

AMS Engagement in Rural Hospitals



Ged Hawthorn (Snr Clinical Pharmacist|Pharmacy Educator)
Orange Health Service


AMS Resources in Rural Hospitals

“Get the AMS team”



What The Literature Tells Us

Attitudes towards antimicrobial stewardship: results from a large private hospital in Australia

Menino O. Cotta, BPharm (Hons) , Megan S. Robertson, MBBS, Mark Tacey, BSc, Caroline Marshall, MBBS, PhD, Karin A. Thursky, MBBS, MD, Danny Liew, MBBS, PhD, Kirsty L. Buising, MBBS, MD



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Abstract References Supplemental Materials

Abstract

Introduction

An effective hospital-wide antimicrobial stewardship (AMS) program requires engagement with all healthcare professionals involved in antimicrobial use. It is therefore useful to consider attitudes and perceptions among clinical stakeholders in Australian private hospitals before introducing AMS in these facilities. The aim of this study was to describe perceptions and attitudes towards antimicrobial resistance, antimicrobial use, AMS interventions, and willingness to participate.

Methods

A 26-item attitudinal survey was distributed to visiting specialists, nurses and pharmacists at a large (500 bed) private hospital in Australia. Survey questions utilised 'Yes/No' responses and a 7-point Likert scale ranging from 'strongly agree' to 'strongly disagree'. Descriptive analyses were performed and Chi-squared tests conducted.

Results

There were a total of 331 respondents (80 physicians, 58 surgeons, 78 anaesthetists, 105 nurses and 10 pharmacists). The response rate was 42% among clinicians, 100% among pharmacists and 13% among nurses. Only half of the respondents were willing to participate in proposed AMS interventions. A larger proportion of respondents believed that antimicrobial resistance was more of a serious problem in other Australian hospitals compared with the surveyed hospital (62% v. 45%, $P < 0.001$). Fifty-eight percent agreed that improving prescribing at the hospital would reduce antimicrobial resistance. Twenty-nine percent of respondents had previous exposure to AMS, with pharmacists and physicians more likely to have heard of AMS compared with surgeons, anaesthetists and nurses ($P = 0.016$ and $P < 0.001$ respectively).

Conclusions

This study highlights the challenge of making antimicrobial resistance a relevant local issue in private hospitals and engaging key health professionals before implementing change.

Key Messages

- Survey Respondents; 100% of pharmacists, 42% MO, 13 % Nurses
- Only half willing to participate in AMS interventions
- Resistance was a bigger problem in other hospitals (not their own)
- Only half agreed that reducing use would reduce resistance
- Pharmacists and physicians more likely to have heard of AMS

Only 50% of respondents willing to participate in AMS

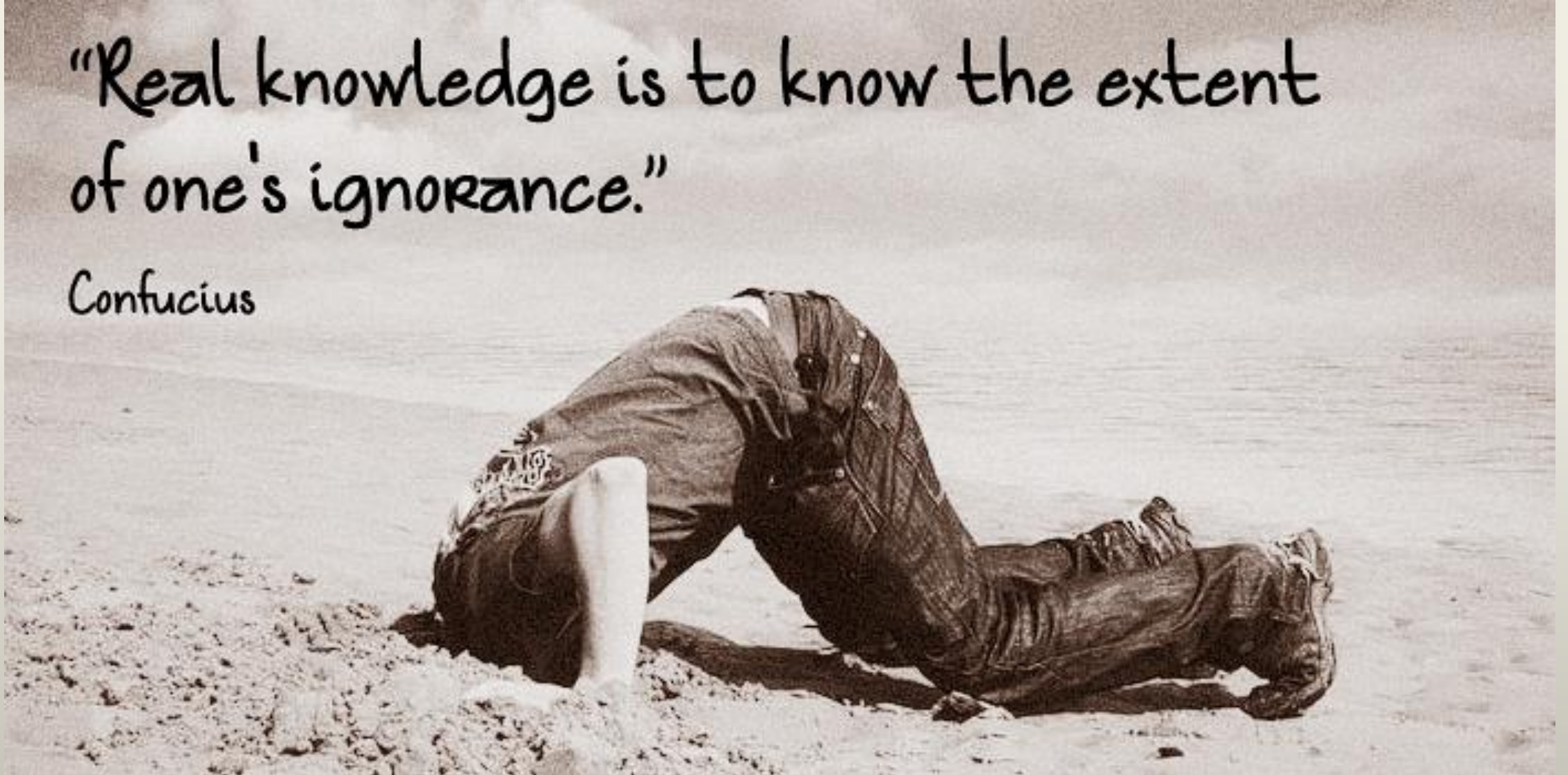
Educated professionals don't like being told what to do



“Antimicrobial resistance isn’t a problem in this hospital”

