

Scottish Medicines Consortium  
Scottish Antimicrobial Prescribing Group



# **CDI HEAT Target (CEL April 2009)**

## **Hospital-based Empirical Prescribing**

### **National Report**

**April 2011**

<b>Executive Summary .....</b>	<b>3</b>
Background: CDI HEAT target.....	3
Purpose of report.....	3
Hospital-based empirical prescribing data .....	3
Summary of Key Findings.....	4
Compliance with empirical prescribing policy .....	4
Indication documented in notes.....	4
Combined measure.....	4
Achievement of HEAT Target .....	4
Improvement .....	4
Next Steps .....	4
<b>Summary of National Data.....</b>	<b>5</b>
Antibiotics compliant with empirical prescribing policy .....	5
Indication for antibiotic treatment recorded in notes.....	5
Combined measure: policy compliant and indication documented.....	6
<b>Achievement of Target.....</b>	<b>6</b>
Antibiotics compliant with empirical prescribing policy .....	6
Indication for antibiotic treatment recorded in notes.....	7
Combined measure: policy compliant and indication documented.....	7
<b>Summary of Board-level Data .....</b>	<b>8</b>
<b>Appendix A – Data Sources .....</b>	<b>9</b>
SAPG Extranet .....	9
SAPG Extranet measures.....	9
Data analysis .....	9
Trends and Shifts in Data .....	9

## Executive Summary

### Background: CDI HEAT target

A letter issued to NHS Board Chief Executives (CEL 11 (2009))<sup>1</sup> in April 2009 announced a HEAT target for *Clostridium difficile* Infection (CDI) defined as:

***“A reduction in the rate of CDI among people aged 65 years and above by at least 30% by 31 March 2011”***<sup>2</sup>

The Scottish Government and SAPG have agreed three supporting antimicrobial prescribing indicators to underpin this HEAT target:

**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  $\leq 5\%$ <sup>3</sup>

### Purpose of report

This report, produced by the Scottish Antimicrobial Prescribing Group (SAPG), provides feedback to Antimicrobial Management Teams (AMT) in NHS Boards and the Healthcare Associated Infection (HAI) Taskforce at Scottish Government.

This is the fifth and final report. Reports are produced every 3 months to show progress in achieving compliance against antimicrobial prescribing indicators outlined in the CDI HEAT target.

The report includes only the hospital-based empirical prescribing indicator measured in acute admission units.

Each NHS Board receives a report of the national level data, a summary of Board level data and an individual report at Board level showing temporal compliance with each of the measures.

### Hospital-based empirical prescribing data

National level data for the hospital-based empirical prescribing indicator included in this report cover the period September 2009 to March 2011. Approximately 12,000 patients have been audited during this time and the overall compliance rate is 80%. Data were collected in acute admission units (medical and surgical) by sampling a recommended 20 patients per month per ward. Compliance against the empirical prescribing policy is measured against the first antibiotic prescribed for a condition listed in the policy.

---

<sup>1</sup> Chief Executive letter 11 (2009): A revised framework for national surveillance of healthcare associated infection and the introduction of new health efficiency and access to treatment (HEAT) target for *Clostridium difficile* associated disease (CDAD) for NHS Scotland [www.sehd.scot.nhs.uk/mels/CEL2009\\_11.pdf](http://www.sehd.scot.nhs.uk/mels/CEL2009_11.pdf)

<sup>2</sup> Target updated to 50% reduction in CDI (June 2010)

<sup>3</sup> Reported from PRISMS data held by NHS Boards

## Summary of Key Findings

### Compliance with empirical prescribing policy

- National compliance is 83%
- National results show a 1% increase in median compliance from February 2011 report

### Indication documented in notes

- National compliance is 93%
- National results show no change since February 2011 report

### Combined measure

- National compliance is 80%
- National results show a 1% increase in median compliance since February 2011 report

### Achievement of HEAT Target

In March 2011:

- 4 boards achieved  $\geq 95\%$  compliance with the measure Antibiotics compliant with local policy
- 7 boards achieved  $\geq 95\%$  compliance with the measure Indication documented in patient's notes
- 2 boards achieved  $\geq 95\%$  compliance with the Combined measure

### Improvement

All NHS Boards have shown an increasing trend of improvement with at least one of the empirical prescribing measures as shown below:

Measures	Number of Boards demonstrating an increasing trend in compliance
Compliance with Policy	13
Indication Documented	11
Combined Measure	14

### Next Steps

The CDI HEAT target for 2009-11 has been reviewed by the HAI Task Force and a new CDI target from April 2011 has been set using a 'best in class' approach so that by March 2013 the rate of CDI in patients aged 65 and over is 0.39 cases or less per 1000 total occupied bed days in all NHS boards. To support NHS boards in achieving and maintaining this target SAPG has agreed modifications to the current prescribing indicators which NHS boards have been asked to progress from 1<sup>st</sup> April 2011.

The two measures **indication in notes** and **compliance with policy** will be retained but a combined measure will no longer be used. Only patients with an indication documented should be assessed for compliance with policy.

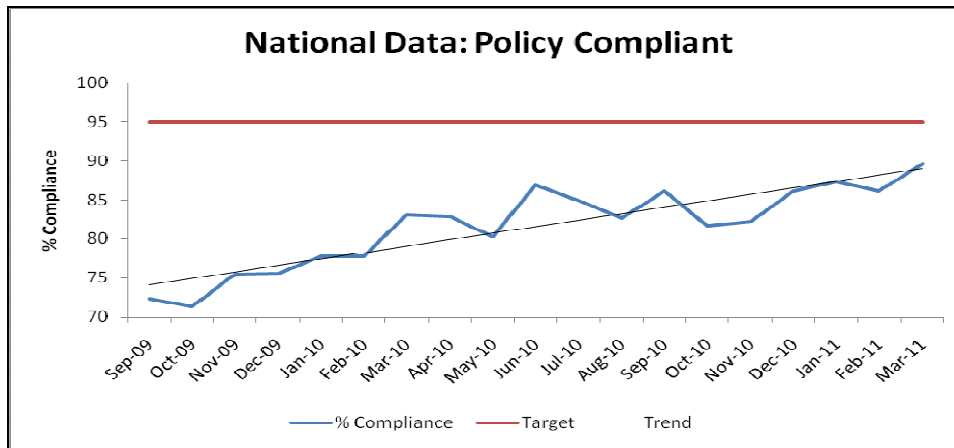
To facilitate improvement work and help achieve target for compliance with policy AMTs are asked to document 5 cases of non-compliance per month in each admission unit, if appropriate, and how they have addressed any areas of non-compliance.

The first national report for 2011-12 will be produced in July and will include data for April to June 2011.

## Summary of National Data

National data includes results from all NHS Boards from September 2009 to March 2011. The % compliance, trend, target, median and change in median since February 2011 report are listed.

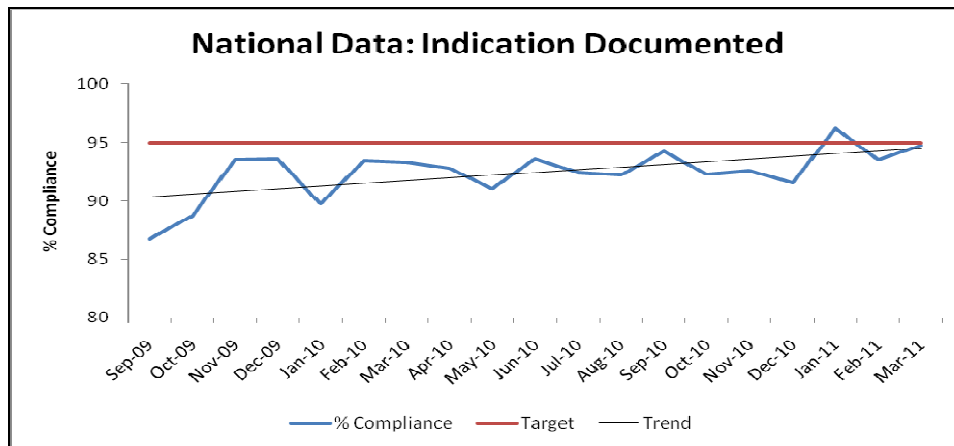
### Antibiotics compliant with empirical prescribing policy



