonotic vaccine-preventable disease in animals is much larger than the zoonotic impact, if it's properly calculated," said Robyn Alders, senior technical advisor with the Centre for Global Health Security at Chatham House. But data relating to food security "isn't there to show the true impact on the economy."

As the coronavirus pandemic starts to come under control in many countries through social-distancing measures, there's a chance that public attention may turn elsewhere and governments once again neglect investment in preventive strategies.

"The problem here with animal health is that when that perceived human threat is controlled or significantly reduced, the money dries up," said Alders.

From: Morens, David (NIH/NIAID) [E] [b6 (b6) b6]
Sent: 3/23/2020 1:06:03 PM
To: Ellen Carlin [b6]
Subject: RE: March 24 - Invitation for 5-minute plenary update

OK, that's fine, just wanted to be sure since nothing is up and running hewre at NIAID. Not only that, but it's a ghost town.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
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National Institutes of Health
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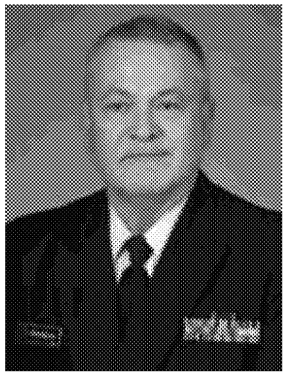

From: Ellen Carlin [b6]
Sent: Monday, March 23, 2020 9:03 AM
To: Morens, David (NIH/NIAID) [E] [b6]
Subject: Re: March 24 - Invitation for 5-minute plenary update

Thanks so much, David—John is doing it, so we've got the NIH covered. Thank you so much for thinking to circle back. Go take care of the many other things on your plate…

On Mar 23, 2020, at 8:35 AM, Morens, David (NIH/NIAID) [E] b6 wrote:

Ellen, as of yet I haven't gotten clearance but I see John M is doing it whether he has clearance or not. I'm willing to do that if you still need me, and if not that is fine. Things are all out crazy here, the no-clearance things is just that everything but crisis management is falling through the cracks. Let me know,

David M. Morens, M.D.
CAPT, United States Public Health Service
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Bethesda, MD 20892-2520
☎ b6 (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
b6

From: Ellen Carlin b6
Sent: Wednesday, March 18, 2020 12:59 PM
To: Morens, David (NIH/NIAID) [E] b6
Subject: Re: March 24 - Invitation for 5-minute plenary update

David—thanks so much. I can't tell you how much I know everyone is on the run, NIH especially, and really appreciate you considering.
Ellen

On Mar 18, 2020, at 12:47 PM, Morens, David (NIH/NIAID) [E] b6 wrote:

Ellen, I am on the run at the moment but will do a quick reply now. I would be happy to do it if I can. Since you asked Tony it is already in the system and his assistants might already be looking for a replacement, so I'll check on that. I meet with Tony in about an hour. Also, these things need to be cleared with HHS, whoever does it. Again, I'll follow up

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
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b6

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Cc: Phyllis A. Arthur b6; Gregory Frank b6; Mascola, John (NIH/VRC) [E] b6
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Many thanks,

Ellen

From: Ellen Carlin [b6]
Sent: 5/12/2020 1:07:52 AM
To: Morens, David (NIH/NIAID) [E] [b6]
[b6]
CC: Sarah Babcock [b6]
Subject: Re: Bloomberg: A Vet Detective Squad Is Preparing For the Next Pandemic

Thanks, David—sounds a little bit like a cross between PREDICT x FETPv x One Health Workforce.

Hope you are hanging in there. It's not like NIAID has been in the news much lately…

On May 5, 2020, at 1:25 PM, Morens, David (NIH/NIAID) [E] b6 wrote:

<image002.gif>
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Senior Advisor to the Director
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<image003.jpg>

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<image001.jpg>
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Zoonotic pathogens that infect humans are only part of the threat. Even if the disease never transfers to a human host, outbreaks of sickness among animal populations impacts food security and international trade.
The 2018 African swine disease outbreak decimated pork supplies, affecting the diets of millions in China, where it is the major source of protein. It also dealt a major economic blow to a myriad of agricultural sectors, including pig farmers.
"The impact of not controlling non-zoonotic vaccine-preventable disease in animals is much larger than the zoonotic impact, if it's properly calculated," said Robyn Alders, senior technical advisor with the Centre for Global Health Security at Chatham House. But data relating to food security "isn't there to show the true impact on the economy."
As the coronavirus pandemic starts to come under control in many countries through social-distancing measures, there's a chance that public attention may turn elsewhere and governments once again neglect investment in preventive strategies.
"The problem here with animal health is that when that perceived human threat is controlled or significantly reduced, the money dries up," said Alders.

From: Morens, David (NIH/NIAID) [E] [b6 b6]
Sent: 11/3/2021 6:00:43 PM
To: Kevin Olival [b6]
Subject: RE: bioRxiv: Multiple spillovers and onward transmission of SARS-Cov-2 in free-living and captive White-tailed deer (Odocoileus virginianus)

Maybe you guys should study this long-range, as it has been found I think several times around the country. The high PCR positivity is surprising so following deer prospectively is important.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
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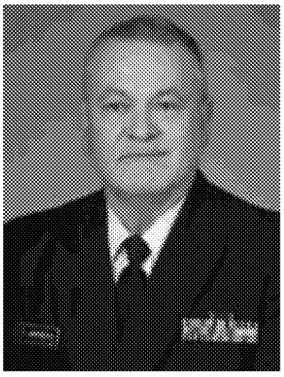
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ b6 (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
b6



From: Kevin Olival b6
Sent: Wednesday, November 3, 2021 12:53 PM
To: Morens, David (NIH/NIAID) [E] b6

Subject: Re: bioRxiv: Multiple spillovers and onward transmission of SARS-Cov-2 in free-living and captive White-tailed deer (Odocoileus virginianus)

Thanks David, yes, spotted that paper earlier today! Interesting stuff, and you were correct to flag this early on w the promed post.

Kevin J. Olival, PhD
Vice President for Research

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EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

On Nov 3, 2021, at 12:51 PM, Morens, David (NIH/NIAID) [E] b6 wrote:

<image001.gif>
David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ b6 (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
b6

<image002.jpg>

From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Tuesday, November 2, 2021 2:52 PM
Subject: bioRxiv: Multiple spillovers and onward transmission of SARS-Cov-2 in free-living and captive White-tailed deer (Odocoileus virginianus)

Multiple spillovers and onward transmission of SARS-Cov-2 in free-living and captive White-tailed deer (Odocoileus virginianus)

View ORCID ProfileSuresh V Kuchipudi, Meera Surendran-Nair, Rachel M Ruden, Michele Yon, Ruth H Nissly, Rahul K Nelli, Lingling Li, Bhushan M Jayarao, Kurt Vandegrift, Costas D Maranas, Nicole Levine, Katriina Willgert, View ORCID ProfileAndrew J.K Conlan, Randall J Olsen, James Davis, James M. Musser, Peter J Hudson, Vivek Kapur

doi: https://doi.org/10.1101/2021.10.31.466677

This article is a preprint and has not been certified by peer review [what does this mean?].

00000308

- Abstract
- Info/History
- Metrics
-
- Preview PDF

Abstract

Many animal species are susceptible to SARS-CoV-2 and could potentially act as reservoirs, yet transmission in non-human free-living animals has not been documented. White-tailed deer (Odocoileus virginianus), the predominant cervid in North America, are susceptible to SARS-CoV-2 infection, and experimentally infected fawns transmit the virus to other captive deer. To test the hypothesis that SARS-CoV-2 may be circulating in deer, we evaluated 283 retropharyngeal lymph node (RPLN) samples collected from 151 free-living and 132 captive deer in Iowa from April 2020 through December of 2020 for the presence of SARS-CoV-2 RNA. Ninety-four of the 283 deer (33.2%; 95% CI: 28, 38.9) samples were positive for SARS-CoV-2 RNA as assessed by RT-PCR. Notably, between Nov 23, 2020, and January 10, 2021, 80 of 97 (82.5%; 95% CI 73.7, 88.8) RPLN samples had detectable SARS-CoV-2 RNA by RT-PCR. Whole genome sequencing of the 94 positive RPLN samples identified 12 SARS-CoV-2 lineages, with B.1.2 (n = 51; 54.5%), and B.1.311 (n = 19; 20%) accounting for ~75% of all samples. The geographic distribution and nesting of clusters of deer and human lineages strongly suggest multiple zooanthroponotic spillover events and deer-to-deer transmission. The discovery of sylvatic and enzootic SARS-CoV-2 transmission in deer has important implications for the ecology and long-term persistence, as well as the potential for spillover to other animals and spillback into humans. These findings highlight an urgent need for a robust and proactive One Health approach to obtaining a better understanding of the ecology and evolution of SARS-CoV-2.

Competing Interest Statement

The authors have declared no competing interest.

From: Morens, David (NIH/NIAID) [E] [b6 b6]
Sent: 7/28/2021 3:36:04 PM
To: Keusch, Gerald T [b6]; Peter Daszak [b6]
CC: Robert Kessler [b6]; Sturchio, Jeff [b6]
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

Very well said, and let me add that if i=t seems appropriate please tell these types of reporters I can talk to them off the record or on background….

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
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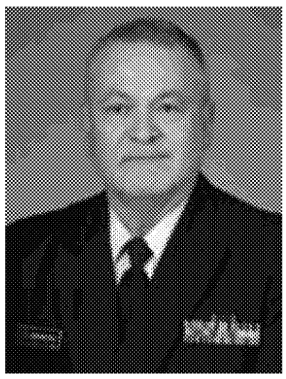
301 496 4409
b6



From: Keusch, Gerald T b6
Sent: Wednesday, July 28, 2021 11:04 AM
To: Peter Daszak b6; Morens, David (NIH/NIAID) [E] b6
Cc: Robert Kessler b6; Sturchio, Jeff b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

I followed up with Simone today, as I am sure she will continue to write about this. Here's what I said – reading it again I really like my last line, which Peter has noted is probably the only thing people take away from articles they are reading.

"Thanks for the article. Sorry I was unavailable the past several days, as I was away and off line.

The issues you are covering are important. I believe the key is to establish a level playing field in which all countries have a stake in cooperating to figure out how CoV-2 entered the human population. This takes a level of diplomatic finesse that seems to be in short supply, and I would finger three entities at the top of my list in alphabetical order, China, the USA, and WHO. The only way this can succeed is to have the political community agree this needs to be done and then to step back and empower the scientific community – especially including internationally respected scientists in China and around the world who both know and trust one another because they have developed personal relationships and collaborations over multiple years – to proceed ahead without interference. I would go so far as to say there is no other way. Power, partisanship, playing to domestic audiences, and provocative language will accomplish nothing, and the whole world will suffer for it. "

From: Peter Daszak b6
Sent: Wednesday, July 28, 2021 10:47 AM
To: Keusch, Gerald T b6; Morens, David (NIH/NIAID) [E] b6
Cc: Robert Kessler b6; Sturchio, Jeff b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

Yes – I spoke with her off the record. She quotes me as 'someone with direct knowledge of the WHO work in Wuhan' or something.

Jerry's also quoted.

It's good to see a lot of the BS getting cleared, but I do think that the WHO DG's blatant politicking is being missed by many of these science-y commentators that are being quoted. A lot of them seem to be completely OK with a new team because, I guess, it gives them a chance to be involved – e.g. Wanda Markotter's comments about the current team being not geographically balanced – what a joke – Vietnam, Japan, Russia, Sudan, NZ – she just didn't bother to actually check if that's correct…

Cheers,

Peter

Peter Daszak
President

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Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

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From: Keusch, Gerald T b6
Sent: Wednesday, July 28, 2021 10:42 AM
To: Morens, David (NIH/NIAID) [E] b6; Peter Daszak b6
Cc: b6; Sturchio, Jeff (b6) b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research
https://bit.ly/3iR7zHP

I love that picture of Tony. I'm attaching something Simone McCarthy just published in the S. China Morning Post. I discovered this morning that she had tried to get in touch with me the past two days, but I was focused on other things and not really looking at my inbox as I focused on my outbox. But she had something from my prior conversations with her to stick in there regarding the bad decisions at WHO regarding the investigation.

Jerry

From: Morens, David (NIH/NIAID) [E] b6
Sent: Wednesday, July 28, 2021 10:29 AM
To: Peter Daszak b6
Cc: Keusch, Gerald T b6; Sturchio, Jeff (b6) b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research
https://bit.ly/3iR7zHP

I wouldn't trust them either, given their history which I didn't know. I'll try to remember to copy Robert K, and ping me if I forget.

Many of these things come from our OD news sweeps, which go on 24-7. But they don't get anywhere near everything, as they are more interested in Ton's press coverage than science itself.