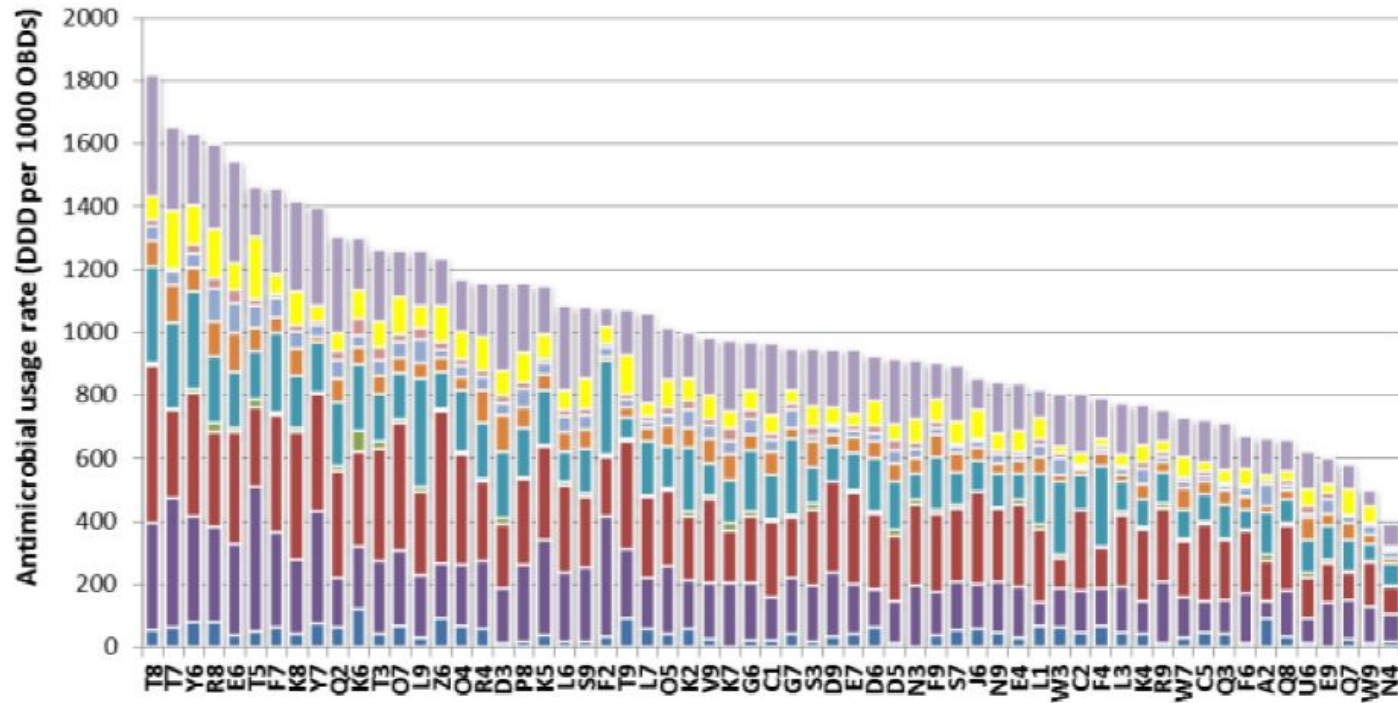
“Real knowledge is to know the extent
of one's ignorance.”

Confucius

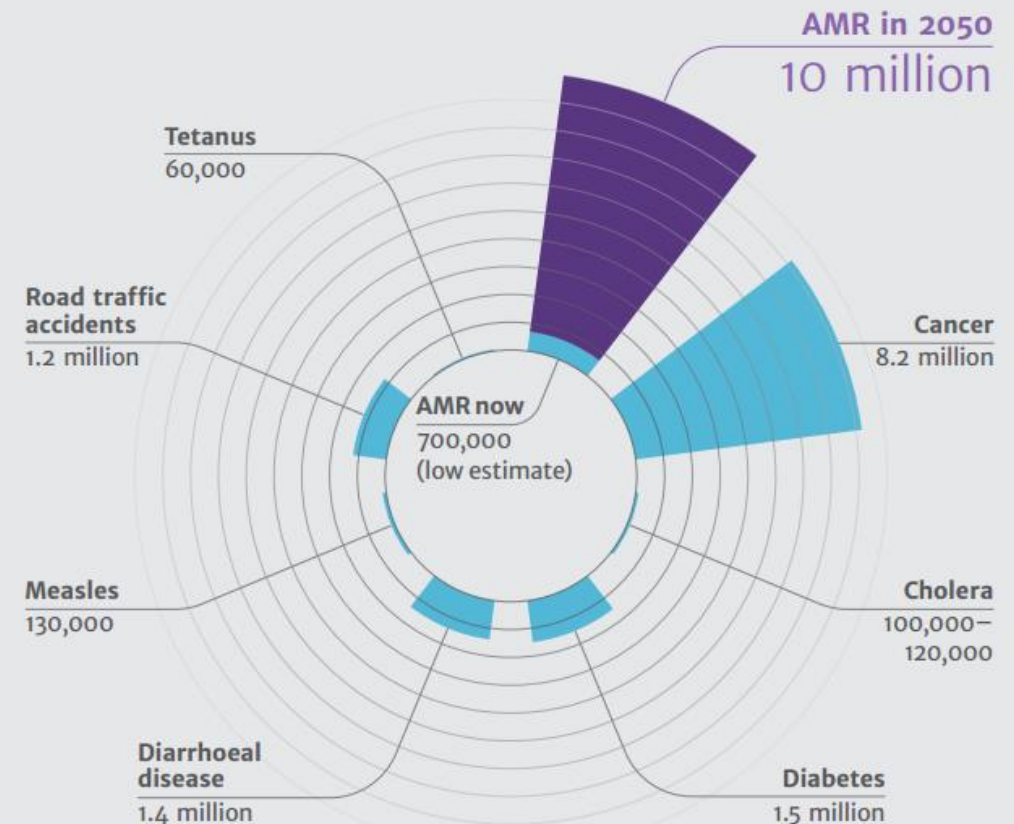


Working on the Ignorance

Annual usage rate (Large Public Acute hospitals) 2014-15



Deaths attributable to AMR every year compared to other major causes of death



Demonstrating usage drives resistance

Figure 2: Relationship between total antibiotic consumption and *Streptococcus pneumoniae* resistance to penicillin in 20 industrialised countries

