



Antimicrobial Stewardship: The Hospital's Role



The misuse or overuse of antibiotics remains a global public health concern, contributing to antibiotic resistance and increased patient morbidity and mortality. Hospital antimicrobial stewardship programs have proven effective in improving appropriate antibiotic use, reducing adverse events and enhancing quality of care by ensuring the appropriate selection, dose, route and duration of antimicrobial therapy. The American Hospital Association's Physician Leadership Forum convened a group of industry experts and hospital executives last summer in San Diego to discuss the development of antimicrobial stewardship programs. The event was part of the organization's ongoing Appropriate Use of Medical Resources initiative. For more information on the program, including an Antimicrobial Stewardship toolkit, visit www.ahaphysicianforum.org.



MODERATOR *[John Combes, M.D., American Hospital Association]* | **Why is antimicrobial stewardship important? What are you doing in your organizations? What level of support for antimicrobial stewardship exists within the C-suite and medical staff leadership?**

ARJUN SRINIVASAN, M.D. *[Centers for Disease Control and Prevention]* | Antimicrobial stewardship programs have proven to reduce the complications of antibiotic use such as *Clostridium difficile* infections. They can decrease adverse drug events, reduce antibiotic resistance and increase clinical cures through the appropriate use of medications. They also save money.

POLLY DAVENPORT, R.N. *[Ochsner Medical Center-North Shore]* | Antimicrobial stewardship is a core component of our quality initiative. It has to start with physicians. In our case, it's championed by our hospitalists who work closely with our pharmacy leadership. It would be very diffi-

cult for these programs to be successful without leadership from these two groups.

SCOTT MALANEY *[Blanchard Valley Health System]* | In northwest Ohio, we have a group of hospitals and health systems that come together to talk about a variety of subjects, and antimicrobial stewardship is one of them. In our area, stewardship programs are all over the board. Some organizations have built sophisticated internal systems and are thinking through the processes while others have not yet invested in developing antimicrobial stewardship programs.

RAM RAJU, M.D. *[New York City Health and Hospitals Corp.]* | We manage the use of antibiotics through multiple channels. We have a pharmacy community that determines the formulary for each hospital and, finally, after nearly four years of discussions with the hospitals' chief medical officers, we have a formulary for the whole corporation. Another step that has proven

effective is that we have prohibited direct contact by pharmaceutical reps with anyone in the hospital. It's now handled centrally through the pharmacy.

Unfortunately, our complexity stems from not being able to come to consensus among the nine medical schools that provide physicians to New York City HHC. For example, one of the challenges is antibiotic use in the intensive care unit for pneumonia, where the chiefs of different medical schools may not agree and are teaching their residents and students to use different antibiotics. This becomes a bigger issue when the residents aren't taught about the financial or quality impact of deviating from the formulary or working outside the antimicrobial guidelines.

MODERATOR | **Who holds accountability for these programs within your organization?**

DAVENPORT | Those accountable for our program would be our physician champions, our vice president of medical affairs and me. It's an aligned accountability. One of our challenges is access to infectious disease practitioners. With electronic health records and telehealth, we have more capabilities, but I can imagine that, for certain rural areas, it would be very difficult if you have practitioners debating the science.

MALANEY | We have a committee that includes laboratory workers, microbiologists, pharmacists and an infectious disease physician. We spent a while working through a series of policies and procedures with the medical staff and once those were approved, the authority has rested with the committee, which meets three times a week to review every single patient on antibiotics. If they have a concern, they follow up with the provider and, ultimately, they have the authority to make a change.

MODERATOR | **Did you encounter problems with the medical staff regarding creating an antimicrobial stewardship program? Did you get any pushback?**

RAJU | Part of the reason we don't have pushback is because our physicians are employed by the system. In addition, we have very strong chief medical officers in every hospital who do what needs to be done. The fight is not on procedural issues, it is usually on intellectual issues.

MODERATOR | With antibiotic stewardship programs, many experts agree that there should be a hard stop — timing out antibiotics at 48 hours. Are you reviewing antibiotic usage so that you can adopt this? If so, what is the compliance rate?

RAJU | We do it and we maintain compliance through the EHR, which times out all antibiotic orders at 48 hours and requires that they be reordered. For the postsurgical cases, antibiotic orders expire after 24 hours.