David

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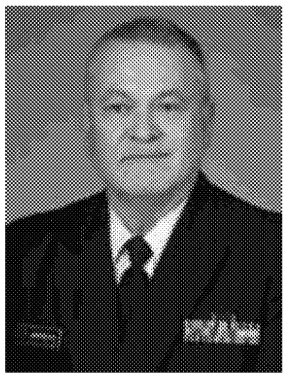
☎ b6 (assistant: Whitney Robinson)
301 496 4409
b6



From: Peter Daszak b6
Sent: Wednesday, July 28, 2021 10:10 AM
To: Morens, David (NIH/NIAID) [E] b6; Keusch, Jerry b6
Cc: Robert Kessler b6; Jeff Sturchio b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research
https://bit.ly/3iR7zHP

Thanks for sharing David. Please cc Robert Kessler in on these in case he also misses them. I'm also cc'ing Jeff Sturchio who's working with us to navigate the media attacks at the moment.

This reporter contacted me, and I refused to talk, even though I suspected he would do a decent job. I think I'm the person he says 'supports this sort of research but has been worn down by death threats'.

I actually like the tenor of the story – it's factually correct and points out the danger of people like Lipsitch and Ebright using a false premise to support their efforts to re-litigate 'gain of function'. It's good to see Lipsitch having to be factually correct here and agree that Rand Paul massively overstated their case!

One of the reasons I didn't speak with this reporter, by the way is that the journal (The Intercept) is one of the orgs that's FoIA'd 38 of EcoHealth's NIH grants and annual reports going back to 2001– just wasn't sure I could trust their motives!

Cheers,

Peter

Peter Daszak
President

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USA

Tel.: b6
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

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From: Morens, David (NIH/NIAID) [E] b6
Sent: Wednesday, July 28, 2021 9:55 AM
To: Peter Daszak (b6) b6 ; Keusch, Jerry (b6) b6
Subject: FW: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

David

David M. Morens, M.D.
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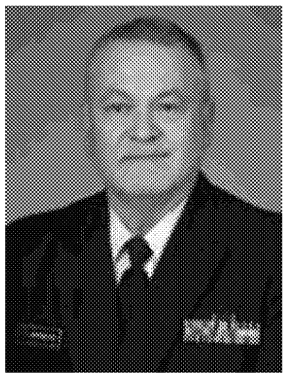
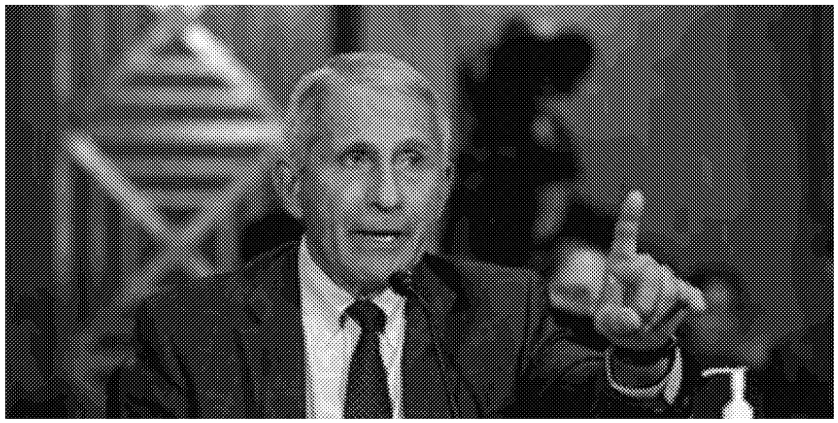
☎ b6 (assistant: Whitney Robinson)
301 496 4409
b6



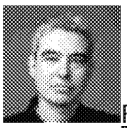
From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Tuesday, July 27, 2021 2:48 PM
Subject: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research
https://bit.ly/3iR7zHP



At a Senate hearing on July 20, 2021, Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, told Sen. Rand Paul that he resented the suggestion that he had lied to Congress. Photo: J. Scott Applewhite/Pool/AFP via Getty Images

Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research

By politicizing the debate over virus-modifying research, the senator has thrilled conservatives but discouraged scientists from weighing in.


Robert Mackey
July 27 2021, 10:14 a.m.

A decadelong debate over pandemic preparedness that has divided some of the world's leading biologists into opposing camps, for and against so-called gain-of-function research — in which deadly pathogens that could cause pandemics are artificially enhanced for study in the lab — has all but ground to a halt in the past week, thanks to Sen. Rand Paul.

That's because the Republican senator from Kentucky politicized the argument last week, by cherry-picking expert opinions from critics of the research who call it too risky to pursue, to publicly accuse Dr. Anthony Fauci of lying to Congress, when he said that his National Institute of Allergy and Infectious Diseases had never funded gain-of-function studies at the Wuhan Institute of Virology in China.

Paul's made-for-television broadside against Fauci thrilled Fox News hosts and colleagues like Rep. Jim Jordan, the Ohio Republican who has also pushed the debunked conspiracy theory that research financed by Fauci's agency, which some experts describe as gain-of-function, could have led to the development of SARS-CoV-2, the deadly coronavirus that causes the disease Covid-19, in the Wuhan lab. Fauci rejected Paul's claim that research carried out in Wuhan before 2017 with some support from the NIAID met the definition of gain-of-function and pointedly explained that it was impossible to make SARS-CoV-2 from the coronavirus used in that study.

Almost as soon as the heated exchange concluded, the senator's staff uploaded a truncated version of the video on his YouTube channel under the headline, "Dr. Fauci Caught Lying about NIH Funding in Wuhan."

That video was edited by Paul's staff so that it ends before Fauci responded to the senator's harangue by saying, "I totally resent the lie that you are now propagating, senator, because if you look at the viruses that were used in the experiments … it is molecularly impossible … to result in SARS-CoV-2."

On social networks, Republican operatives unconcerned with the facts — like Richard Grenell, the Twitter troll who served as Donald Trump's director of national intelligence for three months — cheered on Paul's attack.

But Paul's false claim that Fauci's supposed support for gain-of-function studies gave him "responsibility for 4 million people dying around the world from a pandemic," and the ensuing frenzy in the conservative media, also caused some previously outspoken biologists who have made the case against such experiments to fall silent.

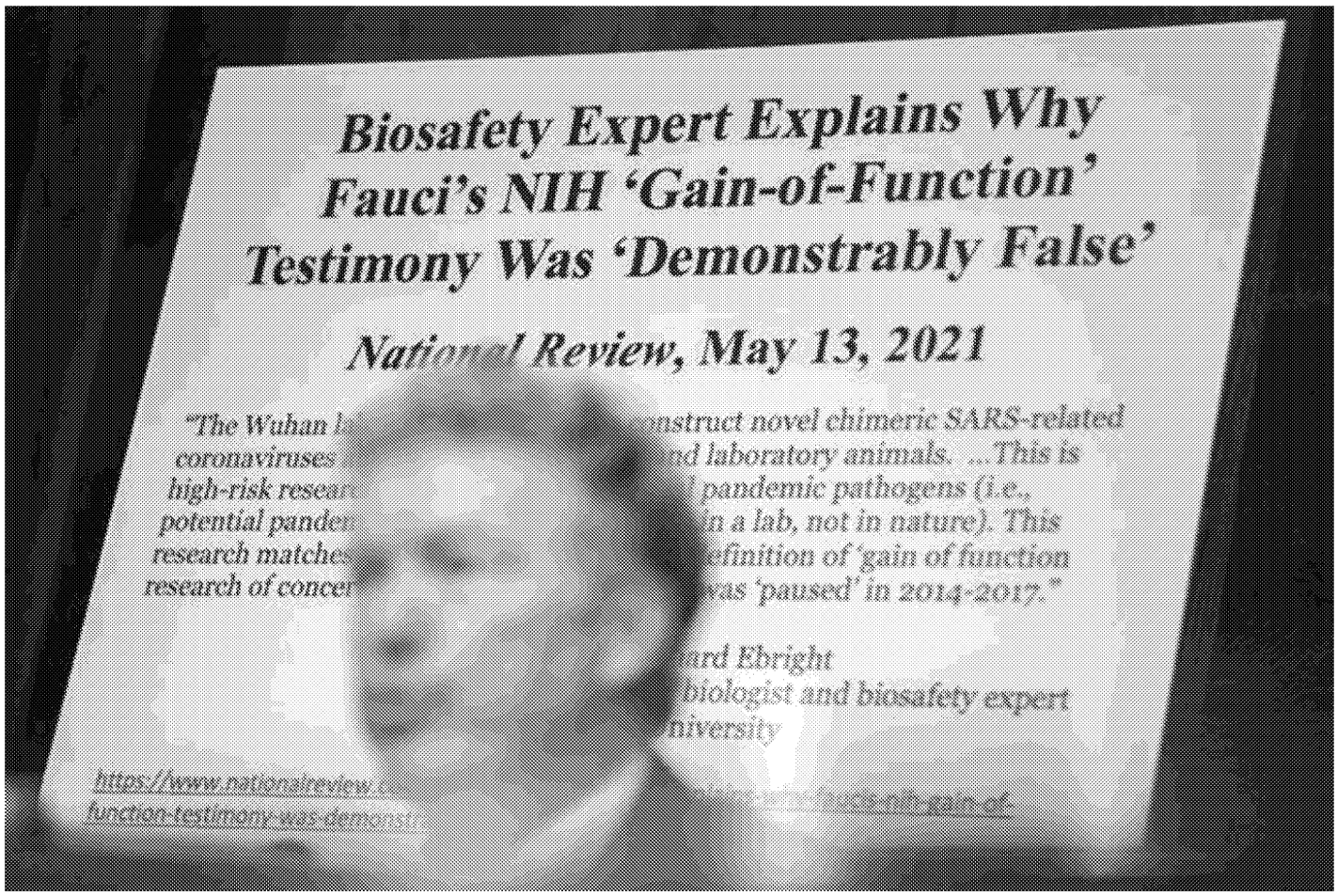
In the wake of Paul's attack on Fauci, several prominent scientists who question the wisdom and safety of gain-of-function experiments — in which biologists deliberately create pandemic-causing pathogens in the lab in order to better prepare to combat them should they evolve in nature — refused to speak to me on the record. One after another, they said Paul's patently false claim that Fauci was to blame for the pandemic, and his selective outrage at gain-of-function research only when conducted in China, made it all but impossible for them to say anything about the pre-pandemic experiments in Wuhan without being vilified by partisans.

One biologist who supports such research told me that he would have liked the opportunity to correct what he called misinformation about the experiments, but had been worn down by death threats.

To recap, at a hearing in May, Paul first accused Fauci of having supported gain-of-function research in Wuhan, which the senator, who is also a doctor, misleadingly defined as "experimenting to enhance the coronavirus's ability to infect humans." In fact, the coronavirus that researchers experimented on between 2014 and 2017 at the Wuhan Institute, with some financial support from the NIAID, was from a strain found in bats that is not closely enough related to SARS-CoV-2 to have been used to fabricate the virus that causes Covid-19 in a lab.

Fauci also insisted that his agency, which is part of the National Institutes of Health, had never funded gain-of-function research in Wuhan.

When Fauci returned to the senate committee last week, Paul confronted him with the words of Richard Ebright, a molecular biologist at Rutgers University and a longtime critic of gain-of-function studies, who told the conservative magazine National Review that Fauci's testimony in May was "demonstrably false," since, in Ebright's opinion, the experiments at the Wuhan Institute, indirectly funded by the NIAID as part of a project to head off a pandemic, were "unequivocally" gain-of-function in nature.



Sen. Rand Paul, a Kentucky Republican, used a visual aid to accuse Dr. Anthony Fauci of lying to Congress during a Senate Health, Education, Labor, and Pensions Committee hearing on July 20, 2021.

Photo: Stefani Reynolds-Pool/Getty Images

Fauci insisted that the biologist Paul cited was simply wrong, saying experts at the National Institutes of Health had evaluated the Wuhan project and concluded that the experiments there did not meet the criteria for gain-of-function research used by the United States government.

The exchange between Paul and Fauci got even more heated when the senator seemed to imply that this research funded by Fauci's agency could have led to the development of SARS-CoV-2, the deadly coronavirus that causes Covid-19, in the Wuhan lab.

As Fauci correctly noted, that speculation was wildly misleading, since it was "molecularly impossible" for the type of coronavirus used in the pre-2017 experiments to have been manipulated in the lab to create SARS-CoV-2.

On that point, even some of the most outspoken critics of gain-of-function research on potential pandemic pathogens agree with Fauci. Kevin Esvelt, an MIT biologist who told PolitiFact in May that the experiments conducted in the Wuhan study should be considered gain-of-function also emphasized that those experiments "definitely did NOT lead to the creation of SARS-CoV-2."

(Esvelt, who worries that viruses developed through gain-of-function experiments in a lab could one day be used as weapons, told "The Open Mind" on PBS in March that whether the virus that caused the Covid-19 pandemic came from an animal or came from a lab, "it was not designed to be a weapon — because anyone good enough to make this thing could make a more devastating weapon.")

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Paul was also rebuked in May by Marc Lipsitch, a microbiologist and professor of epidemiology at Harvard University who brought together hundreds of scientists and experts in law and ethics in 2014 to call for a moratorium on gain-of-function experiments that could create highly transmissible, novel strains of dangerous viruses in laboratories.

Lipsitch wrote in a Twitter thread that in his attack on Fauci in May, Paul had "FALSELY" claimed that the working group Lipsitch assembled had "characterized work at the Wuhan Institute of Virology as gain-of-function." While he and many members of the working group "support proper investigation of SARS-CoV-2 origins including the lab leak hypothesis and continue to oppose many forms of GOF research," he added, "it is just fabrication to say we have made any statement as a group about work in Wuhan."