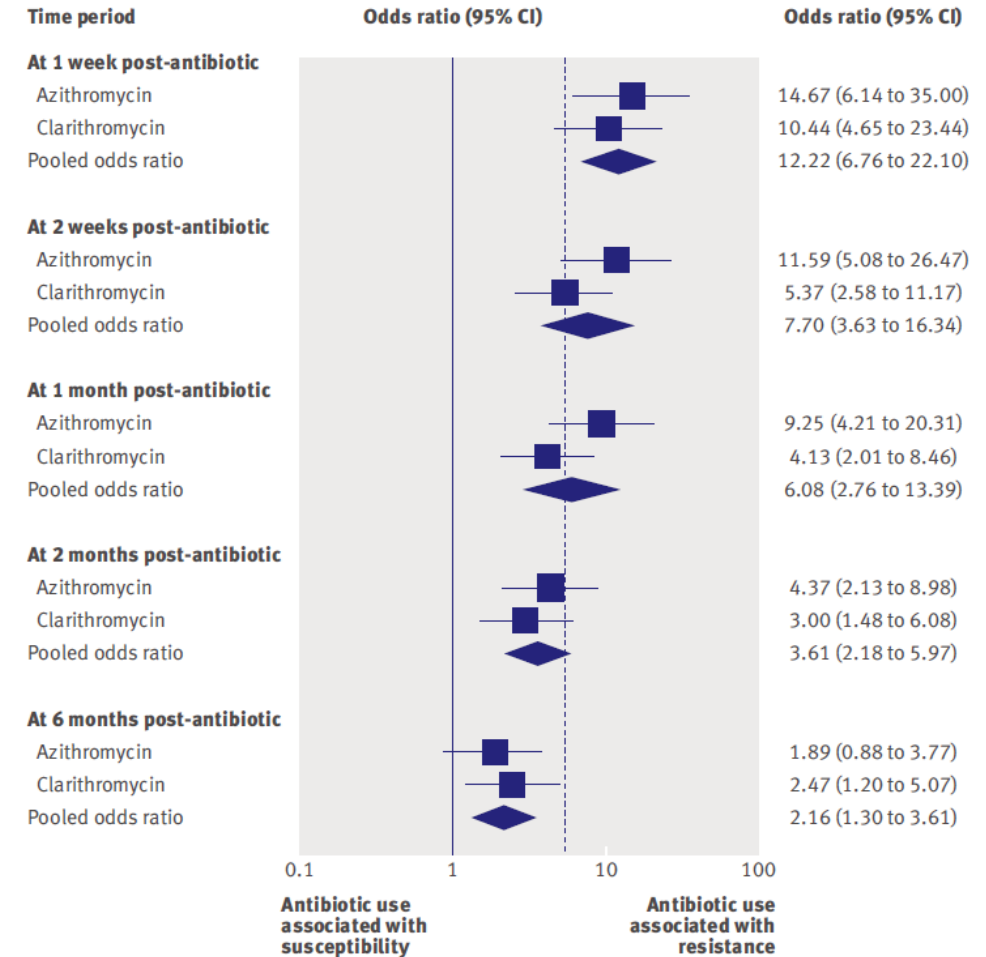
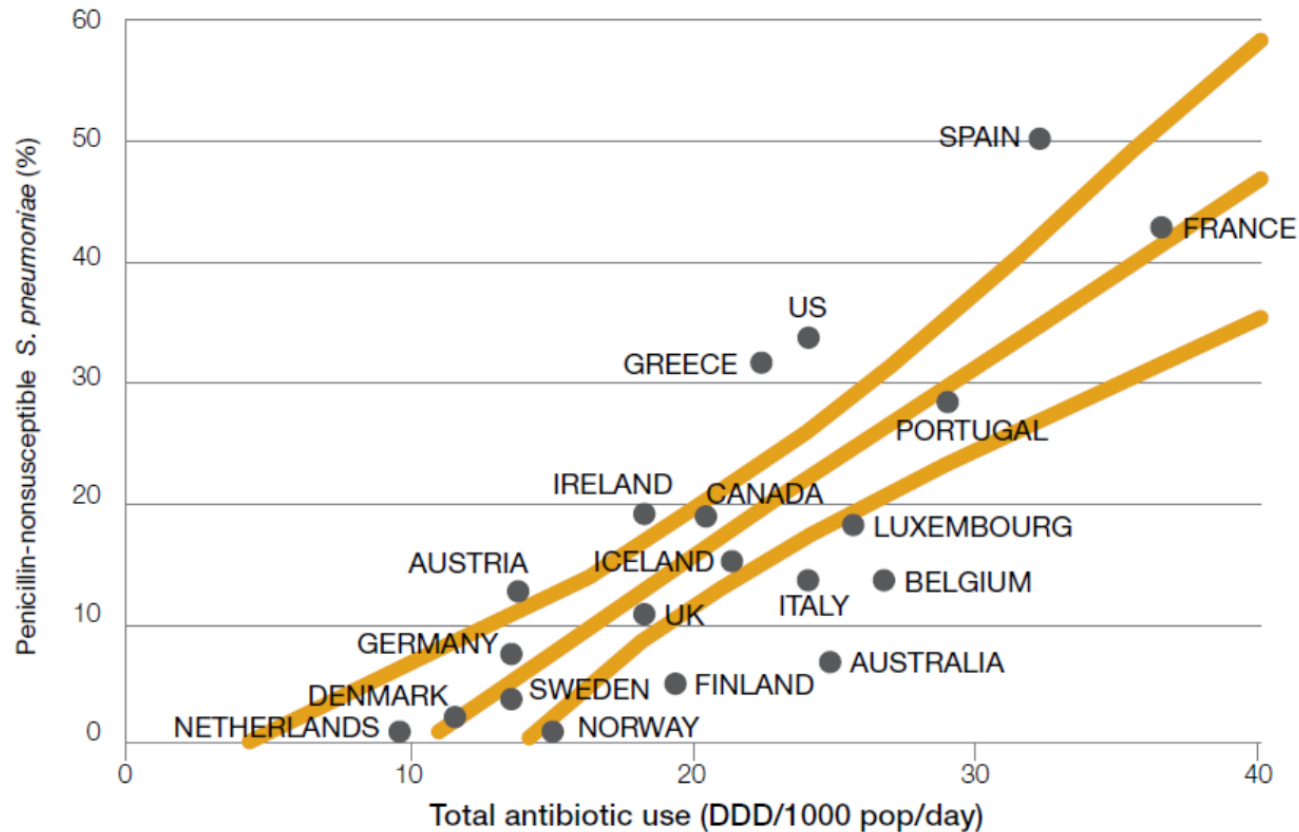


Fig 4 | Forest plot showing individual analytic and pooled ORs (log scale) for resistance in respiratory tract streptococci of healthy volunteers from the Malhotra-Kumar study³⁵ and previous antibiotic prescribing

