

The history of restrictions and their effectiveness in human usage

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Agenda

- **What is antibiotic stewardship?**
- **Progress in primary care**
- **Cochrane Review of Interventions to Improve Hospital Antibiotic Prescribing**
- **Implementing the evidence in Scotland**



EXPERT
REVIEWS

Overview of strategies for overcoming the challenge of antimicrobial resistance

Expert Rev. Clin. Pharmacol. 3(5), 667–686 (2010)

Davey, Sneddon & Nathwani

SAPG (Scottish Antimicrobial Prescribing Group)

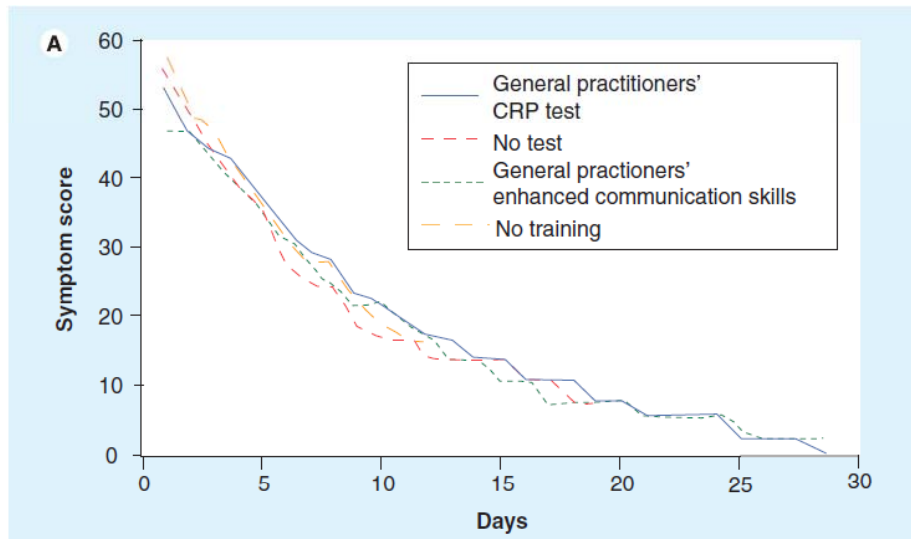
Twin Aims of Antibiotic Stewardship

1. Effective treatment of bacterial infection
2. Minimise collateral damage

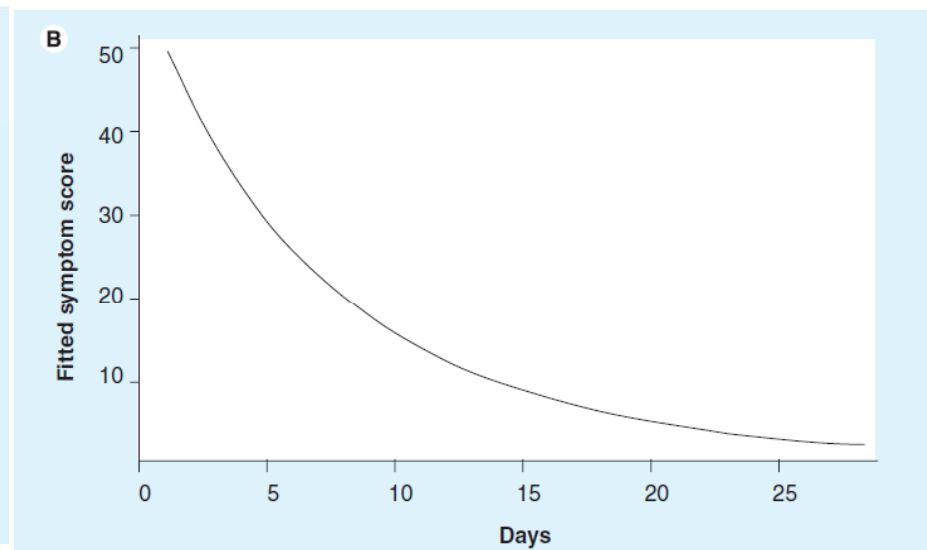


Symptom score & antibiotic use, LRTI RCT in 1^o care Cals et al, *BMJ* 2009;338:b1374

