

Workshop on the use of antibiotics.

Dr Rosemary Ikram FRCPA
Consultant Clinical Microbiologist

Declaration of affiliations.

- Working with: BPAC, DHBSS laboratory schedule group, IANZ, Pharmacy Brands (UTI project)

Workshop.

- Outline of issues relating to AMR.
- Strategies to reduce usage.
- What works and doesn't ?

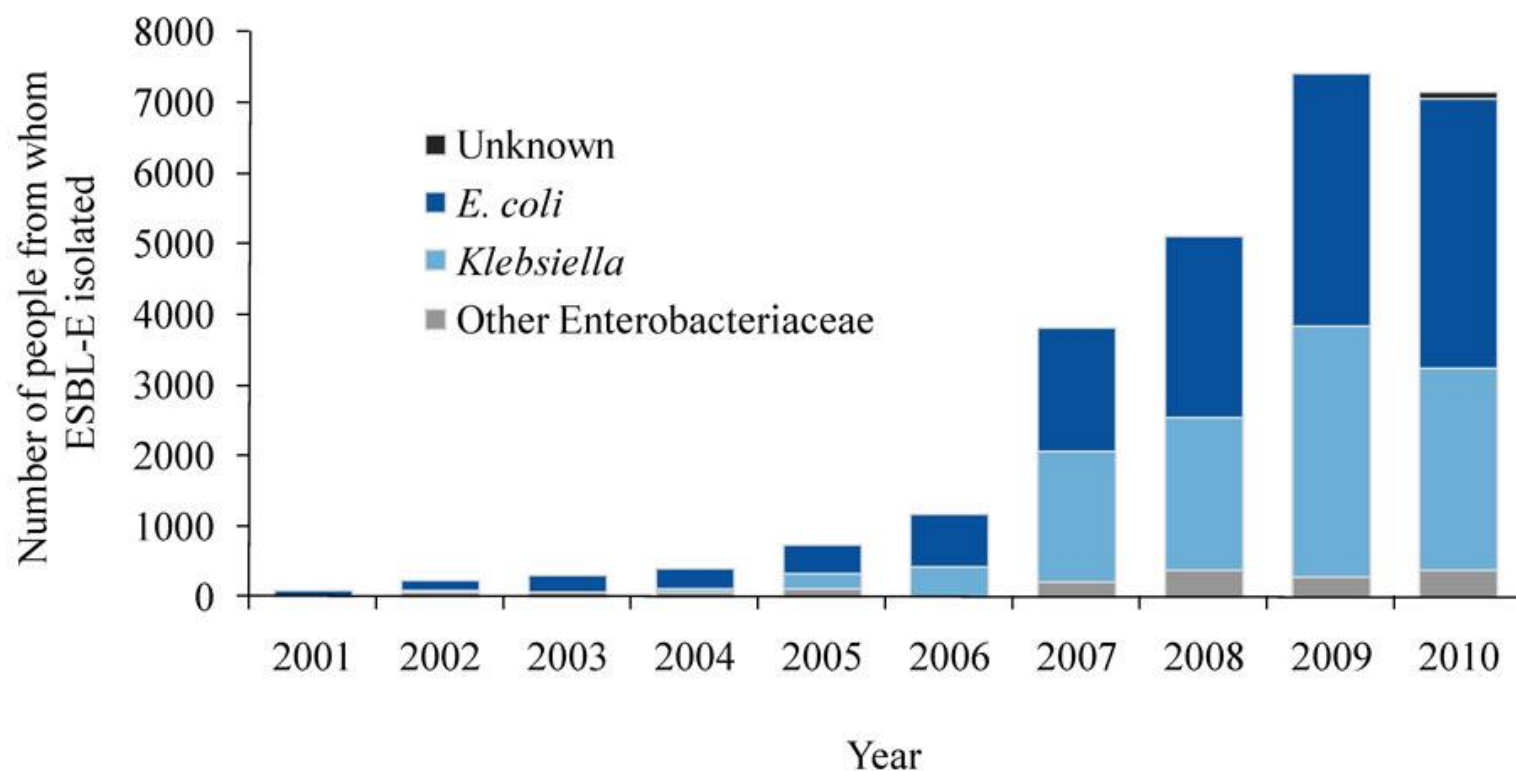
Issues of AMR.