Europe data- usage driving resistance

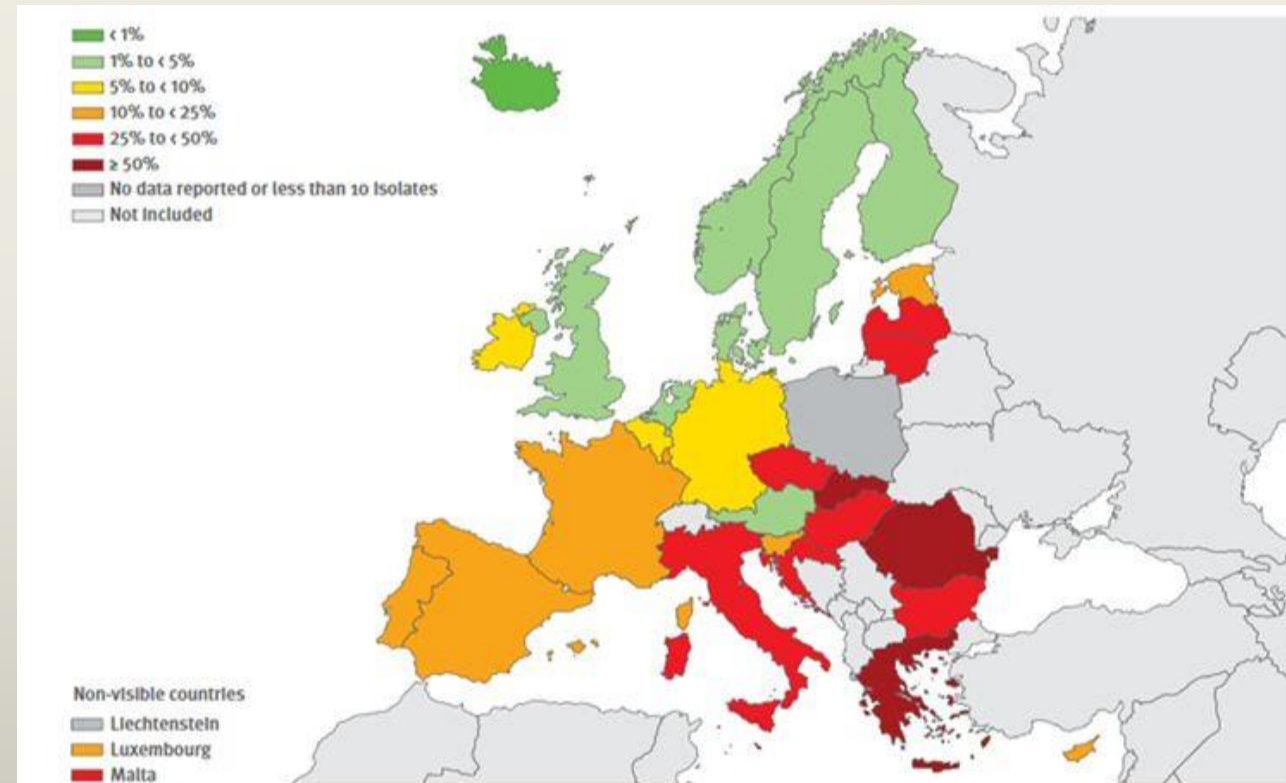
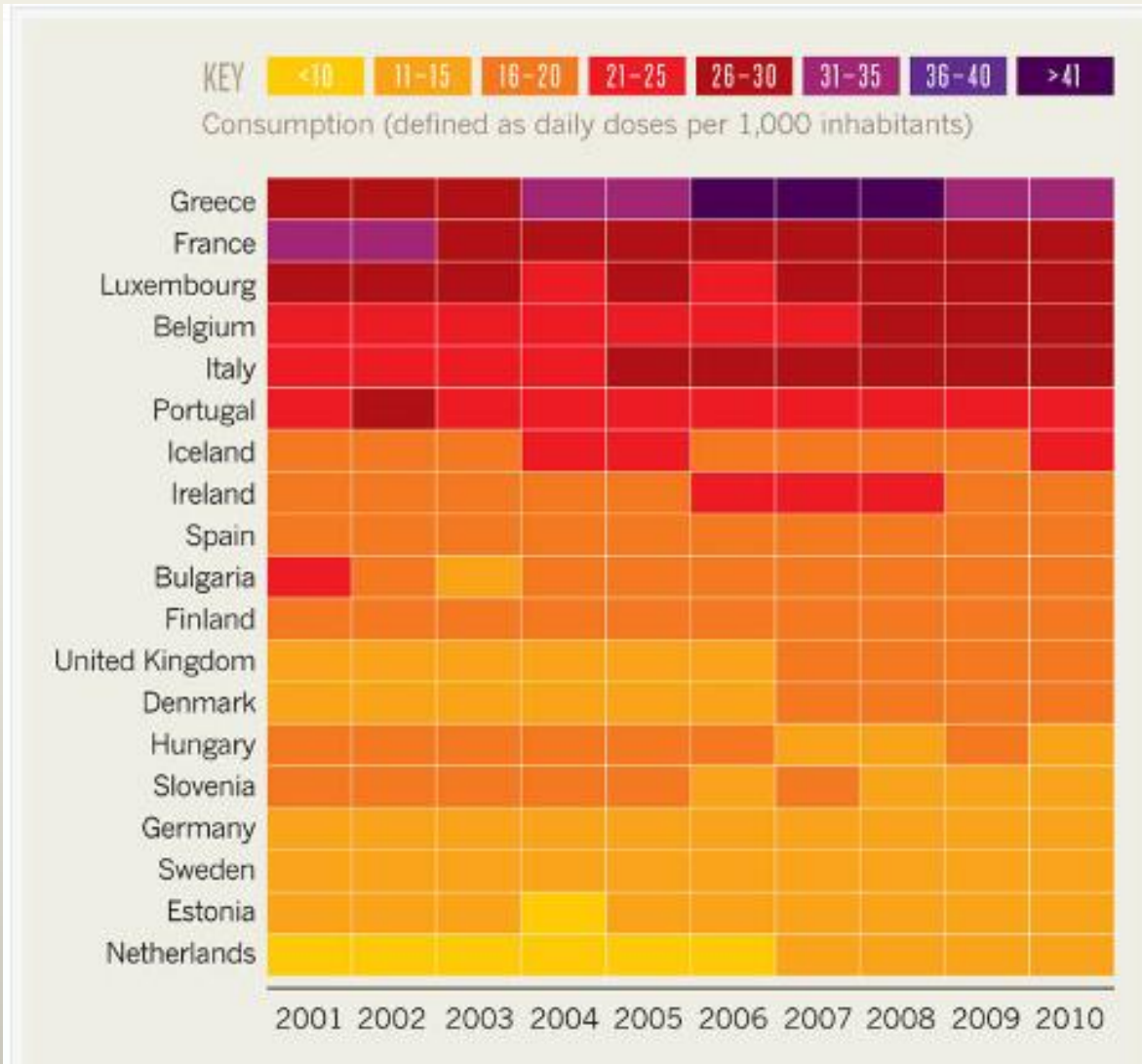


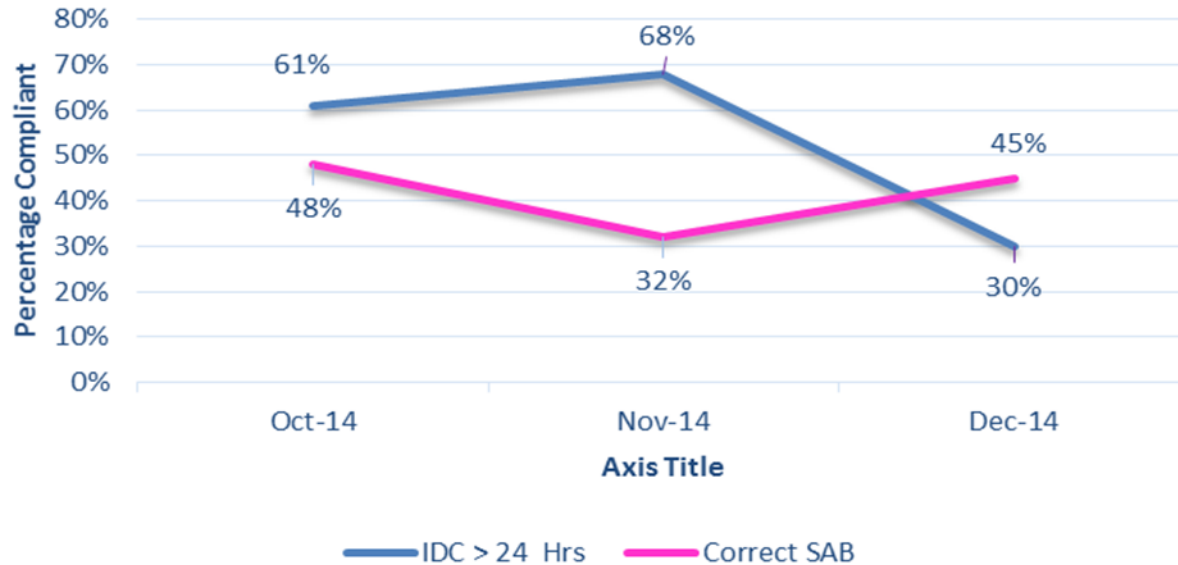
Figure 2. (Antimicrobial resistance surveillance in Europe, Surveillance report, ECDC, 2014). *Klebsiella pneumoniae* Percentage (%) of invasive isolates with combined resistance to fluoroquinolones, third generation cephalosporins and aminoglycosides, by countries, 2014.