Unadjusted analysis

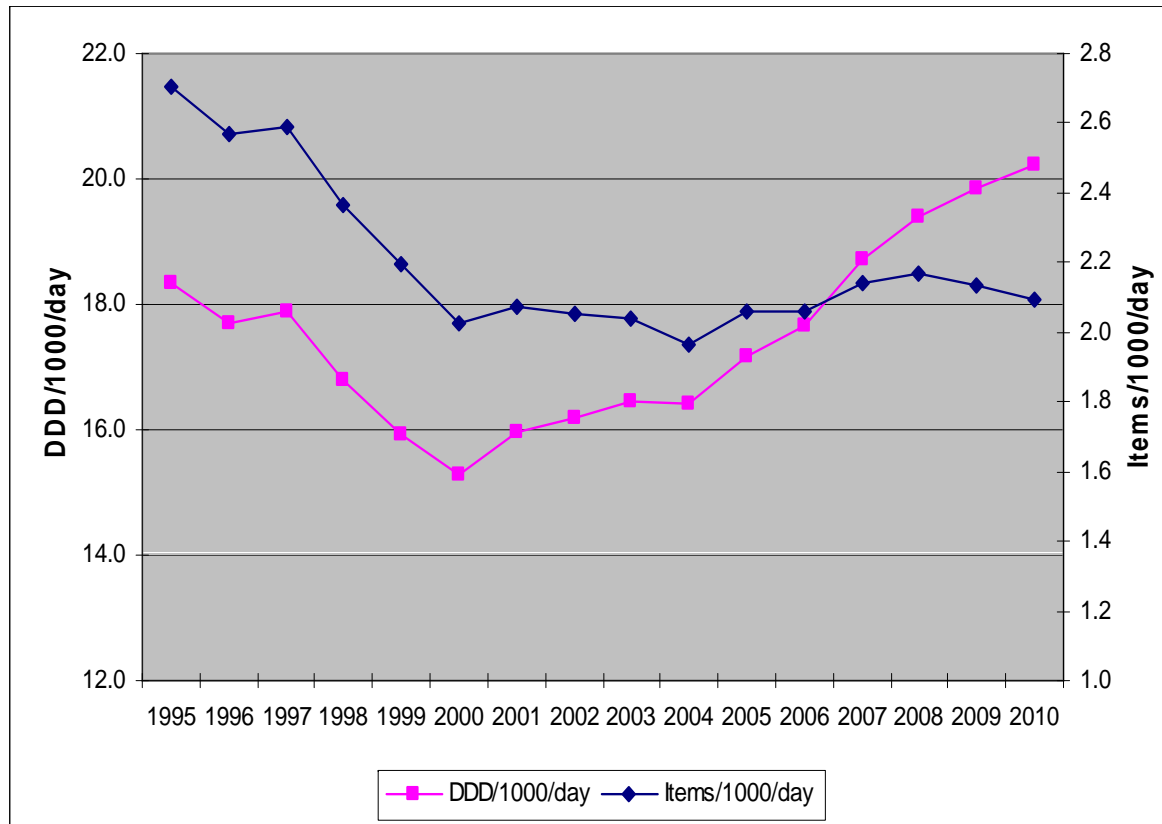


Adjusted analysis



Antibiotic prescribing at index consultation	Usual care (n=120)	CRP test (n=110)	Communication skills training (n=84)	CRP test and communication skills training (n=117)
% of patients	67%	39%	33%	23%
95% CI	54% to 80%	26% to 53%	20% to 47%	12% to 35%

NHS Scotland: total use of antibacterials in primary care 1995-2010



Total Use 2010

1.9% lower than 2009 (items/1000/day)

