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**THOMAS RADOMSKI:** All right, welcome to Making It Stick. My name is Thomas Radomski, and I'm an Assistant Professor of Medicine within the Division of General Internal Medicine at the University of Pittsburgh. I'm a practicing primary care physician and health services researcher, and the title of my talk is, Opportunities to Decrease Low-Value Prescribing: Translating Research into Practical Clinical Solutions.

So the objectives for my talk, first, I'll describe why low-value prescribing is a serious health problem. Next, I'll review patient and caregiver perspectives on low-value prescribing and barriers to deprescribing in clinical practice. Next, I'll introduce a practical step-by-step approach to decrease low-value prescribing in your patients. And then lastly, I'll preview deprescribing resources to facilitate system-level change.

But first, what is low-value prescribing? So low-value prescribing is defined as the potentially inappropriate or prolonged use of an unsafe, ineffective, or unnecessarily costly medication. And you can see here on the figure on the right side of the screen, and this applies to any overused service, whether it be a medication, test or procedure, that that overused service can result in downstream unnecessary service use. And this results in short and long-term consequences that can be physical, psychological, or financial in nature. This can result in dissatisfaction with health care and erode trust in the health care system.

And there are several different dimensions that we consider when we adjudicate the value of a medication, or really any health service, for that matter. And on a basic level, any health service where the cost exceeds the quality, appropriateness, or service would be considered low value. On the flip side, any service where the quality, appropriateness or service exceeds the cost would be considered high value.

But specifically focusing on low-value prescribing, why is this a problem? So 30% to 50% of older adults have received a potentially inappropriate or low-value medication. Over 40% of adults aged greater than or equal to 65 have been subject to polypharmacy, which means receiving five or more medications.

And among Part D beneficiaries, 35% have reported difficulty affording their medications. And even in a more regulated health care system, such as the Veterans Health Administration, among a cohort of 2.8 million veterans aged 65 or older, as many as 36% have received a low-value prescribing practice. And these data are from 2021.

So what do patients, caregivers and clinicians think, or what are their perspectives on low-value prescribing? And we conducted a series of studies to identify the most significant factors that impact the perceived value of a medication from the perspective of patients and caregivers. And we sought to identify those factors that influence low-value prescribing, as well as obtain clinicians suggestions for acceptable interventions to decrease low-value prescribing as part of routine clinical practice.

To do this, we conducted six focus groups of older adult patients or their respective caregivers, who were prescribed five or more medications, and conducted 16 semi-structured interviews of primary care providers who care for older adults. And so in summary, what we found was that patients are open to deprescribing of those medications in which they do not perceive a benefit relative to its hassle or its monetary cost.

We also found that low-value prescribing is well recognized by physicians, and that successful interventions to address low-value prescribing must consider physicians' perspectives and the patient prescriber and health system factors that sustain low-value prescribing as a default practice.

And here's a quote from one of our physicians. "The outpatient environment is very busy, and there are so many things to talk about in an office visit that going through the medications and really trying to figure out if something is low value for the patient-- that sometimes doesn't make it to my to-do list for that office visit."

And this quote is really emblematic of many of the other quotes that we obtained from physicians, where it really seemed like time was the number one barrier that physicians experience when trying to decrease low-value medications. So what is a tool that physicians, nurse practitioners, physician's assistants, might be able to apply in their clinical practice to safely reduce low-value prescribing?

And the name of that tool is called VIONE. And so the VIONE framework to enhance medication value, this is a simple, user-friendly approach to reduce polypharmacy and improve medication safety and value. And this tool was developed by Dr. Saraswathy Battar, who's a physician in the VA health care system.

And here's the VIONE framework to enhance medication value. So the V stands for Vital, or life-sustaining medication, which you should continue. The I stands for Important, which is a medication to continue or consolidate based upon the patient's preferences, how it affects their quality of life or controls their symptoms.

O is for Optional. So this is a medication where you would weigh the benefits versus risks, engaging in shared decision making with the patient. N is Not indicated or complete. This is a medication that you would stop or potentially taper. And the E stands for Every prescription has an indication, meaning that you should reassess the indication for the medications that a patient is taking with each encounter.

And this is a simple framework that can be applied by a physician, a nurse practitioner. Or it could be applied by a clinical pharmacist or a member of your staff who is doing medication reconciliation or hoping to deprescribe medications for patients in your practice. And so what are the real-world impacts of VIONE? And these data are a few years old, so the impacts are even greater at this point in time.

But within the VA health care system, we see that 77,000 veterans have participated in VIONE deprescribing interventions, resulting in 168,000 medications deprescribed, with an annual cost avoidance of $5.8 million. So this is an approach that really has worked within the VA, and is simple enough, and can be applied by enough members of the multidisciplinary health care team that it really can work in other settings as well.

And so let's just take one example here where we apply the VIONE framework for a fictitious patient, Mrs. A, who's on the medications that you can see here on the left side of the slide. Her past medical history is hypertension, hyperlipidemia, subclinical hypothyroidism, and acid reflux.

I should mention that she's 81 years old. Her pulse is 68 and her blood pressure is 109 over 72. And so if we apply the VIONE framework to the fullest taking into account other low-value or potentially inappropriate medication criteria, what you see here is we're able to make substantial reductions to the number of medications on her list and also the frequency of dosing. More specifically, we're able to go from 8 to 4 total medications, 12 to 4 total pills, and 3 to 1 dosing times throughout the day.

And so what's next in low-value prescribing? There are really two emphases that I would like to highlight today. Validated measurement of low-value prescribing, and then implementation of practical interventions. One tool I'd specifically like to highlight is called Evolv-RX, which stands for Opportunities to decrease Low-Value Prescribing.

This is a tool that myself and my team have developed which consolidates and prioritizes greater than 500 medication-related recommendations and with the help of an expert panel, and further input by patients, caregivers and practicing clinicians. This metric represents the 18 most scientifically valid and clinically useful low-value prescribing practices to detect and deprescribe in older adults.

And this tool has been and is continuing to be operationalized, to be integrated into existing health care tools such as the Electronic Health Record, or other tools that use administrative data to detect low-value prescribing. And here are just a few examples of this tool.

You can see here that we have gabapentinoids for non-neuropathic pain and proton pump inhibitors as two medications that, based upon the duration of use, the other medications that a patient might be using, the age of the patient, other medical problems that they might have, or based upon the dose, would flag as a low-value prescribing practice. And this tool can be automated to detect this in patients.

Additionally, there are roadmaps available to adopt deprescribing in clinical practice. This is a roadmap that was put out by the Institute for Healthcare Improvement with a step-by-step approach to help if you would like to develop deprescribing quality improvement intervention in your practice.

Additionally, Deprescribing.org has a number of great resources available, including academic detailing resources, clinical algorithms to taper medications, and also patient-friendly materials. So in summary, low-value prescribing is common, affecting up to 50% of older adults.

Patients are open to deprescribing that aligns with their values and preferences, but successful deprescribing is often limited by patient, prescriber, and health system factors. VIONE is an easy to use framework to facilitate deprescribing, and resources are available to automate and scale deprescribing in your clinical practice.

Thank you very much for your time, and please feel free to email me if you have any questions. And I look forward to engaging you in the chat.