My Strategies

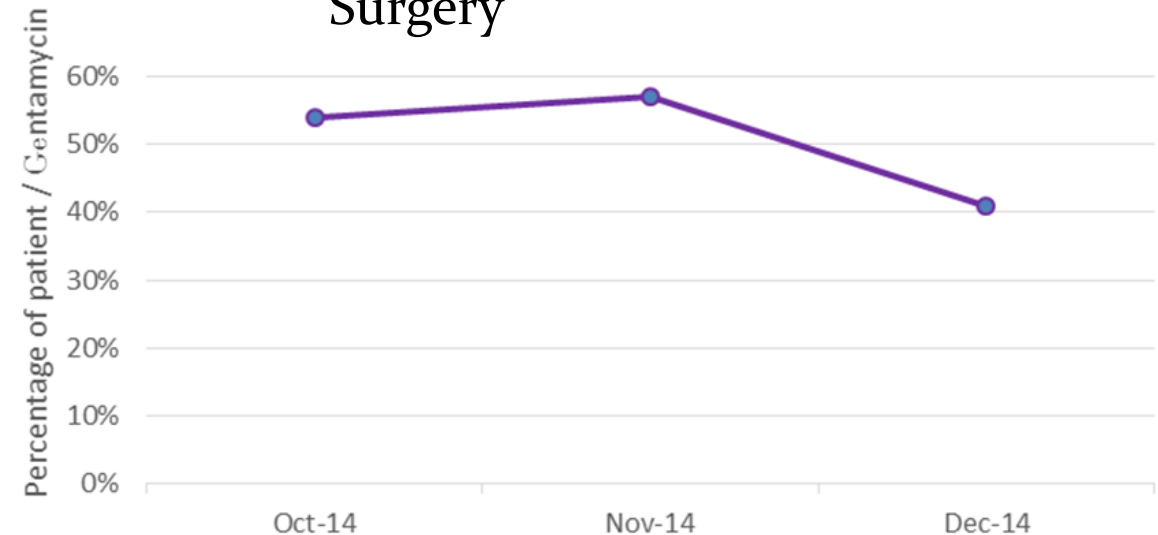
- Focus on big wins and high usage areas if you're time poor
- Great rapport with clinicians is essential
- Demonstrate expertise and link back to guidelines
- Be known and approachable
- Thorough AMS orientation for all new Drs
- Find the passionate people and work with them, the rest will follow
- Regular feedback of performance
- Question who ever made the prescribing choice not the intern