Fauci did not get a chance to explain during the hearing what the scientific basis was for the determination by NIAID biologists that the experiments conducted at the Wuhan Institute of Virology, described in a paper published in 2017, were not subject to a temporary pause on the funding of gain-of-function research imposed during the Obama administration in 2014, which was lifted in 2017 after Trump became president.

But in a statement provided to The Intercept on Monday, NIAID explained the reasoning behind its review of the experiments conducted at the Wuhan Institute on behalf of EcoHealth Alliance, a nonprofit in New York that works with researchers in China to study viruses that have the potential to jump from bats to humans. The agency wrote that its scientists had concluded the pre-2017 experiments in Wuhan were not barred by the temporary pause on gain-of-function research, "because they were not reasonably expected to increase transmissibility or virulence of these viruses in humans."

"Under the grant, EcoHealth Alliance proposed research to create chimeric viruses by placing a small portion of newly identified, evolutionarily distant, bat coronaviruses into another well characterized bat coronavirus that has never been demonstrated to infect humans called WIV1," NIAID wrote. "The purpose of this work was to examine whether the newly discovered viruses were able to use the human ACE2 receptor like WIV1 and other SARS-related coronaviruses already do. In the context of these experiments, this well-characterized bat coronavirus would be considered the parental strain against which the function of the new chimeric viruses would be assessed. With this comparison, the newly created chimeric viruses did not gain any function relative to the parental strain; the chimeric viruses did not replicate in cell culture any better than the parental WIV1. In addition, research that had been published in peer-reviewed scientific journals demonstrated that viruses similar to those proposed under the grant had reduced pathogenicity as compared to the parental viruses. For these reasons, it was not reasonably anticipated that the viruses involved in research under the grant would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route, and therefore did not meet the criteria for gain-of-function research described in the research funding pause."

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From: Kevin Olival [b6]
Sent: 9/20/2021 1:55:27 AM
To: Morens, David (NIH/NIAID) [E] [b6]
[b6]
Subject: Re: Study from 2007 shows SARS-infected civets on farms in Hubei

Thanks David, means a lot to read your encouraging words! Let's keep on keeping on!

Kevin

Kevin J. Olival, PhD
Vice President for Research

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New York, NY 10018

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(mobile)
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www.ecohealthalliance.org

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

On Sep 19, 2021, at 5:33 PM, Morens, David (NIH/NIAID) [E] b6 wrote:

Kevin, for some reason i could not fix, outlook would not copy your email on this, so i sm sending sepatately. Great work!!!! david

Sent from my iPhone
David M Morens
OD, NIAID, NIH

Begin forwarded message:

From: "Morens, David (NIH/NIAID) [E]" b6
Date: September 19, 2021 at 17:31:50 EDT
To: Peter Daszak b6
Cc: "Garry, Robert F" b6, Wang Linfa b6
b6, Edward Holmes b6, Jason Gale
<j.gale@bloomberg.net>, Stephen Goldstein b6,
b6,
Robert Kessler b6, David Morens
b6
b6, HRSA OL <OL@hrsa.gov>
Subject: Re: Study from 2007 shows SARS-infected civets on farms in Hubei

nPeter, as i am perennially swamped with work that has nothing to do with COVID issues of importance, i am always catching up on reading the important stuff

Just now i poured a martini and-read word for word your "A strategy…" paper with first author Sánchez. Also Kevin and Lin-fa were coauthors. Wow!!!

This is dynamite and also beautifully written. I mean, Hemingway, Conrad, Nin, couldn't have written it better. Beautiful job and so important.

I think you need to promote this work, and emphasize that the conclusions are far reaching and a sort of call to arms.

Let us all keep pushing,
and keep our eyes on the
prize of getting to the bottom of it all
david

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Sep 18, 2021, at 12:05, Peter Daszak
b6
wrote:

I put it all in a twitter thread while drinking coffee in my local diner (Saturday is "full English breakfast" day for me).

https://twitter.com/peterdaszak/status/1439236376776658945?s=21

No doubt ill be attacked by multiple lab leak aficionados but so be it - at least eddie,
Garry and Kristian won't see. The horrors of that…

Cheers,

Peter

Peter Daszak
(Sent from my iPhone)

President
EcoHealth Alliance

460 West 34th Street, New York, NY10001, USA

www.EcoHealthAlliance.org

On Sep 18, 2021, at 10:26 AM, Garry, Robert F [b6] wrote:

Of course, the momentum on the lab leak side will continue, with books by Sharri Markison, Alina Chan/Matt Ridley, Op Eds that criticize scientists, 70+ FoIAs by one organization alone, many other FoIAs on their way, 900 pages of FoIA'd grants and reports from EHA/NIAID showing zero evidence of lab leak.

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From: Morens, David (NIH/NIAID) [E] [b6 b6]
Sent: 11/22/2021 12:21:24 PM
To: William B. Karesh [b6]
CC: Catherine Machalaba [b6]; Daniel Mira-Salama [b6]
BCC: Morens, David (NIH/NIAID) [E] [b6 b6]
Subject: Re: figure for World Bank report
Attachments: PastedGraphic-1.tiff

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

Let me know. My best to Peter and the gang. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh b6 wrote:

Dear David,

Hope this finds you well.

We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

Hope you have a great Thanksgiving, all the best,

Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

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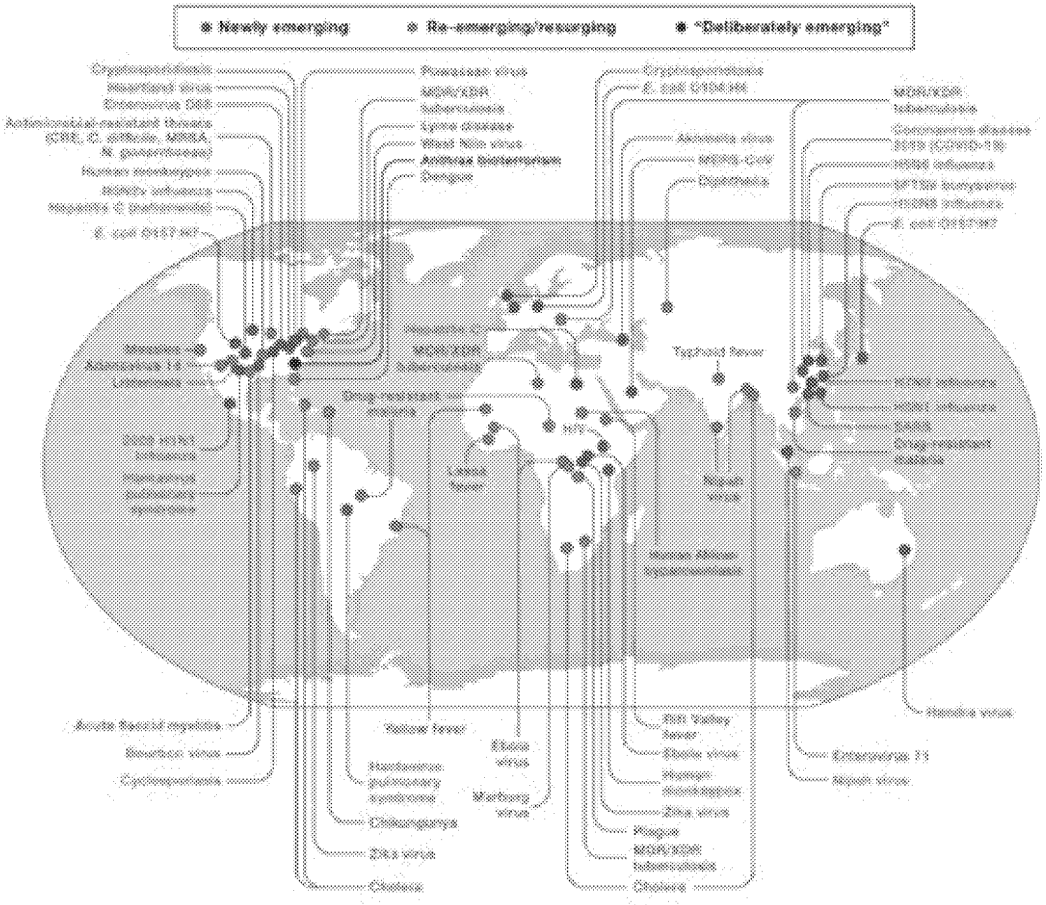
President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.



From: Morens, David (NIH/NIAID) [E] [b6 b6]
Sent: 9/19/2021 10:59:51 PM
To: Edward Holmes [b6]
CC: Jason Gale [j.gale@bloomberg.net]; Peter Daszak [b6]; b6; b6; Wang Linfa [b6]; Garry, Robert F [b6]; b6; Taubenberger, Jeffery (NIH/NIAID) [E] [b6 b6]
Subject: Re: Study from 2007 shows SARS-infected civets on farms in Hubei

Eddie, please clarify, i don't « get » all the phylogenetic asumptions you guys understand, but can you put it in lsyman's terms? As you know, i have said repeatedly to look past Yunnan to all of SE Asia, as i have bennunconconvinced of the Yunnan centrality of all this, suspecting thAt the universe of these viruses crosses borders to include not only SW and S China but all of SEA.

If that is so, the implications ate huge: this is annintetnational problem demanding international cooperation. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Sep 19, 2021, at 18:33, Edward Holmes [b6] wrote:

Yes, good idea.

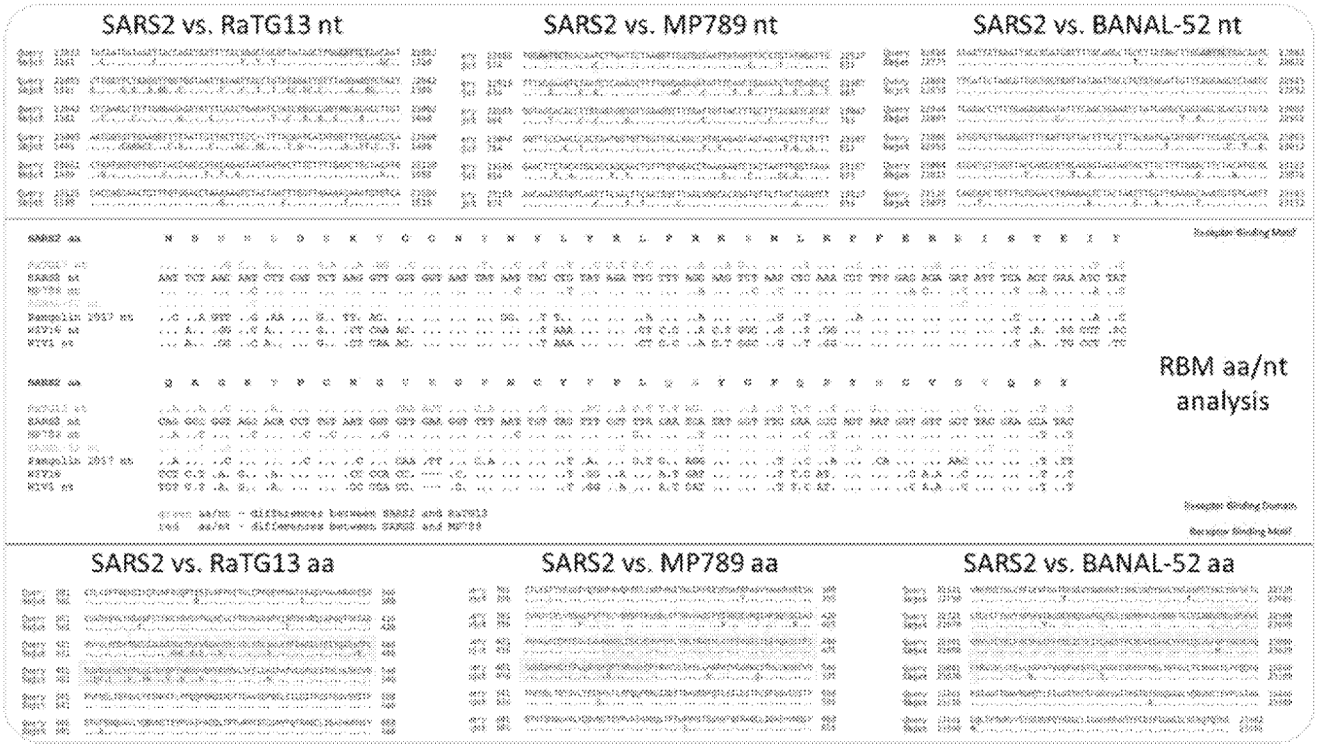
The receptor binding domain of some of these Laotian bats is so close to that of SARS-CoV-2 even some of the die-hard leakers are beginning to see the light…

This also effectively excludes that virus-receptor relationship was generated through lab passage, that the pangolin sequences were faked, and that this outbreak had anything to do with the Mojiang mine as a virus from a different country is now closer. That mine will go down in history as the reddest of herrings.

That said, I am a little worried about confirmation bias for the origin being bats from Yunnan/Laos/Cambodia. The more they find there, the more they sequence. But no doubt these Laotian samples are of huge significance. As are the Hubei civets.

