



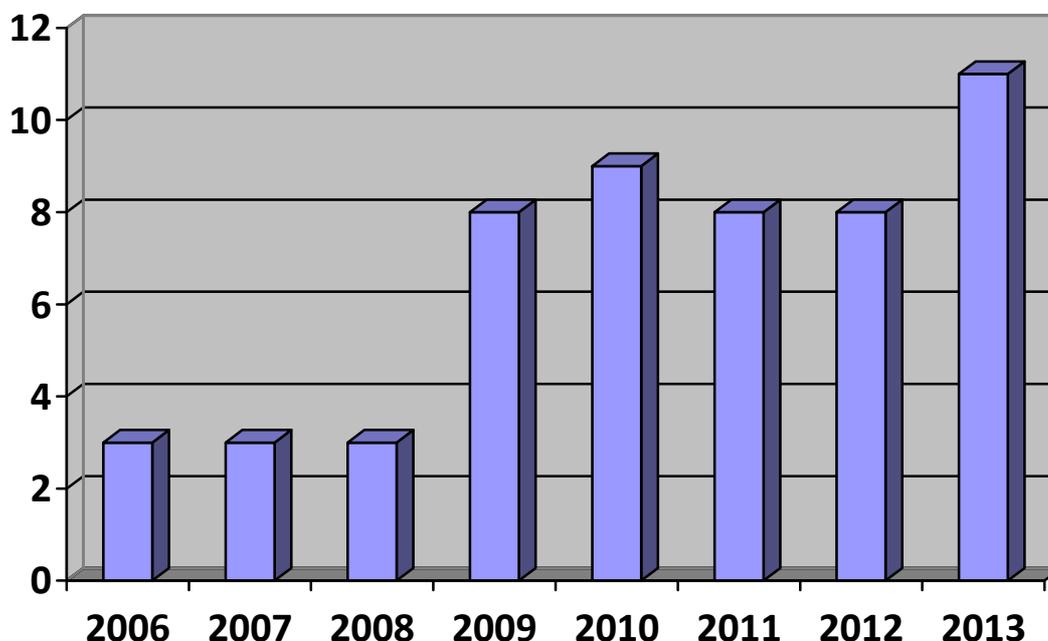
Local Fluoroquinolone Resistance Increasing

We have been reviewing the 2013 antibiotic susceptibility profiles for the Bay of Plenty and most bacterial-antibiotic susceptibility rates remain stable over the course of several years.

However there is one that concerns me, that of *E.coli* to fluoroquinolones, namely **ciprofloxacin** and **norfloxacin**.

Illustrated below are the Bay of Plenty resistance rates over the past 8 years for *E.coli* isolates to Nalidixic Acid (Nalidixic acid is a basic quinolone which serves as a marker for resistance or developing resistance to fluoroquinolones such as norfloxacin and ciprofloxacin). I think you will agree that although the resistance rate is still relatively low, there is a worrying trend.

Fluoroquinolone Resistance Rates(%) to Urinary *E.coli* isolates 2006-2013 (BOP)



This upwards trend has probably been exacerbated by ciprofloxacin being made more freely available due to lifting of Pharmac restrictions at the start of April 2013.

Fluoroquinolones have what is called a **low resistance threshold** i.e bacteria through mutation and subsequent natural selection become resistant to fluoroquinolones even at relatively low volume usage in the population.

CIPROFLOXACIN

The following are the relative clinical indications for ciprofloxacin (as detailed by Pharmac) which do not require specialist endorsement. The specific clinical indication should be detailed on the prescription.

- Clinically significant infection caused by laboratory confirmed *Pseudomonas* spp.
- Gonorrhoea where susceptibility is known.
- Prostatitis
- Pyelonephritis

All other clinical indications should be discussed with a Clinical Microbiologist or Infectious Diseases specialist before prescribing ciprofloxacin.

I note that ciprofloxacin is often prescribed when **pseudomonas is isolated from leg ulcers**. Although this is occasionally indicated, most of the time the pseudomonas is just colonising in this clinical scenario. Even if it is causing infection, anti-septic dressings are often just as effective.

Another area to review prescribing habits is in **the patient with chronic (architectural) lung disease** such as COPD or bronchiectasis. These patients are often chronically colonised with pseudomonas. Ciprofloxacin should generally only be used for acute exacerbations in these patients if other first line therapies such as doxycycline or co-amoxycylav are not working. Again specialist discussion may be necessary to optimise treatment in these patients.

NORFLOXACIN

With regards to norfloxacin, Pharmac currently allow prescription of 6x 400mg tablets without endorsement. From reviewing the request forms I get the impression that **there is far too much norfloxacin being used as first line treatment for lower urinary tract infection**. Norfloxacin should not be used for first line empirical treatment of UTI. It is this kind of volume first line prescribing that drives resistance rates up. In a few selected cases norfloxacin may be indicated for UTI treatment, but usually only when the isolate is multi-resistant or the patient has multiple allergies.

I would not like to see the resistance rates for *E. coli* to fluoroquinolones go any higher than this. Otherwise they may lose their usefulness at times where they really are essential...

It is my responsibility to make you aware of this issue, with the appreciation that the majority of GPs will already be prescribing fluoroquinolones in a sensible manner. I trust that you will be as prudent as possible in your use of fluoroquinolones, whilst retaining the confidence to use them where the clinical indications are strong, with specialist discussion if necessary.

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