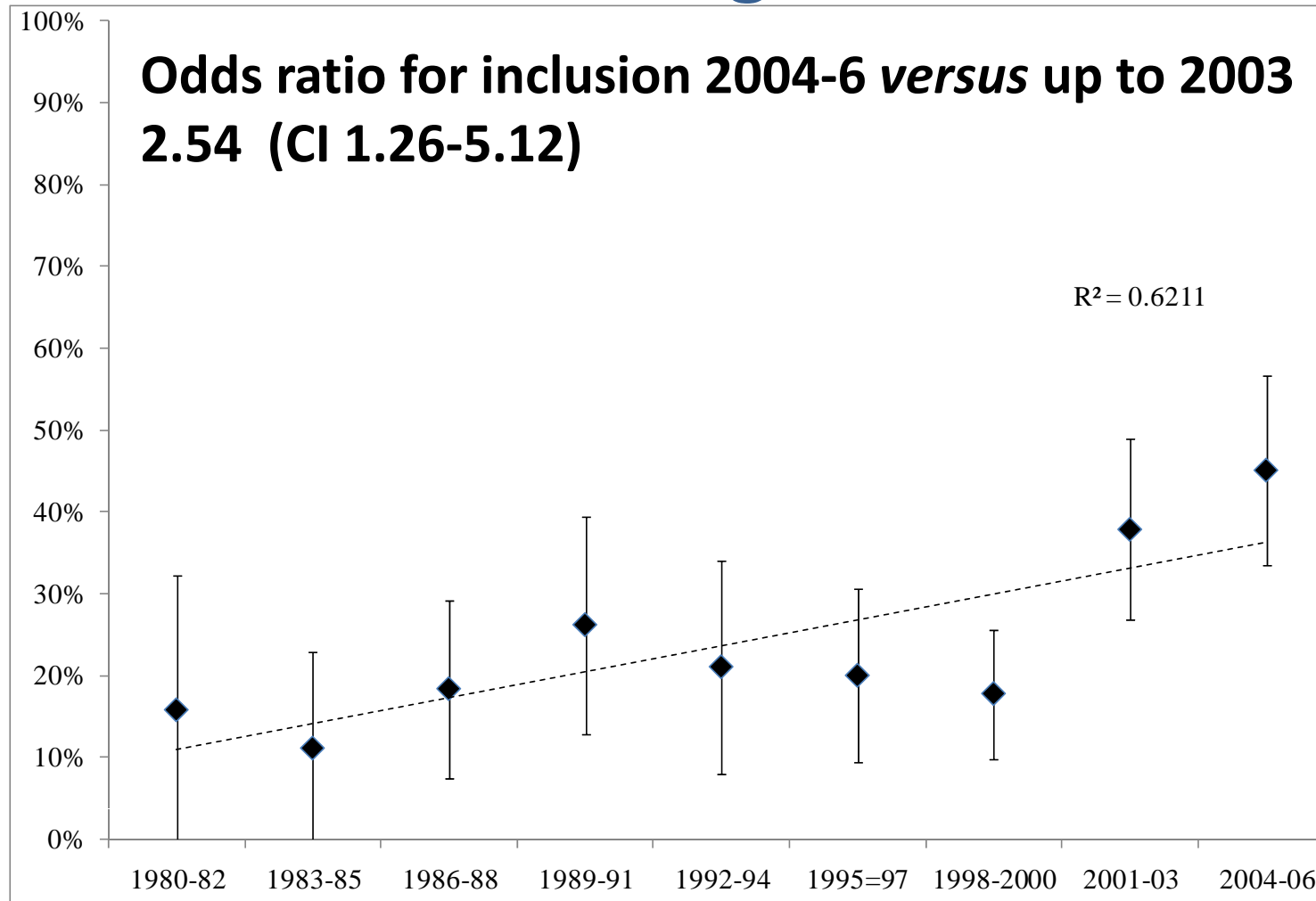
= 53,000 fewer items

2nd year with small reduction

2.0% increase in DDD/1000/day (higher doses)



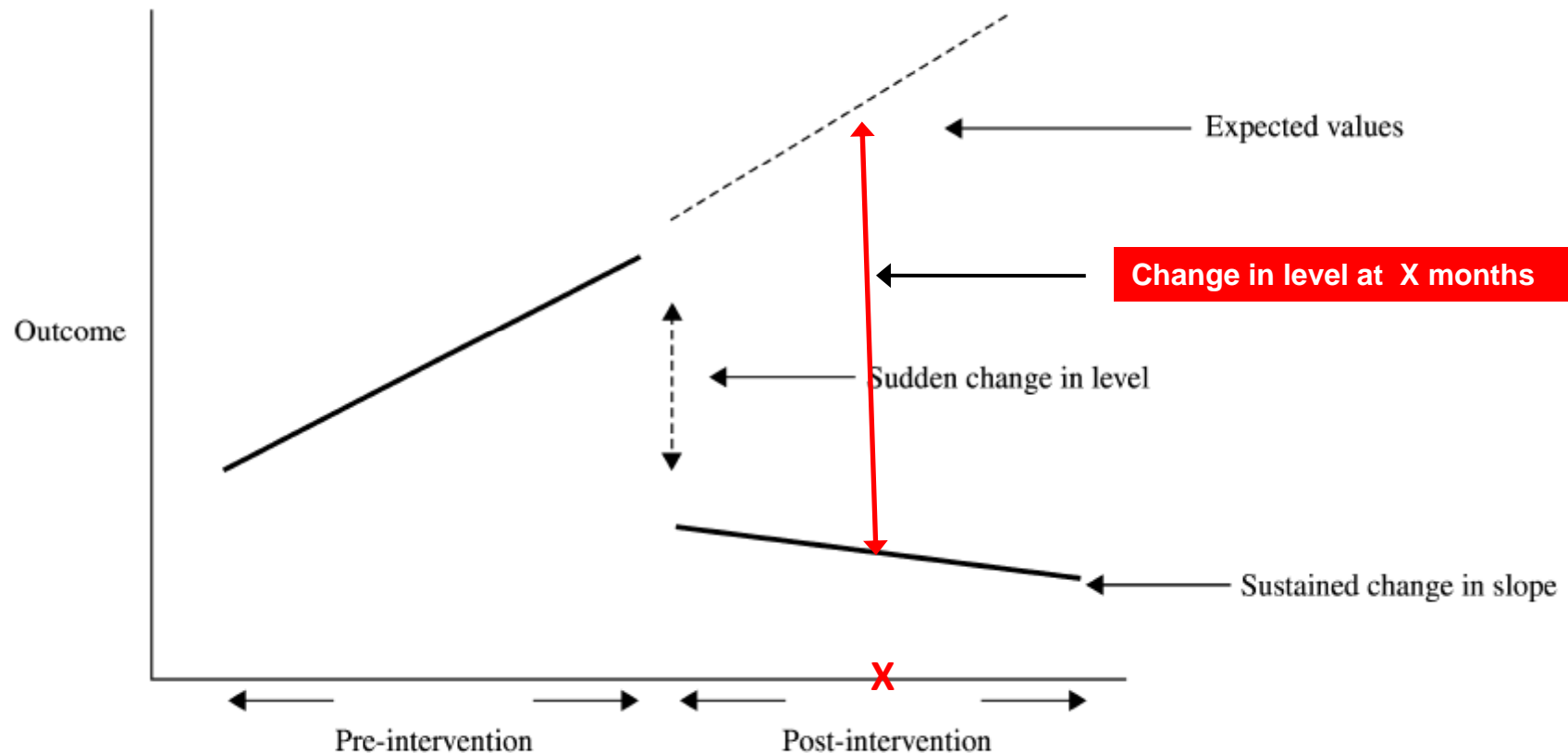
Cochrane Review, Hospital Prescribing % Publications Meeting Minimum Criteria





