

Choosing Wisely Summer Student - research findings, Dec 2017

Choosing Wisely approach likely linked to reduced urine testing at Hutt Valley DHB

Medical student Aidan Wilson recently undertook a study into the impact of a project at the hospital to reduce inappropriate urine testing. The project, led by infectious disease physician Matthew Kelly and the antimicrobial stewardship team, included the removal of urine dipsticks from the orthopaedic, plastics and medicine wards, along with education to nurses about urinary tract infection (UTI) testing and diagnosis. The project began in March 2016 and is still underway.

Testing the urine in patients with no symptoms of urinary infection can lead to unnecessary treatment with antibiotics. This can in turn lead to antimicrobial resistance, antibiotic-associated colitis or other drug-specific side effects. Studies have shown that urinalysis is performed for almost half of inpatient admissions, with one-third including urine culture.

Aidan's work was sponsored by the Council of Medical Colleges and took place under the umbrella of the [Choosing Wisely](#) campaign, in the Hutt Valley DHB. *Choosing Wisely* encourages consumers and clinicians to discuss whether certain tests, treatments and procedures are really needed.

He found there had been a statistically significant decrease of 22 percent in average monthly urine culture requests since the intervention began.

"The finding that there had been a decrease in testing was not a surprise, but what was unexpected was the size of the decrease," he says.

He believes the removal of urine testing dipsticks from wards was a key driver.

"The urine dipstick was the trigger for sending the samples away to the lab. So you had to be more confident in recognising the signs and symptoms of a urine infection rather than relying on the dipstick."

Aidan's study had two components – looking at urine test laboratory data; and surveying nurses and house officers at Hutt Valley DHB.

Findings

Urine testing

Results of urine samples from the period before the first removal of urine dipsticks in September 2016 were compared with the period afterwards, to October 2017.

As well as a 22 percent decrease in average monthly urine culture requests, the use of trimethoprim (an antibiotic used mainly in the treatment of bladder infections) steadily decreased, and there was a statistically significant decrease in the diagnoses of UTIs per quarter of 17 percent.

Surveys

Nurses at Hutt Valley DHB were asked about their current knowledge, attitudes and behaviours related to urine testing of patients; while the current practice behaviours of house officers around urine testing of patients were gauged. Fourteen house officers and 37 nurses completed the survey.

The surveys of nurses found:

- 68 percent incorrectly believed an abnormal urine dipstick result was an indication of a UTI
- 35 percent were not aware that lower abdominal pain was associated with UTIs
- 87 percent would take a urinalysis for a patient who has experienced increasing confusion.

Practices around prescribing antibiotics for bacteriuria and requesting of urine tests either decreased or stayed the same, with house officers believing the likelihood of these practices decreased in 2017 compared to 2016.

Aidan is right behind the *Choosing Wisely* approach.

“There are lots of different tests you could do, and the easiest, seemingly safest option is to do everything. But it’s always about what’s best for the patient, and that means reducing unnecessary tests and just doing what’s required.”

A PowerPoint presentation of Aidan's study is available.