Yuri Deigin
@ydeigin

Wow. On a nucleotide level the new Laotian RBD/RBM is MUCH closer to SARS2 than that of the pangolin CoV. A VERY important piece of the puzzle that essentially proves the RBM *itself* was not engineered but actually came from a bat CoV. Doesn't rule out a lab leak/passaging etc.



2:26 PM · Sep 19, 2021 · Twitter Web App

11 Retweets **5** Quote Tweets **59** Likes

--

PROFESSOR EDWARD C. HOLMES FAA FRS
ARC Australian Laureate Fellow

THE UNIVERSITY OF SYDNEY
Marie Bashir Institute for Infectious Diseases & Biosecurity,

School of Life & Environmental Sciences and School of Medical Sciences,
The University of Sydney | Sydney | NSW | 2006 | Australia
T
E b6

On 20 Sep 2021, at 7:52 am, Morens, David (NIH/NIAID) [E]
b6 wrote:

Yes, do it! This is important and i say modestly, game changing. The whole « origin » controversy needs to be rethought from the ground up

We have been too micro-focusing (as i have long said to hard push back) but the sarobecovirus and merbecovirus problems are geographically and virologically complex and require us to drop back and study the viral-host universe. Thst universe is huge, complicated , and holds surprises, in my view. d

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Sep 19, 2021, at 17:36, Jason Gale (BLOOMBERG/ NEWSROOM:) <j.gale@bloomberg.net> wrote:

I'm planning to pull the threads Peter has so eloquently laid out into a story. Bob, Stephen, Joel (and Kristian), if you have time/interest to get on Zoom today, let me know. Thanks a lot. Jason

From: b6 At: 09/20/21 07:31:51 UTC+10:00
To: b6
Cc: Jason Gale (BLOOMBERG/ NEWSROOM:) ,

b6

Subject: Re: Study from 2007 shows SARS-infected civets on farms in Hubei

nPeter, as i am perennially swamped with work that has nothing to do with COVID issues of importance, i am always catching up on reading the important stuff

Just now i poured a martini and-read word for word your “A strategy…” paper with first author Sánchez. Also Kevin and Lin-fa were coauthors. Wow!!!

This is dynamite and also beautifully written. I mean, Hemingway, Conrad, Nin, couldn’t have written it better. Beautiful job and so important.

I think you need to promote this work, and emphasize that the conclusions are far reaching and a sort of call to arms.

Let us all keep pushing,
and keep our eyes on the
prize of getting to the bottom of it all
david

Sent from my iPhone
David M Morens
OD, NIAID, NIH

> On Sep 18, 2021, at 12:05, Peter Daszak
> **b6**
> wrote:
>
> I put it all in a twitter thread while drinking coffee in my local diner (Saturday is “full English breakfast” day for me).
>
> https://twitter.com/peterdaszak/status/1439236376776658945?s=21
>
> No doubt ill be attacked by multiple lab leak aficionados but so be it - at least eddie, Garry and Kristian won’t see. The horrors of that…
>
> Cheers,
>
> Peter

Peter Daszak
(Sent from my iPhone)

President
EcoHealth Alliance

460 West 34th Street, New York,
NY10001, USA

www.EcoHealthAlliance.org

On Sep 18, 2021, at 10:26 AM, Garry, Robert F
b6
b6 wrote:

Of course, the momentum on the lab leak side will continue, with books by Sharri Markison, Alina Chan/Matt Ridley, Op Eds that criticize scientists, 70+ FoIAs by one organization alone, many other FoIAs on their way, 900 pages of FoIA'd grants and reports from EHA/NIAID showing zero evidence of lab leak.

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From: Morens, David (NIH/NIAID) [E] [b6]
[b6]]
Sent: 12/2/2021 6:46:31 PM
To: Kevin Olival ([b6]) [[b6]]
Subject: FW: Branswell 2021 reference from my EndNote library -- Some experts suggest Omicron variant may have evolved in an animal host
Attachments: Branswell-2021-Some experts suggest Omicron va.pdf

Kevin, any thoughts?

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ [b6] (assistant: Whitney Robinson)
301 496 4409
[b6]

From: Ksiazek, Thomas G. [b6]
Sent: Thursday, December 2, 2021 1:35 PM

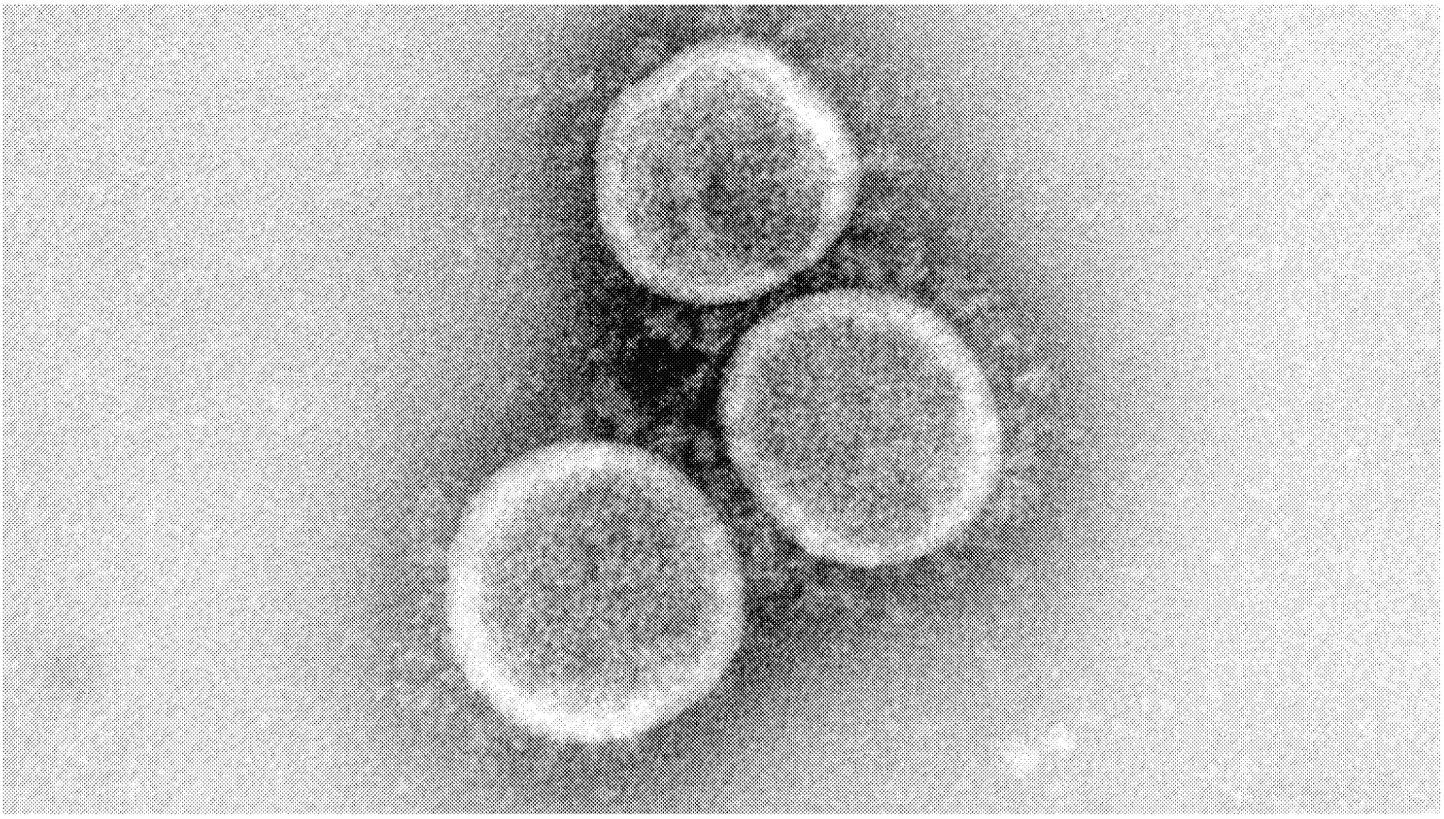
To: Ksiazek, Thomas (Galveston National Labortory-UT) b6
Subject: Branswell 2021 reference from my EndNote library -- Some experts suggest Omicron variant may have evolved in an animal host

Branswell H. (2021, 20211202). **Some experts suggest Omicron variant may have evolved in an animal host.** Stat Retrieved 1202, 2021,

https://www.statnews.com/2021/12/02/some-experts-suggest-omicron-variant-may-have-evolved-in-an-animal-host/

Some experts suggest Omicron variant may have evolved in an animal host

By Helen Branswell[1] [2] Dec. 2, 2021



Transmission electron micrograph of SARS-CoV-2 virus particles. *NIAID/NIH*

When Covid-19 variants arise, the accepted wisdom is that the constellation of mutations they contain developed in an immunocompromised person who contracted the virus and couldn't shake the infection. But some scientists have an alternative theory for where the latest variant of concern, Omicron, may have acquired the unusual mutations that stud its spike protein.

They speculate the virus could have evolved in another animal species.

The theory goes that some type of animal, potentially rodents, was infected with the SARS-CoV-2 virus sometime in mid-2020. In this new species, the virus evolved, accumulating roughly 50 mutations on the spike protein before spilling back over into people.

Kristian Andersen, an immunologist at the Scripps Research Institute, is among those who has been raising the idea that Omicron may have emerged from a reverse zoonotic event.

(A zoonotic event is when an animal pathogen starts to infect and spread among people. A reverse zoonosis is when such a virus passes back into an animal species.)

"I know that most people think that these [come from] immunocompromised individuals, and I do think that that's plausible, but to be perfectly honest, I actually think this reverse zoonosis followed by new zoonosis seems more likely to me given just the available evidence of the really deep branch, and then the mutations themselves, because some of them are quite unusual," Andersen told STAT.

"I don't think we should dismiss that possibility, because I think it's definitely on the table."

A number of other scientists who study the evolution of viruses have told STAT they think the idea isn't out of the question. Some place more weight on the theory that variants develop in immunocompromised people, while others feel there isn't enough evidence at this point to favor one option over the other.

"Personally, I think it's probably more likely it was circulating undetected, in an immunocompromised individual," Emma Hodcroft, a molecular epidemiologist at the Institute of Social and Preventive Medicine in Bern,

Switzerland, said via email. Having said that, though, Hodcroft insisted that it is important to explore the hypothesis.

"I would certainly consider it a plausible alternative hypothesis to the evolution during a persistent infection in a human," said Andrew Rambaut, a professor of molecular evolution at the Institute of Evolutionary Biology in Edinburgh. He cautioned that coming up with a definitive answer won't be quick.

"I am not sure we will be in a position to say for sure for a while," Rambaut wrote in an email.

One of the peculiar traits of SARS-2 underpins this thinking. It is what virologists describe as a promiscuous virus; it is capable of infecting a number of species[5]. Dogs and house cats. Large cats. Mink[6]. White-tailed deer[7]. Given how easily the virus seems to jump from species to species, people studying it assume this list will grow.

The original virus that came out of Wuhan, China, in early 2020 did not infect rodents. But as variants — Alpha, Beta, Delta — started to emerge, those viruses could infect rodents.

Robert Garry, a professor of microbiology and immunology at Tulane Medical School, has been tracking the SARS-2 mutations that have arisen. Seven are associated with rodent adaptation — the changes that seemed to allow the virus to infect mice, rats, and related species. All seven of those mutations are in Omicron, Garry noted. He believes it's a toss-up whether the variant developed in an animal or a human host, but if it's the former, his bet would be on rodents.

Getting a firm answer might require enormous luck. Scientists are looking at various animal species to see if they can be infected with SARS-2; were they to find viruses like Omicron in any, that would swing the needle.

But Michael Worobey, a professor of evolutionary biology at the University of Arizona, thinks one could do some experiments on selected species of wild animals to see if they can be infected and if, when infected, similar patterns of viral evolution occur.

Studying the molecular clock of viruses that spread in animals — looking at the speed at which they evolve and comparing it to SARS-2 evolution in humans — could also provide some clues, said Worobey, who initially thought Andersen's idea was not impossible, but not the likeliest of explanations for Omicron. After hearing details of the explosive outbreak in white-tailed deer, he's rethinking the idea.

For Worobey, the question is whether any animal species can become chronically infected with SARS-2 — in effect, whether there are animal species in which SARS-2 lingers in the way it does in immunocompromised people. That could put positive selective pressure on the virus — in other words give it an incentive to mutate to stay ahead of the animal's immune response.

"It does move my thinking in terms of Omicron possibly having come from a reservoir, if there are [animal] reservoirs that do chronic infections," he said.

Part of what leads Andersen to wonder about an animal source is the fact that the variant traces back to viruses that were spreading over a year ago. "That in itself you need to be able to explain," he said.

Angela Rasmussen, a coronavirus virologist at the University of Saskatchewan's Vaccine and Infectious Disease Organization, agreed.

"I think it's pretty obvious to everybody … that this virus has been on an independent evolutionary track for quite some time and it's very surprising, which to me just kind of goes back to say well, the idea that this could be … plausible," she said.

Regardless of whether this variant emerged in another species or not, given SARS-2's ability to jump species, it is possible the world will face animal-derived variants in the future, Garry warned. The upshot of that? "We're going to have to keep tweaking the vaccines."