Meta-Analysis 51 ITS Studies

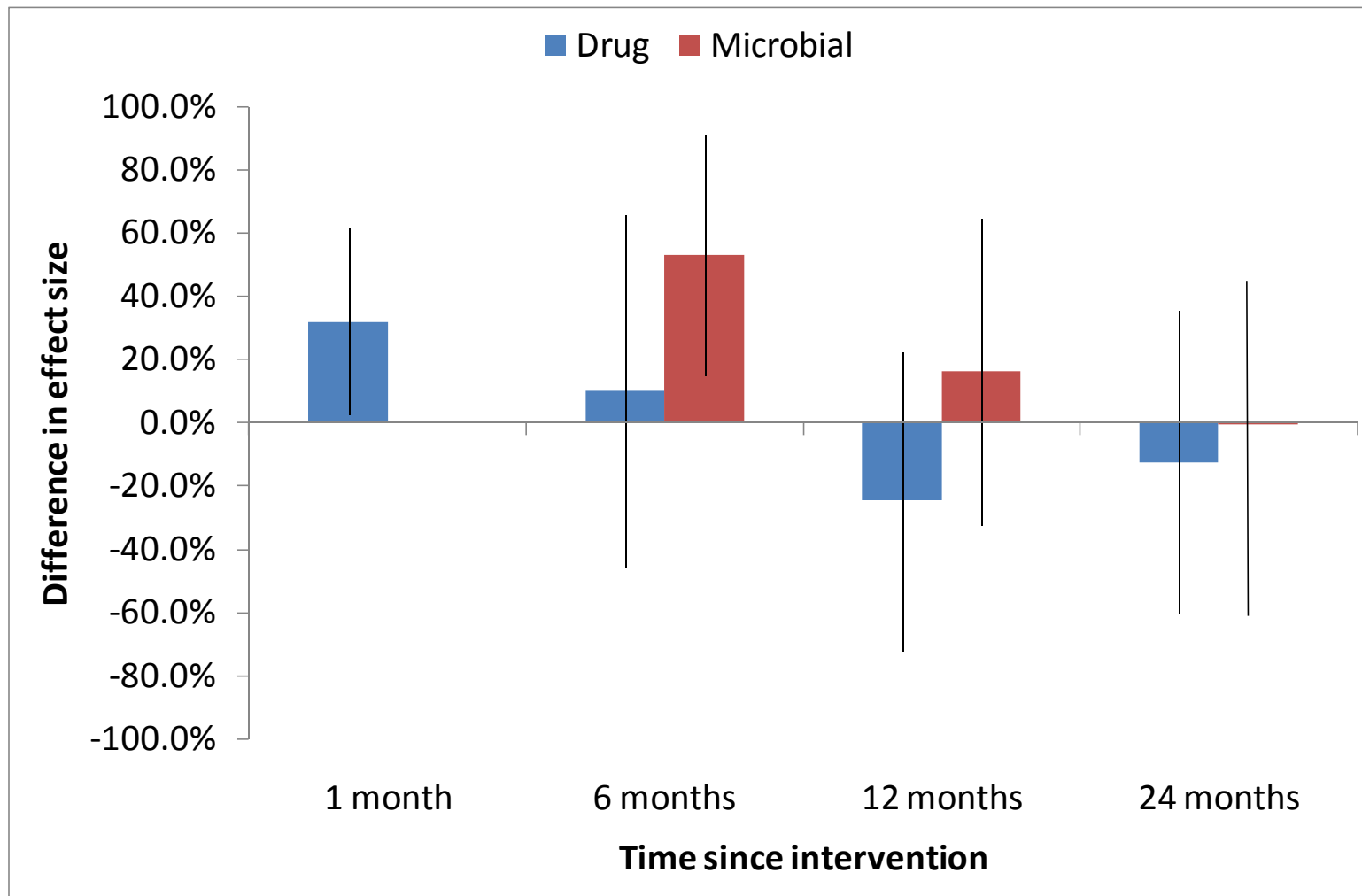
Change in Level at X months





Difference in Effects

Mean and 95% CI; Restrictive - Persuasive



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Guidance from other Organisations

About SAPG

Welcome to the Scottish Antimicrobial Prescribing Group (SAPG) website.

SAPG is a national clinical multi-disciplinary forum formed in March 2008 at the request of the Scottish Government Health Department (SGHD) with representation from key stakeholders including all mainland Health Boards. The forum is hosted by the Scottish Medicines Consortium and its primary objective is to co-ordinate and deliver a national framework for antimicrobial stewardship to enhance the quality of antimicrobial prescribing and management in Scotland. Antimicrobial stewardship means 'making the best use of antimicrobials to manage infection so as to ensure optimal outcomes and minimal harm to patients and the wider society'.

