**Accessible transcript: Optimising the use of antibiotics in the management of urinary tract infections in aged residential care webinar (23 February 2023) – Clinical decision-making using the decision support tool**

***Video link:*** [***https://www.youtube.com/watch?v=Av0ybxBspVA&list=PLqL5-6uWOmWfnW6mTl7BBSe3hSomPqXO5&index=3***](https://www.youtube.com/watch?v=Av0ybxBspVA&list=PLqL5-6uWOmWfnW6mTl7BBSe3hSomPqXO5&index=3)

[Visual] The Te Tāhū Hauora Health Quality & Safety Commission (Te Tāhū Hauora) old logo appears on a white background. A white title then appears on a blue background: ‘Optimising the use of antibiotics in the management of urinary tract infections in aged residential care’. A second title appears on the blue screen: ‘Clinical decision-making using the decision support tool – Julie Daltry, PhD candidate nurse practitioner, MN (hons)’.

The opening slide of Julie’s presentation appears. The side has a blue and pink gradient on the left side, with the Te Tāhū Hauora old logo in white in the upper left corner. The text on the slide reads: ‘Clinical decision-making using decision support tool. Julie Daltry. 23 February 2023’. A video of Julie Daltry appears in the upper-right corner of the screen. She has long dark hair and red-rimmed glasses.

**[Audio] Julie: So, I am going to talk about this. Matt, if you wouldn't mind moving me on to the next slide. Thank you.**

[Visual] The slide changes to show the words: ‘Module two: use a decision-support tool to check whether signs and symptoms meet criteria for UTI’.

**[Audio] Julie: So, I'm just going to talk about module two. You'll find this information on the website. Thank you.**

[Visual] The slide changes to show the following title: ‘Key interventions’. Below this are a series of bullet points: ‘Use a decision-support tool to check whether signs and symptoms meet UTI criteria. Only use dipsticks to rule out UTI, not to diagnose. Only when UTI diagnostic criteria are met: request or initiate empiric treatment, collect urine samples.’

**[Audio] Julie: So, key messages from this part. It is short, ten minutes, so we'll just stick to key messages. The point that we're trying to make here is that you diagnose a UTI using the diagnostic criteria. We're not using dipsticks to diagnose urinary tract infections. The reason for that is the amount of people that live in aged residential care who have asymptomatic bacteriuria. So, there's lots of people out there who have bacteria in their urine causing them no harm whatsoever. This is not a clinical UTI. So, if we don't want to dip it and find false positives, we do recognise that there are times when ruling out UTI can be really useful. So, we've kept them for that purpose, but they are not there to diagnose UTIs. Obviously, when the diagnostic criteria is met, we do want you to get on and treat them. So, give them some antibiotics and let's collect a urine sample for microscopy. So, to the lab. Yes, thanks, Matt.**

[Visual] The slide changes to show a decision-support tool in the form of a flowchart. In the middle of the flowchart is the question: ‘Does the resident have an indwelling urinary catheter?’ The answers and boxes on the right side detail what to do if the answer is yes, and the boxes on the left detail what to do if the answer is no.

**[Audio] Julie: This is the top half of the decision support tool. There's a couple of things I want to point out on this. First and foremost, this is for good old stable UTIs that you are already managing in aged residential care. So, we are not talking about urosepsis. We are not talking about pyelonephritis or kidney stones or anything complex like that. We're talking about the good old UTI that you guys know and love. We know that you have an idea in your head already around what that looks like. So, this flowchart starts with the, I think they might have a UTI.**

**So, I'm going to pop down the, what is on my left side here, and so we're asking, do they meet any of the diagnostics? So clinical diagnostic criteria. Clinically, do these people have a UTI? Well, good old first and foremost, if they have pain on urination, good old burning and stinging, it hurts like bejesus when I go to the loo, that's it, clinical UTI. Providing it's new, of course, clinical UTI. If you haven't got that, let's look for a temperature. If people have got a temperature, they've got an infection. So, if they've got an infection, a fever, plus one of the other symptoms that's really specific to urinary tract infections, that'll work, too. So, a fever and frequency, a fever and urgency, a fever and incontinence, all of those, of course, being new or increased. So not somebody who's already incontinent all the time, but a new or increased incontinence along with fever.**

