

Episode: Ethics Talk – Antibiotic Stewardship During COVID

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TIM HOFF: Welcome to *Ethics Talk*, the *American Medical Association Journal of Ethics* podcast on ethics in health and health care. I'm your host, Tim Hoff. This episode is an audio version of a video interview conducted by the Journal's Editor in Chief, Dr Audiey Kao, with Dr Olivia Kates, a third-year fellow in infectious diseases at the University of Washington in Seattle, about appropriate use of antibiotics during the COVID-19 pandemic. To watch the full video interview, head to our site, [JournalofEthics.org](https://www.journalofethics.org), or check out our [YouTube channel](#).

DR AUDIEY KAO: Dr Kates, thank you for being a guest on *Ethics Talk* today. [music fades out]

DR OLIVIA KATES: Thank you so much, Audiey. I'm really excited to be here.

KAO: So, to start, can you help our audience understand the ethical principles underlying antibiotic stewardship?

KATES: You stated the goals of antibiotic stewardship perfectly: That's to protect patients from harm and slow the emergence of antibiotic resistance. That first goal comes from the ethical principle of nonmaleficence, and it's really oriented toward our individual patients right now. The second goal is more public-health oriented. So, that's informed by values like sustainability, justice, and a collective utility. And with these values, we're still thinking about our individual patients, but also other patients, communities more broadly, both in space and time.

KAO: So, why should we be focused on antibiotic stewardship during a viral pandemic?

KATES: Yeah, it's a great question. Antibiotic stewardship professionals have been very busy during the past 15 months. They've been applying those public health values to new problems like the procurement and distribution of PPE, personal protective equipment, or researching how to use new treatments for COVID-19. There's also a lot of overlap with infection prevention. So, these folks have been really busy just tackling new problems related to COVID-19. But the older stewardship issues haven't gone away. If anything, there's just been less time and energy to focus on them.

And actually, there's been a really big spike in antibiotic use during the pandemic. So, even though COVID is caused by a virus, and antibiotics don't treat viruses—some core antibiotic stewardship messaging—patients with COVID still got, and continue to get, a lot of antibiotics. Some of these antibiotics are given just in case, like just in case the pneumonia isn't from COVID, but from bacteria, or just in case it's both. And you can see the value of beneficence coming through here, wanting to secure any possible benefit for

sick patients, especially in a really distressing pandemic. But that might be in conflict with the values from stewardship, and antibiotic stewardship programs have been addressing just-in-case prescribing for a long time. But COVID-19 put an incredible and unprecedented number of patients in that situation.

And then there's a special case with azithromycin, which is an antibiotic used to treat things like bacterial pneumonia or traveler's diarrhea. Because of some early reports that azithromycin might somehow treat COVID-19, even though it's caused by a virus, patients were given so much of that medication that the US actually experienced severe shortages. And even as more and more evidence comes in that azithromycin doesn't help patients with COVID, we're still seeing increased use in the US and sharply increased use around the world.

KAO: So, given what you just said, what are some of the ethical ramifications of non-judicious use of antibiotics during the COVID-19 pandemic?

KATES: Well, first of all, I worry that it actually does harm to our patients. We're exposing people to side effects from antibiotics without always knowing that the antibiotics will be beneficial. And then thinking about the public health values of antimicrobial stewardship, we also want to consider how increased antibiotic use affects others. The azithromycin shortage, for example, forced the CDC, the Centers for Disease Control, to change their recommendations for the treatment of really common sexually transmitted infections, which used to include azithromycin. So, for some patients, that means that a treatment regimen that used to be just one day long, all administered at once in the clinic, became seven days long with a prescription to pick up and pills to take at home. So, how we're using azithromycin for patients with COVID has created possibly a new burden for folks who got or were exposed to STIs.