SAPG works closely with clinical staff in NHS Boards and with public partners to promote the safe and effective use of antibiotics both in hospital and primary care.

SAPG Contact Details

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INTRODUCTION OF A NEW HEALTH EFFICIENCY AND ACCESS TO TREATMENT (HEAT) TARGET FOR CLOSTRIDIUM DIFFICILE ASSOCIATED DISEASE (CDAD) FOR NHS SCOTLAND



CEL 11 (2009)

8 April 2009

- **Hospital-based empirical prescribing:** antibiotic prescriptions are compliant with the local antimicrobial policy **and** the rationale for treatment is recorded in the clinical case note in $\geq 95\%$ of sampled cases
- **Surgical antibiotic prophylaxis:** duration of surgical antibiotic prophylaxis is < 24 hours **and** compliant with local antimicrobial prescribing policy in $\geq 95\%$ of sampled cases
- **Primary Care empirical prescribing:** seasonal variation in quinolone use (summer months vs. winter months) is $\leq 5\%$, calculated from PRISMS data held by NHS Boards.

Scottish Antimicrobial Prescribing Group (SAPG): SNAP-CAP and Antimicrobial Prescribing Indicators Extranet

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> Newest Project Documents

 [Editorial: Variation in Adverse Events over the academic year](#) 
(updated: 11/13/2009)

 [Rate of Undesirable Events at beginning of academic year: retrospective cohort study](#)
(updated: 11/13/2009)

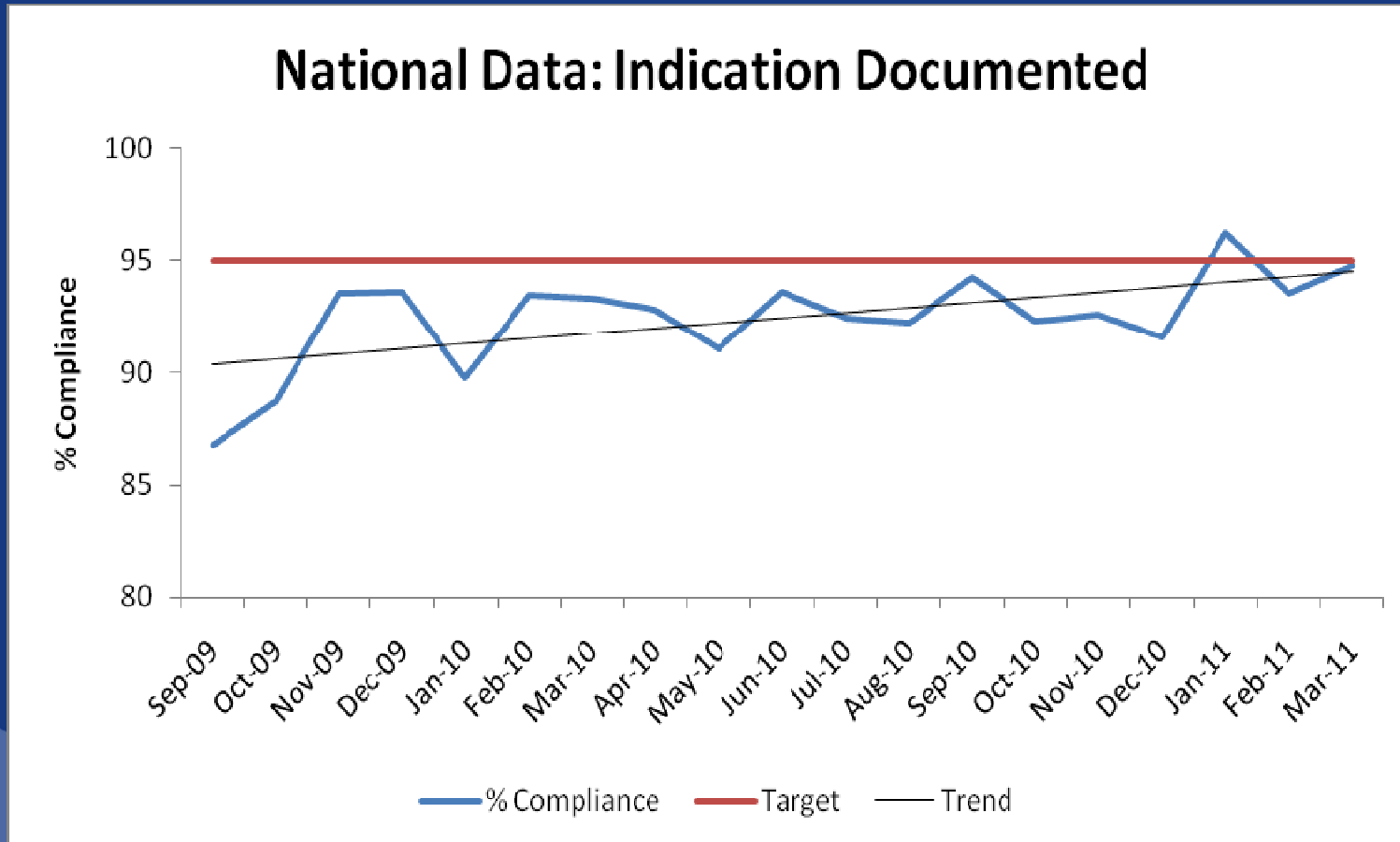
 [SAPG Starter Pack](#)
(updated: 10/23/2009)