Show the data and have the conversations

Antimicrobial and IDC use in Elective Surgery

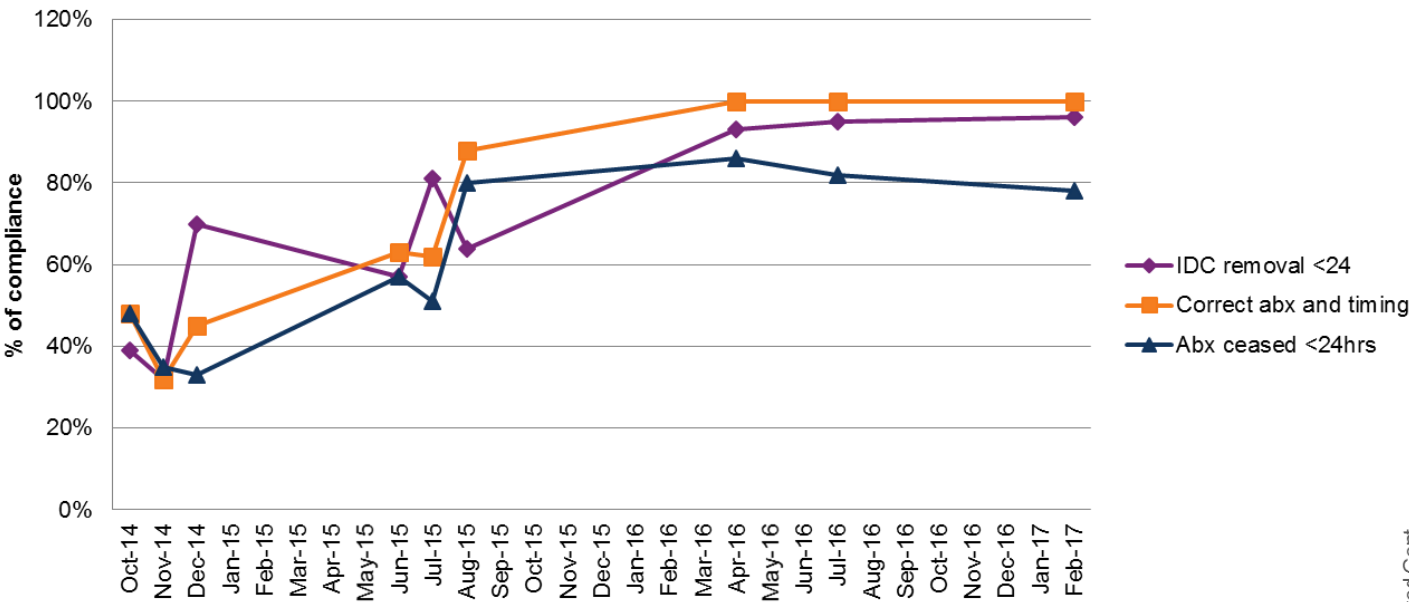


Gentamicin Use in Elective Orthopaedic Surgery

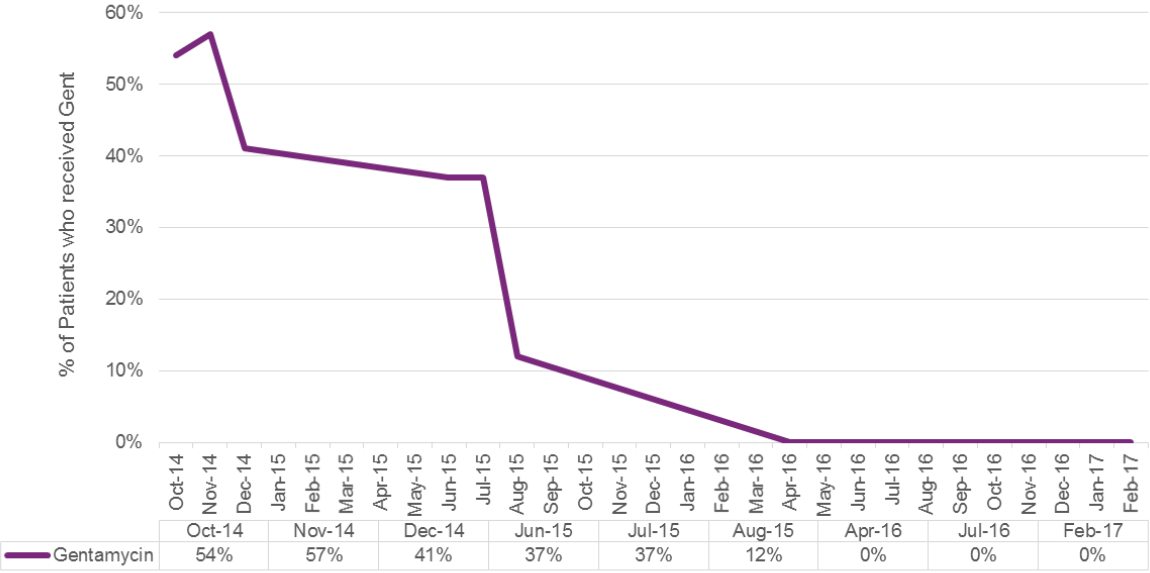


Celebrate Your Wins

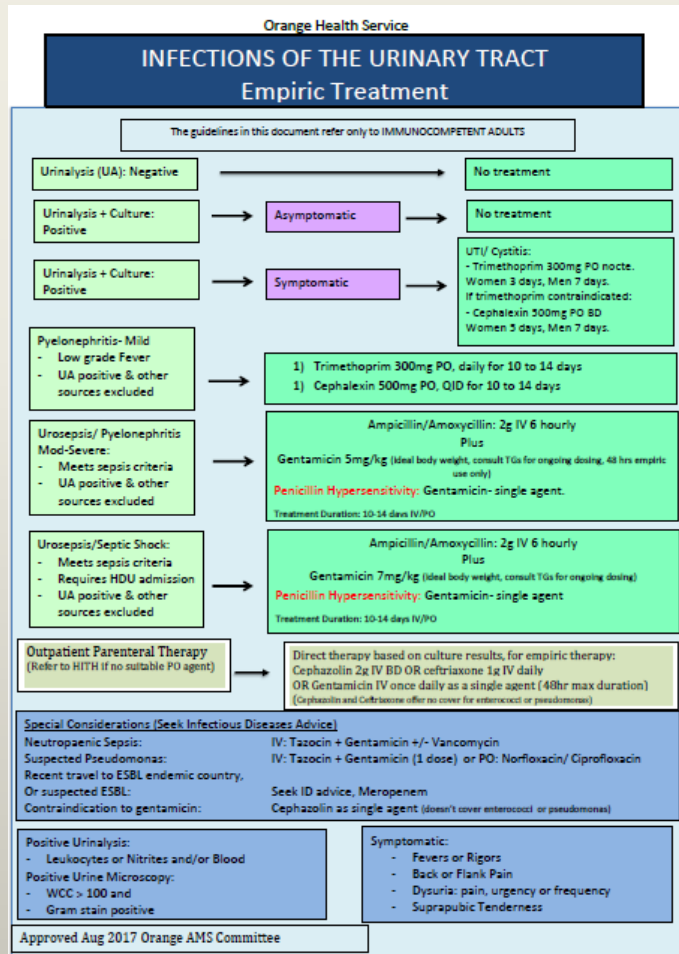
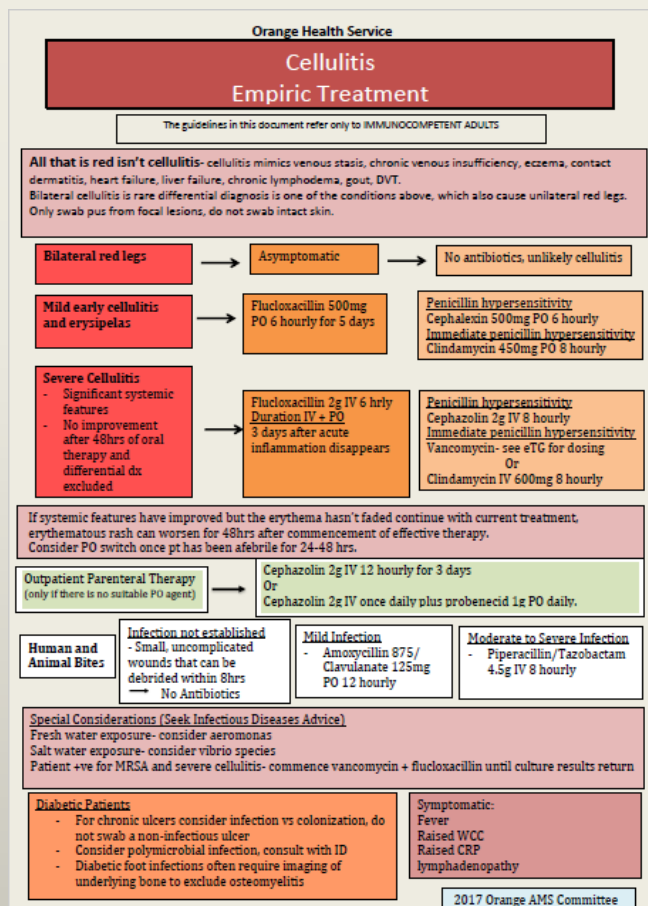
Elective Joint Surgery OHS



Gentamicin Usage- Elective Joint Surgery



Quick Reference Guides



OHS PAEDIATRIC EMPIRICAL ANTIBIOTIC PRESCRIBING GUIDELINE

Guidelines are applicable to infants >6 weeks gestation AND >4 weeks old; for neonates and babies <28 days, refer to RPA neonatal guidelines
Guidelines are for empiric antibiotic use in non-immunocompromised children until the organisms and sensitivities are identified

CONDITION	CATEGORY	ANTIBIOTIC (Dose, Max Frequency)
SUSPECTED BACTERIAL SEPSIS (Blood CSF + urine microscopy)	<12 months 12-18 months	IV Ampicillin (30mg/kg, 8 hourly) + IV Gentamicin (10mg/kg, 8 hourly) or IV Cefotaxime (30mg/kg, 8 hourly)
SEVERE SEPSIS (Blood culture positive, shock + organ dysfunction)	<12 months 12-18 months	IV Cefotaxime (30mg/kg, 8 hourly) + IV Ampicillin (30mg/kg, 8 hourly) or IV Cefotaxime (30mg/kg, 8 hourly) + IV Vancomycin (15mg/kg, 8 hourly)
IMMEDIATE	<12 months 12-18 months	IV Cefotaxime (30mg/kg, 8 hourly) + IV Ampicillin (30mg/kg, 8 hourly) or IV Cefotaxime (30mg/kg, 8 hourly) + IV Vancomycin (15mg/kg, 8 hourly)
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MILD PNEUMONIA	<12 months 12-18 months	IV Cefotaxime (30mg/kg, 8 hourly) + IV Ampicillin (30mg/kg, 8 hourly) or IV Cefotaxime (30mg/kg, 8 hourly) + IV Vancomycin (15mg/kg, 8 hourly)
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Emotional Intelligence- Getting to know your personalities