**But I just want to point out the fever in the older person. I'm sure you know, older is colder. So, you can see our level that we're — the cut-off level for a fever, over 37.2, is much lower than you would see in acute care. Or you can do that by just over one degree above baseline. And given the amount of temperature monitoring you all did over the full-on COVID period, you've probably got baselines out there for most of your residents. It's another way of going about it.**

**If you're unlucky enough not to have a fever and not to have one of the other signs, we're essentially looking for those same other signs, but we're looking for two of them. So good old urgency and frequency together, providing it's new and increased will work. Suprapubic pain and new or increased incontinence equally will work. But we are looking for tick boxes here. The other side of the support tool is about catheters. We have a lot less people with catheters, so I’ve got to stick to the left-hand side just for this presentation. So, Matt, if you wouldn't mind. Thank you very much.**

[Visual] The slide changes to the bottom half of the flowchart on the previous slide. This chart outlines what to do if the clinical criteria for a UTI are met and what to do if they are not met.

**[Audio] Julie: So, you've decided clinically it's a UTI. You've met the criteria, so what are you going to do next? This little tool says, fantastic, contact your primary care provider. That's not rocket science. It's what you do already. So, you're going to need a specimen and you're going to want a prescription from antibiotics because you've got clinical criteria to say this is UTI. You're looking for an antibiotic that's specific to UTI. This is an empiric, so this is based on the clinical view. But what you actually want to do as well is make sure the person did meet the criteria microbiologically. So, you're going to collect a specimen. And once that's gone away and come back, you're going to check it.**

**We're saying here, don't wait forever to collect that specimen. It's not fair. It's not okay to leave somebody in pain of a UTI or waiting. So, we've put an arbitrary figure here of don't wait for more than a couple of hours. I think in reality, by the time you contact your GP, you get the antibiotics on site, that's probably about the sort of window, but nobody's going to, nobody's going to worry too much if it's a couple of hours, 2.5 hours or 1.5 hours, whatever. And what we do want you to do, though, is once you get those lab results back, is have a look at them. If they were, they have the right amount of colony-forming units, so over ten to the power of five, if they haven't got a catheter, and the antibiotic met the sensitivities of the bacteria, all good, patient getting better. You've finished. You've moved on. If, however, you have less bacteria than meets the criteria for a UTI or you have an antibiotic that doesn't meet the sensitivity of the bacteria, then of course, you're going back around the loop and coming back to your primary care provider to talk about what might be going on. All righty. Sorry, Matt, if you could do the next one. Thank you.**

[Visual]: The slide changes to one titled ‘Non-specific urinary symptoms’. The slide has the following text: ‘UTI diagnosis relies on the criteria in this pathway’. There are bullet points below this that read: ‘colour: food/drink, medication’, ‘smell: diabetes, dehydration, food, medications’ and ‘cloudy: bladder debris, dehydration’. Below this is a green bubble with the text ‘change is key’ inside it. On the right-hand side of the slide is an image from MedicalNewsToday titled ‘colors of urine’, which is a colour wheel of different possible urine colours alongside possible causes.

**[Audio] Julie: I just want to talk very briefly about some non-specific symptoms. Now, of course, we know when people get urinary tract infections that the colour and the consistency of the urine probably does change, and that may indicate a UTI. But we're calling that a non-specific sign because there are so many other things that can change the colour and consistency of urine. So, while that might be part of a clinical picture, it's not in the criteria because it's not specifically targeted at a UTI. Lots of other potential causes. Next slide, thank you, Matt.**

[Visual] The slide changes to one titled, ‘Non-specific general signs and symptoms of deterioration’ with the sub-heading, ‘UTI diagnosis relies on the criteria in this pathway’. There are three bullet points underneath the sub-heading. They are: ‘These include cognitive, behavioural, functional and physical changes: confusion, stopping eating or drinking, reduced mobility or ADL status, falling or vital sign changes’, ‘These are important signs of deterioration that need rapid investigation, with many potential causes’, and ‘If there are no specific UTI symptoms, investigate other causes of deterioration’.