 [Empirical Prescribing Additional Measures](#)
(updated: 10/19/2009)

 [Surgical Prophylaxis Data Collection and Aggregation Form](#)
(updated: 10/8/2009)

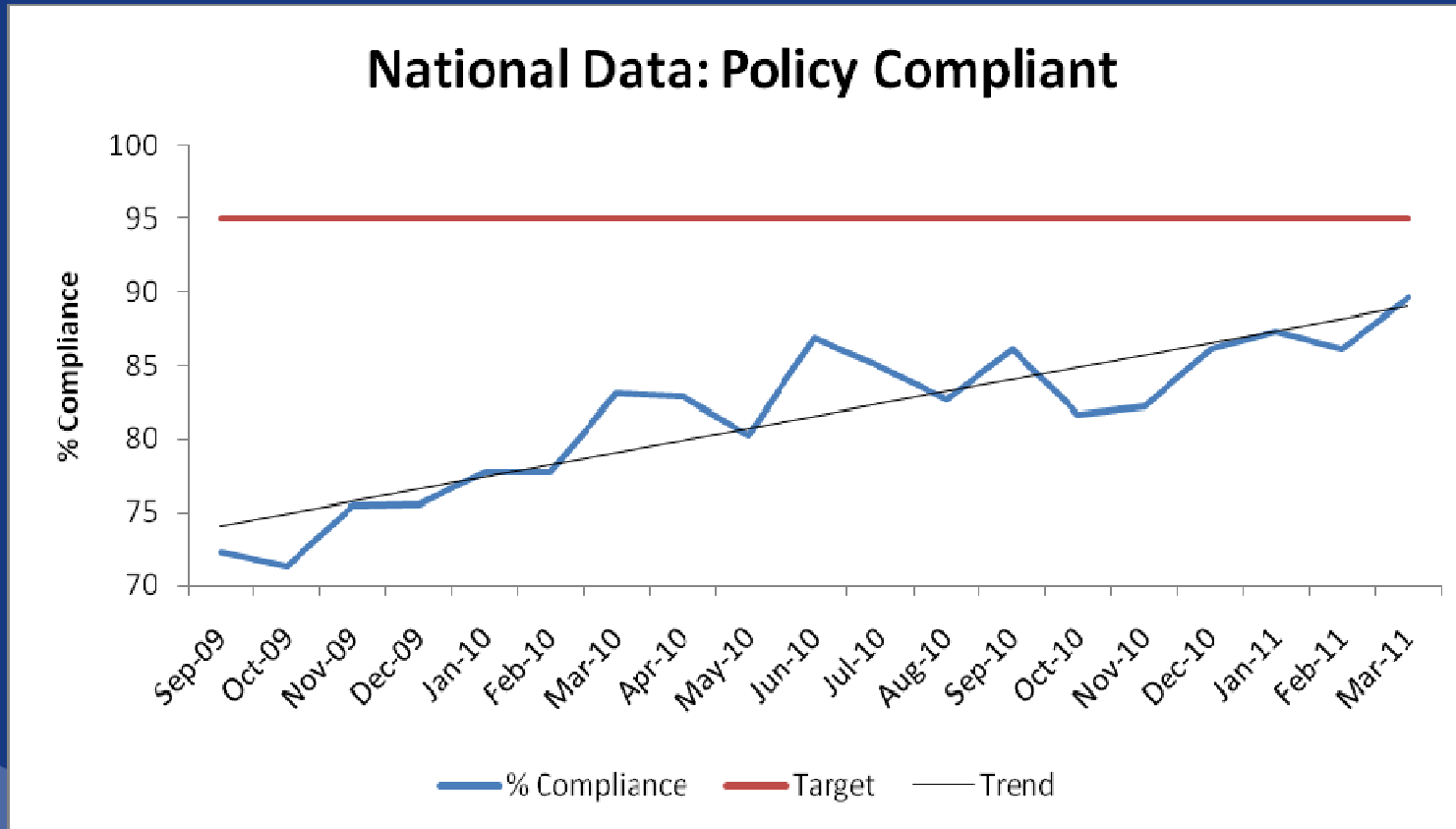
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Results – Empirical Prescribing