- Becoming major threat to public health World wide.
- Few new antimicrobial agents being developed.
- Community ie GPs estimated to use 90% antimicrobials.
- Important agents for bacterial infection but large amounts are misused.
- Use between countries varies lower use=lower resistance locally.

Situation in New Zealand.

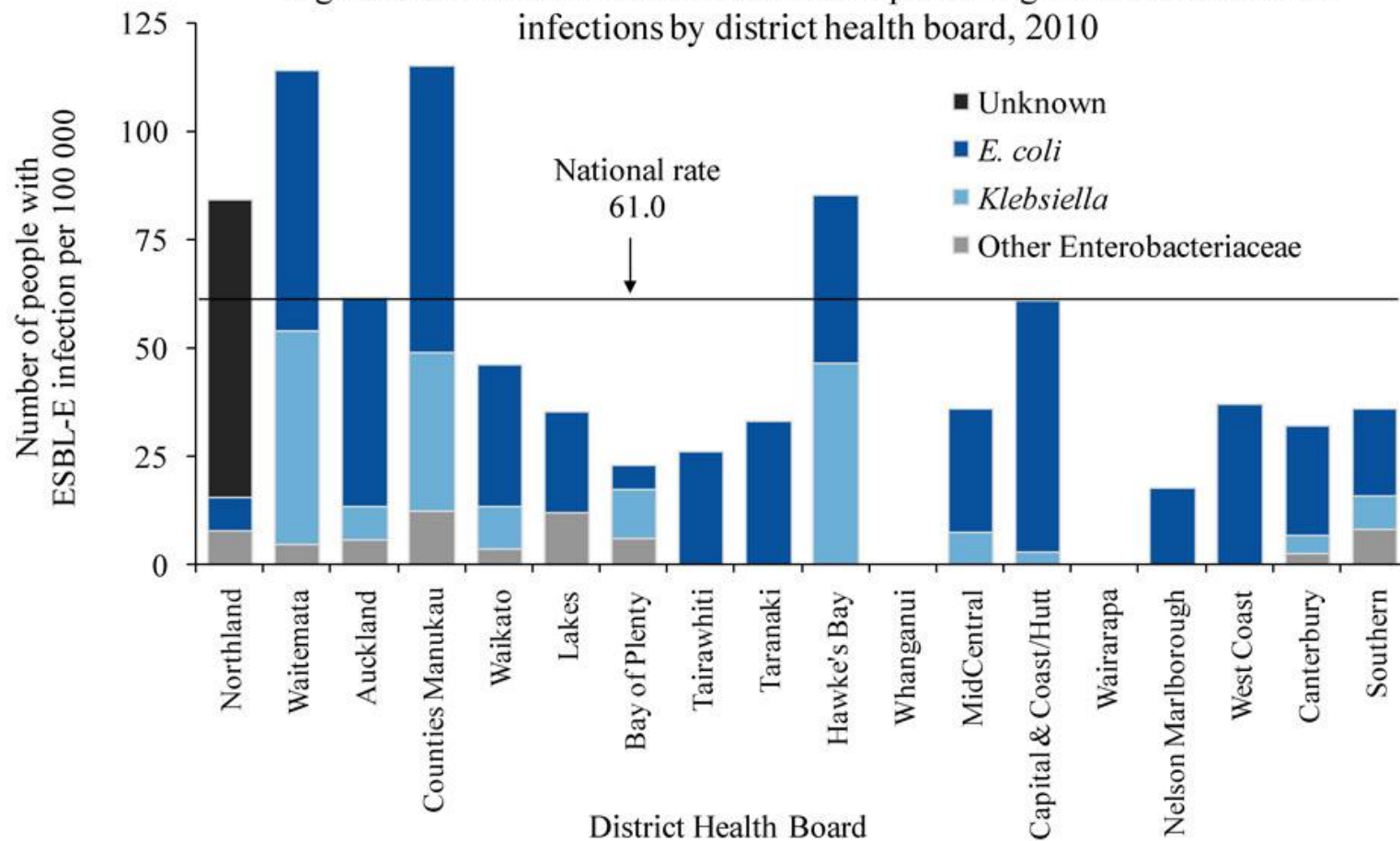
- Similar to other countries.