MALANEY | We do not have a hard stop. One of the reasons is because the committee doesn't meet everyday to review cases. It's done informally within our organization. And it's something we want to look into further.

DAVENPORT | We also don't have an aggressive hard stop. We round daily with the pharmacist, hospitalist, infection control practitioner and nursing. It is a multidisciplinary approach in communicating among the group and the case physicians.

SRINIVASAN | In creating a stop policy, was there any pushback from the clinical staff? One of the concerns about these types of hard stops is that they can be dangerous.

RAJU | We did have initial pushback, but it hasn't been a big problem because we're depending less on the human factor and more on technology.

MODERATOR | *How involved is your pharmacy leader? Do the medical staff cooperate with him or her? Is the pharmacist identified as part of the leadership team?*

DAVENPORT | We worked with the medical staff to recognize the role of the pharmacists and the pharmacy and therapeutics committee in leading antimicrobial stewardship. Our pharmacists are decentralized on the nursing units with the nursing staff. It has taken some education, time and trust-building between the pharmacist and the physicians, but it has been seen as a welcome addition.

MALANEY | At our organization, we've benefited from the fact that two of our physicians started out as pharmacists. They've been very supportive of pharmacy leadership. Our pharmacy

director is a strong player and well-respected. It helps a lot to have that credibility.

MODERATOR | Do you find that the clinical staff, including nursing, are supportive of antibiotic stewardship?

DAVENPORT | They are supportive. We've done some education at the nursing level, and we have a decentralized pharmacist working with our nursing staff. It provides the consistency that we need to ensure compliance. We really don't have any resistance.

RAJU | We have not involved nursing [staff] because they have so much other work to do. Our pharmacists have a good understanding of the antibiotics and contraindications, so they are in a better position in our organization to counter an order.

SRINIVASAN | That's an interesting point you raise because it harkens back to the Comprehensive Unit-based Safety Program — this idea that you're a team. Any member of the team should have the power to stop the insertion of a central line if something is being done improperly. I think we need to change to a model where a pharmacist is empowered to say, "This is an unnecessary duplication of therapy," or "That's the wrong drug based on the susceptibility."

RAJU | We have to be very careful on this issue. My system was one of the first in the country to incorporate a surgical checklist in our operating rooms across all 11 hospitals. It's one thing if a medical student or nurse objects to a procedure based on its being the wrong patient or wrong site. It's very different from somebody objecting that it is not the right antibiotic. What worked on the surgical checklist may not necessarily work here because this is much more complex science.

MODERATOR | *This goes back to how we train health care providers. In the CUSP program, the idea was mutual accountability. It is not just that you're challenging somebody, but that you are accountable to each other. If a pharmacist asks a question about why we're using a specific antibiotic when the sensitivities don't match the use, a physician shouldn't be offended. The pharmacist's role is to explain the rationale so that it becomes a learning environment for everyone in that sit-*

uation. Creating a culture of mutual accountability between the professions and respect for all the professions is essential.

MALANEY | We have a great deal of data on certain defects that we provide to the Centers for Medicare & Medicaid Services. We know how many defects we had last year, and we have a goal to reduce it by 25 percent this year. One of the defects we report is around this subject. We look at defects as opportunities for improvement. We use a reporting chart, kind of like the United Way thermometer, where we track our progress. We're trying to get to zero and have created goals to help us get there. It's created a dialogue within our organization. We report to our quality committee every time it meets. If we're not making enough progress, the committee wants to know why.

MODERATOR | *How do you report this information? Do you report your usage in terms of the amount of the drugs, the sensitivities, when people are not using the appropriate antibiotic, your rate of Clostridium difficile infections back to the clinical staff? What do they do with that information?*

DAVENPORT: We do it through the quality committee, through pharmacy and therapeutics and up through the medical executive committee. The question is: How does that disseminate to the entire medical community? That's the challenge and that's something we're working on.

SRINIVASAN: Do you report back aggregate antibiotic use or are you reporting *C. difficile* and all of the above?

DAVENPORT | *C. difficile* and aggregate antibiotic use. We're working on a dashboard concept, but we're not there yet.