National compliance 93% and 7/14 NHS boards achieved target

Results – Empirical Prescribing



National compliance 83% and 4/14 NHS boards achieved target



2011 - need to focus on improvement

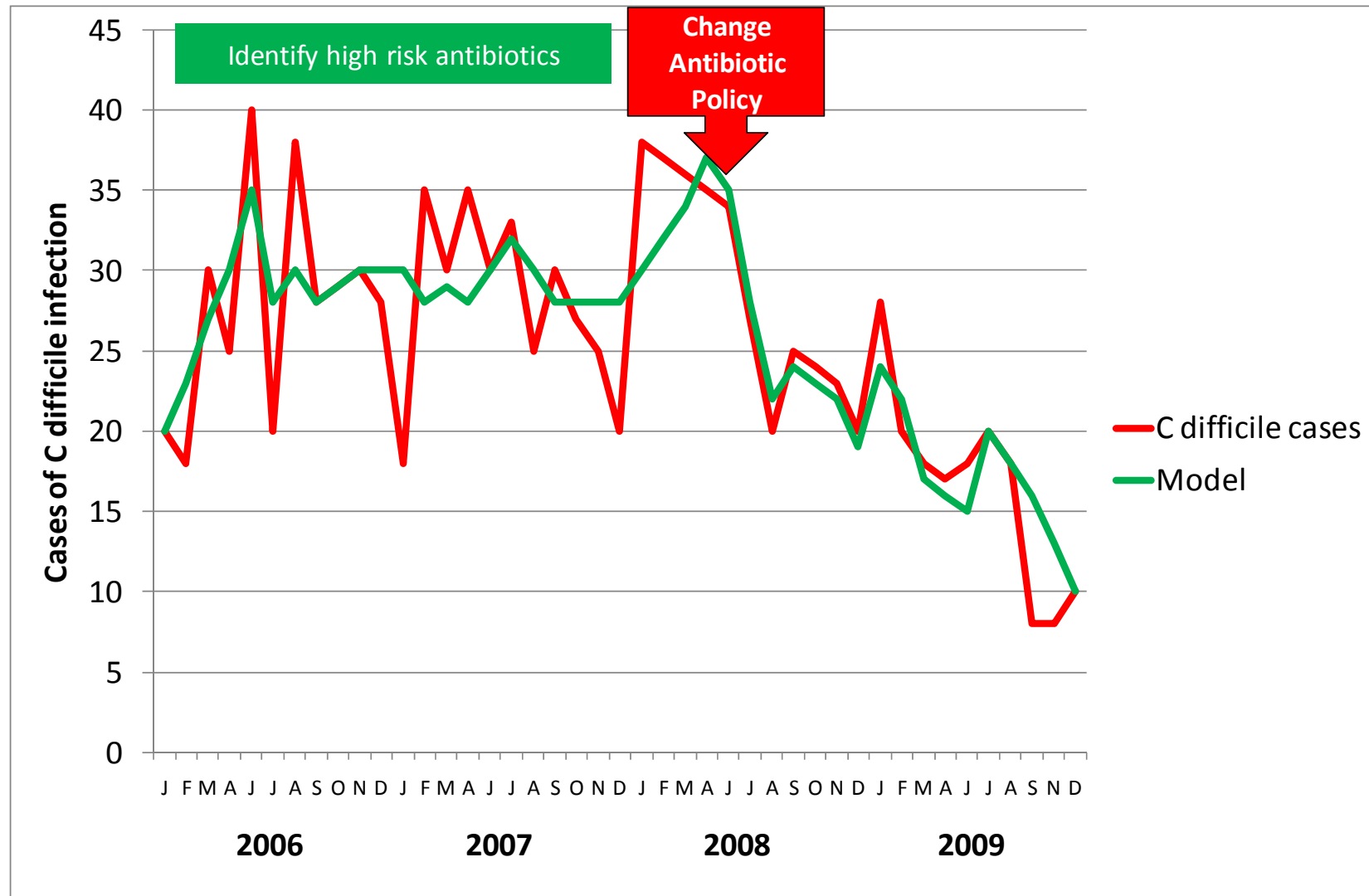


Who is Best in Class?



