

Not enough is being done to educate border communities about the long-term effects of antibiotic overuse

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When thousands of experimental biology researchers gather in Boston this weekend, many of them undoubtedly will be presenting work related to the hunt for the next generation of antibiotics and how to battle back existing and emerging superbugs. But for one scientist from Texas Rio Grande Valley, it's not about what the research of tomorrow holds: It's about the kind of action the people in communities like his need today.

Subburaj Kannan, an instructor of [microbiology](#) at Southwest Texas Junior College, is passionate when he talks about how [antibiotic resistance](#) is affecting patients in Eagle Pass, Texas, a town with a population of 26,000 just across the border from Mexico's Piedras Negras.

Despite enactment of laws intended to stem the tide of antibiotics from Mexico, the drugs remain relatively easy to acquire and commonly are shared among relatives and neighbors. On top of that, many residents aren't fully aware of the consequences of not taking antibiotics as directed by a physician and of taking antibiotics for nonbacterial infections, Kannan says. Together, these factors likely are creating conditions just right for the emergence of antibiotic-resistant microbes.

"You can walk across the bridge and buy medicine in a different manner compared to the United States. Here, you need to have a prescription, to take it to the pharmacy, where they check the [insurance coverage](#) and

give you the medicine," Kannan explains. But, "if you walk across the bridge, you're in Mexico, and what you want is your call. You can buy any medicine with limited restrictions."

Complicating matters is that uninsured people who come down with a cold or the [flu](#) simply want to get their hands on something that will make them feel better. "Whatever medicine comes close to them, they take," Kannan says. "Due to the limited knowledge and also lack of access to the appropriate healthcare, not the entire community, but a considerable size of the border community, as reported in scientific literature, utilizes medications, whether it's antibiotic, antiviral or anti-parasitic" to get better. Especially antibiotics, he emphasizes.

Eventually, he says, if the misuse of antibiotics continues at this pace, "we won't have any effective antibiotics in clinical treatment. If we don't have the proper medicine, meaning [antibiotics](#), it can lead to wide-ranging spread of infectious diseases in general population. It can go all across the states, all across the globe, if we don't have the proper tools to combat infectious diseases, which can cause secondary illness, such as organ failure, respiratory system failure and cardiovascular arrest."

Kannan, who is collaborating with officials at the Fort Duncan Regional Medical Center, the Texas Commission on Environmental Quality and the U.S. Department of Agriculture and other municipalities, will present on Sunday a preliminary outreach model that he hopes could help mitigate antimicrobial resistance in his community and others.

His says message will be two-fold:

"The focus of this presentation is that the government and the nongovernmental agencies should take this issue as seriously as they do global warming, abortion or pornography. They think those topics are so hot and of public interest," he says. "This is a far more serious issue than

any other topic in this day and age."

Secondly, he says, "the goal is to get the message out that, yes, it is possible for the nonmedical community to generate awareness in the lay public about how serious it is."

Kannan's poster presentation will include potential strategies for preventing antimicrobial resistance in healthcare settings, offer ideas for partnerships with organizations not usually recruited for public-health campaigns, and suggest seemingly untraditional venues for this kind of outreach, such as casinos, beaches and churches.

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