And then we still may not know what's going to happen in the future. Every time that we use an antibiotic, we're applying a selection pressure that favors the development of antibiotic resistance, and not just in the one bacteria that we're trying to kill. It can be all the bacteria that normally live on or in that person's body. So, that's a lot of bacteria that can spread around to close contacts and be the cause of future antibiotic-resistant infections. Think about azithromycin again. If we see increased resistance to azithromycin in bacteria after this year, which I think we definitely will, that will affect how we treat bacterial pneumonia, mycobacterial diseases like MAC, and gastrointestinal diseases, and probably more. I think a big one will be traveler's diarrhea, especially for travelers visiting South and Southeast Asia. Our other drug for that kind of thing, ciprofloxacin, has already been used so much in that part of the world that most bacteria in the region are already resistant to it. So, the choices that we're making now are going to have repercussions for our own futures and future generations. And I think the severity of those repercussions will probably be different for communities around the world.

KAO: So, you just mentioned South Asia, where India and neighboring countries are experiencing some of the worst COVID-19 outbreaks during this pandemic. What will such outbreaks mean for antibiotic stewardship there and for the rest of the world?

KATES: Yeah, antibiotic resistance is already very prevalent in South Asia, just like for cipro. So, prescribers and antibiotic stewards there are already working from a difficult starting point. We know that different countries have different needs because of the background rate of antibiotic resistance and because of the types of infection that are prevalent there. And so, a one-size-fits-all approach to stewardship is probably not likely to

be successful. When we want to support antibiotic stewardship in other parts of the world, we need to try to do that in a sensitive and respectful way. One thing that I'm thinking about is it may not be fair to demand that other countries raise the bar for stewardship during COVID-19 if we can't give them support with tools for rapid diagnosis, effective treatment, and prevention. With the outbreak that's occurring in India right now, I know that hospitals and communities are very overwhelmed, and it can be difficult to prioritize a sustainability goal in the middle of such a terrifying pandemic.

And then this is going to have implications for other parts of the world, although I do think that the local ramifications are enough to justify concern. We see travelers from this part of the world with severe antibiotic-resistant infections all the time, and then those bacteria can become established here in the United States, which is happening more and more.

KAO: So, given that, to promote antibiotic stewardship here and around the world, what should clinicians and health systems have done differently earlier in this pandemic, and what should we be doing going forward?

KATES: It's a difficult question. I think it would be easy to say in hindsight that a lot of unnecessary antibiotics were used during the COVID-19 pandemic, but we have to remember that it's actually been very hard to make those decisions at the time. Clinicians are dealing with a really terrifying situation, who may be facing limited testing capabilities and have limited options to do interventions that feel like they even might be helpful for their patients. And so, I think we do have to have a lot of empathy for prescribers who've been making these difficult choices over the past year.

I think it's really hard to keep a focus on sustainability during an emergency. So, we probably won't be able to increase our attention to sustainability during the next emergency, so keeping that investment really high between crises is important.

And then the other thing that we could do is we could try to lower the chance that we face another crisis. When we inevitably do, we can try to be more prepared. The more prepared we are, the less likely we are to get overwhelmed and then get distracted from those long-term values.

One of the big challenges that we face was the limited availability and limited quality of evidence to pick treatments for COVID-19. We spent a lot of time and energy just trying to sort through that huge volume of inconsistent information and a lot of time using suboptimal or harmful treatments. We needed high-quality research faster, but that's really difficult to get up and running across multiple hospitals, especially when you're facing surges of COVID-19. So, I think we need to look for ways for research hospitals to build flexible networks so that collaborative research can begin more quickly when there's a new problem to tackle. And that might put us in a better position to use evidence-based antibiotics more judiciously in the future.

Those types of collaborations also stand to benefit us in a global way. We need to be more available to our colleagues around the world to share information and share resources that help with disease diagnosis, treatment, and prevention. I was really happy to see that there's going to be more sharing of vaccine resources around the world because the more that we can do to prevent the spread of infections in places like Southeast Asia, the lower the chances that those communities are going to feel the need to rely on antibiotics for the next several months.

KAO: So, on that call to be better prepared during, and maybe more importantly, between public health emergencies, I want to thank Dr Olivia Kates for sharing her expertise and insights with our audience today. Olivia, thanks again for being on *Ethics Talk*.

KATES: Thank you so much for having me. It's always a pleasure to work with the *AMA Journal of Ethics*.

KAO: For more COVID ethics resources, please visit the *AMA Journal of Ethics* at [JournalofEthics.org](https://www.journalofethics.org). Thank you for being with us today. We'll see you next time on *Ethics Talk*. [bright theme music plays]