Figure 1. ESBL-producing Enterobacteriaceae, 2001-2010



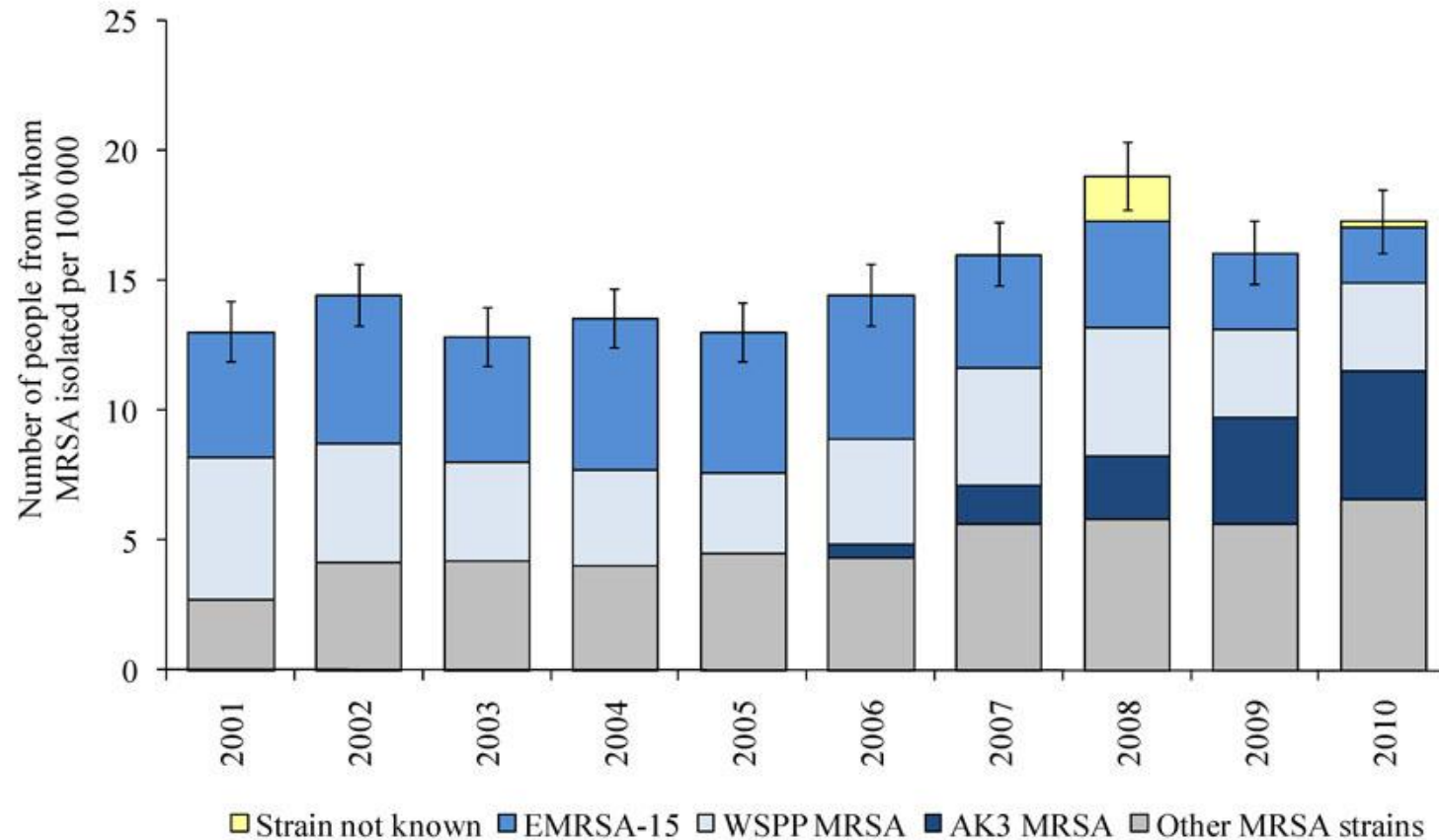
Data for 2001 to 2005 are based on continuous surveillance of all ESBL-E isolations. Data for 2006 to 2010 are annualised and based on 4-week or 1-month surveys conducted in these years. The 2006 survey only included urinary *E. coli* and *Klebsiella*, therefore the data for 2006 is not directly comparable with that for other years.

