

People listed in ARC dispensed an antibiotic specifically indicated for UTIs, rate per 100

Technical information	
Indicator name (short)	People dispensed an antibiotic specifically indicated for urinary tract infections (UTIs).
Description	This measure details the rate per 100 of people listed in an aged residential care facility (ARC) dispensed an antibiotic specifically indicated for UTIs.
Rationale	Nitrofurantoin or trimethoprim are recommended as first-line treatment for UTIs. Norfloxacin is second-line treatment. The rationale for this indicator is to explore the use of antibiotics for UTIs, with a view identifying whether there are areas of high use of these antibiotics. A Cochrane Review (2015) concluded there was no clinical benefit from treating asymptomatic bacteriuria in the studies included (www.cochranelibrary.com/cdsr/doi/10.1002/14651858.CD009534.pub2/epdf/full).
Numerator	People aged 65 and over living in an aged residential care facility (ARC) who were dispensed an antibiotic for UTIs in a year.
Denominator	People aged 65 and over who had a GP consultation in a year and are listed in the aged residential care facility (ARC) database.
Inclusions	Chemicals: Methenamine hippurate 1594, nitrofurantoin 1867, norfloxacin 1874, trimethoprim 2300.
Exclusions	Pharmacists can sell trimethoprim and methenamine hippurate over the counter and this use is not captured here.
Note for calculation	Unit of measure: Rate Adjustment applied: None District health board (DHB) assignment: Domicile
Data sources	Pharmaceutical Collection; Primary Health Organisation (PHO), Ministry of Health. New Zealand Resident Population, Statistics New Zealand.
Suppression rule	Data is not presented where the counts are less than 10.
Notes	Nitrofurantoin is not usually indicated for use in children. Norfloxacin is not approved for use in children (www.nzfchildren.org.nz/nzf_3283) although the New Zealand Formulary notes there may be some specific circumstances when use may be justified in children. Norfloxacin use is associated with antibiotic resistance and isn't recommended for first-line treatment.

Appendix 1. Interpretation notes

Units reported and denominator used

In developing this Atlas domain, we explored different metrics. We decided not to use defined daily doses (DDD) because they are based on adult doses so don't apply well to children. We trialled reporting prescription items dispensed per 1,000 population per day but decided not to progress with this because it does not account for the duration of treatment. This means that an antibiotic dispensed for one day is counted the same as an antibiotic with a 90-day supply. Instead, we chose to report people who were dispensed an antibiotic one or more times in a year.

We explored different denominator populations and elected to use one based on those who attended primary care in the year of interest. Our analysis found that using the denominator of people attending primary care in the year was the best measure for DHB variation because it accounts for need. For example, a DHB with a younger or older age structure is likely to have a greater proportion of its population attend primary care in a year. Other denominators explored were the primary health organisation (PHO) enrolled population and the Statistics New Zealand DHB resident population.

Confidence intervals

Data for each DHB are presented as rate per 1,000 population. Upper and lower confidence intervals were calculated to 95 percent level of confidence.

Practitioner supply order (PSO)

Several antibiotics included in our analysis are also available on PSO. PHARMAC defines this as a written order made by a prescriber for the funded supply of pharmaceuticals for emergency use, teaching and demonstration purposes and for provision to certain patient groups where an individual prescription is not practicable.

Antibiotics given to people using a PSO cannot be included in this Atlas domain because they are not linked to an NHI number.

Te Kāwanatanga o Aotearoa
New Zealand Government