About the Author

Helen Branswell[1]

Senior Writer, Infectious Disease

Helen covers issues broadly related to infectious diseases, including outbreaks, preparedness, research, and vaccine development.

@HelenBranswell [2]

7 Comments

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11. https://www.statnews.com/topic/infectious-disease/

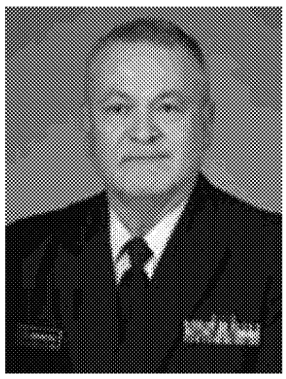
From: Morens, David (NIH/NIAID) [E] [b6] ([b6])
Sent: 11/22/2021 4:23:48 PM
To: William B. Karesh [b6]
CC: Catherine Machalaba [b6]; Daniel Mira-Salama [b6]
Subject: RE: figure for World Bank report
Attachments: Figure 1 11-22-2021.tif

Billy, this is our updated version of what I just sent, made in June 2021. Let me know if this big file gets through to all.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ b6 (assistant: Whitney Robinson)
301 496 4409
b6



From: William B. Karesh b6
Sent: Monday, November 22, 2021 7:27 AM
To: Morens, David (NIH/NIAID) [E] b6
Cc: Catherine Machalaba b6 ; Daniel Mira-Salama b6
Subject: Re: figure for World Bank report

Thanks David !!!

If you could share the original with the three of us, Daniel can check to see if it will serve the purpose.

Thanks again,

Billy

On Nov 22, 2021, at 7:21 AM, Morens, David (NIH/NIAID) [E] b6 wrote:

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

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Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh b6 wrote:

Dear David,

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Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

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President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission - Wildlife Health Specialist Group

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation.

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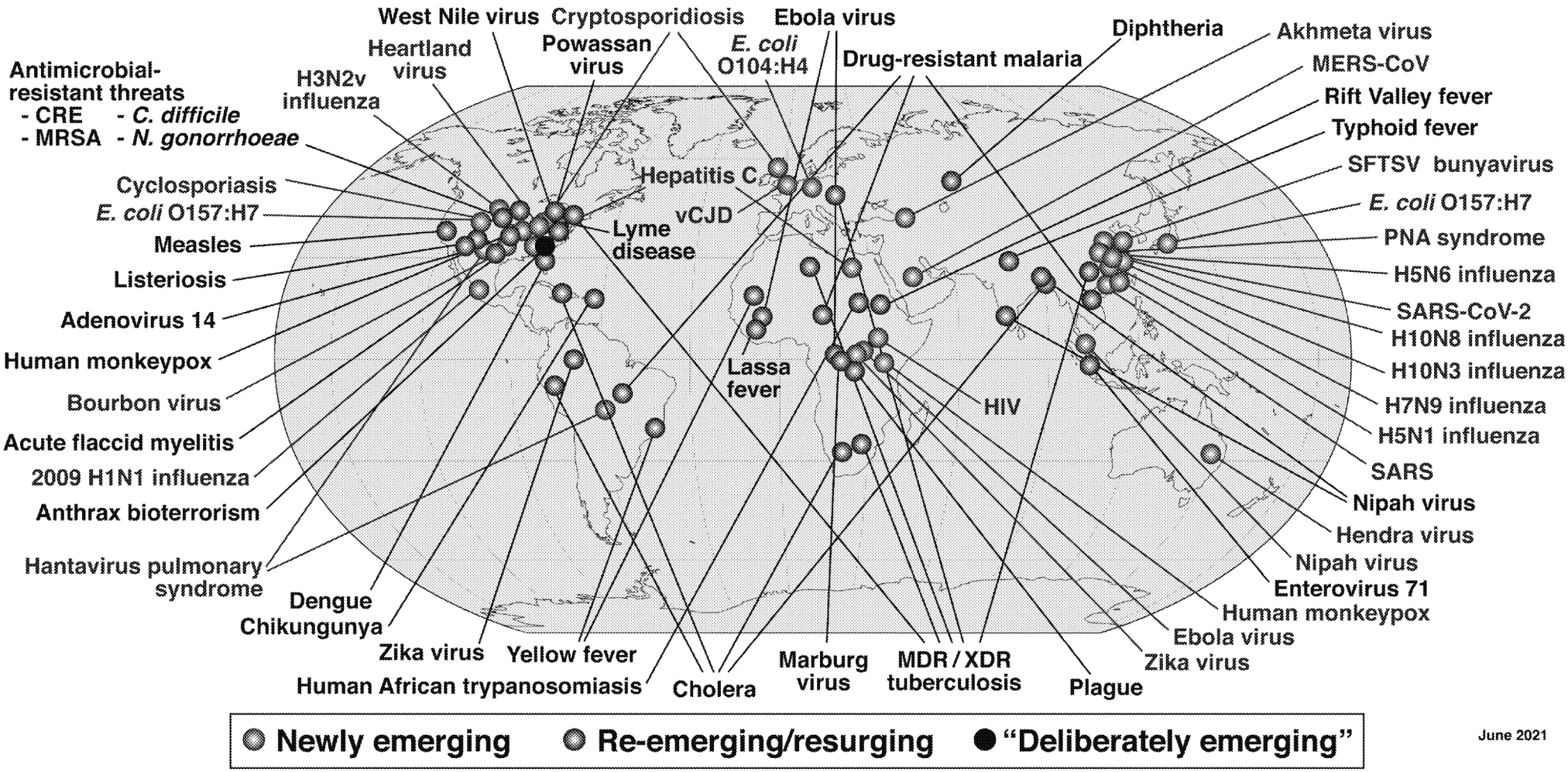


NIH-57707-002193

REL0000237394.0001

From: Peter Daszak [b6]
Sent: 7/28/2021 2:36:06 PM
To: Morens, David (NIH/NIAID) [E] [b6]
[b6]
CC: Keusch, Jerry [b6]]; Robert Kessler [b6]]; Sturchio, Jeff [b6]]
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

That said – the Intercept story provides the fullest explanation yet of why this is not considered Gain of function (P3CO) relevant by NIH:

Fauci did not get a chance to explain during the hearing what the scientific basis was for the determination by NIAID biologists that the experiments conducted at the Wuhan Institute of Virology, described in a paper published in 2017, were not subject to a temporary pause on the funding of gain-of-function research imposed during the Obama administration in 2014, which was lifted in 2017 after Trump became president.

But in a statement provided to The Intercept on Monday, NIAID explained the reasoning behind its review of the experiments conducted at the Wuhan Institute on behalf of EcoHealth Alliance, a nonprofit in New York that works with researchers in China to study viruses that have the potential to jump from bats to humans. The agency wrote that its scientists had concluded the pre-2017 experiments in Wuhan were not barred by the temporary pause on gain-of-function research, "because they were not reasonably expected to increase transmissibility or virulence of these viruses in humans."

"Under the grant, EcoHealth Alliance proposed research to create chimeric viruses by placing a small portion of newly identified, evolutionarily distant, bat coronaviruses into another well characterized bat coronavirus that has never been demonstrated to infect humans called WIV1," NIAID wrote. "The purpose of this work was to examine whether the newly discovered viruses were able to use the human ACE2 receptor like WIV1 and other SARS-related coronaviruses already do. In the context of these experiments, this well-characterized bat coronavirus would be considered the parental strain against which the function of the new chimeric viruses would be assessed. With this comparison, the newly created chimeric viruses did not gain any function relative to the parental strain; the chimeric viruses did not replicate in cell culture any better than the parental WIV1. In addition, research that had been published in peer-reviewed scientific journals demonstrated that viruses similar to those proposed under the grant had reduced pathogenicity as compared to the parental viruses. For these reasons, it was not reasonably anticipated that the viruses involved in research under the grant would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route, and therefore did not meet the criteria for gain-of-function research described in the research funding pause."

Cheers,

Peter

Peter Daszak
President

EcoHealth Alliance
520 Eighth Avenue, Suite 1200
New York, NY 10018-6507
USA

Tel.: b6
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E] b6
Sent: Wednesday, July 28, 2021 10:29 AM
To: Peter Daszak b6
Cc: Keusch, Jerry (b6) b6 Sturchio, Jeff (b6) b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

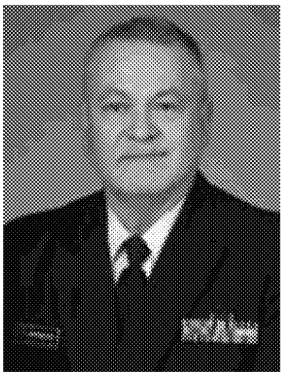
I wouldn't trust them either, given their history which I didn't know. I'll try to remember to copy Robert K, and ping me if I forget.

Many of these things come from our OD news sweeps, which go on 24-7. But they don't get anywhere near everything, as they are more interested in Ton's press coverage than science itself.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520

☎ b6 (assistant: Whitney Robinson)
301 496 4409
b6



From: Peter Daszak b6
Sent: Wednesday, July 28, 2021 10:10 AM
To: Morens, David (NIH/NIAID) [E] b6; Keusch, Jerry b6
Cc: Robert Kessler b6; Jeff Sturchio b6
Subject: RE: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

Thanks for sharing David. Please cc Robert Kessler in on these in case he also misses them. I'm also cc'ing Jeff Sturchio who's working with us to navigate the media attacks at the moment.

This reporter contacted me, and I refused to talk, even though I suspected he would do a decent job. I think I'm the person he says 'supports this sort of research but has been worn down by death threats'.

I actually like the tenor of the story – it's factually correct and points out the danger of people like Lipsitch and Ebright using a false premise to support their efforts to re-litigate 'gain of function'. It's good to see Lipsitch having to be factually correct here and agree that Rand Paul massively overstated their case!

One of the reasons I didn't speak with this reporter, by the way is that the journal (The Intercept) is one of the orgs that's FoIA'd 38 of EcoHealth's NIH grants and annual reports going back to 2001– just wasn't sure I could trust their motives!

Cheers,

Peter

Peter Daszak

President

EcoHealth Alliance
520 Eighth Avenue, Suite 1200
New York, NY 10018-6507
USA

Tel.: b6
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E] b6
Sent: Wednesday, July 28, 2021 9:55 AM
To: Peter Daszak (b6) b6 ; Keusch, Jerry (b6) b6
Subject: FW: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research https://bit.ly/3iR7zHP

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
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National Institutes of Health
Building 31, Room 7A-03
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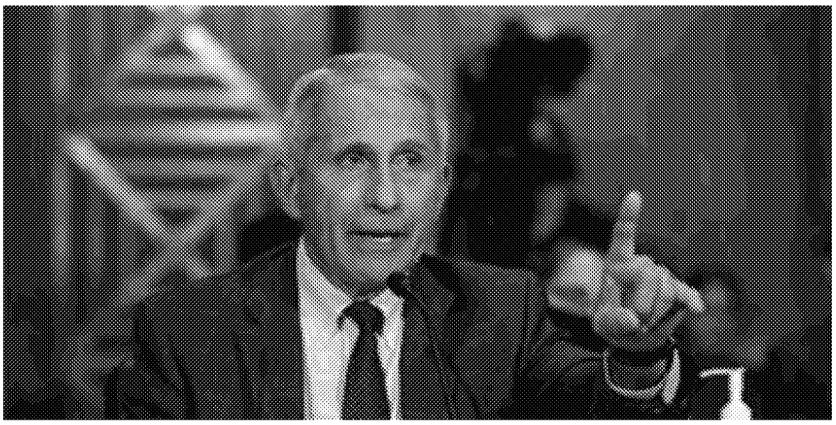
Bethesda, MD 20892-2520

☎ b6 (assistant: Whitney Robinson)
301 496 4409
b6

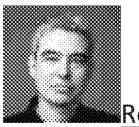
From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Tuesday, July 27, 2021 2:48 PM
Subject: The Intercept: Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research
https://bit.ly/3iR7zHP



At a Senate hearing on July 20, 2021, Dr. Anthony Fauci, director of the National Institute of Allergy and Infectious Diseases, told Sen. Rand Paul that he resented the suggestion that he had lied to Congress. Photo: J. Scott Applewhite/Pool/AFP via Getty Images

Rand Paul's Attack on Anthony Fauci Chills Scientific Debate Over Gain-of-Function Research

By politicizing the debate over virus-modifying research, the senator has thrilled conservatives but discouraged scientists from weighing in.


Robert Mackey
July 27 2021, 10:14 a.m.

A decadelong debate over pandemic preparedness that has divided some of the world's leading biologists into opposing camps, for and against so-called gain-of-function research — in which deadly pathogens that could cause pandemics are artificially enhanced for study in the lab — has all but ground to a halt in the past week, thanks to Sen. Rand Paul.

That's because the Republican senator from Kentucky politicized the argument last week, by cherry-picking expert opinions from critics of the research who call it too risky to pursue, to publicly accuse Dr. Anthony Fauci of lying to Congress, when he said that his National Institute of Allergy and Infectious Diseases had never funded gain-of-function studies at the Wuhan Institute of Virology in China.