Figure 3. Annualised incidence of ESBL-producing Enterobacteriaceae infections by district health board, 2010



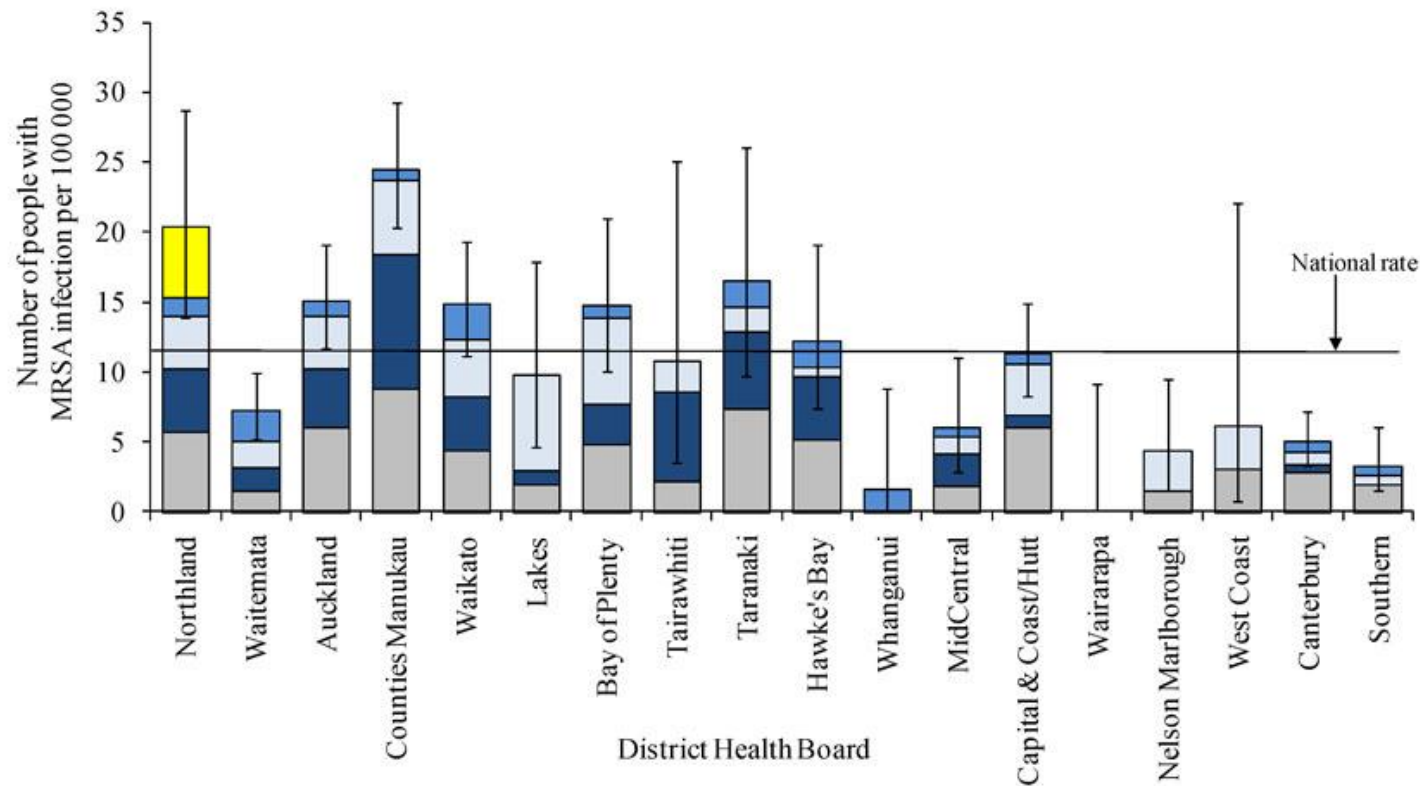
Data for the Capital & Coast and Hutt District Health Boards (DHBs) is combined as 'Capital & Coast/Hutt', and data for the Canterbury and South Canterbury DHBs is combined as 'Canterbury'.

Figure 1. MRSA point-prevalence rates, 2001-2010



95% confidence intervals indicated by error bars. The category 'Strain not known' for 2008 and 2010 represents people identified with MRSA during the survey period but from whom no isolate was referred for strain identification.