RAJU | We go through pharmacy and therapeutics to a quality committee and then down to the medical executive committee. It goes to the system board and the board of trustees, our quality management team and back to the board. What I've found is that there are so many things that are important, and it doesn't rise up to the top level of priorities. When it does, it's usually when people are worried about infection rates.

DAVENPORT: I agree. It is one of so many

priorities. Our dashboard is huge. And that's the challenge. We're providing a great deal of information to our board. So, our approach is to do things in bite-sized increments and educate them.

SRINIVASAN | So, what helps to move this up? Is it clearer metrics, better metrics? Is it better information on the importance of these programs?

MALANEY | It boils down, in part, to tighter requirements for us as providers to meet quality and cost standards. In Ohio, changes in our Medicaid program may move this up on the agenda. The plan is to look at episodes of care, which have been defined, and where the array of costs and outcomes are across the state. If you're at the wrong end of the spectrum, those organizations are very quickly either going to go out of business or they're going to fix some of this stuff. My bet is they aren't going to go out of business.

Given the incredibly complex environments we operate within, in terms of relationships and steps in the process, we find all kinds of ways to live with inconsistencies and inefficiencies until the money is gone. Suddenly, we get really serious and get better faster, which is what we see going on in the country today.

SRINIVASAN | That type of candor is critically important.

MODERATOR | *Do you look at C. difficile infections as a sentinel event for your organization? If so, how has it impacted your rates?*

RAJU | We have seen a reduction in cases, but in a different way. We started with the dietary selection, giving every patient a probiotic in the yogurt we serve them. Anyone who goes on antibiotics automatically gets yogurt with the probiotic. It's helped us to reduce these types of infections.

MODERATOR | *Have you noticed any change in your resistant patterns of antibiotics? Have you been able to use antibiotics for a longer time without emerging resistance?*

RAJU | We do come across very resistant antibiotic strains. But the fact of the matter is, because the hospital stay is typically short, we are forgetting a major issue — how antibiotics are dispensed in private practices. What we use outside

has a huge impact on what goes on inside the hospital.

MODERATOR | *So, how do we extend this program out into those private practices?*

RAJU | New York state has set up a program to transform the system. It requires hospitals to collaborate with all the primary care physicians outside. If physicians want to work with us, they have to follow certain steps to participate. One of the biggest challenges is glossy brochures and consumer-directed pharmaceutical advertisements.

MODERATOR | *What resources are needed for these programs? How can small and rural organizations, in particular, participate?*

DAVENPORT | We are partnering with a small, rural organization in Mississippi right now. These organizations will have to find alternate ways to get access to necessary resources. One alternative is to use telehealth but, again, it is going to take the physicians' embracing the concept of antimicrobial stewardship because it takes a great deal of time to build this type of program.

MALANEY | Leadership support is essential. At Blanchard Valley, we had infectious disease and pharmacy come together around our mission, vision and value statement. Antibiotic usage is central to how we take care of people. I really appreciate that level of clinical leadership. Our chief nurse executive jumped on board wholeheartedly, recognizing that we can't provide the level of care we seek to provide if we're having this kind of inconsistency. We have a critical access hospital in our system. It is a challenge, but we send pharmacy folks down there to work with them. It's a high priority.

DAVENPORT | We still need to educate the public. When parents bring a sick child into the emergency department, they often ask for antibiotics. We've got to continue to work hard within our communities to educate our public, among other things, about being healthy.

RAJU | From Day 1, we need to start educating medical students and residents about the proper use of antibiotics. We need to figure out how to get to those students and inculcate in them that this is part of rendering high-quality care. ●



Panelists

MODERATOR: John Combes, M.D.
Senior Vice President, AHA, and President,
Center for Healthcare Governance, Chicago

PANELIST: Polly Davenport, R.N.
CEO, Oschner Medical Center—North Shore, New Orleans

PANELIST: Scott Malaney
President and CEO, Blanchard Valley Health System, Findlay, Ohio

PANELIST: Ram Raju
President and CEO, New York City Health and Hospitals Corp.

PANELIST: Arjun Srinivasan, M.D.
Associate Director, Healthcare-Associated Infection Prevention Programs, Centers for Disease Control and Prevention, Atlanta