**[Audio] Julie: Equally, those other changes that you see in people when they become unwell, so those cognitive, behavioural, functional, physical changes. So, by that, I'm saying things like confusion. So, they might be a bit delirious. They might be more confused than usual. They might be refusing their food. They might not be, they might be a bit off their legs, not moving as much as they usually do. They might have fallen over. All of those are really, really important signs of all-cause acute deterioration. They absolutely need investigation. They absolutely need a solution. They may be a UTI, but they are not specific to a UTI. Once again, we're talking about symptoms that could have multiple causes. And I can tell you this, as part of my PhD work, is that these kinds of symptoms are all cause, any and every cause can have this kind of presentation when somebody is acutely unwell. So absolutely, they're acutely unwell. They may not, however, be a UTI. They may be, but they may not be. So, it's not specific to a UTI. Next slide, please.**

[Visual] The slide changes to one titled, ‘Residents with dementia or unable to communicate’. There are then the words, ‘Look for signs and symptoms:’ with several bullet points below: ‘dysuria/urinary change: changes to urination (frequency, urgency, grimacing with urination); increased or new urinary incontinence; distress with passing urine’ and ‘suprapubic or flank pain: protecting or massaging the area of discomfort; reluctance to move; vocalising or grimacing, agitation/restlessness’. There is a teal-coloured box on the right-hand side of the slide with text inside it that reads: ‘Observe and record any signs that can help make a correct diagnosis. Resident-specific history may be important’.

**[Audio] Julie: Okay, these are the ones that give us all major anxiety. People who are unable to communicate. Easy to ask somebody, are you burning and stinging when you pass urine? But not so easy with these guys. The criteria, however, doesn't change. But your detective work in how you find this is going to change. So, you are going to have to be a little bit more of a detective. So, increased urination. If people are incontinent, how are you going to find that? They're going to go in their pad. Well, their pad might be heavier. They might want to take their pad off more often. They may be a bit more distressed. They might keep getting up and down because they're looking for the loo. They don't know where the loo is. So, they’re more up. They're more down. They're more agitated. You might find that they have pain. Again, similar. You're going to see a bit of agitation. You might see some grimacing. You might see some holding. You’re going to have to think a little bit more laterally about how you find those symptoms.   
  
The other thing that you might find, and I think this is completely reasonable, is you may have specific residents. Mrs Daltrey, who lives in my care home, who has confusion, and it's always worse when she gets a UTI. We've got this history of what's going on. We're going to take a specimen. We're going to go to a doctor. And you've got a specific care package or plan around a specific individual, and I think that's absolutely fine. Next slide, please.**

[Visual] The slide changes to one with the same heading but with different bullet points below. They are: ‘Initial signs that “something is wrong” may be cognitive, behavioural, functional or physical changes: confusion, not eating or drinking, reduced mobility or decline in ADL status, falling or vital sign changes’ and ‘The diagnostic criteria for a UTI do not change, but detection is more challenging and individual approach may be necessary: Hx, Exam, Differentials; Risk vs benefit’. On the right side of the slide is a teal-coloured box with text inside it that reads: ‘Observe and record any signs that can help make a correct diagnosis. Resident-specific history may be important’. Below this box are five teal-coloured cloud shapes, all joined in the middle by smaller circles. The boxes read: ‘Early GP/NP’, ‘Biological sex’, ‘Health History’, ‘UTI/GU History’, ‘Change from usual’.