Paul's made-for-television broadside against Fauci thrilled Fox News hosts and colleagues like Rep. Jim Jordan, the Ohio Republican who has also pushed the debunked conspiracy theory that research financed by Fauci's agency, which some experts describe as gain-of-function, could have led to the development of SARS-CoV-2, the deadly coronavirus that causes the disease Covid-19, in the Wuhan lab. Fauci rejected Paul's claim that research carried out in Wuhan before 2017 with some support from the NIAID met the definition of gain-of-function and pointedly explained that it was impossible to make SARS-CoV-2 from the coronavirus used in that study.

Almost as soon as the heated exchange concluded, the senator's staff uploaded a truncated version of the video on his YouTube channel under the headline, "Dr. Fauci Caught Lying about NIH Funding in Wuhan."

That video was edited by Paul's staff so that it ends before Fauci responded to the senator's harangue by saying, "I totally resent the lie that you are now propagating, senator, because if you look at the viruses that were used in the experiments … it is molecularly impossible … to result in SARS-CoV-2."

On social networks, Republican operatives unconcerned with the facts — like Richard Grenell, the Twitter troll who served as Donald Trump's director of national intelligence for three months — cheered on Paul's attack.

But Paul's false claim that Fauci's supposed support for gain-of-function studies gave him "responsibility for 4 million people dying around the world from a pandemic," and the ensuing frenzy in the conservative media, also caused some previously outspoken biologists who have made the case against such experiments to fall silent.

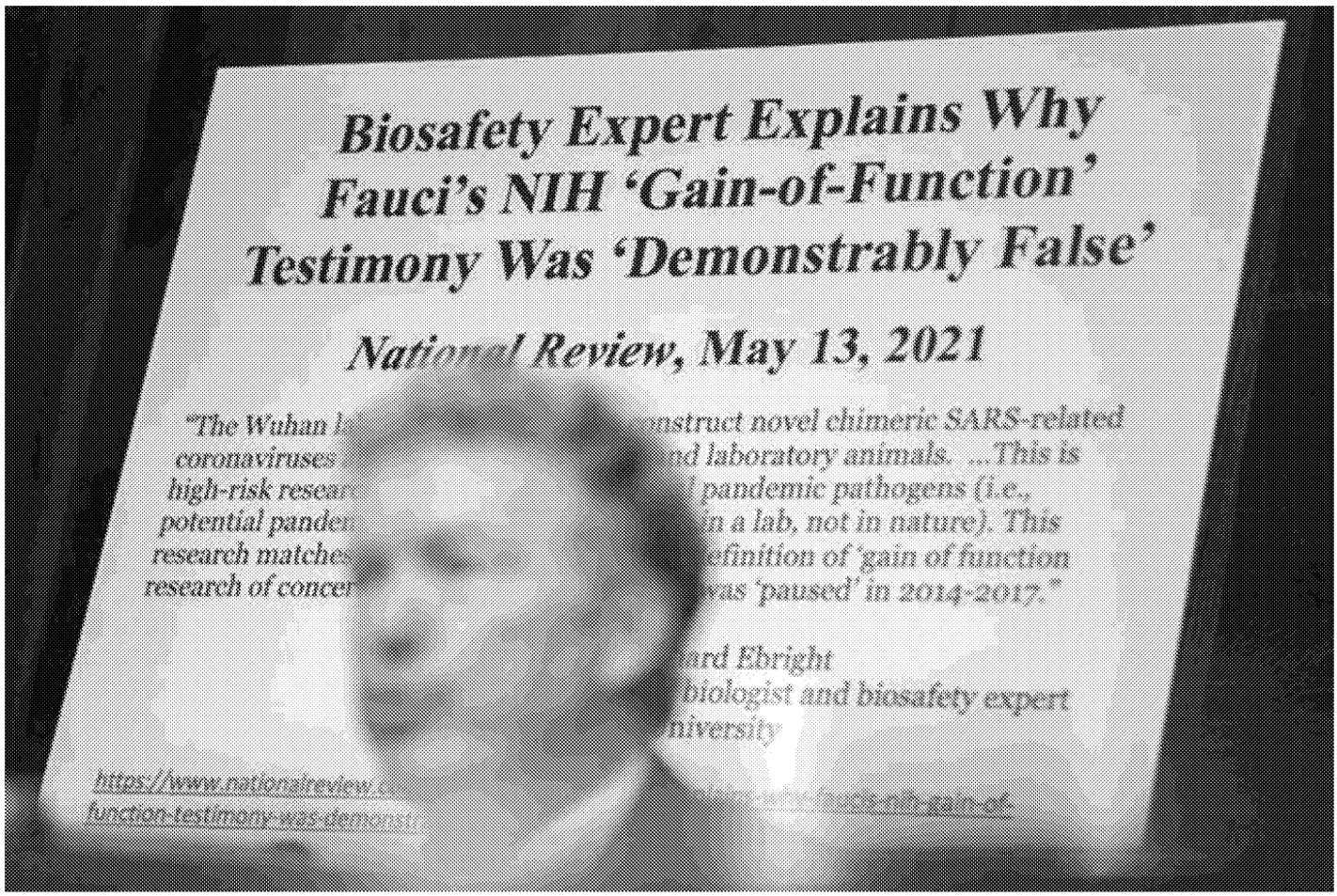
In the wake of Paul's attack on Fauci, several prominent scientists who question the wisdom and safety of gain-of-function experiments — in which biologists deliberately create pandemic-causing pathogens in the lab in order to better prepare to combat them should they evolve in nature — refused to speak to me on the record. One after another, they said Paul's patently false claim that Fauci was to blame for the pandemic, and his selective outrage at gain-of-function research only when conducted in China, made it all but impossible for them to say anything about the pre-pandemic experiments in Wuhan without being vilified by partisans.

One biologist who supports such research told me that he would have liked the opportunity to correct what he called misinformation about the experiments, but had been worn down by death threats.

To recap, at a hearing in May, Paul first accused Fauci of having supported gain-of-function research in Wuhan, which the senator, who is also a doctor, misleadingly defined as "experimenting to enhance the coronavirus's ability to infect humans." In fact, the coronavirus that researchers experimented on between 2014 and 2017 at the Wuhan Institute, with some financial support from the NIAID, was from a strain found in bats that is not closely enough related to SARS-CoV-2 to have been used to fabricate the virus that causes Covid-19 in a lab.

Fauci also insisted that his agency, which is part of the National Institutes of Health, had never funded gain-of-function research in Wuhan.

When Fauci returned to the senate committee last week, Paul confronted him with the words of Richard Ebright, a molecular biologist at Rutgers University and a longtime critic of gain-of-function studies, who told the conservative magazine National Review that Fauci's testimony in May was "demonstrably false," since, in Ebright's opinion, the experiments at the Wuhan Institute, indirectly funded by the NIAID as part of a project to head off a pandemic, were "unequivocally" gain-of-function in nature.



Sen. Rand Paul, a Kentucky Republican, used a visual aid to accuse Dr. Anthony Fauci of lying to Congress during a Senate Health, Education, Labor, and Pensions Committee hearing on July 20, 2021.

Photo: Stefani Reynolds-Pool/Getty Images

Fauci insisted that the biologist Paul cited was simply wrong, saying experts at the National Institutes of Health had evaluated the Wuhan project and concluded that the experiments there did not meet the criteria for gain-of-function research used by the United States government.

The exchange between Paul and Fauci got even more heated when the senator seemed to imply that this research funded by Fauci's agency could have led to the development of SARS-CoV-2, the deadly coronavirus that causes Covid-19, in the Wuhan lab.

As Fauci correctly noted, that speculation was wildly misleading, since it was "molecularly impossible" for the type of coronavirus used in the pre-2017 experiments to have been manipulated in the lab to create SARS-CoV-2.

On that point, even some of the most outspoken critics of gain-of-function research on potential pandemic pathogens agree with Fauci. Kevin Esvelt, an MIT biologist who told PolitiFact in May that the experiments conducted in the Wuhan study should be considered gain-of-function also emphasized that those experiments "definitely did NOT lead to the creation of SARS-CoV-2."

(Esvelt, who worries that viruses developed through gain-of-function experiments in a lab could one day be used as weapons, told "The Open Mind" on PBS in March that whether the virus that caused the Covid-19 pandemic came from an animal or came from a lab, "it was not designed to be a weapon — because anyone good enough to make this thing could make a more devastating weapon.")

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Paul was also rebuked in May by Marc Lipsitch, a microbiologist and professor of epidemiology at Harvard University who brought together hundreds of scientists and experts in law and ethics in 2014 to call for a moratorium on gain-of-function experiments that could create highly transmissible, novel strains of dangerous viruses in laboratories.

Lipsitch wrote in a Twitter thread that in his attack on Fauci in May, Paul had "FALSELY" claimed that the working group Lipsitch assembled had "characterized work at the Wuhan Institute of Virology as gain-of-function." While he and many members of the working group "support proper investigation of SARS-CoV-2 origins including the lab leak hypothesis and continue to oppose many forms of GOF research," he added, "it is just fabrication to say we have made any statement as a group about work in Wuhan."

Fauci did not get a chance to explain during the hearing what the scientific basis was for the determination by NIAID biologists that the experiments conducted at the Wuhan Institute of Virology, described in a paper published in 2017, were not subject to a temporary pause on the funding of gain-of-function research imposed during the Obama administration in 2014, which was lifted in 2017 after Trump became president.

But in a statement provided to The Intercept on Monday, NIAID explained the reasoning behind its review of the experiments conducted at the Wuhan Institute on behalf of EcoHealth Alliance, a nonprofit in New York that works with researchers in China to study viruses that have the potential to jump from bats to humans. The agency wrote that its scientists had concluded the pre-2017 experiments in Wuhan were not barred by the temporary pause on gain-of-function research, "because they were not reasonably expected to increase transmissibility or virulence of these viruses in humans."

"Under the grant, EcoHealth Alliance proposed research to create chimeric viruses by placing a small portion of newly identified, evolutionarily distant, bat coronaviruses into another well characterized bat coronavirus that has never been demonstrated to infect humans called WIV1," NIAID wrote. "The purpose of this work was to examine whether the newly discovered viruses were able to use the human ACE2 receptor like WIV1 and other SARS-related coronaviruses already do. In the context of these experiments, this well-characterized bat coronavirus would be considered the parental strain against which the function of the new chimeric viruses would be assessed. With this comparison, the newly created chimeric viruses did not gain any function relative to the parental strain; the chimeric viruses did not replicate in cell culture any better than the parental WIV1. In addition, research that had been published in peer-reviewed scientific journals demonstrated that viruses similar to those proposed under the grant had reduced pathogenicity as compared to the parental viruses. For these reasons, it was not reasonably anticipated that the viruses involved in research under the grant would have enhanced pathogenicity and/or transmissibility in mammals via the respiratory route, and therefore did not meet the criteria for gain-of-function research described in the research funding pause."

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From: Peter Daszak [b6]
Sent: 9/5/2021 4:03:27 PM
To: Morens, David (NIH/NIAID) [E] [b6] ([b6]); Robert Kessler [[b6]]; Keusch, Jerry [[b6]]
Subject: RE: Times, UK: How US cash funded Wuhan lab dealing in deadly viruses

Pure unadulterated BS – the cables from Bill Switzer were lauding our research and the whole trip was set up to increase intl. collaboration. Disingenuous innuendo-filled reporting as usual. Book written by a hard right reporter who's cashing in on this conspiracy.

It's also BS to claim that international researchers weren't welcome. When Zhengli Shi spoke at the Nipah meeting in Singapore in early Dec. 2019, she openly advertised for intl. scientists to apply to WIV to work there.

Cheers,

Peter

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President

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EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E] b6
Sent: Sunday, September 5, 2021 11:15 AM
To: Peter Daszak ([b6]) [b6]; Kessler, Robert ([b6]) [b6]; Keusch, Jerry ([b6]) b6
Subject: FW: Times, UK: How US cash funded Wuhan lab dealing in deadly viruses

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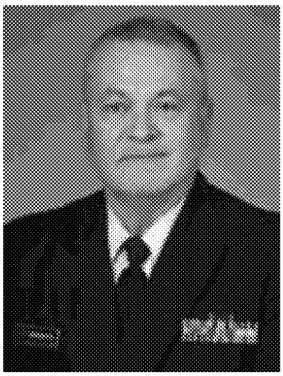


From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Saturday, September 4, 2021 6:27 PM
To: NIAID COGCORE <COGCORE@mail.nih.gov>; NIAID OCGR Leg <NIAIDOCGRLeg@mail.nih.gov>; NIAID OD AM <NIAIDODAM@niaid.nih.gov>
Subject: Times, UK: How US cash funded Wuhan lab dealing in deadly viruses

CORONAVIRUS | BOOK EXTRACT

How US cash funded Wuhan lab dealing in deadly viruses

Controversial research to make diseases more potent was backed by Dr Anthony Fauci, chief medical adviser to the White House, reveals a new book on the cover-ups and conspiracies of the pandemic

The scientist Shi Zhengli was well known for sampling thousands of bats in her role as director of the emerging infectious diseases centre at the Wuhan Institute of Virology
CHINATOPIX VIA AP
Sharri Markson
Saturday September 04 2021, 12.01am BST, The Times

It's late March 2018 and the US career diplomat Rick Switzer has just flown home to Beijing after a trip to Wuhan. Along with his colleague Jamie Fouss, the US consul-general in Wuhan, he'd led a delegation of American environmental, science, technology and health consular staff to inspect the Wuhan Institute of Virology, where he'd met Shi Zhengli, the "batwoman".