The Panicker



The Uninformed



The Complacent

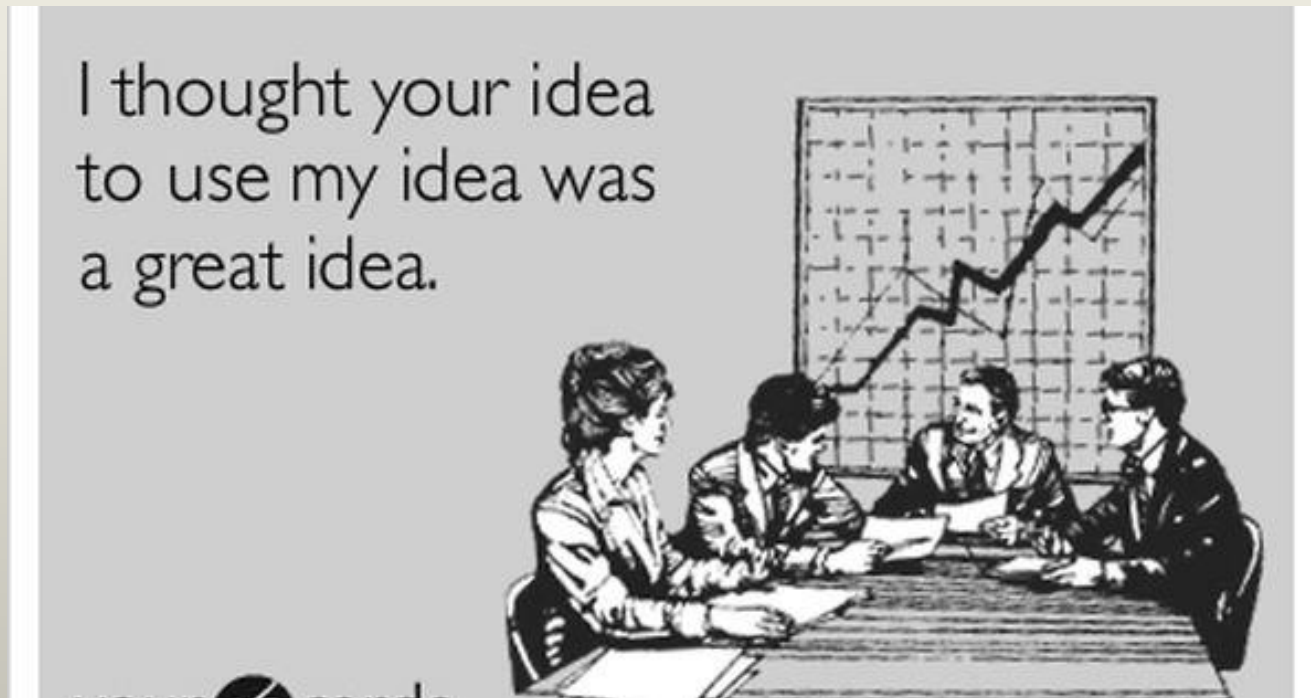


The Hero's

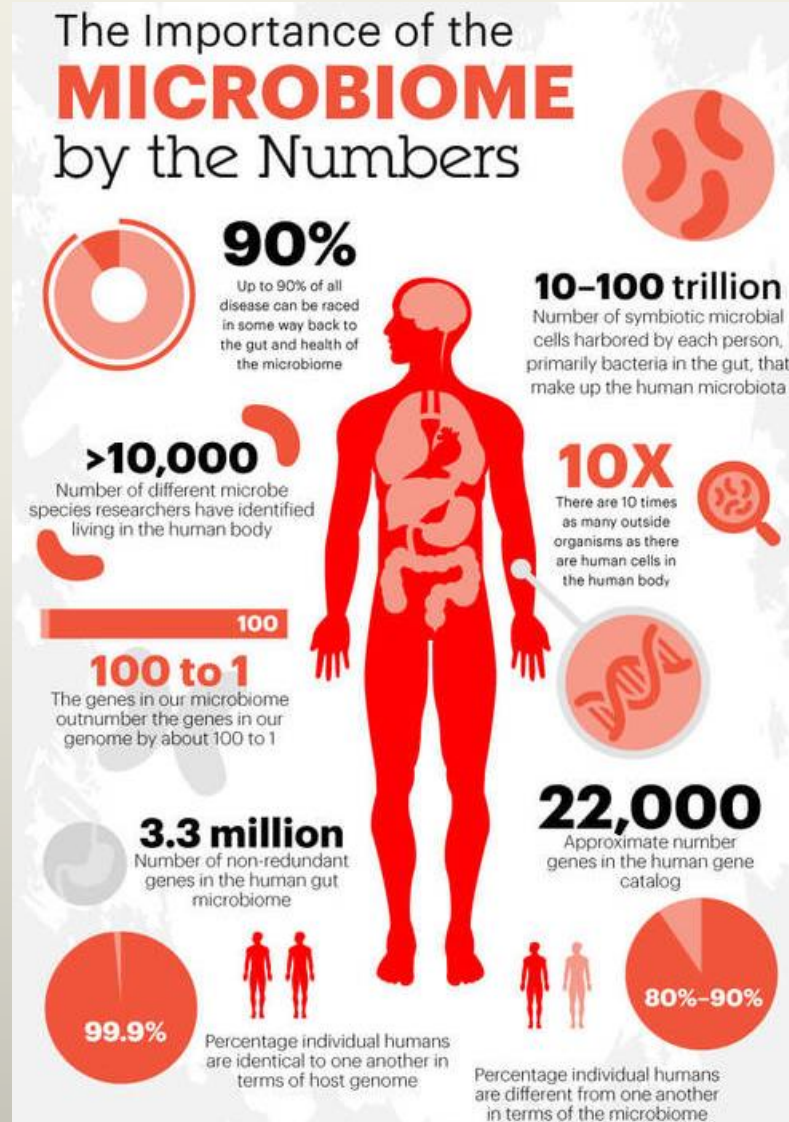


The Modified Confrontation

- Point out they have chosen the wrong agent (without offence) and convince them to change to your recommendation (but make them think it's their idea)



When resistance isn't enough of a deterrent...



Has controlling single pathogen species led to a microbial “Silent Spring”?

