Transmission Studies Resume For Avian Flu

Ron A. M. Fouchier, Erasmus Medical Center
Adolfo Garcia-Sastre, Icahn School of Medicine at Mount Sinai
Yoshihiro Kawaoka, University of Wisconsin
Wendy S. Barclay, Imperial College
Nicole M. Bouvier, Icahn School of Medicine at Mount Sinai
Ian H. Brown, Animal Health and Veterinary Laboratories Agency
Ilaria Capua, Istituto Zooprofilattico Sperimentale delle Venezie
Hualan Chen, Harbin Veterinary Research Institute
Richard Compans, Emory University
Robert B. Couch, Baylor College of Medicine

Only first 10 authors above; see publication for full author list.

Journal Title: Science
Volume: Volume 339, Number 6119
Publisher: American Association for the Advancement of Science | 2013-02-01, Pages 520-521
Type of Work: Article | Post-print: After Peer Review
Publisher DOI: 10.1126/science.1235140
Permanent URL: https://pid.emory.edu/ark:/25593/txc23

Final published version: http://dx.doi.org/10.1126/science.1235140

Copyright information:
© 2013, American Association for the Advancement of Science

Accessed January 6, 2020 8:44 AM EST
Transmission Studies Resume For Avian Flu

RON A. M. FOUCHIER1, ADOLFO GARCÍA-SASTRE2, YOSHIHIRO KAWAOKA3,4,*, WENDY S. BARCLAY5, NICOLE M. BOUVIER6,2, IAN H. BROWN7, ILARIA CAPUA8, HUALAN CHEN9, RICHARD W. COMPANS10, ROBERT B. COUCH11, NANCY J. COX12, PETER C. DOHERTY13, RUBEN O. DONIS12, HEINZ FELDMANN14, YI GUAN15, JACQUELINE M. KATZ12, OLEG I. KISELEV16, H. D. KLENK17, GARY KOBINGER18, JINHUA LIU19, XIUFAN LIU20, ANICE LOWEN21, THOMAS C. METTENLEITER22, ALBERT D. M. E. OSTERHAUS1, PETER PALESE2, J. S. MALIK PEIRIS23, DANIEL R. PEREZ24, JÜRGEN A. RICHT25, STACEY SCHULTZ-CHERRY26, JOHN STEEL21, KANTA SUBBARAO27, DAVID E. SWAYNE28, TORU TAKIMOTO29, MASATO TASHIRO30, JEFFERY K. TAUBENBERGER31, PAUL G. THOMAS13, RALPH A. TRIPP32, TERRENCE M. TUMPEY12, RICHARD J. WEBBY26, and ROBERT G. WEBSTER26

1Department of Virology, Erasmus Medical Center, 3015GE Rotterdam, Netherlands
2Department of Microbiology, Icahn School of Medicine at Mount Sinai, New York, NY 10029, USA
3Department of Pathobiological Sciences, School of Veterinary Medicine, University of Wisconsin–Madison, Madison, WI 53711, USA
4Division of Virology, Department of Microbiology and Immunology, The Institute of Medical Science, University Of Tokyo, Minatoku, Tokyo 108-8639, Japan
5Department of Medicine, Imperial College, London, W2 1PG, UK
6Division of Infectious Diseases, Icahn School of Medicine at Mount Sinai, New York, NY 10029, USA
7Virology Department, Animal Health and Veterinary Laboratories Agency, Addlestone, KT15, UK
8Istituto Zooprofilattico Sperimentale delle Venezie, 35020, Padova, Italy
9Harbin Veterinary Research Institute, CAAS, Harbin 150001, China
10Influenza Pathogenesis and Immunology Research Center, Emory University, School of Medicine, Atlanta, GA 30322, USA
11Department of Molecular Virology and Microbiology, Baylor College of Medicine, Houston, TX 77030, USA
12Influenza Division, Centers for Disease Control and Prevention, Atlanta, GA 30333, USA
13Department of Immunology, St. Jude Children’s Research Hospital, Memphis, TN 38105, USA
14Laboratory of Virology, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Rocky Mountain Laboratories, Hamilton, MT 59840, USA
15State Key Laboratory of Emerging Infectious Diseases, School of Public Health, The University of Hong Kong, Hong Kong SAR
16D.I. Ivanovsky Institute of Virology, Ministry of Public Health, Moscow, Russia
17Institut für Virologie, 35043 Marburg, Germany

*To whom correspondence should be addressed. kawaokay@svm.vetmed.wisc.edu.
In January 2012, influenza virus researchers from around the world announced a voluntary pause of 60 days on any research involving highly pathogenic avian influenza H5N1 viruses leading to the generation of viruses that are more transmissible in mammals (1). We declared a pause to this important research to provide time to explain the public health benefits of this work, to describe the measures in place to minimize possible risks, and to enable organizations and governments around the world to review their policies (for example, on biosafety, biosecurity, oversight, and communication) regarding these experiments.

During the past year, the benefits of this important research have been explained clearly in publications (2-7) and meetings (8-10). Measures to mitigate possible risks of the work have been detailed (11-13). The World Health Organization has released recommendations on laboratory biosafety for those conducting this research (14), and relevant authorities in several countries have reviewed the biosafety, biosecurity, and funding conditions under which further research would be conducted on the laboratory-modified H5N1 viruses (10, 15-17). Thus, acknowledging that the aims of the voluntary moratorium have been met in...
some countries and are close to being met in others, we declare an end to the voluntary moratorium on avian flu transmission studies.

The controversy surrounding H5N1 virus transmission research has highlighted the need for a global approach to dealing with dual use research of concern. Developing comprehensive solutions to resolve all the issues will take time. Meanwhile, H5N1 viruses continue to evolve in nature. Because H5N1 virus transmission studies are essential for pandemic preparedness and understanding the adaptation of influenza viruses to mammals, researchers who have approval from their governments and institutions to conduct this research safely, under appropriate biosafety and biosecurity conditions, have a public health responsibility to resume this important work. Scientists should not restart their work in countries where, as yet, no decision has been reached on the conditions for H5N1 virus transmission research.

At this time, this includes the United States and U.S.-funded research conducted in other countries. Scientists should never conduct this type of research without the appropriate facilities, oversight, and all the necessary approvals. We consider biosafety level 3 conditions with the considerable enhancements (BSL-3+) outlined in the referenced publications (11-13) as appropriate for this type of work, but recognize that some countries may require BSL-4 conditions in accordance with applicable standards (such as Canada). We fully acknowledge that this research—as with any work on infectious agents—is not without risks. However, because the risk exists in nature that an H5N1 virus capable of transmission in mammals may emerge, the benefits of this work outweigh the risks.

References

9. National Science Advisory Board for Biosecurity. Meeting of the National Science Advisory Board for Biosecurity to review revised manuscripts on transmissibility of A/H5N1 influenza virus:


