

Episode: *Author Interview: “Five Things Clinicians Need to Know About Zoonotic Viral Spillover and Spillback”*

Guest: Gregory C. Gray, MD, MPH

Host: Tim Hoff

Transcript by: Cheryl Green

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[bright theme music]

[00:00:04] TIM HOFF: Welcome to another episode of the Author Interview series from the *American Medical Association Journal of Ethics*. I'm your host, Tim Hoff. This series provides an alternative way to access the interesting and important work being done by Journal contributors each month. Joining me on this episode is Dr Gregory Gray, the Robert E. Shope, MD, Professor in Infectious Disease Epidemiology in the Departments of Internal Medicine (Infectious Diseases), Microbiology and Immunology, and Global Health and Emerging Diseases at the University of Texas Medical Branch in Galveston, Texas. He's here to discuss his article, coauthored with Drs Laura A. Pulscher and Hisham O. Alsharif, “*Five Things Clinicians Need to Know About Zoonotic Viral Spillover and Spillback*,” in the February 2024 issue of the Journal, [Health Ecology and Disease Transmission](#). Dr Gray, thank you so much for being on the podcast. [music fades]

DR GREGORY GRAY: Tim, thanks for having me.

[00:00:57] HOFF: So, to begin with, what is the main ethics point that you and your co-authors are making in this article?

GRAY: Well, we were asked to review the terms “spillover” and “spillback,” and so our manuscript covered that in some detail. And I think a really key element that we need to get out there to clinicians is that these spillover events of pathogens moving between species are much more frequent than we knew, and recent epidemics have made that painfully clear. Infrequently do these spillovers cause disease, but when they do, and when they fully adapt to humans, that disease can be tremendous in its morbidity and mortality. And so, as ethics deals with morality in wrestling what is right or wrong, I think clinicians have an ethical responsibility to do what they can, realizing that often, they're going to be the first to detect a novel pathogen spillover event. They may not recognize it, so they need to have a healthy suspicion and ask themselves when they do their differential diagnosis, does this particular patient or group of patients have exposures that could lead to a spillover event? And then what are my responsibilities? How can I help to investigate this? And often this would involve engaging public health officials and communicating that suspicion.

[00:02:42] HOFF: And so, what do you see as the most important thing for health professions students and trainees specifically to take from your article?

GRAY: Well, I think the understanding that pathogens from other species, particularly if you work closely with animals, are challenging our immune systems all the time. And occasionally, very occasionally, do they take hold. Even rarer do they become a problem in causing an infection, and rarer still transmission, especially rare, very efficient transmission. We also need to recognize that our routine clinical diagnostics, those that are approved to detect things with high specificity and sensitivity, are not likely going to pick up a novel spillover pathogen. And so, we need clinicians to look for these and to alert public health officials when their suspicion is raised, because we often have time to mitigate these as the spillover events. It's not like in the movies that a virus infects a human and becomes highly transmissible. It can take dozens of years for a virus to fully adapt to cause problems in humans.

[00:04:15] HOFF: And finally, if you could add a point to your article that you didn't have the time or space to fully explore, what would that be?

GRAY: Well, I think rural clinicians taking care of patients with intense animal exposures may not realize that they may be among the first to witness a spillover event, and their suspicions and action on those suspicions could save many lives if they communicate those suspicions to public health authorities. And so, I think the key point is clinicians worldwide, in many different settings, especially settings in rural regions that have a lot of animals, can really do much, probably much more, than they realize to help us subvert the next pandemic. [theme music returns]

[00:05:10] HOFF: Dr Gray, thank you so much for your time on the podcast today, and thanks to you and your coauthors for your contribution to the Journal this month.

GRAY: Thank you, Tim.

HOFF: To read the full article, as well as the rest of this month's issue for free, visit our site, journalofethics.org. We'll be back soon with more *Ethics Talk* from the *American Medical Association Journal of Ethics*.