**[Audio] Julie: If you don't have that kind of history, you're going to have to do some detective work. So again, the diagnostic criteria for UTI doesn't change, but you're going to have to start thinking a bit deeper into their history. How am I going to decide whether this is a UTI or not? So, there are some clues in people's history that might push you towards a UTI. They may have GI issues. They may have diabetes. They would more often be biologically female. They may have problems with gynecologically. They may have had thrush-type infections. All of those things would push you more towards a diagnosis. You are going to have to physically examine them. They're obviously unwell, but do they have sensitivity in their lower abdomen or actually do they have a chest infection when you listen to them? You're going to have to come up with a list of differentials and then you're going to have to say, okay, of all of my possibilities, is UTI still top of my tree of most likely? And of course, getting back to your GP. And this is all risk versus benefit, isn't it? We don't want to overexpose people to antibiotics, but we don't want to delay either and make them unwell. Next slide please, Matt.**

[Visual] The slide changes to one titled, ‘Research for tricky customers’. Below this are three references:

* D’Agata E, Loeb MB, Mitchell SL. Challenges in assessing nursing home residents with advanced dementia for suspected urinary tract infections. J AM Geriatr Soc. 2013 Jan;61(1):62-6. Doi: 10.1111/jgs.12070. PMID: 23311553; PMCID: PMC3545416. : Over exposing older people in ARC to antibiotics and negative effects
* Gharbi M, Drysdale JH, Lishman H, Goudie R, Molokhia M, Johnson AP, et al. Antibiotic management of urinary tract infection in elderly patients in primary care and its association with bloodstream infections and all cause mortality: population based cohort study. *BMJ.* 2019;364:I525 10.1136/bmj.I525 [PMC free article] [PubMed] [CrossRef] [Google Scholar] : delay increases mortality
* Shallcross L, Rockenschaub P, Blackburn R, Nazareth I, Freemantle N, Hayward A. Antibiotic prescribing for lower UTI in elderly patients in primary care and risk of bloodstream infection: A cohort study using electronic health records in England. PLoS Med. 2020 Sept 21;17(9):e1003336. Doi: 10.1371/journal.pmed.1003336. PMID: 32956399; PMCID: PMC7505443. Above study flawed doesn’t increase blood stream infection from UTI but mortality in next 60 days is increased - ? Cause

**[Audio] Julie: So, there is some research around this stuff. This nice piece of research that says in aged residential care, particularly people with advanced dementia, we are overexposing them to antibiotics, unnecessary antibiotics. If they need them, they should have them, but let's not give them and give them side effects and potential resistant organisms if they don't need them.**

**Then, kind of fighting that, was this wonderful piece of research that came out that said, yeah, but if you delay giving them antibiotics, they're going to die. Oh my God. Now we're in this dilemma, and this is where nurses find ourselves all the time. If I give them antibiotics, I might cause them harm. If I don't, I might cause them harm. And that is the tricky balance.**

**Following that second study that said, hey, these people will die more soon if you don't give them antibiotics, there was another set of people that looked at that same, exactly the same, data and came to a completely different conclusion. They said, actually, there were flaws in that study. There is some evidence that people are dying. The people with dementia are dying, but they're dying like two months later.**

**So actually, we've got no idea why, two months later, whether it was anything to do with a UTI or whether actually people with really advanced dementia are actually already really at risk of dying anyway and the UTI's incidental. So, the research is mixed. For those people it is going to be, I think, a case-by-case scenario. But for the majority of our people, we have criteria. We can measure against that criteria, and we can make a diagnosis. Thanks, Matt.**

[Visual] The slide changes to one with a blue gradient and dark blue koru patterns as the background. It has the words ‘Ngā Paerewa Infection Prevention & Antimicrobial Stewardship. Improving the use of antibiotics for UTI in Aged Residential Care sector. Claire Underwood Principal Advisor. HealthCERT.

**[Audio] Julie: That's it from me, because otherwise I'll go way past my ten minutes.**

**Nikki: Next, we'll have Claire provide a little bit of information how this project and the work related to appropriate use of antibiotics for UTIs relates to the Health and Disability Service Standards. Thanks, Claire.**

[Visual] The slide fades and is replaced with a white background. The old Te Tāhū Hauora logo appears, followed by the New Zealand Government logo.

[End of video]