It was two years before a pandemic would arise from that very city — perhaps even that very laboratory — and he was deeply concerned about what he saw during his visit. The consular official at the US embassy in Beijing tapped out a "sensitive but unclassified" cable to send back to the State Department. He needed to let Washington know just what was going on inside China's new level-4 biocontainment facility dealing with the world's deadliest and most contagious pathogens. The cable warned of poor safety practices at the laboratory.

Switzer pressed send on the cable two weeks later, on April 19, 2018, with the subject line: "China Virus Institute Welcomes More US Co-operation on Global Health Security". It was an unusual choice of email subject, because the contents of his cable outlined how the opposite was true. The laboratory, built on the condition of international collaboration, was severely limiting the number of international researchers who could work inside its walls.

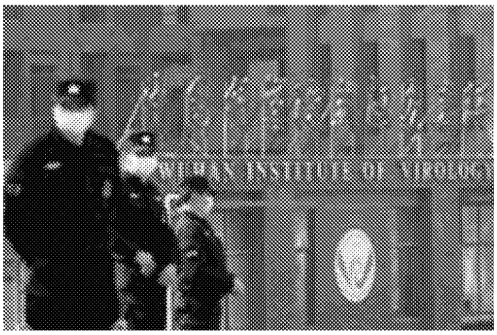
The Wuhan Institute of Virology level-4 lab had originally been built in conjunction with the Jean Mérieux BSL-4 Laboratory in Lyons, France. It was to be China's first high-containment laboratory under the direction of the Chinese Academy of Sciences, which is under People's Liberation Army control. Construction of the laboratory began in 2004 and

took 11 years to complete, finally finishing on January 31, 2015. The project cost $44 million. It is a vast building, with four floors stretching over 3,000 sq m (32,000 sq ft). It was accredited in February 2017 by the China National Accreditation Service for Conformity Assessment, and began working on live viruses by 2018.

There were "intense clashes" between the French and Chinese parties during the construction phase, according to a Chinese Academy of Sciences video. It was far from a smooth process. Even before the deal was signed, there was strong objection in France to co-operating on such a laboratory in Wuhan, but the scientists advocating the collaboration won.

Once the laboratory was up and running, the French were soon kicked out. While the initial funding, training and construction was in conjunction with the French, according to Switzer and Fouss's cable, "it is entirely China-funded and has been completely China-run since a 'handover' ceremony in 2016". And despite being built in the name of international scientific collaboration, few international researchers were welcome to work inside the facility. "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," the cable stated.

So a laboratory working with the most lethal pathogens known to humankind had effectively cut off collaboration with the international community.



Security keep watch outside the Wuhan institute during a visit by the World Health Organisation in February. The institute was accredited in 2017 and began working on live viruses by 2018
THOMAS PETER/REUTERS

What made this particularly alarming was the work the laboratory was conducting. Disturbingly, Switzer and Fouss discovered the laboratory was setting up its very own database identifying all deadly viruses with pandemic potential. It would be its own version of a concept called the Global Virome Project (GVP), the cable stated. "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," the cable read.

The cable quoted a Wuhan Institute of Virology official saying: "We hope China will be one of the leading countries to initiate the Global Virome Project." But in the meantime, the institute official told Switzer and Fouss that they were already running a similar project of their own.

This revelation — of such a database being developed by a laboratory where the US had no oversight — should have been highly alarming. Except it's unclear whether anybody with any level of seniority ever read this cable after it was sent to the State Department and intelligence apparatus in Washington.

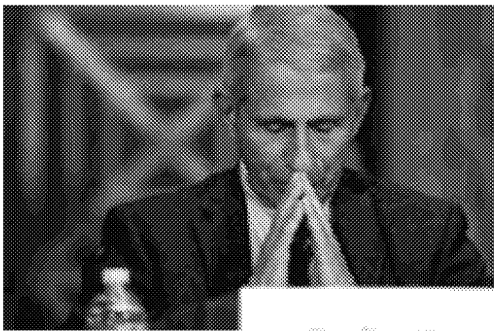
The cable made clear the extent of the US involvement with the Wuhan Institute of Virology. "In the last year, the institute has also hosted visits from the National Institutes of Health (NIH), National Science Foundation and experts from the University of Texas Medical Branch in Galveston." It said the Galveston branch had trained the Wuhan lab technicians in lab management and maintenance while the US National Science Foundation had just concluded a workshop with the Wuhan Institute in Shenzhen involving 40 scientists from the US and China.

It also made clear — at this early stage — how America was funding the coronavirus research at the Wuhan lab. "NIH was a major funder, along with the National Science Foundation of China, of Sars research by the Wuhan Institute of Virology," the cable states. The paragraphs that follow are redacted.

Shi Zhengli was well known in the close-knit scientific community that studied bat coronaviruses. She had become a scientific celebrity after discovering the closest virus to Sars in bats. As the director for the Centre for Emerging Infectious Diseases at the Wuhan Institute of Virology, she became known as the "batwoman" for her sampling of thousands of bats in remote caves.

It was nothing compared with the global fame she would attract after the pandemic outbreak. Her institute's research, with all its risks, would be exposed for the world to judge.

Shi has in total collected 19,000 samples and coronavirus was detected in 2,481 of them, according to information she provided to the World Health Organisation in February this year. She had been engaging in genetically modifying viruses since at least 2006. A paper published in the *Journal of Virology* that year shows she was trying to determine how coronaviruses gain the ability to skip from one species to another by "inserting different segments from the human SARS-CoV spike protein into the spike protein of the bat virus".



Dr Anthony Fauci defended the scientists who had undertaken the controversial gain-of-function research which aims to make viruses more infectious and deadlier or more virulent, often to humans
STEFANI REYNOLDS/XINHUA/ALAMY

When questions arose in China about whether her laboratory was the source of the outbreak at the start of February last year — three months before President Trump raised the prospect — Shi snapped. "Those who believe and spread rumours, shut your dirty mouth," she posted on the WeChat social media app on February 6. Instead, she said, Covid-19 "is nature's punishment for uncivilised living habits of human beings. I, Shi Zhengli, use my life to guarantee that it has nothing to do with our lab."

Just how dangerous was the research she was conducting, often without the watchful eyes of international partners? What were Shi and her colleagues up to, and who was funding it?

Of particular focus would be her "gain-of-function" experiments. Gain-of-function research aims to make viruses more infectious and deadlier or more virulent, often to humans. The technical definition is research that "involves experimentation that is expected to increase the transmissibility and/or virulence of pathogens". It can result in a pathogen acquiring new abilities; for example, a bat virus becoming able to infect humans or a virus that wasn't airborne having the ability to become so.

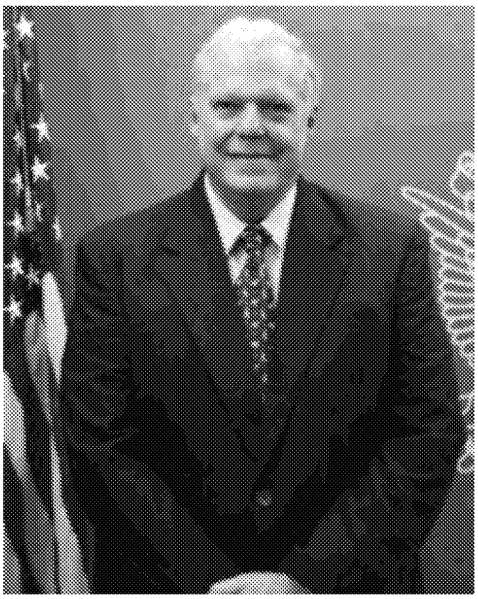
This research, which has been carried out in the US and other western countries as well as China, has been justified by scientists who claim it could help predict pandemics by discovering which viruses are capable of becoming infectious to humans. They say this allows them to pre-emptively develop vaccines and therapeutics. But only two laboratories globally were doing gain-of-function research on coronaviruses prior to the pandemic.

Other research projects may not strictly fall into the gain-of-function category but are equally dangerous. They include bringing back to life very old viruses and manipulating them in a laboratory. This type of research deals with what are referred to as "potential pandemic pathogens".

To many outside the scientific community, this type of experimentation sounds absurd. How is it even legal, given the astronomical risks? Debate has raged about the grave dangers of allowing gain-of-function research to take place. There are two main concerns. Firstly, it can be misused for malevolent military purposes such as bioweapons. Secondly, it can accidentally cause a pandemic.

Global controversy around this type of research ignited in 2012, when scientists wanted to see if it would be possible for bird flu (H5N1) to evolve naturally into a virus that was capable of human-to-human transmission, and thus cause a pandemic. Their stated intention was to be able to predict which viruses could turn into a pandemic. Scientists fiercely opposed to gain-of-function research formed a body called the Cambridge Working Group in 2014. There were 200 esteemed signatories. They released a letter specifically warning that accidents while scientists were experimenting with these dangerous viruses could cause "an accidental pandemic" that could infect a quarter of the world's population. "Accident risks with newly created 'potential pandemic pathogens' raise grave new concerns," their letter said. "Laboratory creation of highly transmissible, novel strains of dangerous viruses, especially but not limited to influenza, poses substantially increased risks. An accidental infection in such a setting could trigger outbreaks that would be difficult or impossible to control. Historically, new strains of influenza, once they establish transmission in the human population, have infected a quarter or more of the world's population within two years."

This type of research carries such a grave risk of causing a pandemic that President Obama paused funding for gain-of-function experiments in 22 fields in 2014, including research involving Sars, influenza and Mers viruses. This happened after an outcry in the scientific community about the dangerous experiments some virologists were conducting. "Specifically, the funding pause will apply to gain-of-function research projects 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 White House statement, dated October 17, 2014, said. "During this pause, the US government will not fund any new projects involving these experiments and encourages those currently conducting this type of work — whether federally funded or not — to voluntarily pause their research while risks and benefits are being reassessed."



Jamie Fouss, the US consul-general in Wuhan
CHINA.USEMBASSY-CHINA.ORG.CN

Before the ban took effect, Dr Anthony Fauci, a director at the NIH, had welcomed a voluntary pause on gain-of-function research but argued that "the benefits of such experiments and the resulting knowledge outweigh the risks. It is more

likely that a pandemic would occur in nature [than as a result of a laboratory accident or leak], and the need to stay ahead of such a threat is a primary reason for performing an experiment that might appear to be risky."

Fauci, 80, with his calm and measured manner of speech, has cultivated an image as a wise grandfatherly figure. Called "America's doctor" in the media, he has spent 50 years in public service, joining the NIH during the Vietnam War after studying as a physician. He was appointed director of the National Institute of Allergy and Infectious Diseases in 1984. Like many medical officials around the world, he became a household name during the pandemic.

Fauci's organisation was very familiar with the work undertaken at the Wuhan Institute of Virology, with the NIH and the National Science Foundation visiting the facility in the year prior to April 2018. In total, the NIH has funded at least 60 scientific projects at the Wuhan Institute of Virology over the past decade. USAID, the federal aid agency, funded at least 16 (ten of which were jointly funded with the NIH), the Department of Health and Human Services funded three, the Department of Defense, Department of Energy, and the China–US Collaborative Program on Emerging and Re-emerging Infectious Diseases individually each funded one project in conjunction with the Wuhan Institute. Other institutions that frequently collaborate with the institute include the New York Blood Center, the University of North Carolina and University of Texas Medical Branch at Galveston. At the same time Obama cut off funding for gain-of-function research in America, US money was still flowing to China for risky coronavirus research.

Fauci defended the scientists who had undertaken the highly controversial gain-of-function research that had prompted the global debate, saying they had "conducted their research properly and under the safest and most secure conditions". The same research that some international scientists said should be banned, Fauci described as "important". "Within the research community, many have expressed concern that important research progress could come to a halt just because of the fear that someone, somewhere, might attempt to replicate these experiments sloppily," he wrote in his 2012 paper.

The mandatory "pause" or ban on gain-of-function research was inexplicably lifted under the Trump administration in 2017. No adequate explanation has been given for why this decision was made. There was no public debate. On December 19, 2017, the NIH announced it would resume funding gain-of-function research involving Mers, Sars, coronaviruses and influenza after a new "framework" had been developed by the Department of Health and Human Services.

Scientists from the Wuhan lab worked with bats carrying Sars-like viruses
SUNDAY TIMES INSIGHT

Senior administration officials told me Fauci did not raise the issue of kickstarting gain-of-function research with any senior figures in the White House. There was one White House meeting, which Fauci requested with the Office of Science and Technology Policy, where he raised the issue of gain-of-function research. "It kind of just got rammed through," a senior source claimed.

I asked the former national security adviser Robert O'Brien about this. "I was in meeting after meeting with Dr Fauci, and that never came up," he says. "I don't know if he alerted anyone. I never heard about it until I was out of office." Mike Pompeo, who was director of the CIA from 2017 to 2018, said he didn't know if Fauci got permission from anyone to re-start the dangerous research, particularly with regard to contributing funding via sub-grants to the Wuhan Institute of

Virology. Fauci didn't even tell his boss, Alex Azar, the health secretary, who only found out the US restriction on gain-of-function research had been lifted from media reports in 2021.