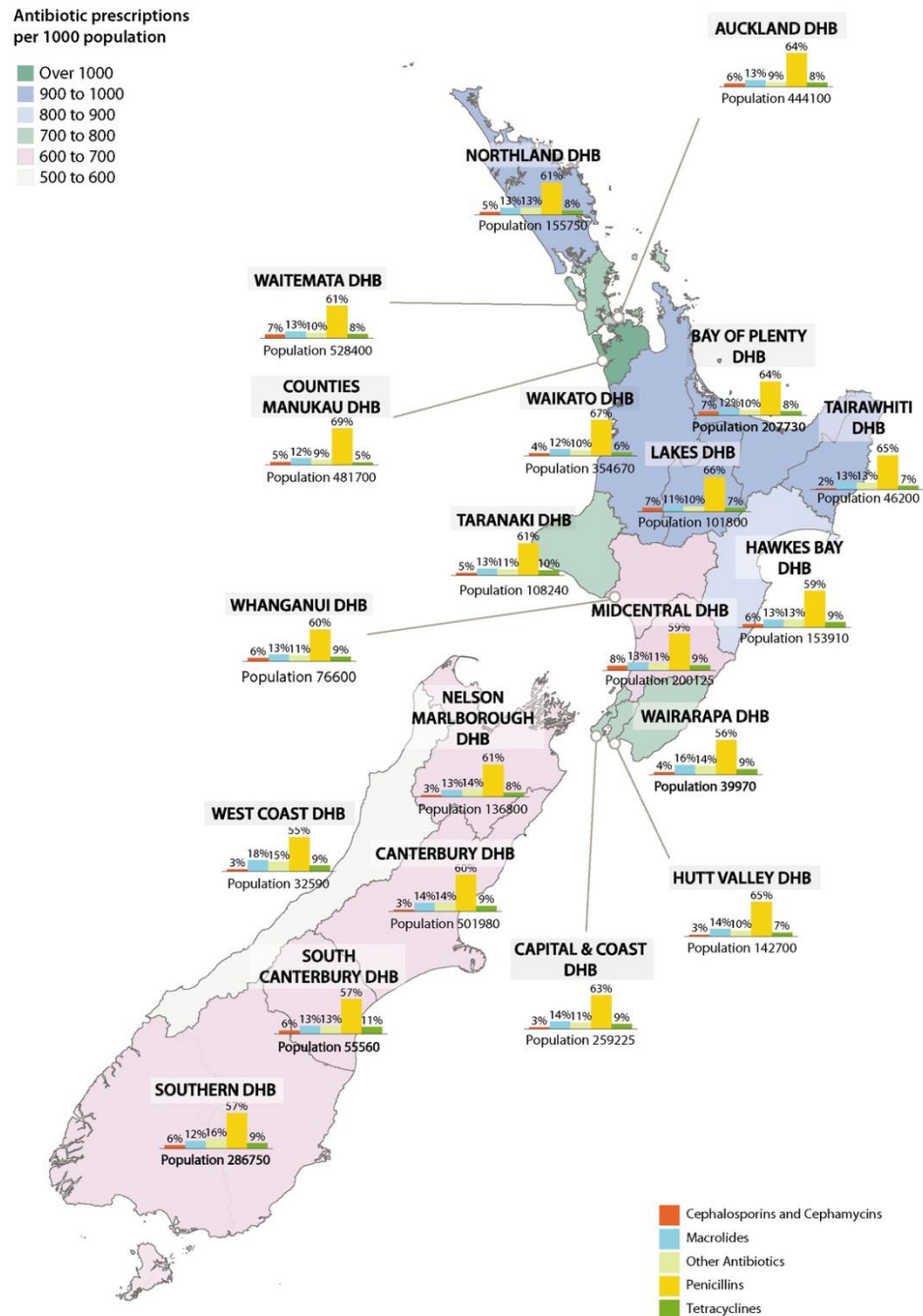
Figure 3. MRSA infection point-prevalence rates by district health board, 2010



■ Strain not known infection
 ■ EMRSA-15
 ■ WSPPMRSA
 ■ AK3 MRSA
 ■ Other MRSA strains

95% confidence intervals indicated by error bars. Data for the Capital & Coast and Hutt DHBs is combined as 'Capital & Coast/Hutt', and data for the Canterbury and South Canterbury DHBs is combined as 'Canterbury'.

■ Over 1000
■ 900 to 1000
■ 800 to 900
■ 700 to 800
■ 600 to 700
■ 500 to 600



European Centre for Disease Prevention and Control (ECDC)

- Key messages for primary care prescribers.
- A/b exposure linked to emergence of resistance. Overall uptake and how antibiotics consumed important.
- Experience some countries show reduced use resulted decreased resistance.
- Primary care accounts for 80-90% antibiotic prescriptions.