**Median: 83% Target:  $\geq$  95%**

**Change in Median from February 2011 report: +1%**

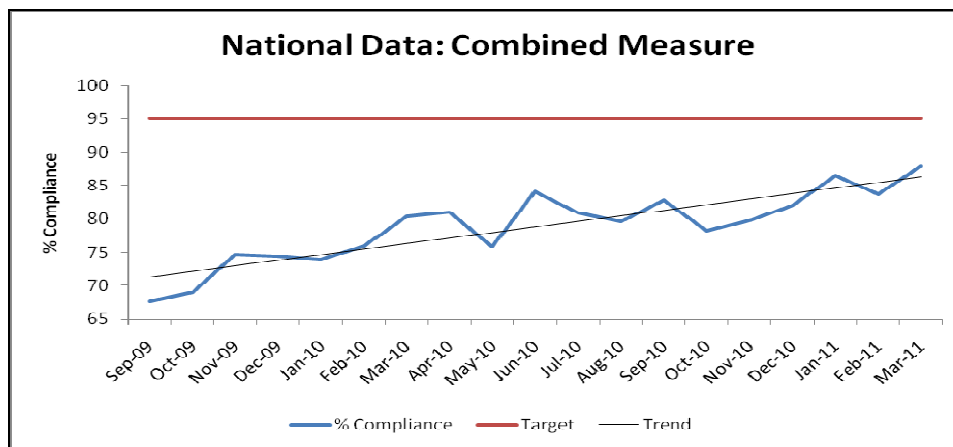
### Indication for antibiotic treatment recorded in notes