In hindsight we can clearly see that health authorities, the US government and international governments all ignored the warnings from eminent scientists, and allowed the dangerous scientific research to go ahead. The public was never brought into these debates. A pandemic is something that affects all of us — we have lost loved ones, battled serious illness, lost jobs, had our businesses and ways of life destroyed. While the origins of Covid-19 have not yet been established, it's clear this type of research carries grave risks.

What was even more terrifying was that not only was the NIH funding gain-of-function research in the US — but it was funding research in China, where it had no oversight and no way of knowing how safe the laboratories were where these risky experiments were taking place.

Extracted from What Really Happened in Wuhan: the Cover-Ups, the Conspiracies and the Classified Research by Sharri Markson, to be published by HarperCollins on September 30 at £20. Available to order now at amazon.co.uk

From: Peter Daszak [b6]
Sent: 8/9/2021 3:45:07 PM
To: Morens, David (NIH/NIAID) [E] [b6] ([b6]; Keusch, Jerry [b6])
Subject: RE: Xinhua: French biosecurity expert dismisses Wuhan "lab leak" theory

Good to see that – if only because it adds to the 'drip, drip' of credible articles refuting the lab leak theory..

Cheers,

Peter

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EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E] b6
Sent: Monday, August 9, 2021 11:13 AM
To: Peter Daszak (b6) <b6; Keusch, Jerry (b6)
b6
Subject: FW: Xinhua: French biosecurity expert dismisses Wuhan "lab leak" theory

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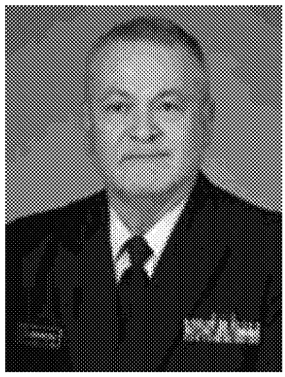

From: Folkers, Greg (NIH/NIAID) [E] b6
Sent: Friday, August 6, 2021 7:10 AM
Subject: Xinhua: French biosecurity expert dismisses Wuhan "lab leak" theory

French biosecurity expert dismisses Wuhan "lab leak" theory

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2021-08-04 18:50:01Xinhua Editor : Zhang Dongfang ECNS App Download
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"The theory that the virus escaped from the Wuhan lab is not credible," a French biosecurity expert who had monitored the construction of the Biosafety level 4 (BSL-4) laboratory of the Wuhan Institute of Virology has said recently in reference to COVID-19.

The lab "was built under the close cooperation between China and France," and "there is no doubt about its compliance with the highest international biosafety standards," Gabriel Gras said.

"I am not speculating, I prefer to rely on facts," said Gras in an interview on Sunday amid growing speculation about a possible laboratory accident that could have triggered the COVID-19 pandemic.

During his stay in China, Gras participated in implementing the 2004 Sino-French Cooperation Agreement in Prevention and Control of Emerging Infectious Diseases, and supervised the construction and accreditation of the Wuhan Institute of Virology's BSL-4 laboratory in 2017.

The construction and operation of the Wuhan lab conform to very strict standards, he said. "It was my job to check all of this, and there was no doubt about the level of safety of the facility."

Gras also noted that coronaviruses, including the SARS-CoV-2 virus, "doesn't need to be dealt with in a BSL-4 lab" considering the high cost of operating a BSL-4 lab.

Biosafety levels, which are a set of biocontainment precautions required to isolate dangerous biological agents in an enclosed laboratory facility, range from the lowest BSL-1 to the highest BSL-4. A BSL-4 laboratory works with the most dangerous agents that can generate fatal diseases in humans such as Ebola hemorrhagic fever.

"It is very expensive to operate a BSL-4 lab, in money but also in time, since the experiments take longer to set up due to safety constraints such as wearing a high-pressure diving suit," Gras explained, saying that it's "just common sense" that they don't work in BSL-4 labs with BSL-3 pathogens any more than they do in BSL-3 labs with BSL-2 pathogens.

Coronaviruses are mostly classed at BSL-2, sometimes at BSL-3, such as SARS-CoV of 2002, MERS-CoV of 2012, and finally SARS-CoV-2 of 2019, but never at 4, Gras said.

The classifications of pathogens and guidelines on the conditions of their culture are public and available online, and have been established by the World Health Organization and relevant national authorities.

"Using a BSL-4 to work with a coronavirus is like using a 20-ton crane to move a 30-kg refrigerator. It would be completely illogical," said the French expert, adding that "the theory of leak of the SARS-CoV-2 virus from the Wuhan BSL-4 lab is against common sense."

From: William B. Karesh [b6]
Sent: 11/22/2021 1:45:20 PM
To: Morens, David (NIH/NIAID) [E] [b6]
([b6])
CC: Catherine Machalaba [b6]; Daniel Mira-Salama [b6]
Subject: Re: figure for World Bank report

Thank you sir.

BK

On Nov 22, 2021, at 8:16 AM, Morens, David (NIH/NIAID) [E] b6 wrote:

OK, will do. I am on the road at the moment so it might take a couple days, but will connect with our graphics folks now. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 07:26, William B. Karesh b6 wrote:

Thanks David !!!

If you could share the original with the three of us, Daniel can check to see if it will serve the purpose.

Thanks again,

Billy

On Nov 22, 2021, at 7:21 AM, Morens, David (NIH/NIAID) [E] b6 wrote:

Billy, this map was reconstructed from our original by the graphics department at the journal Cell. They did this purely so they could copyright it.

You could contact Cell, abd they will charge you. Or else we can give you the original with you can have for free. The original has all the same info and the same color code, but is less spread out vertically and differs in other minor ways

Let me know. My best to Peter and the gang. David

Sent from my iPhone
David M Morens
OD, NIAID, NIH

On Nov 22, 2021, at 06:46, William B. Karesh b6 wrote:

Dear David,

Hope this finds you well.

We are in the final stages of printer's proofs of a report on EID's in Asia we did for the World Bank. We want to include your EID map from 2020 (attached), but the printer's tell us that our version is not high enough resolution. Would you happen to have high resolution version that could be used?

Hope you have a great Thanksgiving, all the best,

Billy

William B. Karesh, D.V.M
Executive Vice President for Health and Policy

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New York, NY 10018 USA

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President, OIE Working Group on Wildlife

Co-chair, IUCN Species Survival Commission -
Wildlife Health Specialist Group

EcoHealth Alliance develops science-
based solutions to prevent pandemics and
promote conservation.

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From: Taubenberger, Jeffery (NIH/NIAID) [E] [b6 b6]
Sent: 3/19/2020 1:07:50 PM
To: Peter Daszak [b6]; Morens, David (NIH/NIAID) [E] [b6 b6]; Taubenberger, Jeffery (NIH/NIAID) [E] [b6 b6]
CC: Taubenberger, Jeffery (NIH/NIAID) [E] [b6 b6]
Subject: Re: Ms Jeff sent

Thanks Peter!
Hope all is well.
Jeff

From: "Peter Daszak" b6
Date: Thursday, March 19, 2020 at 1:15:27 AM
To: "Morens, David (NIH/NIAID) [E]" b6, "Taubenberger, Jeffery (NIH/NIAID) [E]" b6
Cc: "Taubenberger, Jeffery (NIH/NIAID) [E]" b6
Subject: RE: Ms Jeff sent

OK – apologies but I made the changes to the older version. They're all in 'Track changes' so you'll see exactly what I've done and I hope this doesn't add much workload to your day.

It's a great paper, as always – nice historical references and great literary touch!

I've tried to make it a little bit tighter, as well as give a bit of clarity to 1) the process of disease emergence on our planet right now; and 2) some ideas on how we can move to a more predictive, proactive approach to preventing pandemic emergence.

Look forward to seeing this move forwards and thanks for including me.

I'll email Ralph and Linda Saif to see what they think of a review. We did such a nice job together of the grant proposal that it would be relatively straightforward to take chunks of that and turn it into a first draft.

Cheers,

Peter

Peter Daszak
President

EcoHealth Alliance
460 West 34th Street
New York, NY 10001
USA

Tel.: b6
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

EcoHealth Alliance develops science-based solutions to prevent pandemics and promote conservation

From: Morens, David (NIH/NIAID) [E] b6
Sent: Wednesday, March 18, 2020 12:31 PM
To: Peter Daszak b6; Taubenberger, Jeffery (NIH/NIAID) [E]
b6
Cc: Taubenberger, Jeffery (NIH/NIAID) [E] b6
Subject: RE: Ms Jeff sent

Peter, sounds like a good idea, let's all discuss. I bet Ralph would be interested.

Please ignore the ref section, we put in a lot of our own stuff only because being in a hurry those are the ones we knew in our heads.

In any case here is the updated draft, so throw away the old one, although this newer one has only minor changes.

David

David M. Morens, M.D.
CAPT, United States Public Health Service
Senior Advisor to the Director
Office of the Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Building 31, Room 7A-03
31 Center Drive, MSC 2520
Bethesda, MD 20892-2520
☎ b6 (assistants: Kimberly Barasch; Whitney Robinson)
301 496 4409
b6

From: Peter Daszak [b6]
Sent: Wednesday, March 18, 2020 11:59 AM
To: Taubenberger, Jeffery (NIH/NIAID) [E] [b6]; Morens, David (NIH/NIAID) [E] [b6]
Subject: RE: Ms Jeff sent

Thanks Jeff – appreciate your patience. Am working on it today. We closed our offices yesterday and are now adjusting to tedious conference calls from home. Somehow being at work in meetings is just so much more engaging than sitting for hours in front of a laptop!

I'll send this draft with edits back to you before 9am tomorrow (Thursday). Again apologies.

Skimming this draft, I'm not sure it makes sense to include the historical timeline of Nidovirus spillovers in this paper. I think it might make sense to start working on a mini-review. I think we could target PNAS or even Science/Nature, if we bring in two co-authors who have some gravitas on this issue – Ralph Baric and Linda Saif. This would be an historical review of the emergence of CoVs and relatives over time, future trajectory of risk, all placed within the historical context of pandemic emergence.

What do you think?

Cheers,

Peter

Peter Daszak
President

EcoHealth Alliance
460 West 34th Street
New York, NY 10001
USA

Tel.: [b6]
Website: www.ecohealthalliance.org
Twitter: @PeterDaszak

From: Taubenberger, Jeffery (NIH/NIAID) [E] b6
Sent: Tuesday, March 17, 2020 7:08 PM
To: Peter Daszak b6; Morens, David (NIH/NIAID) [E] b6
Cc: Taubenberger, Jeffery (NIH/NIAID) [E] b6
Subject: Re: Ms Jeff sent

Thanks Peter. The world has turned upside down over this. I always thought only a really bad influenza pandemic could do this.
Hope everyone in your family is okay.
Best wishes, Jeff

From: "Peter Daszak" b6
Date: Tuesday, March 17, 2020 at 6:14:45 PM
To: "Morens, David (NIH/NIAID) [E]" b6
Cc: "Taubenberger, Jeffery (NIH/NIAID) [E]" b6
Subject: Re: Ms Jeff sent

Apologies - I had to drop everything, b6 ! Back home now and will work on draft tonight.

Cheers,

Peter

Peter Daszak
(Sent from my iPhone)

President
EcoHealth Alliance

460 West 34th Street, New York, NY10001, USA

www.EcoHealthAlliance.org

> On Mar 17, 2020, at 11:36 AM, Morens, David (NIH/NIAID) [E] b6 wrote:
>
> Peter, attached is a somewhat fixed draft with new image.
>
>
> david
>
>
> David M. Morens, M.D.
> CAPT, United States Public Health Service
> Senior Advisor to the Director
> Office of the Director
> National Institute of Allergy and Infectious Diseases
> National Institutes of Health

> Building 31, Room 7A-03
> 31 Center Drive, MSC 2520
> Bethesda, MD 20892-2520
> B [b6] (assistants: Kimberly Barasch; Whitney Robinson)
> ; 301 496 4409
> 3 [b6]
>
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>
>
>
> -----Original Message-----
> From: Peter Daszak [b6]
> Sent: Saturday, March 14, 2020 11:06 PM
> To: Morens, David (NIH/NIAID) [E] [b6]
> Cc: Taubenberger, Jeffery (NIH/NIAID) [E] [b6]
> Subject: Re: Ms Jeff sent
>
> Ok thanks for the email - I'm out of action until late on Sunday evening but will get to it then
>
> Cheers,
>
> Peter
>
>
>
> Peter Daszak
> (Sent from my iPhone)
>
> President
> EcoHealth Alliance
>
> 460 West 34th Street, New York, NY10001, USA
>
> www.EcoHealthAlliance.org
>
>> On Mar 14, 2020, at 7:23 PM, Morens, David (NIH/NIAID) [E] <[b6]> wrote:
>>
>> Peter, i think Jeff sent yesterday the draft of historical pandemic article we are fussing with. If you get a moment please give us feedback. D
>>
>> Sent from my iPhone
>> David M Morens
>> OD, NIAID, NIH
> <PANDEMIC COVID draft 1 03 14 20.docx>