ECDC (cont.)

- There is evidence that in many cases of respiratory tract infection antibiotics are unnecessary.
- There are some groups of patients where a/b needed eg severe exacerbations COPD with increased sputum production.(NZ remember rheumatic fever)
- Complex issue, mainly related to misinterpretation of symptoms and perceived patient expectations.

Communicating with patients is the key.(ECDC)

- Patient satisfaction linked more to communication than a/b script.
- Professional medical advice impacts patients perceptions and attitude towards their illness and perceived need for a/b. Particularly when they are advised of the course the illness is likely to take, including the realistic recovery time and self-management strategies.
- These consultations have been found to take a similar amount of time and maintain a high degree of patient satisfaction.

- What would assist in reducing unnecessary antibiotic use in NZ ?

- What factors determine whether you prescribe an antibiotic for RTI?
- What determines when you prescribe antibiotics for AOM?
- What determines when you prescribe antibiotics for sore throat ?

NICE Guideline. Immediate prescription.

- Systemically very unwell.
- If symptoms and signs of serious illness &/or complications particularly pneumonia, mastoiditis, peritonsillar abscess, peritonsillar cellulitis, intraorbital and intracranial complications.

NICE (cont.)

- High risk pre existing comorbidity including heart, lung, renal, liver or neuromuscular disease, immunosuppression, cystic fibrosis and young children born prematurely
- >65 years & 2 or more and > 80 years 1 or more with acute cough:
 - hospitalisation in previous year.
 - type 1 or type 2 diabetes.
 - Hx CCF.
 - current use glucocorticoids.

Acute Otitis Media.

- Bilateral OM in child < 2years.
- Acute OM in children with otorrhoea.
- Sore throat 3 or more Centor criteria or if in area with high rates rheumatic fever prescribe.

Centor Criteria.

- Hx fever
- Tonsillar exudates.
- Tender anterior cervical lymphadenopathy.
- Absence cough.

Can add age (modified)

- <15 years add extra point
- >44 years subtract point.

Centor.

- < 2 points no antibiotics or test.
- 2-3 points consider holding treatment until test results (33% +ve for 3, 15% +ve for 2)
- >3 empiric treatment. No test 56% +ve.
- All 4 PPV 40-60%, NPV 80%.

- Which antibiotic would you prescribe and for how long in : a) AOM
b) sore throat?
- What pathogens are you targeting in a) and b) ?

- AOM – amoxycillin – 5 days unless <2years old /perforated ear drum/chronic or recurring infection 7 – 10 days.
- Tonsillitis phenoxymethyl penicillin 10 days.
- Throat GAS. AOM bacterial pathogens *S. pneumoniae*, *H. influenzae* and *M. catarrhalis*.

- 40 year old woman presents with frequency and dysuria. She has no systemic symptoms or signs.
- Will you a) send a sample of urine to the lab?
b) perform a dipstick analysis on the urine?

- Will you prescribe an antibiotic? Yes/no
- Which antibiotic?
- How long for?
- What reasons do you have for your choice?

- Are there risk factors which could make you change your regular practice?

- Recent hospitalisation.
- Recent overseas travel.
- Recent antibiotic treatment.

- 19 year old woman presents with a history recurrent boils. On examination she is overweight, has a boil which has just burst on her waist line and numerous scars in axillae and buttocks where boils have been lanced. She has been checked and is negative for diabetes.

- Which organism will be causing her boils?
- Will you treat her with antibiotics?
- Which antibiotic?
- Will you take a culture? Why?
- What else could be useful in the history?
- Would you consider “clearing” this organism?
- How?

Clearance.

- Need to know mupirocin susceptibility.
- If others in household likely to be positive screen for carriage.
- All treated at once. (single oral agents do not clear so also need to screen patient prior to treatment)
- +ves + mupirocin nares 3X daily 5 days
- Triclosan body wash daily for 5 days.

Clearance

- Very important to explain need to use cloth/sponge to apply body wash to all areas particularly axillae, groins and perineum.
- Wash all clothes next to skin and towels and hot dry if possible. Sometimes underwear needs to be thrown away!
- Wash hair with triclosan 2X during week.

THE END.