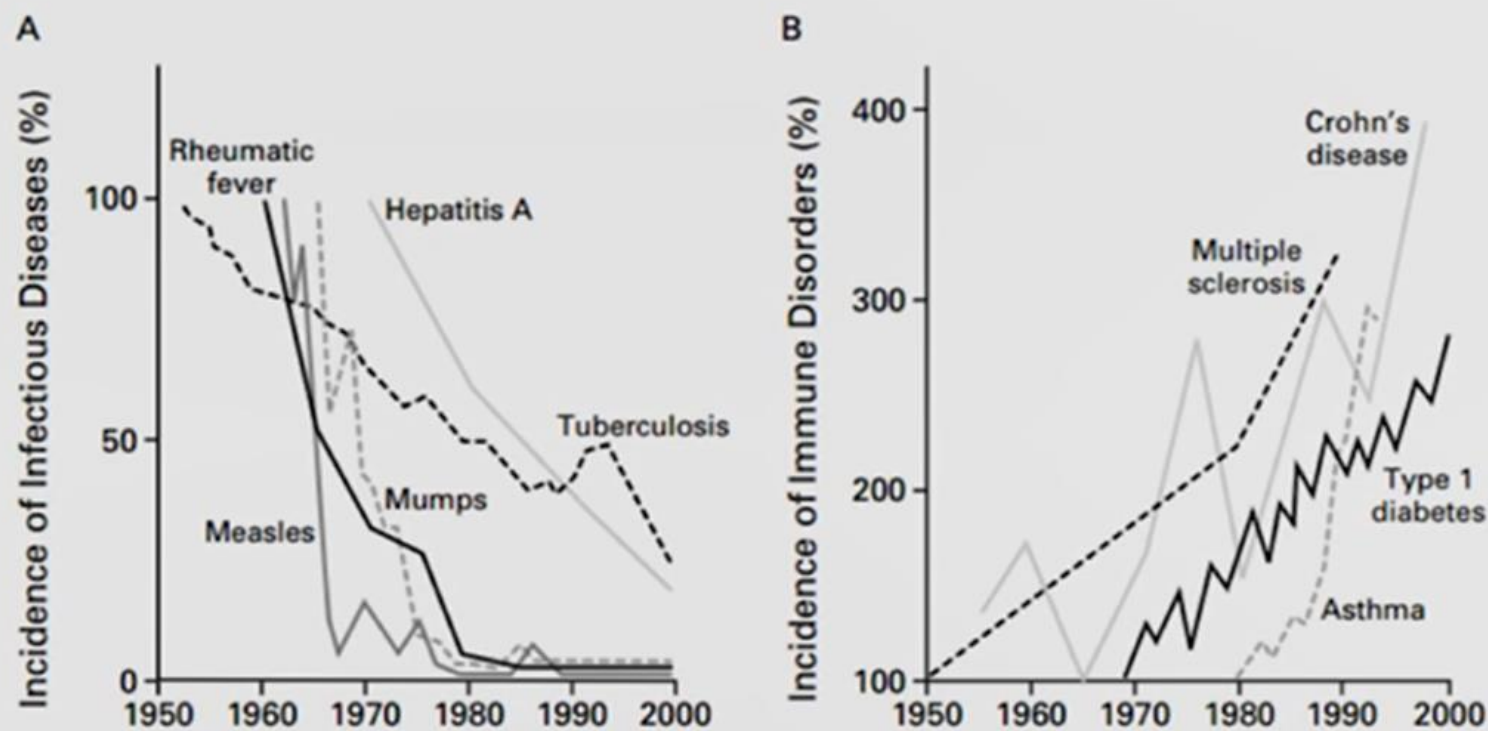
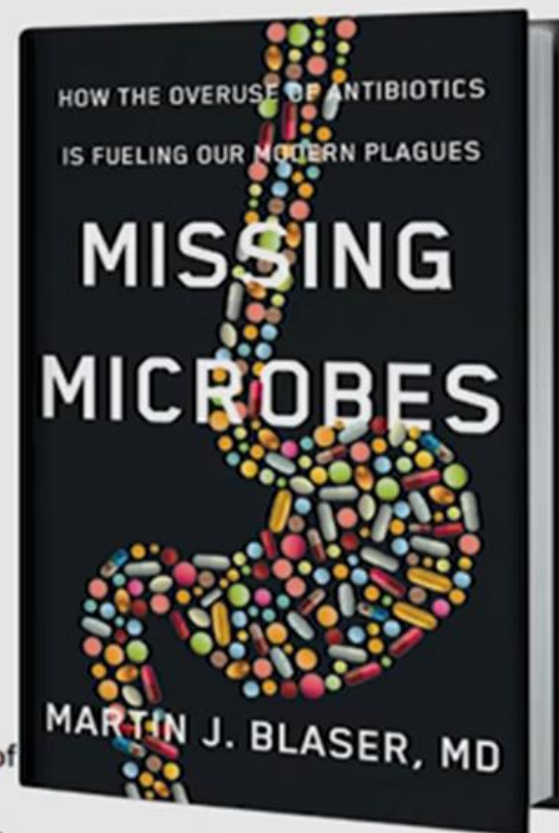


Figure 1. Inverse Relation between the Incidence of Prototypical Infectious Diseases (Panel A) and the Incidence of Immune Disorders (Panel B) from 1950 to 2000.

In Panel A, data concerning infectious diseases are derived from reports of the Centers for Disease Control and Prevention, except for the data on hepatitis A, which are derived from Joussemet et al.¹² In Panel B, data on immune disorders are derived from Swarbrick et al.,¹⁰ Dubois et al.,¹³ Tuomilehto et al.,¹⁴ and Pugliatti et al.¹⁵

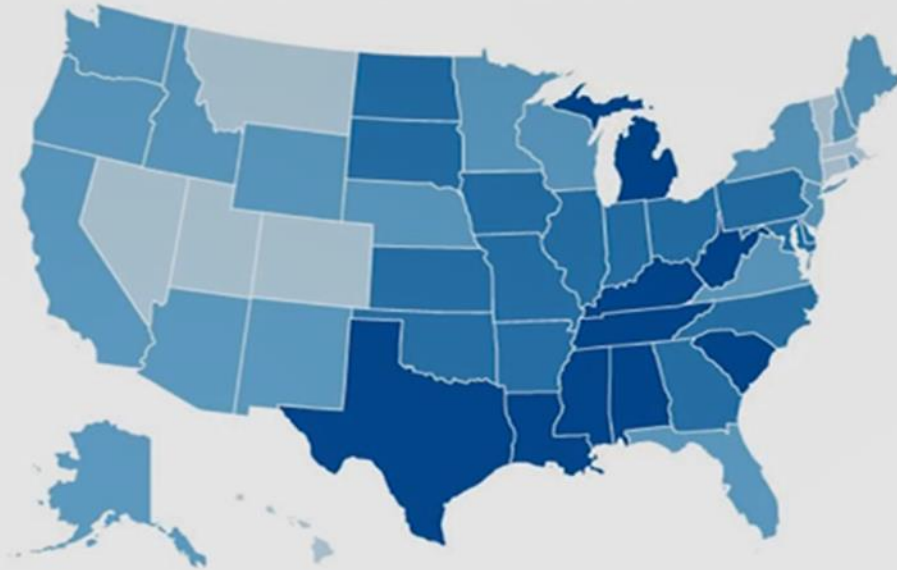
Bach (2002) N Engl J Med, Vol. 347, 911-920



Overuse = Overworked

Obesity rate by state, 2010

20%-23.5% 23.5%-27% 27%-30.5% 30.5%-34%

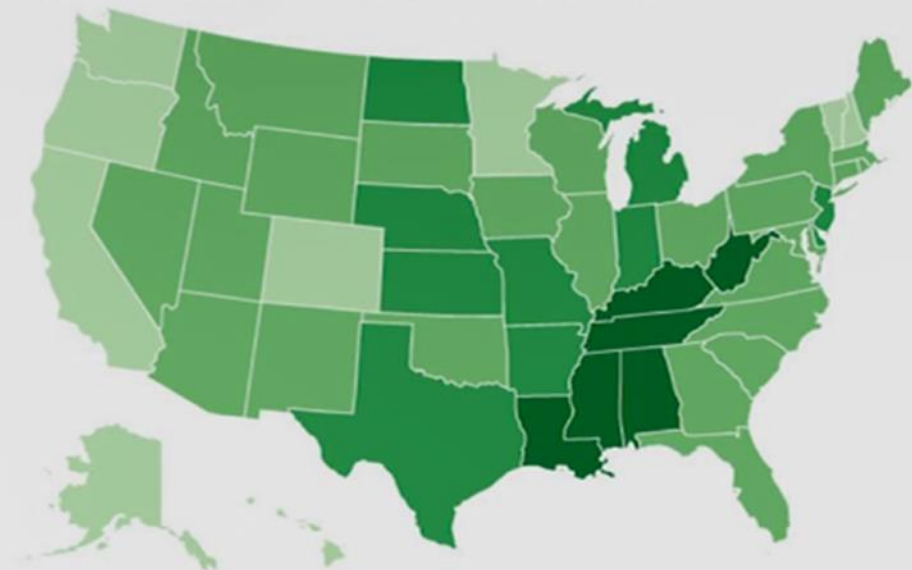


Source: CDC

Mother Jones

Antibiotic prescriptions per 1,000 people, 2010

500-699 700-899 900-1,099 1,100-1,299



Source: CDC

Mother Jones

Questions