**Median: 93% Target:  $\geq$  95%**

**Change in Median from February 2011 report: 0%**

## Combined measure: policy compliant and indication documented



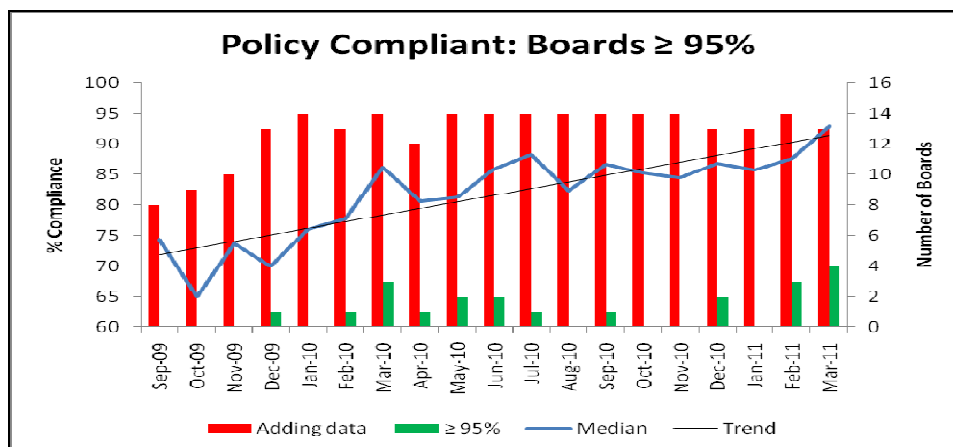
Median: 80% Target:  $\geq 95\%$

Change in Median from February 2011 report: +1%

## Achievement of Target

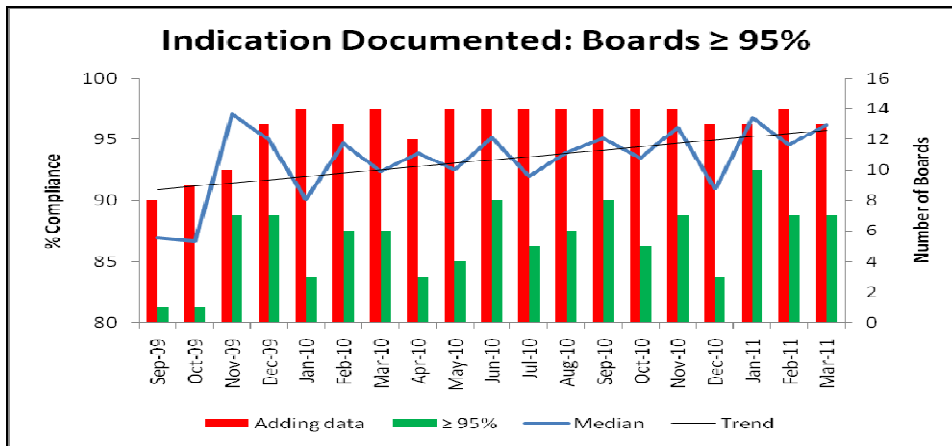
The charts show the number of Boards that have achieved  $\geq 95\%$  compliance with each of the three empirical prescribing measures from September 2009 to March 2011. % compliance and trend are also shown.

### Antibiotics compliant with empirical prescribing policy



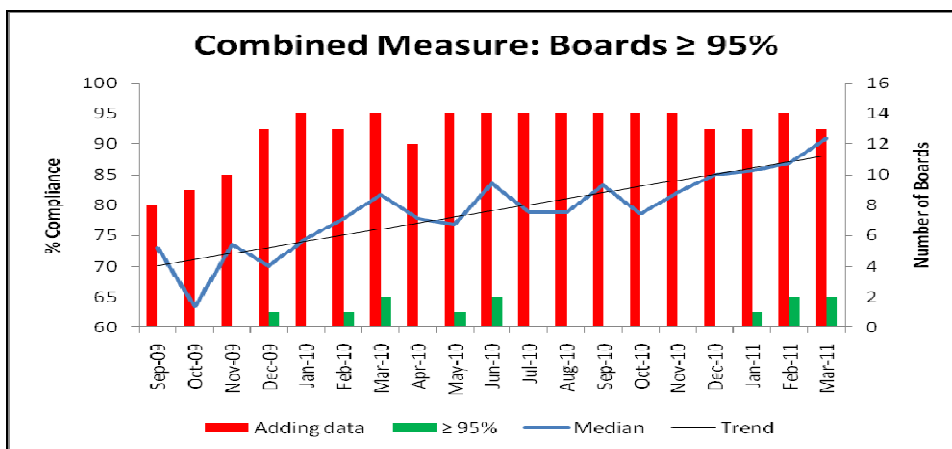
By March 2011 four NHS Boards achieved the target of  $\geq 95\%$  compliance with the measure *antibiotics compliant with empirical prescribing policy*. Median compliance ranges from 65% to 93%.

## Indication for antibiotic treatment recorded in notes



By March 2011 seven NHS Boards were achieving the target of  $\geq 95\%$  compliance with the measure *indication for antibiotic treatment documented in the notes*. Median compliance ranges from 87% to 97%.

## Combined measure: policy compliant and indication documented



By March 2011 two NHS Boards achieved the target of  $\geq 95\%$  compliance with the combined measure *antibiotics compliant with policy and indication documented*. Median compliance ranges from 63% to 91%.

