## **Transcript Details**

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A call to action: optimizing treatment in CKD

Welcome back. We are now going to talk about implementation and how we translate this wonderful evidence that we now have into practice and improve the care of people with chronic kidney disease. Firstly, my disclosures. They include that I've worked with a number of companies that produce SGLT2 inhibitors.

Well, a great place to start is with the guidelines. The KDIGO group have produced an updated guideline for the care of people with diabetes and chronic kidney disease. There are many lessons here that we can translate into people with chronic kidney disease but without diabetes. The first lesson is where you start at the base of the pyramid and make sure that everyone has good advice on diet, on exercise, on not smoking or stopping smoking if they are smoking, and on weight control. The important next step, though, is when people need medication. What KDIGO is now recommending is a multiple-pronged approach. People should start with metformin and with an SGLT2 inhibitor and RAAS blockade and a statin. That's based on the proven benefits of all these agents for preventing progression of chronic kidney disease.

We can't take implementation for granted. We, two decades ago, learned that ARBs and RAAS inhibition help prevent the progression of chronic kidney disease. Despite that, over the next two decades, we haven't seen perfect uptake. In this study from the US, you can see that only one in five adults with chronic kidney disease was receiving RAAS blockade. Things are better with the SGLT2 inhibitors. What I'm showing you here is information from the UK. In people with diabetes, but in this instance without chronic kidney disease, we've seen an uptake of SGLT2 inhibitors. Now, nearly 30% of people are receiving an SGLT2 inhibitor. You can see that uptake over the past few years has been quite promising.

It's worth thinking about who's prescribing. This is information from over 90% of USA prescriptions. You can see that there's been a steady growth in SGLT2 inhibition prescription over that time. Most of the prescription comes from primary care. They're the people who see most of the patients after all. You can also see that there's a strong prescription from endocrinologists there in the green. As nephrologists, we want to know of course what we are doing, and we are that little red line at the bottom. You can see we have quite a way to go. Now, this is maybe reflecting that the primary trials in kidney disease have been only published relatively recently. CREDENCE was the first in 2019, but we want to see more growth reflecting that knowledge.

This graph here is showing you the volume of prescriptions by providers. On this one, we are now seeing that the endocrinologists per head are doing most of the prescription in the SGLT2 inhibitors in the blue and GLP-1 receptor agonists. If we look across that graph, you see nephrology second last to the right-hand side. You can see that the per provider, the prescription of SGLT2 inhibitors is very low.

That's something we want to improve because we're seeing the patients who are at most risk for progression of kidney disease. Across the board, we are seeing that the highest-risk patients, those who are most likely to benefit, also seem to be least likely to be being prescribed these agents. Here, we are looking at US information from 2018 to 2021. These are high-risk patients. These are patients with known atherosclerotic cardiovascular disease and with diabetes, people who would clearly benefit from an SGLT2 inhibitor or GLP-1 receptor agonist overall. You can see there that the uptake of those two agents is less than 20% and lags behind DPP-4 inhibitors. There's a clear gap there between risk and actual exposure and access to these drugs.

In the UK as well, we are also seeing people at higher risk are less likely to receive these agents. What you're looking at here is the same information, the same study I showed you before, people without chronic kidney disease on the right, but on the left we're seeing people with chronic kidney disease. You can see there that the uptake of SGLT2 inhibitors is much less. That's a gap that we need to address as providers.

Who is it who are not receiving the agents? Well, in the US, if you are older, if you're female, or black or African American, you are less likely to receive an SGLT2 inhibitor. That's information we can use as providers when we are seeing patients with those characteristics being especially conscious of whether or not they would benefit from one of these agents. We're also seeing that people with multi-comorbidities are less likely to receive these agents. Again, people with chronic kidney disease are less likely to receive them. People with atherosclerotic cardiovascular disease and even people with heart failure are less likely to receive these agents. Clearly a gap there between those who have most to gain and those who are getting access to these agents. In the trials, we saw adherence that was around two to two and a half years exposure for the trials, and about 85% adherence overall. That was the exposure that led to the evidence that showed such fantastic benefits.

What are we seeing in real life? Well after prescription, adherence and persistence drops off, firstly, adherence at six months overall in a meta-analysis of various studies, 60% of patients are adherence to an SGLT2 inhibitor. By a year, that's down to 50% And there's similar rates for persistence. That's the time before you've stopped taking the drug. This exposure in the real world looks like it's shorter than the exposure in the trials.

What we really need to do is maximize adherence and persistence to try and at least equal the benefit that we saw in the trials and ideally keep patients on these drugs for life while they remain at risk. There is variation, of course. Adherence is higher in Denmark from this study that showed adherence rates of over 60% for SGLT2 inhibitors and GLP-1 receptor agonists. And there are things to learn from, maybe systems where there is better adherence that we can apply overall.

What are some of the barriers to uptake? This survey asked clinicians, both experienced clinicians and newly trained clinicians in a variety of settings-tertiary education settings, general clinics. What they came up with was that there are a few things that came out as large barriers. Firstly, lack of time and personnel to work through side effects. This is clearly an important thing in the care of our patients that we equip patients with the knowledge and the skills, and that takes time. We need to think of ways that we can deliver that. Lack of experience or comfort in prescribing SGLT2 inhibitors came out as quite a large factor. Nearly one in three people reported that. Now that's the inertia at the start of prescribing a new agent. And we need to find ways to help our colleagues overcome that. Lastly, costs associated with medication costs or co-payments. The things that helped were participating in conferences helped. Just equipping people with knowledge helped them in prescribing. Having readily available knowledge, even through social media was an asset. Lastly, professional guidelines. One in three found that guidelines helped, so some things that we can build on that are already widely available.

There's some tools that you can have at the point of prescribing. This one was developed by KDIGO and is a short summary of what's a very long document on their guideline. It helps focus in on the things that you need to be thinking about when you're assessing a patient and whether they'd be suitable for an SGLT2 inhibitor, potential contraindications that you might want to think about. Risk factors that you need to assess, like glycemic status and volume status, which are the factors you might be able to modify at that point. Then interventions that are available, education you need to give the patient, and when you need to follow up.

We've seen from the previous speakers that SGLT2 inhibitors do safely provide kidney and cardiac protection for people with diabetes, or with people with chronic kidney disease, or both. That's been tested in large clinical trials down to an eGFR 20 mL/min. We've seen, fortunately, that uptake is better than it was for RAAS blockade, but it is still patchy and there's certainly a gap and a means there for us to improve outcomes. We know we need to find ways to safely keep patients on proven treatments and to understand the best ways and the safe ways to do that. There's clearly a space for implementation trials and quality assurance activities that can help us safely keep patients on these agents. The motivation for that is really readily apparent. We know these agents do prevent progression of chronic kidney disease and prevent cardiac failure and other cardiovascular results. The incentive to get this right is very high. Thank you.

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