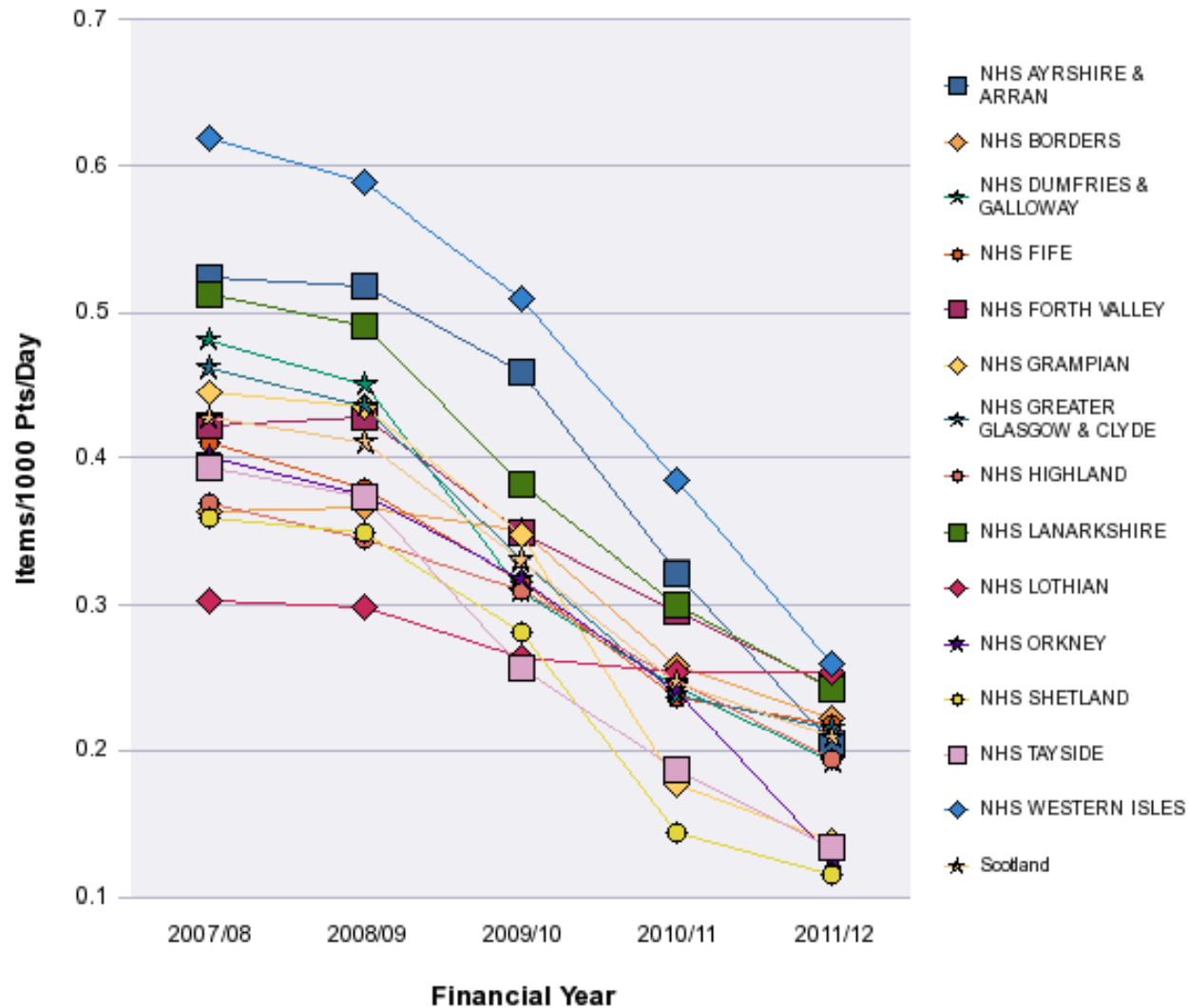


Time Series Analysis, NHS Tayside





Reduction in “4C” antibiotics, 1^o care

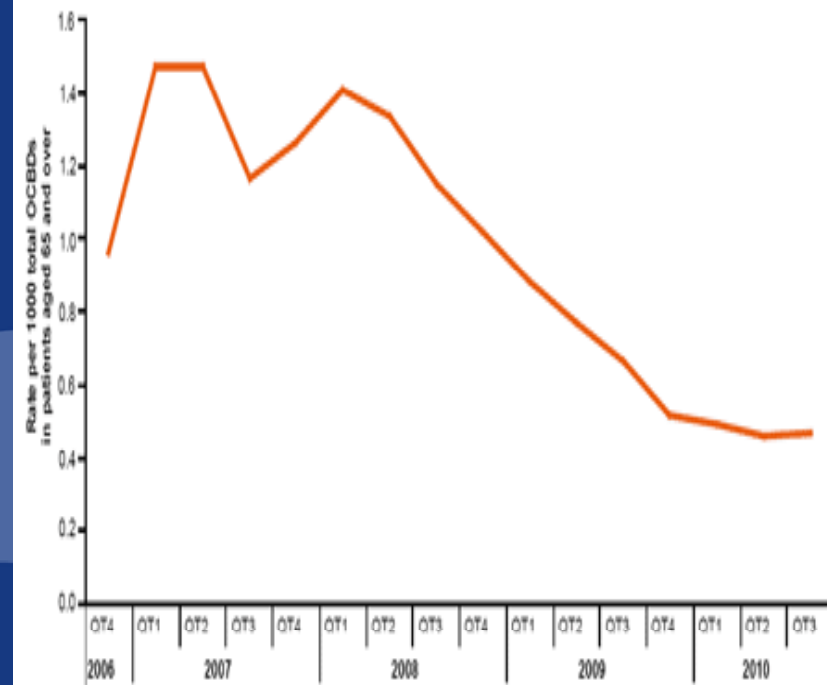


Scottish Medicines Consortium
**International Forum on Quality &
Safety, April 5th 2011**



- **Strong relationship between variation in antibiotic use and variation in *C difficile* infections**
- **Strong support for antibiotic policies that minimise the use of broad spectrum penicillins (co-amoxiclav, cephalosporins and fluoroquinolones)**

FIGURE 6: Overall quarterly CDI rates for Scotland (per 1000 total OCBDs) for sixteen quarters of mandatory surveillance covering the period October 2006-September 2010.





Conclusions:

Safe Reduction in Antibiotic Use

- **Primary care**
 - Strong evidence base for reduction in total use
 - Needs to be implemented in the UK
 - Significant progress with reduction in “4C” antibiotics
 - Impact on resistance under investigation
- **Secondary care**
 - Too much unreliable evidence is published
 - Restriction justified when need is urgent
 - Major reduction in “4C” antibiotics and CDI
 - Focus must shift to reduction in total use
- **More evidence needed about unintended consequences**