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Intraoperative Opioid Waste: Critical Impacts and Prevention Strategies

Announcer:
You're listening to *Clinician's Roundtable* on ReachMD, and this episode is an educational grant provided by Fresenius Kabi. Here's your host, Dr. Charles Turck.

Dr. Turck:
This is *Clinician's Roundtable* on ReachMD, and I'm Dr. Charles Turck. Here with me today to discuss the critical impacts of intraoperative opioid waste and how we can address them is Dr. John Hertig, who's the Department Chair and an Associate Professor of Pharmacy Practice at Butler University College of Pharmacy and Health Sciences in Indianapolis. Dr. Hertig, welcome to the program.

Dr. Hertig:
It's a pleasure to be here. Thank you.

Dr. Turck:
Well, to start us off, Dr. Hertig, would you provide some context for the term "opioid waste" and the primary factors contributing to it?

Dr. Hertig:
Sure. Yeah, my pleasure. Very simply put, opioid waste is when whatever we order and administer, and we're talking about opioids—fentanyl, morphine, hydromorphone—whatever we order and administer doesn't match the product presentations that we're actually carrying in our particular health system, and that could be because of formulary or availability. So it's that difference between what's actually given to the patient and the product size. That difference is waste.

Dr. Turck:
And what could you tell us about the environmental, regulatory, and financial costs of opioid waste?

Dr. Hertig:
Well, unfortunately, based on our research, there's plenty of opioid waste in our hospitals and health systems today—really, far and away, more than we would want. We're looking at trying to be good stewards of our resources, but oftentimes, we're throwing away half, if not more, of our opioids. And specifically, we've looked at fentanyl, morphine, and hydromorphone.

So when we're looking at some of those factors, really the holistic factors, there's reason behind why we're wasting. Most often, it's because the product isn't matching practice. For example, you might have 100 mcg of fentanyl available, but that patient needs 50 or maybe only needs 25, and so we're seeing a lot of that waste, which is bad in and of itself. But then, because they're opioids, we have to comply with the regulatory requirements of wasting, which is often two individuals witnessing that waste. That takes valuable workforce time away from patient care, but then we're also disposing of that waste, and there's an environmental impact as well as a cost impact of doing so.

What we're trying to do is make a more sustainable health system and efficient health system, and waste really flies in the face of that.

Dr. Turck:
Now, how about our patients? How does intraoperative opioid waste impact their care, especially in terms of outcomes and safety?

Dr. Hertig:
Well, safety and outcomes are really the most important things, so I'm glad you asked about that. And when it comes to safety, the more opioid waste we have floating around our hospitals and health systems, the more opportunity we have for that waste to potentially be

diverted. I know that isn't common, but it can happen, and that can directly impact patient care.

The other thing, though, is when we're wasting, we're pulling that valuable healthcare workforce away from patient care. So rather than providing that direct patient care, they're going and having to comply and document waste, which is a non-value activity. It's a regulatory compliance activity, but it takes away from direct patient care. So I'd rather repurpose our valuable workforce and put them in front of the patient who really needs them.

Dr. Turck:
For those just tuning in, you're listening to *Clinician's Roundtable* on ReachMD. I'm Dr. Charles Turck, and I'm speaking with Dr. John Hertig about intraoperative opioid waste.

So, Dr. Hertig, now that we know more about these significant impacts of intraoperative opioid waste, let's explore how we can address the issue, especially in light of recent research highlighting the connection between lower doses of intraoperative opioids and a reduced risk of adverse post-procedural events.

But before we dive into specific solutions, would you comment on this research?

Dr. Hertig:
I'd be happy to. And thank you for asking about this study. It's really a one-of-a-kind piece of work, and it's a large study. It included over 170,000 patients over nearly 10 years, and there are few major takeaways from this particular research regarding opioid waste.

One is, we know, looking at, say, 50 mcg of fentanyl versus 100 mcg of fentanyl, that the lower doses are associated with less waste. That means more sustainability, lower workforce time, and lower impact on the environment, which is really important. We also know that using more than one opioid is associated with less waste as well. So the fewer number of opioids we use, the less waste.

But most importantly, from an outcome's standpoint, that lower dose of opioids—let's just say, again, 50 mcg of fentanyl versus 100 mcg or over—is associated with fewer category E and F harm events. And those are from the NCC MERP, National Coordination Counsel for Medication Error Reporting and Prevention.

Like I said, it just slips off the tongue. But we're looking at those E and F events in a reduction if we use lower opioids. Those E events include postoperative nausea and vomiting, postoperative desaturization, and somnolence requiring some type of intervention. These are real harms to patients. But then those F events are hospitalization or re-admission.

So if we can reduce those with lower doses, we absolutely should, in addition to the benefit we're going to gain from lower waste and better use of our valuable healthcare workforce.

Dr. Turck:
And how might the use of ready-to-administer syringes with smaller doses help us address the issue of intraoperative opioid waste? And how can we best adopt them into practice?

Dr. Hertig:
Well, we know through our research that, one, those manufacturer-prepared ready-to-administer products, are also safer, so we'll talk about that safety piece first.

They're associated with a statistically significantly, lower rate of process errors. But we also know by using those that we're matching product with practice because they're going to come in those smaller sizes, where we're going to have less waste, less opioid floating around our health system. And, hopefully, we can get to a point where clinically, in our order sets, we're matching products with practice, we're using that least clinically necessary dose, and we're not giving excess opioids to patients in these intraoperative spaces.

Dr. Turck:
And before we close, Dr. Hertig, how might implementing these strategies impact surgical protocols, patient outcomes, and overall healthcare efficiency?

Dr. Hertig:
Oh, absolutely. The solutions are the things that matter most because we're trying to impact practice, and clearly, through this evidence space that we've created, the study we talked about today, and also previous research that my research team has done, we've shown that we want to match product with practice. Use that least amount of opioid needed for that patient because what that'll do is reduce the amount of actual product waste, so we can be better stewards of our resources. We can be better stewards of the environment and be sustainable, but also, then, we won't have to have our workforce waste. You don't have to engage in the compliance space, so we can repurpose our workforce to direct patient care. And now we know there's better outcomes. So, what's better than that? It's a win,

win, win.

As a result, we should be looking at our order sets and our protocols and working with our vendors as well as our P&T committees to ensure that we're bringing in those opioids—ready-to-administer products that are matching product with practice. And that's how we make the biggest impact on healthcare today when it comes to waste.

Dr. Turck:
Well, with those potential impacts in mind, I want to thank my guest, Dr. John Hertig, for joining me to discuss strategies for reducing intraoperative opioid use.

Dr. Hertig, it was great having you on the program.

Dr. Hertig:
Thank you for having me.

Announcer:
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