## Summary of Board-level Data

The table shows the median results aggregated at Board level for each of the three hospital-based empirical prescribing measures and the time period over which data were collected. National data for each measure is also included and the % increase or % decrease in median compliance since February 2011 report is listed in brackets.<sup>4</sup>

<b>NHS Board</b>	<b>Date Range</b>	<b>Compliance with Policy Median (% change since February 2011)</b>	<b>Indication Documented Median (% change since February 2011)</b>	<b>Combined Measure Median (% change since February 2011)</b>
<b>National</b>	Sept 09 – Mar 11	<b>83 (+1)</b>	93 (0)	<b>80 (+1)</b>
<b>Ayrshire and Arran</b>	Sept 09 – Mar 11	75 (0)	95 (0)	<b>75 (+4)</b>
<b>Borders</b>	Nov 09 – Mar 11	85 (0)	98 (0)	85 (0)
<b>Dumfries and Galloway</b>	Aug 09 – Mar 11	87 (0)	<b>95 (+1)</b>	85 (0)
<b>Fife</b>	Aug 09 – Mar 11	75 (0)	<b>91 (+1)</b>	75 (0)
<b>Forth Valley</b>	Sep 09 – Mar 11	<b>78 (+1)</b>	100 (0)	<b>78 (+1)</b>
<b>Grampian</b>	Oct 09 – Mar 11	85 (-2)	100 (0)	85 (-2)
<b>Greater Glasgow and Clyde</b>	May 09 – Mar 11	85 (0)	<b>94 (+1)</b>	80 (0)
<b>Highland</b>	Oct 09 – Mar 11	<b>85 (+3)</b>	93 (0)	<b>80 (+1)</b>
<b>Lanarkshire</b>	Dec 09 – Mar 11	90 (-1)	<b>86 (+1)</b>	75 (0)
<b>Lothian</b>	Aug 09 – Mar 11	82 (-1)	94 (0)	<b>78 (+1)</b>
<b>Orkney</b>	Dec 09 – Mar 11	<b>72 (+3)</b>	<b>90 (+1)</b>	<b>69 (+2)</b>
<b>Shetland</b>	Jan 10 – Mar 11	<b>86 (+5)</b>	95 (-1)	<b>86 (+6)</b>
<b>Tayside</b>	Jan 09 – Mar 11	84 (0)	<b>88 (+1)</b>	<b>84 (+1)</b>
<b>Western Isles</b>	Mar 09 – Mar 11	<b>79 (+1)</b>	<b>83 (+3)</b>	<b>74 (+1)</b>

<sup>4</sup> Variation in method used by Boards to calculate compliance with empirical prescribing measures

## Appendix A – Data Sources

### SAPG Extranet

Data are entered onto the SAPG Extranet which is a password protected data store provided by the Institute for Healthcare Improvement<sup>5</sup>. Extranet reporting uses run charts to track compliance with measures.

### SAPG Extranet measures

The SAPG Extranet is used to record data on the surgical antibiotic prophylaxis and hospital-based empirical prescribing indicators. To assess compliance with the hospital-based empirical prescribing indicator the following *measures* have been created:

- Compliance with empirical prescribing policy
- Indication documented in the patient's notes
- Combined measure: Policy compliant **and** indication documented

### Data analysis

The data report temporal compliance with the three empirical prescribing measures at national and Board level and the number of patients included in the sample each month. Median compliance and the target of 95% are shown. Data from each Board are also considered at ward level to identify any trends and/or shifts in the data. This information is included in individual Board reports. The analysis uses data for improvement for the purpose of monitoring performance against targets.

Data collected are not formally quality assured in line with current practice within SPSP and other IHI quality improvement initiatives. However local Antimicrobial Management Teams are working with clinical staff to ensure the validity of the data.

### Trends and Shifts in Data

A **trend** is defined as 5 or more consecutive points constantly increasing or 5 or more consecutive points decreasing. If a trend is detected it indicates a non-random pattern in the data which should be investigated. This non-random pattern may be a sign of improvement or of process failure. A run containing 6 or more consecutive data points all above or all below the median indicates a non-random **shift** in the data which should be investigated. This non-random pattern may be a sign of improvement or of process failure. If a run chart has 50% or more of the data at 0 or at 100% the criteria for detecting a non-random statistical signal in the data cannot be applied.

---

<sup>5</sup> <http://www.ihl.org>